Ozone Redesignation Request and Maintenance Plan

Clark County, Nevada

DAQEM
DEPARTMENT OF AIR QUALITY & ENVIRONMENTAL MANAGEMENT

March 2011

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EXECUTIVE SUMMARY

This *Ozone Redesignation Request and Maintenance Plan* is a formal request by Clark County to the U.S. Environmental Protection Agency (EPA) to redesignate the Clark County ozone nonattainment area to attainment for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS). The plan summarizes the progress in attaining the ozone standard, demonstrates that all Clean Air Act (CAA) as amended requirements for attainment have been met, and presents a plan to assure continued attainment over the next ten years.

Clark County was designated nonattainment of the 8-hour ozone NAAQS in April 2004. The Phase 1 Implementation Rule issued by EPA on June 15, 2004 classified Clark County as a "basic" nonattainment area under Subpart 1 of the Clean Air Act. Following the April 2004 designation, the state of Nevada submitted to EPA a request to reconsider the boundaries of the nonattainment designation for Clark County. EPA accepted the Nevada recommendations and issued a final rule in September 2004 delineating those boundaries.

On December 22, 2006, the United States Court of Appeals for the District of Columbia Circuit vacated the Phase 1 Implementation Rule. EPA and other entities petitioned for a rehearing. On June 8, 2007, the court reviewed its decision and decided to vacate only certain portions of the rule, including the classification determinations for areas designated under Subpart 1 of the CAA. Following the court's decision, EPA issued a memorandum (dated 6/15/2007) stating that nonattainment areas classified under "Subpart 1 are not currently subject to the June 15, 2007 submission date for their attainment demonstrations" and established a transportation conformity rule allowing states in nonattainment to submit an Early Progress Plan (EPP). The EPP was to allow nonattainment areas to establish motor vehicle emission budgets (MVEB) that address the ozone NAAQS in advance of a complete attainment demonstration. These actions obligated Clark County to develop the *Eight Hour Early Progress Plan for Clark County.*. The Board of County Commissioners adopted and approved the Plan on June 17, 2008 which was subsequently submitted to the EPA. In May 2009, EPA formally approved the Plan.

This plan provides an ozone attainment demonstration that makes use of the most recently adopted planning variables, (e.g., vehicle miles traveled projections and population forecasts) approved by the designated Metropolitan Planning Organization for the Las Vegas urban area, (i.e., the Regional Transportation Commission of Southern Nevada). The plan also provides, among other things, revised emission inventories and updated MVEBs.

After EPA approval, the plan will become a federally enforceable plan that identifies how Clark County will maintain the 1997 ozone NAAQS through 2022. Once approved, the MVEBs contained in the plan will become the projected budgets that the Regional Transportation Commission will use for transportation conformity determinations in future regional transportation plans.

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ACRONYMS AND ABBREVIATIONS

Acronyms

AQR	Clark County Air Quality Regulation
BCC	Clark County Board of County Commissioners
CAA	Clean Air Act
CFR	Code of Federal Regulations
DAQEM	Clark County Department of Air Quality & Environmental Management
DRI	Desert Research Institute
EI	Emission Inventory
EPA	U.S. Environmental Protection Agency
EQM	Environmental Quality Management, Inc
ERC	Emission Reduction Credit
HPMS	Highway Performance Monitoring System
I/M	Nevada Vehicle Inspection and Maintenance Program
MVEB	Motor Vehicle Emission Budget
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NRS	Nevada Revised Statues
RTC	Regional Transportation Commission of Southern Nevada
SIP	state implementation plan
SLAMS	State and Local Air Monitoring System
TDM	Transportation Demand Model
TSD	Technical Support Document
VMT	vehicle miles traveled

Abbreviations

CO	carbon monoxide
NO_x	nitrogen oxides
PM	particulate matter
ppm	parts per million
tpd	tons per day
tpy	tons per year
VOCs	volatile organic compounds

1.0 PLAN OVERVIEW

1.1 INTRODUCTION

Clark County, in conjunction with the Nevada Division of Environmental Protection (NDEP), requests that the U.S. Environmental Protection Agency (EPA) redesignate the Clark County ozone nonattainment area to attainment status for the 1997 8-hour National Ambient Air Quality Standards (NAAQS) for ozone.

To comply with EPA guidance, Clark County inventoried emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) for the 2008 attainment year and projected those emissions outward to 2015 and 2022. The inventories were then adjusted to reflect federal, state, and local rules on VOC and NO_x emissions already adopted or implemented; these controls were shown to reduce overall ozone emissions through 2022, the maintenance year.

1.2 CHARACTERISTICS AND HEALTH EFFECTS OF OZONE

Ozone is a gas composed of three oxygen atoms that occurs both in Earth's upper atmosphere (stratosphere) and at ground level (troposphere). Ozone in the stratosphere, which extends upward from 6 to 30 miles, occurs naturally and protects life from harmful ultraviolet rays. In the troposphere, ozone is a pollutant that poses a significant health risk, especially for children, the elderly, and people with chronic illnesses. It may also damage crops, trees, and other vegetation.

Ground-level ozone is not usually emitted directly into the air, but formed through chemical reactions between NO_x and VOCs in the presence of sunlight. Vehicle exhaust, emissions from commercial and industrial sources, gasoline vapors, chemical solvents, and natural sources emit NO_x and VOCs. Since sunlight is an important formative factor, ozone pollution is usually a summertime problem.

Ozone can irritate lung airways and cause an inflammation that resembles sunburn. Symptoms include wheezing, coughing, pain when taking a deep breath, and difficulty breathing during exercise or outdoor activities. Children and those with respiratory problems are particularly susceptible, but even healthy people who are active outdoors can be affected. Repeated exposure to ozone pollution over many months may cause permanent lung damage. Even when concentrations are low, ozone pollution may aggravate asthma, reduce lung capacity, and increase susceptibility to respiratory illnesses like pneumonia and bronchitis.

Ground-level ozone may also affect plants and ecosystems. It interferes with the ability of plants to produce and store food, which makes them more susceptible to disease, insects, harsh weather, and other pollutants. This in turn can impact crop and forest yields. In addition, ozone can damage the leaves of trees and other plants.

Ozone and its precursor pollutants may be transported hundreds of miles downwind from their original sources. Transport of pollutants from California into southern Nevada contributes to ozone concentrations in Clark County during the summer months.

1.3 NATIONAL AMBIENT AIR QUALITY STANDARDS FOR OZONE

There are two federal standards for ozone: a primary standard that establishes limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly, and a secondary standard that sets limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. Both standards are identical for the 1997 ozone NAAQS: 0.08 parts per million (ppm).

1.4 HISTORY OF THE CLARK COUNTY NONATTAINMENT AREA

On March 3, 1978, EPA designated the Las Vegas Valley a nonattainment area for the ozone NAAQS in volume 43, page 8962 of the *Federal Register* (43 FR 8962). Air quality monitoring data for calendar years 1975 through 1977 show violations of the 1-hour ozone NAAQS in effect at the time. That same month, Nevada's governor designated the Clark County Board of County Commissioners (BCC) the responsible entity for preparing State Implementation Plans (SIPs) for Clark County; the BCC then delegated that responsibility to the agency that is now DAQEM.

On February 8, 1979, the EPA established a primary 1-hour ozone NAAQS of 0.12 ppm (44 FR 8220). After EPA determined the Las Vegas Valley was a nonattainment area for ozone, the county began requiring targeted industries to implement improved control technologies that curbed precursor pollutants because research had shown that industrial processes within Clark County were contributing to elevated ozone levels. By the end of 1984, control technologies had been fully implemented and Clark County had completed a SIP demonstrating attainment of the ozone NAAQS.

In January 1985, the Nevada governor submitted the Clark County ozone SIP to EPA for review and approval. This SIP demonstrated attainment of the 1-hour ozone NAAQS, in accordance with EPA requirements and federal law. In April 1986, the state of Nevada requested that EPA redesignate the Las Vegas Valley as an attainment area, providing documentation that showed how control measures and technologies had resulted in improved air quality and compliance with the ozone NAAQS. EPA approved the SIP in August 1986, and on November 19, 1986, it redesignated the Las Vegas Valley as an attainment area for the 1-hour ozone NAAQS effective January 20, 1987 (51 FR 41788).

On July 18, 1997, EPA revised the ozone NAAQS (62 FR 38856), replacing the 1-hour 0.12-ppm primary standard with an 8-hour 0.08 ppm standard that was based on the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within a given area. This rule became effective September 16, 1997.

On June 27, 2003, Clark County submitted a recommendation to NDEP on the designation of Clark County under the 1997 8-hour ozone NAAQS. At the time, the data for the past three years (2000, 2001, and 2002) indicated that Clark County was in compliance with the 8-hour standard. On July 10, 2003, pursuant to Section 107(d) of the 1990 CAA, the state of Nevada submitted the recommended designations to EPA's Region 9 office.

In its response to the governor on December 3, 2003, EPA agreed with the state's recommendation but noted that it was tracking 2003 ozone monitoring data. That data indicated that the standard was exceeded, if barely, at one location. Basing its final designation on 2001, 2002, and 2003 monitoring data, EPA designated Clark County in nonattainment of the 8-hour ozone NAAQS on April 15, 2004 (69 FR 23858) under the Title 1, Part D, Subpart 1 of the Clean Air Act (CAA).

On May 21, 2004, the Nevada governor requested that EPA delay the effective date of its nonattainment designation for Clark County until October 15, 2004, and on June 18, EPA promulgated a final rule deferring the effective date to September 13, 2004 (69 FR 34076). The agency agreed that relevant factors for defining a nonattainment area might support a different recommendation than the one the state had submitted on April 12, 2004. On August 2, 2004, the state submitted a revised recommendation that encompassed the following areas in Clark County:

- Ivanpah Valley (Hydrographic Areas 164A, 164B, 165, and 166).
- Eldorado Valley (Hydrographic Area 167).
- Las Vegas Valley (Hydrographic Area 212).
- Colorado River Valley (Hydrographic Area 213).
- Paiute Valley (Hydrographic Area 214).
- Apex Valley (Hydrographic Areas 216 and 217).
- A portion of Moapa Valley (Hydrographic Area 218).

Figure 1-1 shows the areas within Clark County designated as basic nonattainment for the 8-hour ozone standard. EPA accepted the state's recommendations and issued a final rule in September 2004 delineating the revised boundaries.

On December 22, 2006, a three-judge panel from the U.S Court of Appeals for the District of Columbia Circuit vacated the Phase 1 Implementation Rule (472 F. 3d 882 (D.C. Cir. 2006)). EPA and other organizations filed petitions for a rehearing. On June 8, 2007, the entire court reviewed the decision to vacate the rule and decided to vacate only certain portions, including the classification determinations for areas designated under Title I, Part D, Subpart 1 of the CAA. Following the court's decision, EPA issued a memorandum (dated 6/15/2007) stating that nonattainment areas classified under "Subpart 1 are not currently subject to the June 15, 2007 submission date for their attainment demonstrations." These actions obligated Clark County to develop and submit to EPA in 2008 the *8-Hour Ozone Early Progress Plan for Clark County, Nevada* (DAQEM 2008a) to establish motor vehicle emission budgets (MVEBs) for maintaining transportation conformity. The Board of County Commissioners adopted and approved the EPP on June 17, 2008. EPA formally approved these MVEBs on May 14, 2009 (74 FR 22738).

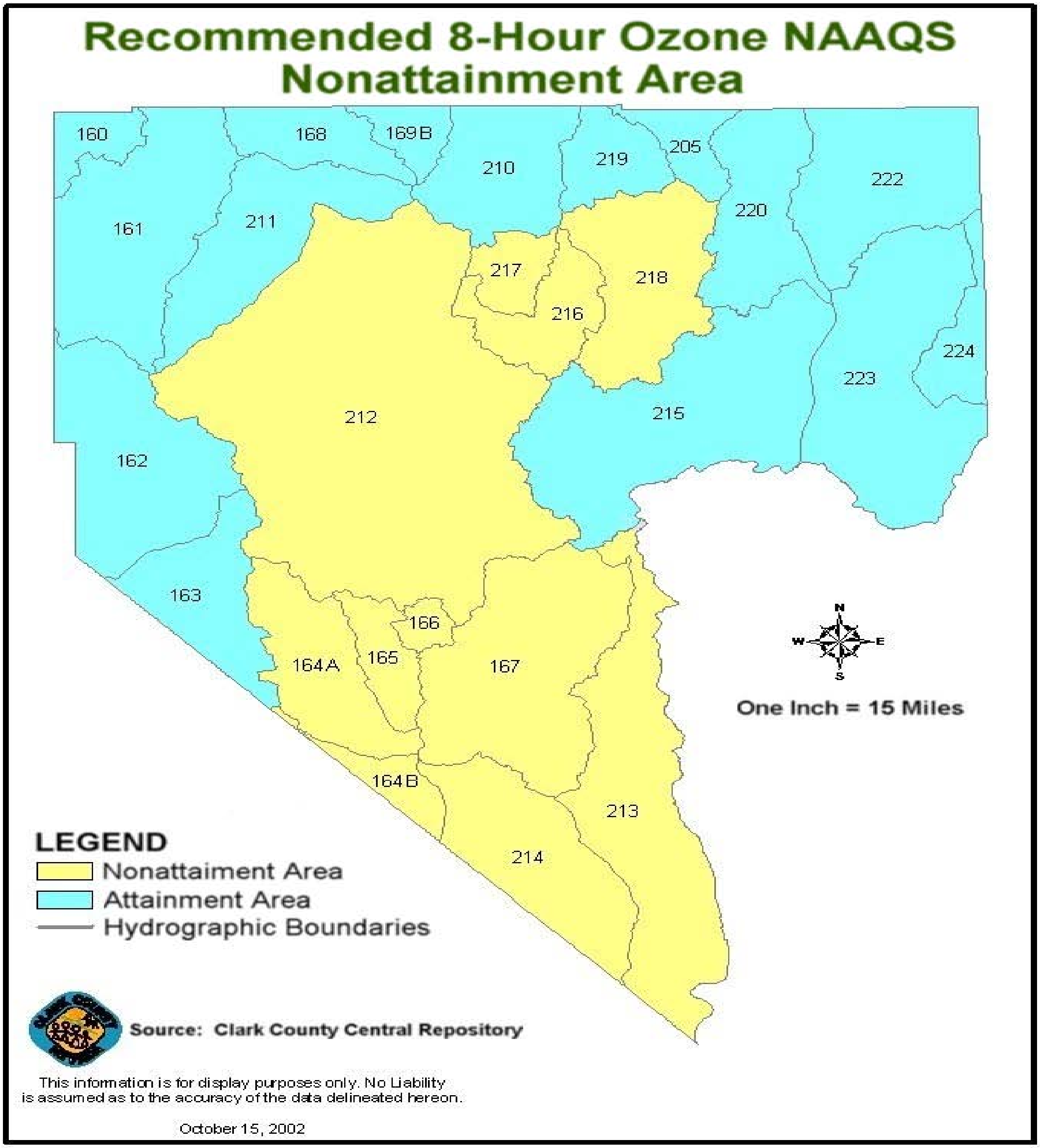

Figure 1-1. Areas in Clark County Designated Nonattainment for the 8-hour Ozone NAAQS

1.5 REQUIRED COMPONENTS OF A REDESIGNATION REQUEST

CAA Section 107(d)(3)(E) defines the five conditions that must be met before EPA can redesignate a nonattainment area to attainment. With the submittal of this plan, Clark County meets these five conditions.

1.5.1 Attainment of the Standard

Clark County must show that the area is attaining the applicable NAAQS. Redesignation of ozone nonattainment areas to attainment is based solely on ambient air quality data. Section 2 presents the data that demonstrate Clark County's attainment of the 1997 ozone NAAQS.

1.5.2 Approved Implementation Plan under Section 110(k)

Clark County must have a SIP fully approved under CAA Section 110(k) and must satisfy all requirements that apply to the nonattainment area. Section 3 discusses Clark County's ozone SIP development. Section 110(k) addresses completeness findings, deadlines for EPA actions, types of EPA actions, and sanctions that may be applied to areas failing to meet Clean Air Act requirements.

1.5.3 Permanent and Enforceable Improvements in Air Quality

Clark County must be able to reasonably attribute the improvement in air quality to emission reductions that are permanent and federally enforceable. Section 4 shows that improved air quality in the Clark County area is the result of permanent and enforceable emission reduction control measures, as opposed to adverse economic or meteorological conditions.

1.5.4 Requirements under Section 110 and Part D

Clark County must meet all requirements of CAA Section 110 and Part D that applied before the submittal of the redesignation request. Section 5 describes how this SIP does not interfere with any requirements for attainment of the ozone NAAQS, reasonable further progress towards attainment of all other criteria pollutant NAAQS, or any other applicable CAA requirement.

1.5.5 Approvable Maintenance Plan under Section 175(a)

CAA Section 107(d)(3)(E) stipulates that EPA must fully approve a maintenance plan that meets the requirements of Section 175(a) before it can redesignate an area to attainment. Section 6 provides a plan to maintain compliance with the ozone NAAQS for at least ten years after redesignation.

2.0 ATTAINMENT OF THE OZONE STANDARD

2.1 INTRODUCTION

The first required component of an area's redesignation request is a demonstration that it has attained the NAAQS. Attainment of the 1997 ozone standard is demonstrated through the establishment of a design value, which is based on the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor. The fourth-highest daily maximum 8-hour average ozone concentration may not exceed 0.084 ppm.

This section demonstrates, as required by CAA Section 107(d)(3)(E), that Clark County has attained the 1997 ozone NAAQS. The attainment demonstration is based on quality-assured monitoring data representative of the Clark County ozone nonattainment area.

2.2 MONITORING NETWORK

Title 40, Part 58 of the Code of Federal Regulations (40 CFR 58) defines the requirements for the ambient air quality monitoring programs mandated by the CAA. The current Clark County ozone monitoring network consists of 8 State and Local Air Monitoring Stations (SLAMS). As Table 2-1 shows, the monitoring objective of most sites is "population exposure." The exceptions are Jean, which monitors regional transportation, and Joe Neal, whose monitoring objective is "highest concentration." Clark County's monitoring system is governed by quality assurance and quality control procedures approved by EPA and subject to periodic EPA performance audits.

Table 2-1. Clark County Ozone Monitoring Sites

Site Name	Site Code	Address	Monitoring Objective
Paul Meyer	32-002-0043	4525 New Forest Dr., Las Vegas 89147	Population exposure
Walter Johnson	32-002-0071	7701 Ducharme Ave., Las Vegas 89145	Population exposure
Palo Verde	32-003-0073	333 Pavilion Center Dr., Las Vegas 89144	Population exposure
Joe Neal	32-003-0075	6651 Azure Way, Las Vegas 89130	Highest concentration
Winterwood	32-0030-538	5483 Club House Dr., Las Vegas 89142	Population exposure
Boulder City	32-003-0601	1005 Industrial, Boulder City 89005	Population exposure
Jean	32-003-1019	1965 State Highway 161, Jean 89019	Regional transportation
J.D. Smith	32-003-2002	1301B Tonopah Ave., North Las Vegas 89030	Population exposure

Figure 2-1 shows the locations of Clark County ozone monitoring stations. Tables 2-2 and 2-3 show the three-year averages of the fourth-highest ozone concentrations measured at these stations during 2006–2008 and 2007–2009, respectively.

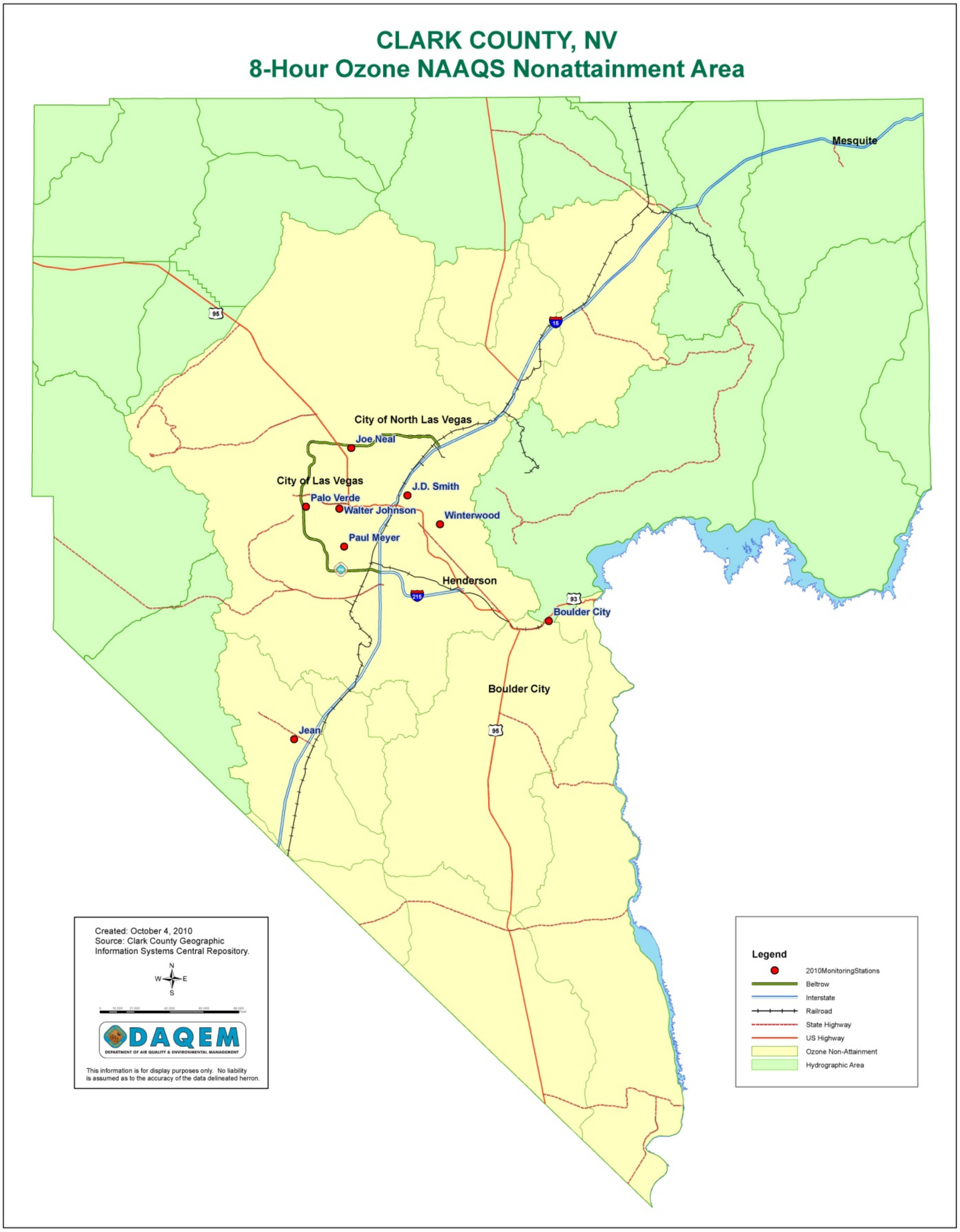

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Figure 2-1. Clark County Ozone Monitoring Stations

Thirteen ozone monitoring stations were in operation during the time period 2006-2009. Monitoring data from 2006-2008 and 2007-2009 is used to show that Clark County is in attainment of the 1997 ozone NAAQS.

Table 2-2. Three Year Average (ppm) of the 4th Highest Ozone Concentrations (2006-2008)

Site Name	Site Code	2006	2007	2008	Design Value 2006-2008
Craig Road	32-003-0020	0.079	0.075	0.071	0.075
Apex	32-003-0022	0.079	0.081	0.071	0.077
Mesquite	32-003-0023	0.069	0.065	0.069	0.067
Paul Meyer	32-002-0043	0.083	0.083	0.077	0.081
Walter Johnson	32-002-0071	0.085	0.085	0.076	0.082
Lone Mountain	32-003-0072	0.085	0.080	0.078	0.081
Palo Verde	32-003-0073	0.084	0.081	0.074	0.079
Joe Neal	32-003-0075	0.083	0.081	0.080	0.081
Winterwood	32-0030-538	0.078	0.076	0.071	0.075
Boulder City	32-003-0601	0.074	0.076	0.071	0.073
Jean	32-003-1019	0.079	0.083	0.074	0.078
Orr	32-003-1021	0.085	0.077	0.074	0.078
J.D. Smith	32-003-2002	0.081	0.080	0.068	0.076

Source: EPA Air Quality System, 2006-2008 (Appendix B).

Table 2-3. Three Year Average (ppm) of the 4th Highest Ozone Concentrations (2007-2009)

Site Name	Site Code	2007	2008	2009	Design Value 2007-2009
Craig Road	32-003-0020	0.075	0.071	0.072	0.072
Apex	32-003-0022	0.081	0.071	0.070	0.074
Mesquite	32-003-0023	0.065	0.069	0.062	0.065
Paul Meyer	32-002-0043	0.083	0.077	0.071	0.077
Walter Johnson	32-002-0071	0.085	0.076	0.074	0.078
Lone Mountain	32-003-0072	0.080	0.078	0.072	0.076
Palo Verde	32-003-0073	0.081	0.074	0.072	0.075
Joe Neal	32-003-0075	0.081	0.080	0.074	0.078
Winterwood	32-0030-538	0.076	0.071	0.070	0.072
Boulder City	32-003-0601	0.076	0.071	0.071	0.072
Jean	32-003-1019	0.083	0.074	0.072	0.076
Orr	32-003-1021	0.077	0.074	0.071	0.074
J.D. Smith	32-003-2002	0.080	0.068	0.072	0.073

Source: EPA Air Quality System, 2007–2009 (Appendix C).

2.3 MONITORING RESULTS AND ATTAINMENT DEMONSTRATION

The monitoring data presented in Tables 2-2 and 2-3 verify that the Clark County nonattainment area has been in attainment with the ozone NAAQS since 2008, including the most recent three-year period of 2007–2009, in accordance with the federal requirements of 40 CFR 58. The data also depict a downward trend in ozone concentrations in the Clark County nonattainment area.

2.4 QUALITY ASSURANCE PROGRAM

Ozone data have been collected and verified in accordance with 40 CFR 58, Appendix A, "Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Ambient Air Monitoring Program," and the *DAQEM Quality Control and Assurance System for Criteria Gaseous Pollutants* (DAQEM 2008b).

Ozone data are submitted to EPA's Air Quality System database and are available for public review in the annual network plan Clark County submits to EPA. The data are also posted on the Air Quality Index page of Clark County's Web site and are reported in local media.

3.0 STATE IMPLEMENTATION PLAN APPROVAL

3.1 INTRODUCTION

The second required component of an area's redesignation request is a fully approved SIP satisfying all the requirements that apply to the nonattainment area under CAA Section 110(k), which addresses completeness findings, deadlines for EPA actions, types of EPA actions, and sanctions that may be applied to areas failing to meet CAA requirements.

3.2 PREVIOUS OZONE STATE IMPLEMENTATION PLAN APPROVALS

The Phase 1 Implementation Rule issued by EPA in April 30, 2004, classified Clark County as a "basic" nonattainment area under Subpart 1 of the CAA, effective June 15, 2004 (69 FR 23858). Following this designation, the state of Nevada submitted to EPA a request to reconsider the boundaries of the Clark County nonattainment area. EPA accepted the Nevada recommendations and issued a final rule in September 2004 delineating those boundaries (Section 1.3).

In December 2006, the U. S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) vacated the Phase 1 Implementation Rule. EPA issued a memorandum in June 2007 stating that nonattainment areas previously classified under Subpart 1 were no longer subject to the June 2007 submittal date for their attainment demonstrations. EPA then established a transportation conformity rule allowing nonattainment areas to submit early progress plans containing early MVEBs that addressed the ozone NAAQS before submitting a complete attainment demonstration. Clark County developed the *8-Hour Ozone Early Progress Plan for Clark County, Nevada* (DAQEM 2008a) and submitted it to EPA in June 2008 to establish MVEBs, and EPA formally approved the MVEBs on May 14, 2009 (74 FR 22738).

In nonattainment areas where monitored data demonstrate the NAAQS have already been achieved, EPA has determined that certain requirements of Part D, Subparts 1 and 2 of the CAA do not apply. Therefore, Clark County does not require certain submissions for an area that has attained the NAAQS. These include reasonable further progress (RFP) requirements, attainment demonstrations, reasonably available control measures (RACM), and contingency measures, because these provisions have the purpose of helping achieve attainment of the NAAQS.

This interpretation of the CAA is known as the Clean Data Policy and is the subject of two EPA memoranda. EPA also finalized the statutory interpretation set forth in the policy in its final rule, 40 CFR 51.918, as part of its "Final Rule to Implement the 8-hour Ozone NAAQS—Phase 2" (Phase 2 Final Rule) – see discussion in the preamble to the rule at 70 FR 71612, 71645-46 (November 29, 2005). The D.C. Circuit (2009) upheld this Clean Data regulation as a valid interpretation of the CAA in NRDC v. EPA, 571 F. 3d 1245. EPA also finalized its interpretation in a regulation that was part of its Implementation Rulemaking for the $PM_{2.5}$ NAAQS (40 CFR 51.1004(c)). Thus, EPA has codified the policy when it established final rules governing implementation of new or revised NAAQS for the pollutants (70 FR 71612, 71644-46 (November 29, 2005) (ozone); 72 FR 20585, 20665 (April 25, 2007) ($PM_{2.5}$)). Otherwise, it applies the policy in individual rulemakings related to specific nonattainment areas, (i.e., 75 FR 6571 (February 10, 2010)). EPA believes that the legal bases set forth in detail in EPA's Phase 2

Final rule, (i.e., May 10, 1995 memorandum from John S. Seitz, entitled "Reasonable Further Progress, Attainment Demonstration, and Related Requirements for Ozone Nonattainment Areas Meeting the Ozone National Ambient Air Quality Standard," the $PM_{2.5}$ implementation rule, and the December 14, 2004 memorandum from Stephen D. Page entitled "Clean Data Policy for the Fine Particle National Ambient Air Quality Standards"), are equally pertinent to the interpretation of provisions of Subparts 1 and 4 applicable to PM_{10}. Our interpretation that an area that is attaining the standards is relieved of obligations to demonstrate RFP and to provide an attainment demonstration, RACM and contingency measures pursuant to Part D of the CAA, pertains whether the standard is PM_{10}, ozone or $PM_{2.5}$.

The monitoring data presented in Tables 2-2 and 2-3 of Section 2.2 verify the Clark County nonattainment area has been in attainment with the ozone NAAQS since 2008, including the most recent three-year period of 2007–2009.

4.0 PERMANENT AND ENFORCEABLE IMPROVEMENT IN AIR QUALITY

4.1 INTRODUCTION

The third required component of an area's redesignation request is a demonstration that the improvement in air quality is reasonably attributed to emission reductions that are permanent and federally enforceable. This section demonstrates that improved air quality in the Clark County ozone nonattainment area is the result of permanent and enforceable emission reduction control measures, as opposed to adverse economic or meteorological conditions.

4.2 ECONOMIC CONDITIONS

Clark County, formed in 1909, totals more than 8,000 square miles in area and is located at the southern tip of the state. Most residents live in the Las Vegas Valley, a 600-square-mile basin in the middle of the county. In addition to hosting up to 40 million visitors a year, Las Vegas has been one of the fastest growing cities in the nation for 25 years. This rapid population growth and accompanying development led to increased emissions of pollutants and, beginning in 2001, ozone concentrations in Clark County approached (and sometimes exceeded) the 8-hour ozone NAAQS.

4.2.1 Development Patterns

More than 90 percent of the land in Clark County is owned by federal agencies and restricted from public use. The U.S. Bureau of Land Management (BLM) has the largest holdings, including the Red Rock National Conservation Area west of Las Vegas. Most of the Spring Mountain Range, including Mt. Charleston, is administered by the U.S. Forest Service as part of the Toiyabe National Forest.

Urbanized land is concentrated in the Las Vegas Valley and includes the cities of Las Vegas, Henderson, and North Las Vegas, as well as unincorporated areas of Clark County. These communities contain the highest population densities and corresponding roadway networks. Traffic volumes are increasing every year because of population growth and development.

Although emissions from mobile and nonpoint sources in Clark County originate primarily in the Las Vegas Valley, nearby areas contain significant industrial sources of pollution. The Apex Industrial Park, 20 miles northeast of Las Vegas, is home to many sources of NO_x. Power plants such as the Reid Gardner facility near Moapa are a significant source of NO_x.

4.2.2 Population Trends

More than 95 percent of Clark County's population resides in the Las Vegas Valley. But communities outside the valley have also experienced significant growth in the past 20 years, including Mesquite, on the county's northeastern edge, and Laughlin, at the county's southern end. Table 4-1 provides population data in Clark County from 1990 to 2009, and Appendix A contains Clark County population projections for future years. Clark County experienced a population decrease of less than one percent between 2008 and 2009, but this likely has not had an effect on overall ozone concentrations in the county.

Table 4-1. Clark County Population History (1990-2009)

Year	Population	Annual Population Change	Annual Percent Increase
1990	770,280	—	—
1991	835,080	64,800	8%
1992	873,730	38,650	5%
1993	916,837	43,107	5%
1994	990,564	73,727	8%
1995	1,055,435	64,871	7%
1996	1,119,052	63,617	6%
1997	1,193,388	74,336	7%
1998	1,261,150	67,762	6%
1999	1,327,145	65,995	5%
2000	1,394,440	67,295	5%
2001	1,485,855	91,415	7%
2002	1,549,657	63,802	4%
2003	1,620,748	71,091	5%
2004	1,715,337	94,589	6%
2005	1,796,380	81,043	5%
2006	1,874,837	78,457	4%
2007	1,954,319	79,482	4%
2008	1,967,716	13,397	<1%
2009	1,952,040	-15,676	- <1%

Source: Center for Business and Economic Research, UNLV (2010).

4.3 METEOROLOGICAL CONDITIONS

Located in the Mojave Desert, Clark County has four well-defined seasons. Summers display the classic characteristics of the desert Southwest: daily high temperatures in the lower elevations often exceed 100ºF, with lows in the 70s. There has been no change in weather patterns over the last decade.

The summer heat is usually tempered by low relative humidity, which may increase for several weeks during July and August in association with moist monsoonal wind flows from the south. This is the most common period for thunderstorms in the valley, which can result in flash flooding. Temperatures during the spring and fall are generally moderate. Strong winds are the most persistent weather hazard: although winds higher than 50 miles per hour are infrequent, they often happen during vigorous storms.

Winters are generally mild and pleasant. Afternoon temperatures average 60ºF, and the sky is normally clear and sunny. Snow accumulation on valley floors is rare; however, higher elevations, such as the Spring Mountains, typically receive 5–10 feet of snowfall annually. Based on measurements from McCarran International Airport over the past thirty years, temperatures fall below 32ºF an average of 24 days a year.

Average annual rainfall in the valley, measured at McCarran International Airport, is approximately 4.16 inches. Table 4-2 lists temperature and rainfall averages in Clark County over the last seven decades.

Table 4-2. Monthly Averages for Temperature and Rainfall (1937 to 2009)

Month	Maximum (°F)	Minimum (°F)	Average (°F)	Rainfall (inches)
January	57.1	34.5	47.0	0.52
February	62.5	38.9	52.2	0.58
March	69.5	44.3	58.3	0.45
April	78.2	51.7	66.0	0.20
May	88.5	61.1	75.4	0.15
June	98.6	69.9	85.6	0.07
July	104.6	76.5	91.2	0.43
August	102.2	74.8	89.3	0.44
September	94.7	66.6	81.3	0.32
October	81.3	54.3	68.7	0.25
November	66.5	42.0	55.0	0.36
December	57.2	34.7	47.0	0.40
Annual Average	**80.1**	**54.1**	**68.1**	**4.16**

Source: Western Regional Climate Center (2010).

Local meteorology and general weather patterns in the Southwest have a significant effect on the valley's air quality. Stagnant conditions and low wind speeds can build up concentrations of ozone and precursor pollutants in the valley; winds from the southwest or west can transport ozone and other pollutants into Clark County. Wind speed and direction affect ozone levels in different areas at different times, and complex terrain features influence local flows within, into, and out of neighboring basins. Ozone concentrations in the Las Vegas Valley can therefore differ significantly, depending on location and time of day.

4.4 ATTAINMENT AND MAINTENANCE CONTROL MEASURES

This plan demonstrates maintenance of the 1997 ozone NAAQS through 2022 using seven permanent and enforceable emissions reduction control measures:

1. Federal Tier 2 vehicle emissions standards (65 FR 6822).
2. Federal highway diesel rule (66 FR 5001).
3. Federal large nonroad diesel engines rule (69 FR 38958).
4. Nonroad spark-ignition engines and recreational engines standards (65 FR 76789).
5. Federal nonroad spark-ignition engines and equipment standards (73 FR 59034).
6. Nevada vehicle inspection and maintenance (I/M) program (Nevada Revised Statutes (NRS) 445B and Nevada Administrative Code (NAC) 445B).

7. Clark County stationary point and nonpoint source air quality regulations (AQRs).

Section 4.4.1 discusses each of these seven measures. Section 4.4.2 describes additional emission reduction control measures that provide further ozone reductions, but are not quantified in the emission inventories (EIs).

4.4.1 Permanent and Enforceable Emission Reduction Control Measures

The seven emission reduction control measures used for quantitative emission reductions in the ozone maintenance plan are described below. These measures, which are permanent and enforceable, will remain in place through the maintenance year of 2022 and will ensure continued ozone emission reductions throughout the nonattainment area, as demonstrated in Section 6.6.

4.4.1.1 Federal Tier 2 Vehicle Emission Standards

The Tier 2 standards require all passenger vehicles in a manufacturer's fleet, including light-duty trucks and sport utility vehicles, to meet an average standard of 0.07 grams of NO_x per mile. Implementation of Tier 2 standards began in 2004, and most vehicles had been phased in by 2007. Federal Tier 2 standards also cover passenger vehicles over 8,500 pounds gross vehicle weight rating (e.g., large pickup trucks, sport utility vehicles), which were not covered by the previous Tier 1 regulations. Phase-in for these vehicles began in 2008, with full compliance achieved in 2009.

The Tier 2 rule also reduced the sulfur content of gasoline from major refineries to 30 ppm starting in January 2006; before then, most summertime gasoline sold in Clark County had a sulfur content of about 300 ppm. Emission reductions from the federal Tier 2 standards have been primarily responsible for a large decrease in ozone concentrations in Clark County.

4.4.1.2 Federal Highway Diesel Rule

Beginning with the 2007 model year, this rule reduced emissions from heavy-duty diesel vehicles by more than 90 percent. Additionally, the rule led to a 97 percent reduction in the sulfur content of highway diesel fuel. Previous levels were between 500 ppm (low sulfur diesel) and 15 ppm (ultra-low sulfur diesel). Advanced pollution control technology for cars, trucks, and buses allowed engine manufacturers to meet 2007 emission standards. EPA estimated this rule would eliminate 2.6 million tons of NO_x emissions from heavy-duty vehicles each year once the program was fully implemented, equivalent to a 95 percent reduction in NO_x emissions when compared to older diesel engines using higher-content sulfur diesel.

4.4.1.3 Federal Large Nonroad Diesel Engines Rule

This rule, promulgated in 2004, applies to large nonroad diesel engines like those used in construction, agricultural, and industrial equipment. EPA began phasing in the program in 2008, and is scheduled to finish in 2014. The rule reduces the allowable sulfur in nonroad diesel fuel to 15 ppm by 2010. The combined engine and fuel rules should reduce NO_x emissions from large nonroad diesel engines by over 90 percent when compared to older nonroad engines using higher-content sulfur diesel.

4.4.1.4 Federal Nonroad Spark-Ignition Engines and Recreational Engines Standards

In 2003, this standard began regulating NO_x and VOCs for groups of previously unregulated nonroad engines, including large spark-ignition engines (e.g., forklifts, airport ground service equipment), recreational vehicles (e.g., off-highway motorcycles), and recreational marine diesel engines. In Clark County, the standards on large spark-ignition engines and recreational vehicles have contributed the most to reducing local ozone concentrations. EPA estimates that by 2020, the standard will reduce NO_x emissions from these types of equipment by 80 percent and VOC emissions by 72 percent.

4.4.1.5 Federal Nonroad Spark-Ignition Engines and Equipment Standard

In 2011, this standard will start regulating NO_x, VOCs, and carbon monoxide (CO) from all new land-based spark-ignition engines running at or below 19 kilowatts (e.g., lawn and garden equipment, utility vehicles, generators) and from spark-ignition engines used in marine vessels (e.g., outboard engines, personal watercraft, stern drive/inboard engines). The standard also adopts new evaporative emissions standards to control permeation from these engines. In Clark County, the standards on small engines used in lawn and garden equipment, utility vehicles, and generators will contribute the most to reducing local ozone concentrations. EPA estimates that by 2020, the standard will reduce NO_x emissions from these types of equipment by 46 percent and VOC emissions by 33 percent.

4.4.1.6 State Vehicle Inspection and Maintenance Program

Chapter 445B in the NRS and the NAC set forth the regulations governing motor vehicles in Clark County. Adopted in 1978 and administered by the Nevada Department of Motor Vehicles, these regulations establish annual testing procedures for 1968 or newer gasoline-powered vehicles, regardless of size, and for diesel-powered vehicles with a manufacturer's gross vehicle weight rating of up to 10,000 pounds. The Nevada I/M program allows exemptions from emission testing for new vehicles on their first and second registration, new hybrid-electric vehicles during their first five model years, alternative fuel vehicles, vehicles registered as Classic Rods or Classic Vehicles and driven 2,500 miles or less per year, and vehicles registered as Replica Vehicles.

On-board diagnostic testing procedures are used for 1996 and newer vehicles, while older vehicles are tested with a two-speed idle test. The I/M program also includes waiver provisions for motorists who spend $450 on emission-related repairs. No waivers are allowed for vehicles that emit visible smoke.

4.4.1.7 Clark County Stationary Point and Nonpoint Source Regulations

Stationary sources in the Clark County nonattainment area are generally industrial, commercial, or institutional sources that emit 10 tons per year (tpy) or more of VOCs, 25 tpy of NO_x, and 100 tpy of any other criteria pollutant. Any source that generates, or has the potential to generate, at least 10 tpy of any single hazardous air pollutant (HAP) or 25 tpy of aggregate HAPs must report emissions. Nonpoint sources are commercial, small-scale industrial and residential sources whose emissions fall below point source reporting levels, and which are too numerous or too small to identify individually.

Clark County has numerous regulations in place for stationary and nonpoint sources, notably AQR Sections 12.0 through 12.13, and Sections 13, 14, 16, 19 and 21. Clark County also regulates nonpoint sources, including gasoline-dispensing facilities, through the Stage II vapor recovery requirements in AQR Section 52, "Gasoline Dispensing Facilities." Clark County enforces several federal regulations, such as 40 CFR Part 60, "Standards of Performance for New Stationary Sources, 40 CFR Part 61, "National Emission Standards for Hazardous Pollutants," and 40 CFR Part 63, "National Emission Standards for Hazardous Air Pollutants for Source Categories," to control emissions.

4.4.2 Additional Emission Reduction Control Measures

The Las Vegas Valley also benefits from the regional, state, and local ozone control programs listed below. Although these programs are not quantified in the EIs of this plan, they play an important role in reducing ozone levels in Clark County.

4.4.2.1 Regional Haze Rule

This rule, promulgated in July 1999, mandates emission reductions to achieve natural visibility levels in mandatory Class I areas by 2064. Emission reduction control measures principally address light-scattering and -absorbing aerosols, such as NO_x and VOC emissions. Several control measures will be implemented throughout the western states: for example, Best Available Retrofit Technologies will be installed on older units to significantly reduce NO_x and VOCs. These controls will be operating by January 1, 2015, or no later than five years after approval of state regional haze SIPs, whichever comes first. Most western states, including Nevada, have submitted regional haze SIPs and are awaiting EPA approval.

4.4.2.2 Actions by California Local Air Agencies

Several local air agencies in California, such as the South Coast and San Joaquin Air Pollution Control Districts, are implementing control measures in conjunction with their SIPs. These control measures will likely reduce ozone transport into Clark County.

4.4.2.3 Alternative Fuels for Government Fleets Program

This program is designed to reduce motor vehicle emissions, including NO_x and VOCs, by regulating state and local government fleets of more than 24 vehicles based in Clark County.

Alternative fuels accepted by the program include methanol, ethanol or other alcohol 85 percent or greater by volume (E-85), compressed natural gas, liquefied petroleum gas, hydrogen, federal reformulated gasoline or its equivalent, ultra-low sulfur diesel, electricity, certain ethanol-diesel blends (e.g., O2Diesel™), and biodiesel from B5 to B100. Hybrid electric vehicles are considered alternative fuel vehicles if the electric motor is used as a propulsion device during parts of the vehicle's drive cycle. As of fiscal year 2000, government fleets had to ensure that 90 percent of new vehicle purchases were alternative-fuel vehicles.

4.4.2.4 Transportation Control Measures/Transportation Demand Management Program

In 1999, after adoption of the *Transportation Improvement Plan FY 1998-2000* (RTC 1999), the Regional Transportation Commission of Southern Nevada (RTC) created Club Ride, a employer-based commuter services program. Major components include employer/community outreach and marketing efforts, employer rideshare program incentives, preferential parking for carpoolers and vanpoolers, emergency rides home for Club Ride members, travel assistance information on the Internet and at public kiosks, transit passes to subsidize employees' transit expenses, and partnerships with vanpool leasing companies. Although voluntary, this and other RTC programs play an important role in Clark County's efforts to reduce ozone levels.

4.4.2.5 Ozone Action Days

This public outreach and education program is a voluntary initiative asking local residents to take additional preventive actions when high ozone levels are predicted. Under certain meteorological conditions, Clark County meteorologists can forecast when ground-level ozone may exceed health standards. On those days, Clark County faxes an air quality message to media outlets, government agencies, and other Ozone Action Day participants. The department also makes Ozone Action Day messages and daily forecasts available to the public on its Web site. Preventive actions to reduce air pollution on these days include refueling vehicles after dusk, avoiding excessive driving, using public transportation, and telecommuting.

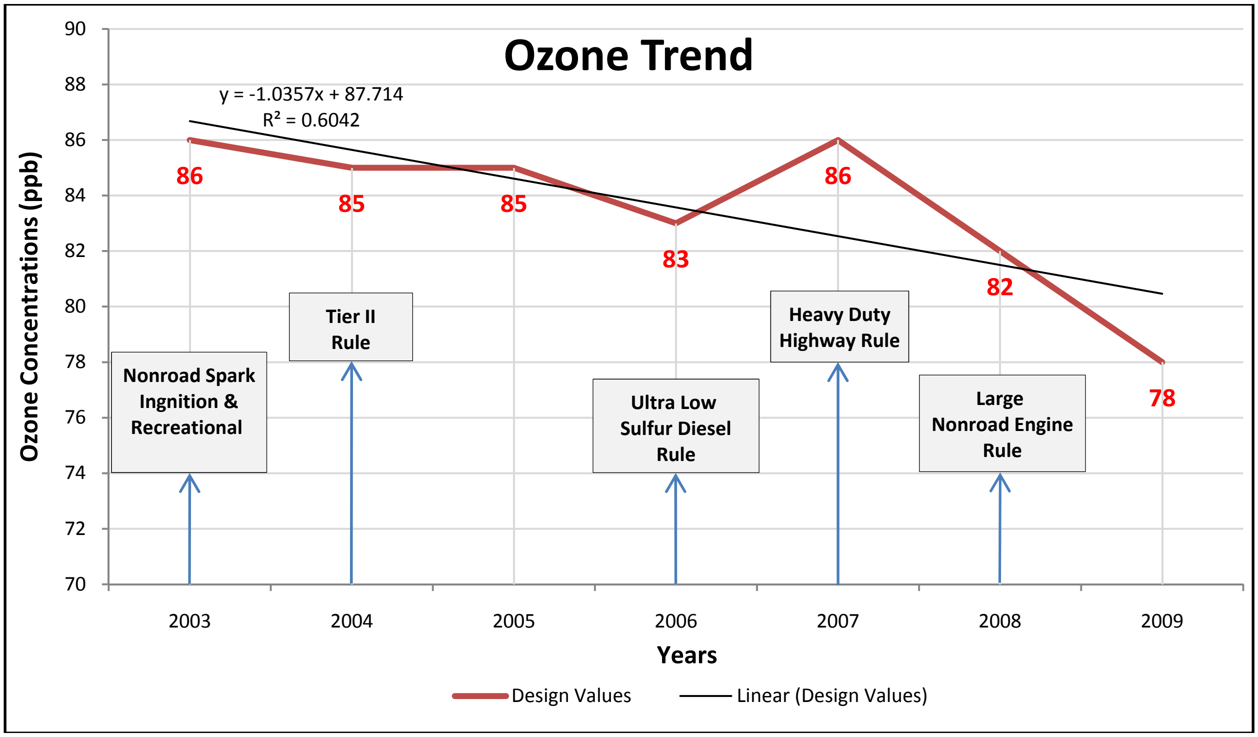
4.4.2.6 Transportation Conformity

Clark County will continue to work closely with the RTC to assure that Regional Transportation Plans and Transportation Improvement Programs in the Clark County ozone nonattainment area are consistent with and conform to Clark County's air quality program, including the ozone SIP.

4.5 AIR QUALITY TREND ANALYSIS: WEIGHT OF EVIDENCE

Forecasting ozone concentrations in future years carries some level of uncertainty, so Clark County performed an air quality trend analysis for the period between 2003 and 2009 using quality-assured data from the EPA Air Quality System database (Figure 4-1). The trend analysis would contribute to a weight-of-evidence approach to support the attainment demonstration of the ozone NAAQS with future-year VOC and NO_x MVEBs. This trend analysis also supports Section 4.4.1 – Permanent and Enforceable Emission Reduction Control Measures. Declining design values started with the implementation of the first Federal emission standard for engines in 2003. The 2007 design value went slightly up due to 3 consecutive intensive wildfire seasons in 2005, 2006 and 2007. The significant drop of the DV in 2009 can be contributed, in part, to the implementation of the Large Nonroad Engine rule; the source apportionment of the nonroad emissions category in 2008 was 33% for NOx and 20% for VOC.

This linear analysis, based on the ordinary least squares, showed a continued downward trend of the design values. Clark County is confident that future ozone concentrations will continue to trend downward with the maintenance control measures described in Section 4.4 in place.



Source: EPA Air Quality System, 2003-2010 (Appendix D).

Figure 4-1. Actual and Linear (OLS) Ozone Trends

5.0 REQUIREMENTS FROM SECTION 110 AND PART D OF THE CLEAN AIR ACT AMENDMENTS

5.1 INTRODUCTION

The fourth required component of a redesignation request is verification that Clark County meets CAA Section 110 and Part D requirements. This section provides that verification.

5.2 SECTION 110 REQUIREMENTS

Before EPA can redesignate the Clark County ozone nonattainment area, the provisions of CAA Section 110(a)(2) and CAA Section 110(l) must be satisfied. Section 110(a)(2) addresses the general requirements for SIPs; Section 110(l) prevents approval of SIP revisions if components of the plan would interfere with any applicable requirement concerning attainment, with reasonable further progress towards attainment of a NAAQS, or with any other applicable CAA requirement.

5.2.1 Section 110(a)(2)

This CAA section contains the following SIP requirements:

1. Establishment and implementation of enforceable emission limitations.
2. Monitoring, compilation, and analysis of ambient air quality data.
3. Preconstruction review and permitting of new and modified major stationary sources.
4. Consultation with, and provisions for, the participation of affected local governments.
5. Assurance the state has adequate funds and authority to enforce the SIP and associated regulations.
6. Establishment of permit fees for stationary sources.

NRS 445B.500 addresses the establishment, administration, and enforcement of programs for controlling air pollution in Nevada. In Clark County, these programs are administered and enforced by Clark County. The department has more than 100 staff members and an annual budget of approximately $28 million to administer, implement and enforce the CAA, including air quality plans and regulations applicable to the Clark County ozone nonattainment area.

Clark County's current air program meets all provisions required by CAA Section 110(a)(2). If Clark County becomes unable to meet any of the provisions, NRS 445B.520 and 445B.530 allow the State Environmental Commission to assume jurisdiction over the local air quality management program to ensure that CAA requirements are met. EPA also has authority to impose sanctions on a state if it "…finds that any requirement of an approved plan (or approved part of a plan) is not being implemented" (CAA, Section 179).

5.2.2 Section 110(l)

CAA Section 110(l) requires that SIP revisions not interfere with requirements for attainment or reasonable further progress regarding other criteria pollutants, or with any other CAA requirements. Since this plan proposes no changes to current emission reductions control measures, it poses no interference with Clark County's progress towards continued attainment of the CO or particulate matter NAAQS. Nevada is currently designated as attainment/unclassifiable for particulate matter less than 2.5 microns in diameter under Section 107(d) of the CAA.

5.3 PART D REQUIREMENTS

Sections 172(c) and 176(c) in Part D of the CAA lay out requirements applicable to all areas designated as nonattainment because of a NAAQS violation. Clark County was not classified under CAA Part D, so it is only subject to the general provisions of CAA Subpart 1, "Nonattainment Areas in General."

5.3.1 Section 172(c)

This section contains general requirements for maintenance plans, including:

1. Implementation of reasonably available control measures, including reasonably available control technologies, for existing sources.

2. Reasonable further progress for existing sources.

3. A current EI, and periodic EIs every three years until attainment.

4. Identification and quantification of allowable emissions for new and modified stationary sources.

5. Stationary source permitting program.

6. Other measures, including enforceable emission limitations, additional control measures, and a schedule for compliance.

7. Compliance with Section 110 provisions.

8. Contingency measures.

Clark County's current air program, in conjunction with the components of this plan, meets all Section 172(c) provisions.

5.3.2 Section 176(c)

This section contains transportation and general conformity provisions applicable in maintenance areas. The transportation conformity process ensures transportation plans, programs, and projects in maintenance areas do not create new violations of the NAAQS, do not increase the frequency or severity of NAAQS violations, and do not delay timely attainment of the NAAQS. It does not allow federal agencies to engage in, support, or provide financial assistance for licensing, permitting, or approving any project unless the project conforms to the SIP.

In approving the *Clark County Transportation Conformity Plan* (DAQEM 2008c) and the transportation conformity budgets in the *8-Hour Ozone Early Progress Plan for Clark County, Nevada* (DAQEM 2008a), EPA determined that Clark County met the Section 176(c) requirements of the transportation conformity rule, 40 CFR 93, Subpart A (73 FR 66183). Additionally, Clark County's commitment to submit a maintenance plan to EPA that incorporates all emissions from a conformity determination for the force beddown of the F-35 Force Development Evaluation and Weapons School at Nellis Air Force Base is consistent with the general conformity requirements of CAA Section 176(c) and 40 CFR 93.158(a)(5)(i)(B).

6.0 MAINTENANCE PLAN

6.1 INTRODUCTION

The fifth required component of an area's redesignation request is fulfillment of CAA Section 107(d)(3)(E) requirements. These specify that for an area to be redesignated to attainment, EPA must approve a maintenance plan that meets all the conditions of CAA Section 175(a), including a comprehensive and accurate demonstration of continued maintenance of the ozone NAAQS for ten years after redesignation.

Two approaches are acceptable for demonstrating maintenance of the NAAQS (Calcagni, 1992). The first, the emissions projections approach, compares a projected EI with an attainment EI. The second is a complex analysis using gridded dispersion modeling. Clark County used the emissions projection approach, comparing an EI for the attainment year (2008) to an EI for the maintenance year (2022). The maintenance year was chosen to allow EPA 18 months after receipt of a complete submittal to process Clark County's redesignation request.

The attainment EI represents an emission level that would not cause a NAAQS violation. If the projected maintenance year EI remains at or below the attainment year EI, continued maintenance is demonstrated. In addition, the maintenance demonstration includes a comparison between an interim year EI (2015) and the attainment year EI to show definitive maintenance throughout the 10-year period after redesignation, not just in the maintenance year.

6.2 TRANSPORATION INPUT DATA

Table 6-1 summarizes the transportation data (daily VMT) used to develop the EIs in Section 6.4. The information was obtained from the *Regional Transportation Plan 2009-2030*, approved in November 2008 (RTC 2008). All other input data used in developing the EIs, such as vehicle fleet mix, seasonal/day-of-the-week adjustment factors, and hourly activity profiles, has also been updated with the most current data available.

Table 6-1. Demographic Data Used to Develop Emission Inventories

Year	Vehicle Miles Traveled
2008 - attainment	45,259,209
2015 - interim	56,903,109
2022 - maintenance	73,731,008

6.3 EFFICIENCY AND EFFECTIVENESS FACTORS

Control efficiency, rule effectiveness and rule penetration factors were applied to the attainment emissions of point and nonpoint source categories affected by Clark County AQRs, when applicable. The term control efficiency includes capture efficiency for point sources which defines the percentage of emissions from a source that is captured by a control device. Rule effectiveness reflects the actual capability of a regulatory program to achieve the emission reductions required by regulation. Rule penetration, on the other hand, are the assumed percentage of emissions of the targeted Source Classification Code (SCC) subject to the requirements of a rule.

6.4 EMISSION INVENTORY TYPE CATEGORIES

The inventories for NO_x and VOC emissions for the Clark County nonattainment area was derived from estimates developed for nine EI type categories: point sources, nonpoint sources, private and commercial aviation, Federal aviation, railway, on-road mobile, nonroad mobile, biogenic, and banked emission reduction credits. The following sections provide a brief discussion of each category and its estimated emissions; more detailed explanations of EI estimates can be found in Appendix A, the *Clark County Ozone Redesignation Request and Maintenance Plan Technical Support Document* (TSD).

6.4.1 Point Sources

Point source inventories include all Title V major stationary sources, minor stationary sources that emit at least 10 tpy of VOCs or 25 tpy of NO_x per year, and clustered minor stationary sources that could be considered emission hot spots. The source emissions are tabulated from data collected by direct on-site measurements or calculated using emission factors and activities data. When a single facility has multiple sources, emission data is collected for each source and entered into a database that organizes it and allocates the emissions to a geographic location. To calculate projected EIs, point sources are adjusted by growth factors based on Source Classification Codes using version 5.0 of EPA's Economic Growth Analysis System program.

6.4.2 Nonpoint Sources

Nonpoint sources of emissions are those that fall below point source reporting levels and are too numerous or small to identify individually. Generally, they are small-scale industrial or residential operations that use emission-generating materials or processes. Nonpoint sources are generally divided into two groups, according to the emission mechanism: (1) hydrocarbon evaporative emissions, considered primarily as VOCs, or (2) fuel combustion emissions, considered primarily as NO_x. Hydrocarbon evaporative emission sources include printing presses, industrial coatings, degreasing solvents, house paints, and the filling of underground gasoline tanks. Fuel combustion emission sources include stationary source fossil fuel combustion at residences and businesses, vehicle/equipment operations, materials burning outdoors, and structural fires.

Nonpoint source emission calculations are estimated as county-wide totals rather than as individual source emissions. With some exceptions, these emissions may be calculated by multiplying an EPA-approved factor (emissions per unit of activity) by the appropriate activity or activity surrogate responsible for generating emissions. When available, actual activity data is used; when unavailable, surrogates are used, including county population or employment data by industry type (and, when applicable, by growth factors from EPA's Economic Growth Analysis System model).

6.4.3 Private and Commercial Aviation

Private and commercial aviation in Clark County is overseen by the Clark County Department of Aviation and served by five airports: (1) McCarran International Airport; (2) North Las Vegas Airport; (3) Henderson Executive Airport; (4) Jean Airport; and (5) Perkins Field Airport. The Aviation Department provided Clark County with the 2008 actual and 2022 estimated EIs for each of these five facilities, along with emission estimates for the proposed Ivanpah Airport and Sloan Heliport (Ricondo and Associates Inc. 2008) in the southern part of the county. Emission estimates for 2015 were interpolated using the 2008 and 2022 EIs, minus the estimates for Ivanpah and Sloan. The Ivanpah Airport will not be completed until 2020, and the Sloan Heliport will not be operational until 2017.

6.4.4 Federal Aviation

Federal aviation in Clark County centers around Nellis Air Force Base, a major aircraft training facility seven miles northeast of Las Vegas. Although most emissions at Nellis come from aircraft operations, the base holds a Title V permit to cover stationary source emissions that also permeate the area. Both emission types were included in the overall EIs Nellis provided to Clark County for 2008 and 2022.

The 2022 EI included emissions from the beddown of F-35 aircraft, which will be used to train instructor pilots and support the Air Force Weapons School's mission of testing and evaluation. Emission estimates for 2015 were interpolated using the 2008 and 2022 EIs, minus the emissions from the F-35 beddown. Once the 2015 EI was calculated, F-35 beddown emissions were added back in because Nellis expects the wing to be fully operational between 2012 and 2013.

6.4.5 Railway

The sole proprietor of railroad track in Clark County is Union Pacific Railroad; in 2008, it operated roughly 148 miles of track in the county and consumed about 3.9 million gallons of diesel while hauling approximately 3.2 billion gross tons. Emissions from locomotives are assumed to be uniform throughout the year, and are based on activity throughput data in the form of gross tonnage hauled and emission factors.

To project activity throughput, Clark County incorporated an average annual growth rate of one and a half percent into the 2008 EI, based on average domestic freight demand forecasts from the Federal Highway Administration. EIs for 2015 and 2022 included future emissions associated with proposed high-speed passenger train service between Las Vegas and southern California, for which Clark County obtained estimates from the draft environmental impact statement (Federal Railroad Administration 2008).

6.4.6 On-Road Mobile

On-road mobile sources consist of cars, trucks, motorcycles, and other motor vehicles traveling on public roadways. Combustion-related emissions (NO_x and CO) were estimated for vehicle engine exhaust; evaporative hydrocarbon emissions (VOCs) were estimated for the fuel tank and other evaporative leak sources on the vehicle. Clark County then developed emission factors for 2008, 2015, and 2022 using the CONCEPT MV model; the MOBILE6 emissions factor model; Vehicle Miles Travelled (VMT) from the RTC's transportation demand model (TDM); and federal Highway Performance Monitoring System (HPMS) data from the Nevada Department of Transportation (NDOT). Every effort was made to use parameters reflective of local conditions. Local parameters include vehicle speeds by roadway type, vehicle registration by vehicle type and age, percentage of vehicles in cold-start mode, percentage of miles traveled by vehicle type, type of I/M program in place, and gasoline vapor pressure.

6.4.7 Nonroad Mobile

Nonroad mobile sources consist of a wide variety of equipment types that either move under their own power or can be moved from site to site, with the exception of locomotive, aircraft, and airport ground support equipment. Nonroad EIs for 2008, 2015, and 2022, which were estimated using the EPA's NONROAD model, included more than 80 basic and 260 specific types of nonroad equipment. The model further stratified equipment types into ten categories by horsepower rating and fuel type, then incorporated the effects of recent federal regulatory actions (i.e., emission standards for nonroad compression ignition engines and ultra-low sulfur diesel). The model also accounted for fleet turnover, when older engines are replaced by newer engines that comply with stricter federal emission controls.

6.4.8 Biogenic

Biogenic sources include agricultural crops; lawn grass; forests that produce isoprene, monoterpene, alpha-pinene, and other VOC emissions; and soils that generate trace amounts of NO_x. Like emissions from man-made sources (anthropogenic emissions), biogenic emissions react with oxidants in the atmosphere to produce ozone; they can even dominate anthropogenic emissions in some areas. A comparison of biogenic emissions estimates to emissions estimates for other categories (e.g., mobile sources) showed that biogenic emissions represent a large portion of overall VOC emissions in Clark County. Clark County assumed these emissions would remain constant over time because biogenic emissions are beyond the scope of reasonable emission reduction measures. The EIs for 2008, 2015, and 2022 were based on the Model of Emissions of Gasses and Aerosols from Nature (MEGAN) estimates, measured emission factors, and species information from completed surveys.

6.4.9 Banked Emission Reduction Credits

Under strict guidelines, Emission Reduction Credits (ERCs) may be granted, if requested, to a source that voluntarily reduces emissions beyond required levels of control. ERCs may be sold, leased, banked for future use, or traded in accordance with applicable regulations. Both NDEP and Clark County have authority to bank ERCs in Clark County. NDEP has jurisdiction over permitting, compliance, and ERC banking for plants that burn fossil fuels in a boiler to produce steam for the production of electricity (NRS 445B.500) in Clark County; all other emission units in Clark County are under the jurisdiction of Clark County. While developing this plan, Clark County verified NDEP's bank of VOCs and NO_x and the two facilities from which the related

ERCs originated. At this time, neither Clark County nor NDEP has any pending ERC applications.

Clark County chose to account for all ERCs in the maintenance year 2022 because ERCs can be used in nonattainment areas to offset emissions of new major sources and major modifications at existing major sources. Therefore, ERC emissions are already accounted for in the point source emissions growth estimated for 2022, i.e., point source emissions growth and ERCs largely overlap. To be conservative, however, Clark County is not considering the potential overlap of these emissions in this plan.

6.5 SUMMARY OF EMISSION INVENTORIES

Table 6-2 summarizes the 2008, 2015, and 2022 VOC EIs for nine source type categories in tons per day (tpd). Figures 6-1 through 6-3 show the VOC EIs for 5 source categories[1] for each of those three years. Detailed information on the methodologies used to estimate EIs can be found in the TSD (Appendix A).

Table 6-2. Summary of Total Daily VOC Emissions (tpd)

Source Category	2008 VOC	2015 VOC	2022 VOC
Point source	1.32	1.61	1.74
Nonpoint source	57.07	66.21	76.15
Commercial Aviation	2.6	2.83	4.14
Federal Aviation	0.79	0.9	0.95
On-road mobile	65.08	45.32	36.71
Nonroad mobile	42.91	32.29	29.73
Biogenic	132	132	132
ERC	0	0.43	0.43
Total	**301.77**	**281.59**	**281.85**

[1] Airports are considered point sources; therefore, the commercial and federal aviation emissions are accounted for in the Point Source category. Only five source categories are shown in the graphs.

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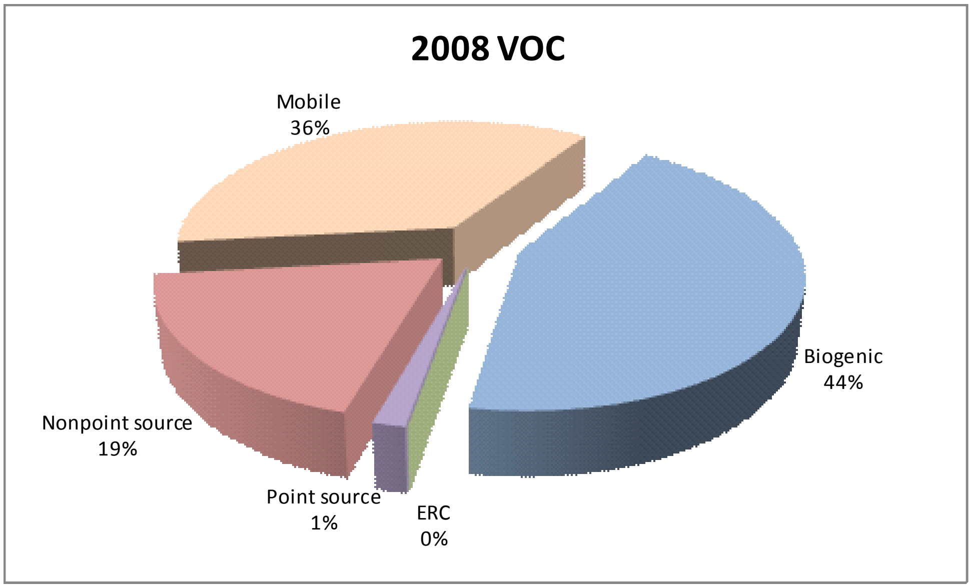

Figure 6-1. VOC Emission Inventory for 2008

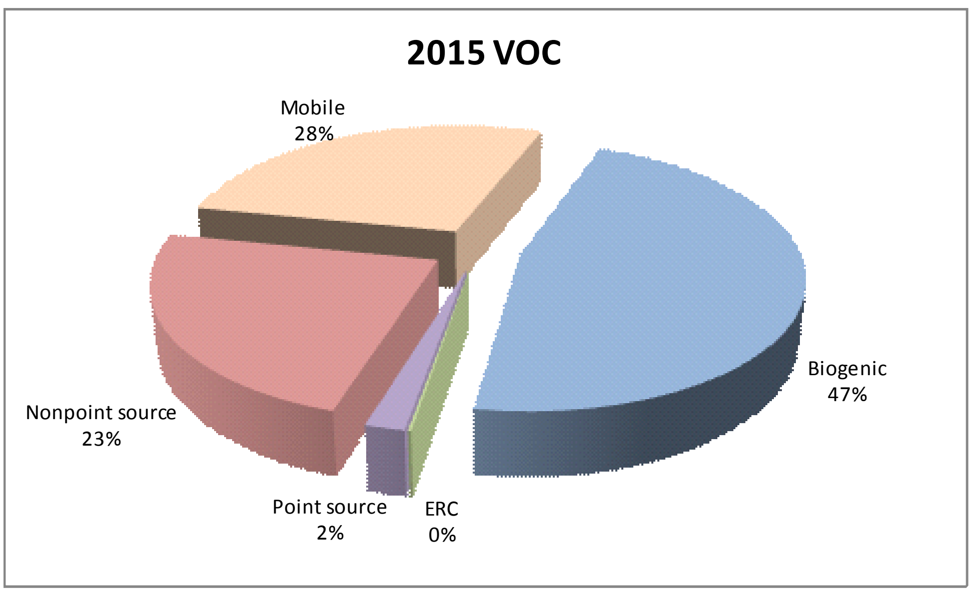

Figure 6-2. VOC Emission Inventory for 2015

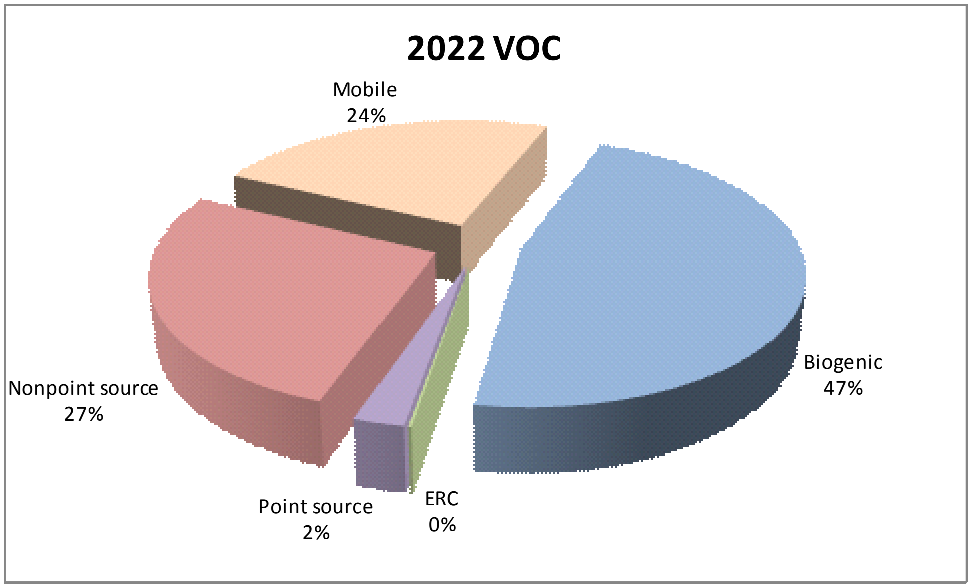

Figure 6-3. VOC Emission Inventory for 2022

Table 6-3 summarizes the 2008, 2015, and 2022 NO_x EIs for all nine source type categories. Figures 6-4 through 6-6 show the NO_x EIs for 5 source categories[2] for each of those three years. Detailed information on the methodologies used to estimate EIs can be found in the TSD (Appendix A).

Table 6-3. Summary of Total Daily NO_x Emissions (tpd)

Source Category	2008 NOx	2015 Nox	2022 Nox
Point source	28.73	31.54	31.73
Nonpoint source	5.41	5.64	5.9
Commercial Aviation	11.41	14.78	28.82
Federal Aviation	1.27	1.87	2.26
On-road mobile	68.46	34.69	23.15
Nonroad mobile	43.28	30.1	19.51
Biogenic	5	5	5
ERC	0	22.23	22.23
Total	**163.56**	**145.85**	**138.6**

[2] Airports are considered point sources; therefore, commercial and federal aviation emissions are accounted for in the Point Source category. Only five source categories are shown in the graphs.

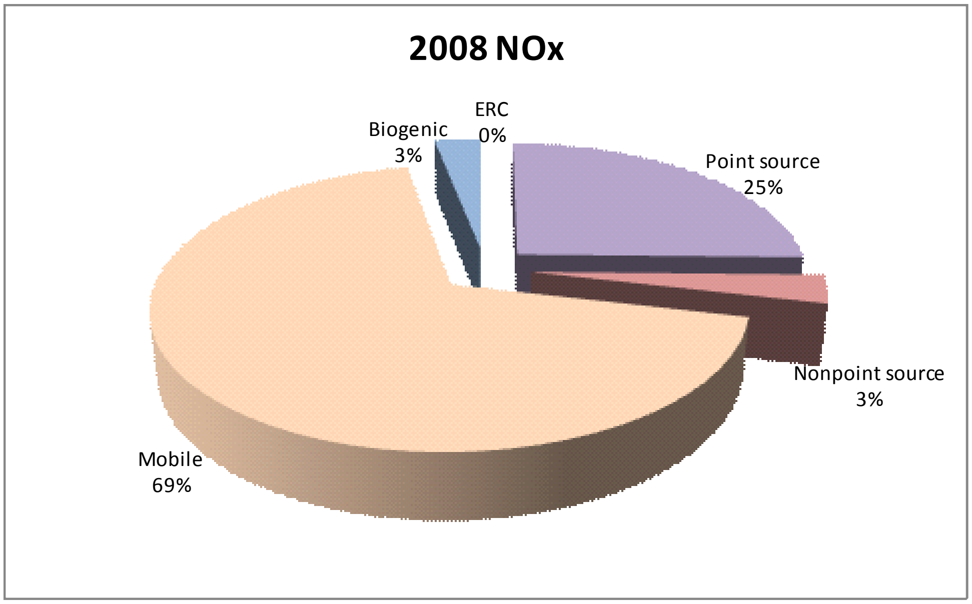

Figure 6-4. NO_x Emission Inventory for 2008

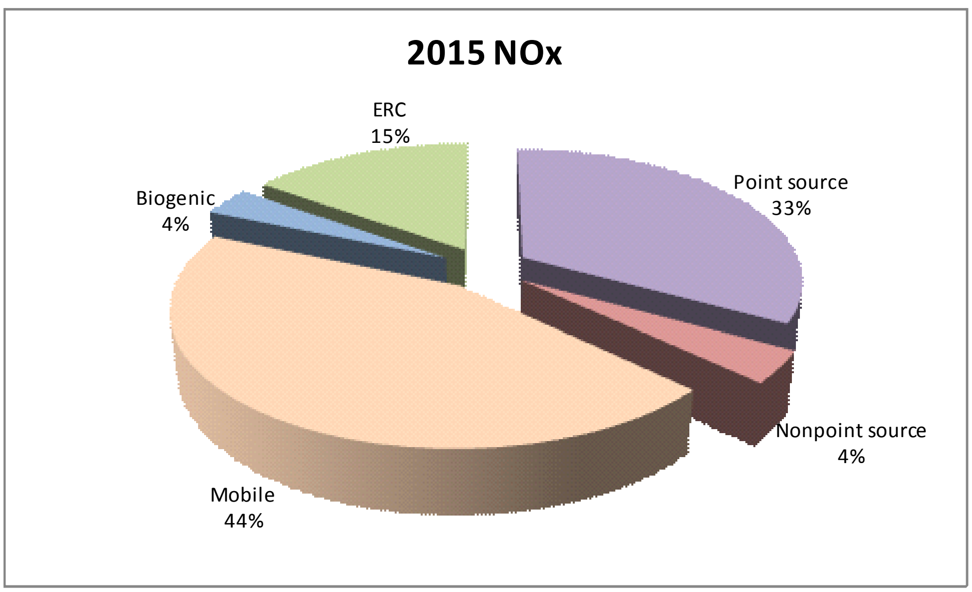

Figure 6-5. NO_x Emission Inventory for 2015

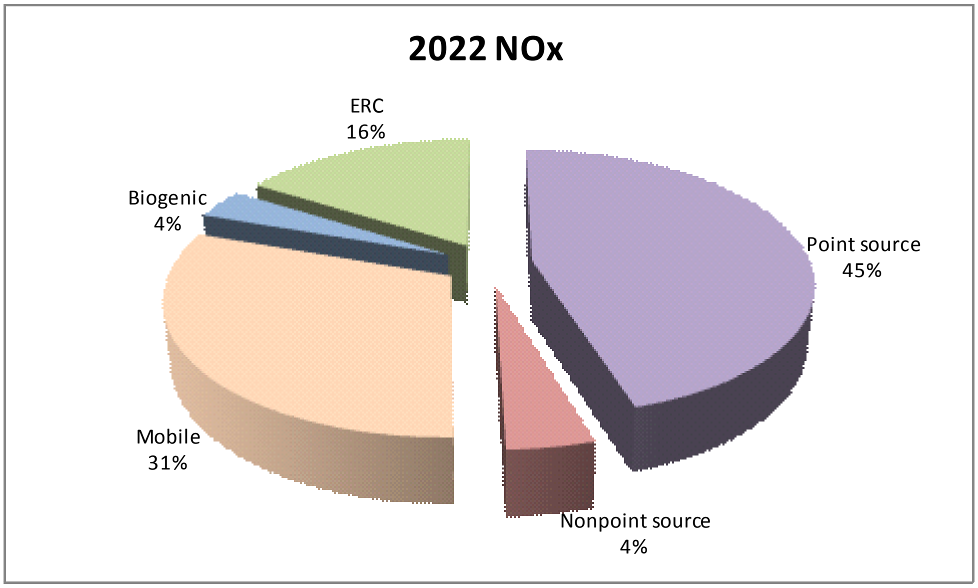

Figure 6-6. NO_x Emission Inventory for 2022

In summary, total VOC emissions decrease by 19.9 percent between 2008 and 2022 with the maintenance control measures described in Section 4.4, or from 301.77 tpd to 281.85 tpd. Total NO_x emissions follow a similar downtrend, decreasing 24.9 percent between 2008 and 2022, or from 163.5 tpd to 138.6 tpd.

6.6 MAINTENANCE DEMONSTRATION

CAA Section 175(a) requires each request for redesignation to be accompanied by a SIP revision that provides for maintenance of the NAAQS for at least ten years after redesignation. Following EPA guidance (Calcagni, 1992), Clark County demonstrated maintenance of the ozone NAAQS by comparing projected 2015 and 2022 EIs with the attainment year EI (2008). If the 2015 and 2022 EIs are less than the 2008 EI, then maintenance of the NAAQS is demonstrated. As illustrated in Tables 6-2 and 6-3, projected future year VOC and NO_x emissions in the Clark County nonattainment area are less than 2008 emissions. Figure 6-7 illustrates the differences in the attainment, interim, and maintenance year EIs for VOC and NO_x.

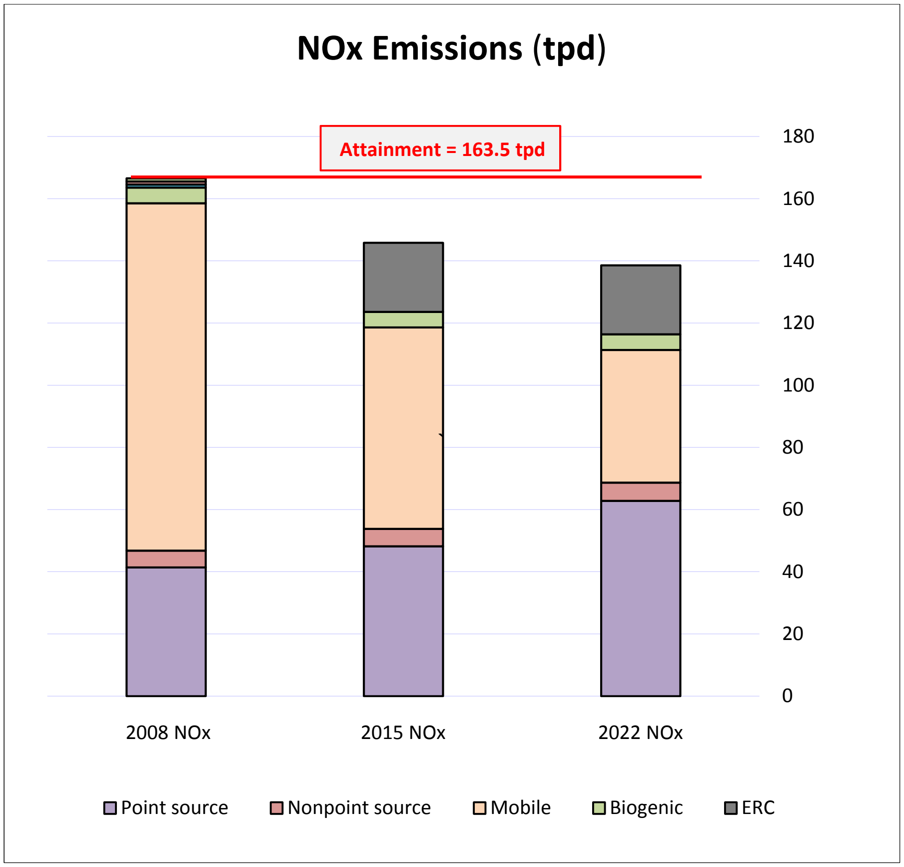

Figure 6-7. Comparison of 2008, 2015, and 2022 NO_x Emissions

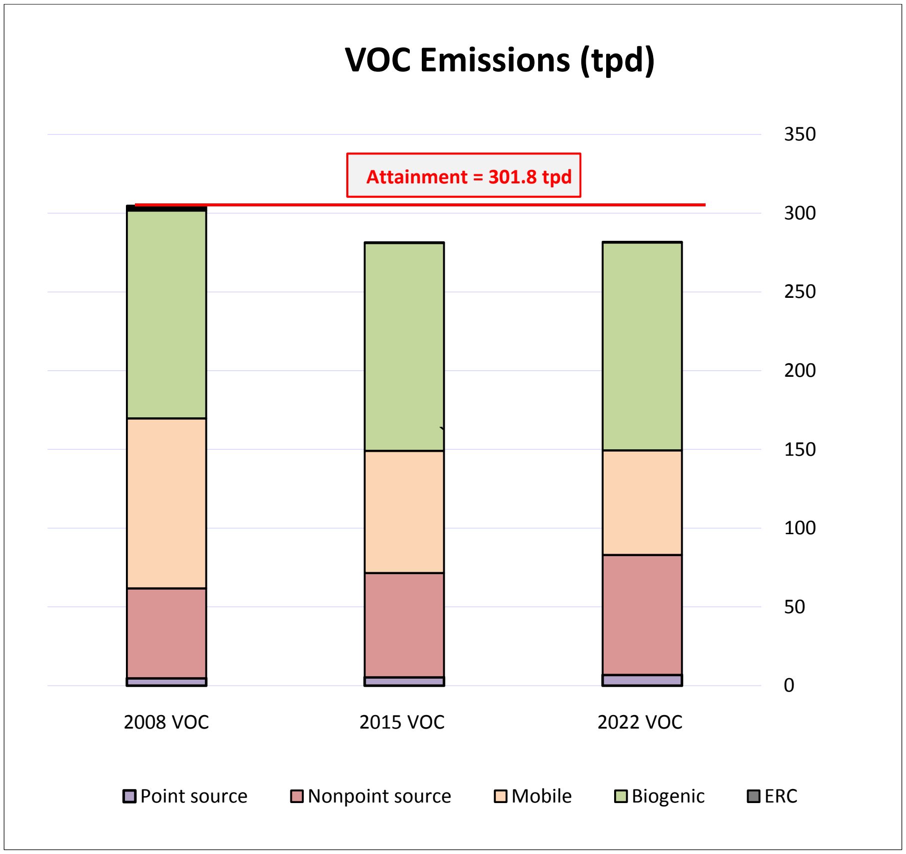

Figure 6-8. Comparison of 2008, 2015, and 2022 VOC Emissions

The EIs show a downward trend in both VOC and NO_x emissions, due mainly to the control measures described in Section 4.4. No increases in emissions are expected in the intervening years that will threaten the demonstration of attainment because this downward trend, and the fact that future EIs in the maintenance year are considerably below the 2008 levels.

6.7 MONITORING NETWORK AND VERIFICATION OF CONTINUED ATTAINMENT

After EPA redesignates the Clark County nonattainment area to attainment status, Clark County will continue to operate the air quality monitoring network to verify the continued attainment of the 1977 8-hour ozone NAAQS. Annual review of the SLAMS air quality surveillance system will be conducted in accordance with 40 CFR 58.20(d) to determine whether the system continues to meet monitoring objectives.

6.8 CONTINGENCY PLAN

CAA Section 175A(d) requires that a maintenance plan contain contingency provisions to assure prompt correction of any violation of the 8-hour ozone NAAQS. Contingency plans must also describe the methods that will be used to ensure the measures in the plan are adopted expeditiously once the need is triggered. While EPA guidance states that a contingency plan does not have to contain fully adopted contingency measures (Calcagni, 1992), it should at least have three primary elements:

1. A list of potential contingency measures.
2. An explanation of the tracking and triggering mechanisms that will determine when contingency measures are needed.
3. A description of the process for recommending and implementing contingency measures, with specific timelines for action.

6.8.1 Potential Contingency Measures

In addition to the six potential contingency measures outlined below, Clark County may evaluate other strategies to address any future ozone NAAQS violations in the most appropriate and effective manner possible.

6.8.1.1 Reid Vapor Pressure Reduction

In conjunction with the Nevada Department of Agriculture, Clark County may consider requiring the reduction of gasoline Reid vapor pressure to below 9.0 psi within the nonattainment area during the summer ozone season.

6.8.1.2 Inspection/Maintenance Program Changes and Additions

In conjunction with the Nevada Department of Transportation, Clark County may consider changing the cutpoints for VOCs and NO_x applicable to pre-1996 vehicles and/or increase the I/M waiver repair rate in Clark County.

6.8.1.3 Consumer and Commercial Products

Clark County may consider regulations to restrict the sale, offer for sale, or manufacture for sale of any consumer product, such as personal care products, automotive and industrial maintenance products, and pesticides that contain VOCs above specified limits.

6.8.1.4 Architectural Surface Coatings

Clark County may consider regulations to restrict the sale, supply, offer for sale, or solicitation of the application of architectural coatings that contain VOCs above specified limits.

6.8.1.5 Lawn and Garden Equipment Use

Clark County may consider regulations to restrict the use of gasoline-powered lawn mowers on announced ozone action days in the Clark County nonattainment area.

6.8.1.6 Establish/Enhance Trip Reduction Programs

In conjunction with the RTC, Clark County may establish and/or enhance employer-based community outreach and marketing efforts, employer rideshare program incentives, preferential parking for carpoolers and vanpoolers, emergency rides home for Club Ride members, travel assistance information on the Internet and at public kiosks, transit passes to subsidize employees' transit expenses, and partnerships with vanpool leasing companies.

6.8.2 Tracking and Triggering Mechanisms

The primary tracking mechanism will be Clark County's continuous ozone monitoring, as described in Section 6.7. Clark County will examine ambient air quality monitoring data within 30 days of collection to determine if the ozone NAAQS has been exceeded. The RTCs ongoing regional transportation planning process will serve as another means of tracking mobile source VOC and NO_x precursor emissions. RTC revises its transportation improvement plan every three years, and these revisions are subject to a transportation conformity finding; that process will serve as a periodic check on maintaining the VMT and mobile source emissions projections of this plan.

The primary trigger mechanism will be a confirmed violation of the 1997 8-hour ozone NAAQS, or a three-year average of the fourth highest values that is equal to or greater than 0.085 ppm. The trigger date will be 60 days from the date Clark County observes a fourth highest value that, would result in a design value equal to or greater than 0.085 ppm.

The triggering of the contingency plan does not automatically require a revision of the Clark County ozone SIP, nor would Clark County necessarily be redesignated to nonattainment. Instead, Clark County will have a period of time to correct the violation by implementing one or more contingency measures. If ozone violations continue after contingency measures have been implemented, additional measures will be implemented until the violations are corrected.

6.8.3 Action Resulting from Trigger Activation

Within 45 days of the trigger date, Clark County will notify EPA that an internal review process will begin to evaluate potential contingency measures. Within 90 days of that notification, Clark County will send EPA an information report outlining recommended actions. Clark County will then solicit stakeholder involvement through public forums (i.e., ozone working groups) to refine the process of implementing the recommended actions. The BCC, Nevada State Board of Agriculture, and/or Nevada State Environmental Commission will hold a public hearing(s) to consider the recommended contingency measures, along with any other contingency measures that may address the confirmed violation. The necessary contingency measures will be adopted and implemented within 18 months after submittal of the information report to EPA.

6.9 SUBSEQUENT MAINTENANCE PLAN REVISIONS

Section 175A(b) requires that eight years after redesignation of any area to attainment under Section 107(d), the state shall submit an additional revision of the applicable SIP that shows how the NAAQS will be maintained for 10 years after the expiration of the first 10-year period. Clark County commits to the submittal of a revised maintenance plan eight years after Clark County is redesignated to attainment.

7.0 MOTOR VEHICLE EMISSIONS BUDGETS

Under CAA Section 176(c), transportation plans, programs, and projects in maintenance areas that are funded or approved under Title 23 of the U.S. Code or the Federal Transit Act must conform to the on-road MVEBs specified in the applicable SIP. In this case, 40 CFR 93.118 provides the criteria and procedures for MVEBs.

The MVEB establishes a cap on motor vehicle-related emissions that cannot be exceeded by predicted transportation system emissions. The emissions budget applies as a ceiling on emissions in the year for which it is defined, and for all subsequent years until a different budget is defined for another year or a SIP revision modifies the budget. Unless the SIP clearly indicates otherwise, the estimate of future transportation network emissions used in the milestone or attainment demonstration acts as the MVEB.

Table 7-1 provides 2015 and 2022 VOC and NO_x MVEBs for the area of Clark County that comprises the 1997 8-hour ozone maintenance area. Upon an EPA affirmative adequacy finding and approval of the MVEBs, these budgets will be used for conformity determinations in future regional transportation plans.

Table 7-1. VOC and NO_x MVEBs for Clark County

Year	VOC MVEBs (tpd)	NO_x MVEBs (tpd)
2008 – attainment	65.08	68.46
2015 – interim	45.32	34.69
2022 – maintenance	36.71	23.15

8.0 REFERENCES

43 FR (Federal Register) 8962." National Ambient Air Quality Standards: State Attainment Status."

44 FR 8220. Revision of primary and secondary ozone standards.

51 FR 41788. "Designations of Areas for Air Quality Planning Purposes; Las Vegas Valley, NV, Redesignation for Ozone."

62 FR 38856. "National Ambient Air Quality Standards for Ozone; Final Rule."

65 FR 6822. "Control of Air Pollution From New Motor Vehicles: Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements; Final Rule. Part 80—Regulation of Fuels and Fuel Additives."

65 FR 76789. "Control of Emissions from New Nonroad Spark-Ignition Engines Rated Above 19 Kilowatts and New Land-Based Recreational Spark-Ignition Engines."

69 FR 23858. "8-Hour Ozone National Ambient Air Quality Standards; Final Rules. Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards; Early Action Compact Areas with Deferred Effective Dates."

69 FR 34076. "Air Quality Designations and Classifications for the 8-Hour Ozone National Ambient Air Quality Standards; Deferral of Effective Date."

69 FR 38958. "Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule."

70 FR 20665. "Clean Air Fine Particle Implementation Rule."

70 FR 71612. "Final Rule To Implement the 8-Hour Ozone National Ambient Air Quality Standard-Phase 2; Final Rule To Implement Certain Aspects of the 1990 Amendments Relating to New Source Review and Prevention of Significant Deterioration as They Apply in Carbon Monoxide, Particulate Matter and Ozone NAAQS; Final Rule for Reformulated Gasoline."

73 FR 59034. "Control of Emissions from Nonroad Spark-Ignition Engines and Equipment; Final Rule."

73 FR 66182. "Approval and Promulgation of Implementation Plans; Revisions to the Nevada State Implementation Plan; Clark County."

74 FR 22738. "Adequacy Status of Motor Vehicle Emissions Budgets in Submitted Early Progress Plan for Clark County 8-hour Ozone for Transportation Conformity Purposes; Nevada."

75 FR 6571. "Approval and Promulgation of Air Quality Implementation Plans; Louisiana; Baton Rouge 1-Hour Ozone Nonattainment Area; Determination of Attainment of the 1-Hour Ozone Standard."

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Appendix A

Clark County Ozone Redesignation Request and Maintenance Plan Technical Support Document

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1.0 INTRODUCTION

This report describes the development of the inventories for NO_x, VOC, and CO emissions for the Clark County, Nevada. The emissions inventories were derived from estimates developed for nine categories: point sources, nonpoint sources, private and commercial aviation, federal aviation, railway, on-road mobile, nonroad mobile, biogenic, and banked emission reduction credits. The inventories were developed by staff from the Clark County Department of Air Quality and Environmental Management (DAQEM).

To comply with EPA guidance, DAQEM inventoried emissions for the 2008 attainment (i.e,. baseline) year and projected those values to 2015 and 2022. The inventories were then adjusted to reflect federal, state, and local emissions rules already adopted or implemented; these controls were shown to reduce overall ozone emissions through 2022, the maintenance year.

The scope of the emission inventory described in this report is as follows:

Point source inventories include all Title V major stationary sources, minor stationary sources that emit at least 10 tons of VOCs or 25 tons of NO_x per year, and clustered minor stationary sources that could be considered emission hot spots.

Nonpoint sources of emissions are those that fall below point source reporting levels and are too numerous or small to identify individually. Generally, they are small-scale industrial or residential operations that use emission-generating materials or processes.

Private and commercial aviation in Clark County is overseen by the Clark County Department of Aviation and is composed of five airports: (1) McCarran International Airport; (2) North Las Vegas Airport; (3) Henderson Executive Airport; (4) Jean Airport; and (5) Perkins Field Airport.

Federal aviation in Clark County is Nellis Air Force Base, a major aircraft training facility seven miles northeast of Las Vegas. Although most emissions at Nellis come from aircraft operations, the base holds a Title V permit to cover stationary source emissions. Both emission types were included in the overall inventory that Nellis provided to DAQEM for 2008 and 2022.

Railroad operations in Clark County is owned by Union Pacific Railroad; in 2008, it operated roughly 148 miles of track in the County and consumed about 3.9 million gallons of diesel while hauling approximately 3.2 billion gross tons.

On-road mobile sources consist of cars, trucks, motorcycles, and other motor vehicles traveling on public roadways.

Nonroad mobile sources consist of a wide variety of equipment types that either move under their own power or can be moved from site to site, with the exception of locomotive, aircraft, and airport ground support equipment.

Biogenic sources include agricultural crops; lawn grass; forests that produce isoprene, monoterpene, alpha-pinene, and other VOC emissions; and soils that generate trace amounts of NO_x.

Emission Reduction Credits (ERCs) are can be granted to a source that voluntarily reduces emissions beyond required levels of control. ERCs may be sold, leased, banked for future use, or traded in accordance with applicable regulations. Both NDEP and DAQEM have authority to bank ERCs in Clark County.

Section 2 of this report describes the 2008 point source emissions inventory methodology. Detailed tables are included with emissions for all major point sources. Commercial aviation emissions are described in Section 3. On-road emissions from airports are not included in this section, as they are included in the on-road section of this report. Section 4 includes the emissions from Nellis Air Force Base. Section 5 describes methods, data, and assumptions used to estimate 22 nonpoint source sectors; example calculations for each source sector are provided, along with summary charts showing contributions of each source grouping to the overall area source emission inventory. Section 6 of the report describes emissions methodologies and inventories for locomotives. Section 7 describes the development of the on-road emission inventories and the use of the CONCEPT model. Section 8 describes the nonroad emissions and emissions inventory methodologies. Section 9, the final section of this report, describes the emission reduction credits (ERCs).

Table 1-1 provides a summary of emissions for each year evaluated in terms of tons per average, summer day for CO, VOC and NOx. Table 1-2 provides the percent decrease in emissions from 2002 to 2018, with interim year 2015 included.

Table 1-1. Emissions Comparison

Emission Source	Category	2008 Tons per Day			2015 Tons per Day			2022 Tons per Day		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
Point	Clark County Point	5.19	11.97	1.16	6.01	12.16	1.29	6.84	12.35	1.42
	Projected Power Plant	0.00	0.00	0.00	2.33	2.62	0.15	2.33	2.62	0.15
	Clark County NDEP Point	1.33	16.76	0.17	1.87	16.76	0.17	2.41	16.76	0.17
Airports	Clark County DOA	30.29	11.41	2.60	42.31	14.56	2.81	53.94	17.42	2.92
	Ivanpah Airport	0.00	0.00	0.00	0.06	0.22	0.02	25.42	11.40	1.22
Nellis AFB	Nellis AFB	2.38	1.27	0.79	3.05	1.87	0.90	3.35	2.26	0.95
Nonpoint Sources	Nonpoint Sources	4.27	5.41	57.07	4.59	5.64	66.21	4.91	5.90	76.15
Locomotive	Locomotive	0.31	1.97	0.11	0.75	2.11	0.10	0.89	1.82	0.08
On-road Mobile	On-road Mobile	458.77	68.46	65.08	392.36	34.69	45.32	423.45	23.15	36.71
Nonroad Mobile	Nonroad Mobile	472.42	41.31	42.80	371.21	27.99	32.19	394.60	17.69	29.65
Biogenic	Biogenic	25.90	5.00	132.00	25.90	5.00	132.00	25.90	5.00	132.00
Banked Emission Reduction Credits (ERCs)	DAQEM ERC Bank	0.00	0.00	0.00	0.07	0.89	0.05	0.07	0.89	0.05
	ERCs from Mohave Generating	0.00	0.00	0.00	0.00	19.77	0.38	0.00	19.77	0.38
	ERCs from Reid-Gardner	0.00	0.00	0.00	0.00	1.57	0.00	0.00	1.57	0.00
		1,000.86	**163.56**	**301.77**	**850.52**	**145.85**	**281.59**	**944.11**	**138.60**	**281.85**

Table 1-2. Percent Difference between Emissions

Emission Source	Category	Ton-per-Day Difference Between 2015 and 2008			Ton-per-Day Difference Between 2015 and 2022			Ton-per-Day Difference Between 2022 and 2008		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
Point	Clark County Point	0.82	0.19	0.14	0.82	0.19	0.13	1.65	0.38	0.27
	Projected Power Plant	2.33	2.62	0.15	0.00	0.00	0.00	2.33	2.62	0.15
	Clark County NDEP Point	0.54	0.00	0.00	0.54	0.00	0.00	1.08	0.00	0.00
Airports	Clark County DOA	12.02	3.15	0.21	11.63	2.86	0.11	23.65	6.01	0.32
	Ivanpah Airport	0.06	0.22	0.02	25.36	11.18	1.20	25.42	11.40	1.22
Nellis AFB	Nellis AFB	0.67	0.60	0.11	0.30	0.39	0.05	0.97	0.99	0.16
Nonpoint Sources	Nonpoint Sources	0.32	0.23	9.14	0.32	0.26	9.94	0.64	0.49	19.08
Locomotive	Locomotive	0.44	0.14	-0.01	0.14	-0.29	-0.02	0.58	-0.15	-0.03
On-road Mobile	On-road Mobile	-66.41	-33.77	-19.76	31.09	-11.54	-8.61	-35.32	-45.31	-28.37
Nonroad Mobile	Nonroad Mobile	-101.21	-13.32	-10.61	23.39	-10.30	-2.54	-77.82	-23.62	-13.15
Biogenic	Biogenic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Banked Emission Reduction Credits (ERCs)	DAQEM ERC Bank	0.07	0.89	0.05	0.00	0.00	0.00	0.07	0.89	0.05
	ERCs from Mohave Generating	0.00	19.77	0.38	0.00	0.00	0.00	0.00	19.77	0.38
	ERCs from Reid-Gardner	0.00	1.57	0.00	0.00	0.00	0.00	0.00	1.57	0.00
		-150.35	**-17.71**	**-20.19**	**93.59**	**-7.25**	**0.26**	**-56.75**	**-24.96**	**-19.92**

2.0 POINT SOURCE EMISSIONS

2.1 2008 Point Source Inventory Methodology

Clark County's point source inventory includes all Title V major source stationary sources; minor stationary sources that emit at least 10 tons per year (tpy) of VOC or 25 tons per year of NO_x; and additional minor stationary sources clustered together so as to be considered potential hot spots of emissions. Nellis Air Force Base is a major stationary source covered under its own narrative section of Appendix A, as are sources operated by the Clark County Department of Aviation.

All point source emissions inventories for 2008 were obtained from reports submitted by the individual sources, and are based on actual emissions for that calendar year. This information was Quality Assured/Quality Controlled by DAQEM staff.

As outlined in Nevada state law, specific electric steam-generating emission units within Clark County are under the jurisdiction of the Nevada Division of Environmental Protection (NDEP). All other emissions units are under jurisdiction of DAQEM for both permitting and enforcement matters. Facilities in Clark County for which NDEP has or had authority, partial or whole, are as follows:

- NV Energy Clark Station: all emission units under NDEP's jurisdiction that had operated at this facility have been decommissioned; emission units under DAQEM's jurisdiction still operate at this facility.

- NV Energy Sunrise Station: certain emission units at this facility are under NDEP's jurisdiction and others are under DAQEM's jurisdiction.

- NV Energy Reid-Gardner Station: all emission units at this facility are under NDEP's jurisdiction.

- Southern California Edison Mojave Station: all emission units at this facility had been under NDEP's jurisdiction, but this plant has since been decommissioned.

All of these facilities were included in the emissions analysis outlined in this ozone maintenance plan. The status of all units at these facilities, whether decommissioned or in current operation, was properly considered.

2.2 Growth Factor Methodology

Projected emissions from calendar years 2008 and 2018 were used to back-calculate the growth factors for all ozone precursor emissions from emission units common to both inventory years. These projected emissions were obtained from the 2005 Clark County Consolidated Emission Inventory Report (Environ, May 31, 2007, Appendix A). The derived growth factors (GFs) were then mathematically extrapolated to account for a 14-year (2008 through 2022) spread using the formula (2018GF - 1) * 1.4 +1= 2022GF. These 2022 growth factors were then multiplied by the 2008 actual emissions to produce the 2022 projected point source emissions. An interim year (2015) projected emissions inventory was also included. These emissions were calculated using half of the growth value of the 2022 projections. Corrections for Rule Effectiveness were not applied to these projected emissions.

Exceptions to this growth factor methodology include the following:

- In some instances, a growth factor of 1 (no growth) was applied when the calculated factor was considered inappropriate.
- Some new facilities were added to the major source list after the Environ report had been issued. For emission units with no reference SCC growth factor, EGAS growth factors were used.
- For 2018 projected emission units, the most conservative growth factors for similar SCC code emission units were used with a four-year growth allowance (2018-2022).
- 2008 projected growth factors for emissions units covered under SCC 20100201 were assigned a value of 1 (no growth) due to the addition of new emission units to account for growth demand.
- Two cement plants and five natural gas-fueled power plants had active applications for construction when the 2005 Clark County Consolidated Emission Inventory Report was issued. Because these plants were anticipated to be built by 2013, they were added to the projected 2013 inventory and carried forward in that report. Since that report was issued, two of those power plants were built (Facilities 1513 and 1584); two of the power plants and both the cement plant applications expired without construction; and one power plant application (for the Copper Mountain Solar One plant) was modified and redesigned to supply power through photovoltaic cell electric generation instead of natural gas. In order to anticipate possible growth demand, one of those projected power plants (Facility 2018.33) was retained in the 2022 projections, and the unconstructed facilities were eliminated from the inventory.

The following tables in this section detail the 2015 and 2022 projected emissions calculations for the point source sector in Clark County:

- Table 2-1 identifies the point source facilities and their associated emission units.
- Tables 2-2 through 2-4 outline the projected emissions from the Environ report for the years 2008, 2018, and 2022, respectively.
- Table 2-5 outlines the derivation of the 2022 growth factor for each emission unit.
- Tables 2-6 through 2-9 outline the 2022 projected emissions calculations using the 2008 actual emissions and the 2022 growth factor for CO, VOC, and NO_X emissions, respectively.
- Tables 2-10 through 2-12 outline the 2015 projected emissions calculations, which used the 2008 actual emissions and the 2015 growth factor for CO, VOC, and NO_X emissions, respectively.

- Table 2-13 shows the projected CO emissions for Point Sources.
- Table 2-14 summarizes the Point Source summer emissions.

Table 2-1. Description of Emissions Units

Facility Name	Facility ID	EU[1]	Description	SCC[2]
Chemical Lime (Apex)	0003	01	Portable Generator	20100102
Chemical Lime (Apex)	0003	02	Kiln 1	30501604
Chemical Lime (Apex)	0003	03	Kiln 1	30501604
Chemical Lime (Apex)	0003	04	Kiln 1	30501604
Chemical Lime (Apex)	0003	05	Kiln 1	30501604
Chemical Lime (Apex)	0003	07	Generator	20100102
Chemical Lime (Apex)	0003	10	Baghouse	10300603
Chemical Lime (Apex)	0003	28	Fugitives	30501699
Certain Teed Gypsum	0004	4-01	Fugitives	30504021
Certain Teed Gypsum	0004	4-E11	Impact Mill	30501513
Certain Teed Gypsum	0004	4-F1	Grinder	30501502
Certain Teed Gypsum	0004	4-F2	Grinder	30501502
Certain Teed Gypsum	0004	4-F3	Continuous Calciner	30501511
Certain Teed Gypsum	0004	4-F4	Continuous Calciner	30501511
Certain Teed Gypsum	0004	4-G1	Continuous Calciner	30501511
Certain Teed Gypsum	0004	4-G1a	Continuous Calciner	30501511
Certain Teed Gypsum	0004	4-G1b	Continuous Calciner	30501511
Certain Teed Gypsum	0004	4-G1c	Continuous Calciner	30501511
Certain Teed Gypsum	0004	4-J3	Dryer	30501520
Certain Teed Gypsum	0004	4-L4	Generator	20200401
Certain Teed Gypsum	0004	B8	Generator	20200401
Certain Teed Gypsum	0004	J2	Paper Heater	30501599
Chemical Lime (Henderson)	0005	01	Mineral Products	30501615
NV Energy (Clark Station)	0007	04	Turbine	20100201
NV Energy (Clark Station)	0007	05	Turbine	20100201
NV Energy (Clark Station)	0007	06	Turbine	20100201
NV Energy (Clark Station)	0007	07	Turbine	20100201
NV Energy (Clark Station)	0007	08	Turbine	20100201
NV Energy (Clark Station)	0007	21	Generator	20200102
NV Energy (Clark Station)	0007	22	Generator	20200102
NV Energy (Clark Station)	0007	27	Turbine	20100201
NV Energy (Clark Station)	0007	28	Turbine	20100201
NV Energy (Clark Station)	0007	29	Turbine	20100201
NV Energy (Clark Station)	0007	30	Turbine	20100201
NV Energy (Clark Station)	0007	31	Turbine	20100201
NV Energy (Clark Station)	0007	32	Turbine	20100201
NV Energy (Clark Station)	0007	33	Turbine	20100201
NV Energy (Clark Station)	0007	34	Turbine	20100201
NV Energy (Clark Station)	0007	35	Turbine	20100201
NV Energy (Clark Station)	0007	36	Turbine	20100201
NV Energy (Clark Station)	0007	37	Turbine	20100201

Facility Name	Facility ID	EU[1]	Description	SCC[2]
NV Energy (Clark Station)	0007	38	Turbine	20100201
NV Energy (Clark Station)	0007	45	Generator	20200102
NV Energy (Clark Station)	0007	46	Generator	20200102
NV Energy (Sunrise Station)	0008	8-01	Turbine	20100201
NV Energy (Sunrise Station)	0008	8-02	Generator	20200102
PABCO Gypsum	0011	01	Fugitives	30502513
PABCO Gypsum	0011	01a	Fugitives	30502513
PABCO Gypsum	0011	05	Dryer	30501501
PABCO Gypsum	0011	09	Impeller Mills	30501513
PABCO Gypsum	0011	10	Impeller Mills	30501513
PABCO Gypsum	0011	11	Impeller Mills	30501513
PABCO Gypsum	0011	12	Impeller Mills	30501513
PABCO Gypsum	0011	13	Impeller Mills	30501513
PABCO Gypsum	0011	14	Impeller Mills	30501513
PABCO Gypsum	0011	18	Dryer	30501520
PABCO Gypsum	0011	18a	Dryer	30501520
PABCO Gypsum	0011	19	Dryer	30501520
PABCO Gypsum	0011	19a	Dryer	30501520
PABCO Gypsum	0011	20	Dryer	30501520
PABCO Gypsum	0011	20a	Dryer	30501520
PABCO Gypsum	0011	21	Dryer	30501520
PABCO Gypsum	0011	21a	Dryer	30501520
PABCO Gypsum	0011	22	Dryer	30501520
PABCO Gypsum	0011	22a	Dryer	30501520
PABCO Gypsum	0011	25	Impeller Mills	30501513
PABCO Gypsum	0011	26	Impeller Mills	30501513
PABCO Gypsum	0011	30	Board Dryer	30501520
PABCO Gypsum	0011	31	Board Dryer	30501520
PABCO Gypsum	0011	32	Board Dryer	30501520
PABCO Gypsum	0011	36	Dryer	30501501
PABCO Gypsum	0011	45	Impeller Mills	30501513
PABCO Gypsum	0011	46	Impeller Mills	30501513
PABCO Gypsum	0011	48	Mechanical Separator	30501507
PABCO Gypsum	0011	50	Board Dryer	30501520
PABCO Gypsum	0011	51	Board Dryer	30501520
PABCO Gypsum	0011	52	Board Dryer	30501520
Wells Cargo	0012	01	Drum Mixer	30500257
Wells Cargo	0012	02	Asphalt Oil Heater	30500206
Wells Cargo	0012	03	Fugitives	30500298
Kinder Morgan	0013	01	Bulk Fuel Tank	40400142
Kinder Morgan	0013	02	Bulk Fuel Tank	40400142
Kinder Morgan	0013	03	Bulk Fuel Tank	40400132
Kinder Morgan	0013	04	Bulk Fuel Tank	40400132
Kinder Morgan	0013	05	Bulk Fuel Tank	40400132
Kinder Morgan	0013	06	Bulk Fuel Tank	40400142
Kinder Morgan	0013	07	Bulk Fuel Tank	40400142
Kinder Morgan	0013	08	Bulk Fuel Tank	40400142

Facility Name	Facility ID	EU[1]	Description	SCC[2]
Kinder Morgan	0013	09	Bulk Fuel Tank	40400142
Kinder Morgan	0013	10	Bulk Fuel Tank	40400142
Kinder Morgan	0013	101	Bulk Fuel Tank	40400199
Kinder Morgan	0013	11	Bulk Fuel Tank	40400142
Kinder Morgan	0013	12	Bulk Fuel Tank	40400142
Kinder Morgan	0013	13	Bulk Fuel Tank	40400172
Kinder Morgan	0013	14	Bulk Fuel Tank	40400179
Kinder Morgan	0013	15	Bulk Fuel Tank	40400179
Kinder Morgan	0013	16	Bulk Fuel Tank	40400172
Kinder Morgan	0013	17	Bulk Fuel Tank	40400172
Kinder Morgan	0013	18	Bulk Fuel Tank	40400170
Kinder Morgan	0013	19	Bulk Fuel Tank	40400121
Kinder Morgan	0013	20	Bulk Fuel Tank	40400121
Kinder Morgan	0013	21	Bulk Fuel Tank	40400172
Kinder Morgan	0013	22	Bulk Fuel Tank	40400130
Kinder Morgan	0013	23	Bulk Fuel Tank	40400130
Kinder Morgan	0013	24	Bulk Fuel Tank	40400130
Kinder Morgan	0013	26	Bulk Fuel Tank	40400170
Kinder Morgan	0013	27	Bulk Fuel Tank	40400170
Kinder Morgan	0013	28	Bulk Fuel Tank	40400170
Kinder Morgan	0013	29	Bulk Fuel Tank	40400172
Kinder Morgan	0013	30	Bulk Fuel Tank	40400199
Kinder Morgan	0013	31	Bulk Fuel Tank	40400199
Kinder Morgan	0013	32	Bulk Fuel Tank	40400199
Kinder Morgan	0013	33	Bulk Fuel Tank	40400199
Kinder Morgan	0013	34	Bulk Fuel Tank	40400199
Kinder Morgan	0013	36	Bulk Fuel Tank	40400199
Kinder Morgan	0013	37	Bulk Fuel Tank	40400199
Kinder Morgan	0013	38	Bulk Fuel Tank	40400199
Kinder Morgan	0013	39	Bulk Fuel Tank	40400199
Kinder Morgan	0013	42	Bulk Fuel Tank	40400199
Kinder Morgan	0013	45	Bulk Fuel Tank	40400172
Kinder Morgan	0013	46	Bulk Fuel Tank	40400172
Kinder Morgan	0013	47	Bulk Fuel Tank	40400172
Kinder Morgan	0013	48	Bulk Fuel Tank	40400172
Kinder Morgan	0013	53	Bulk Fuel Tank	40400199
Kinder Morgan	0013	54	Bulk Fuel Tank	40400199
Kinder Morgan	0013	56	Bulk Fuel Tank	40400179
Kinder Morgan	0013	57	Bulk Fuel Tank	40400179
Kinder Morgan	0013	58	Bulk Fuel Tank	40400179
Kinder Morgan	0013	59	Bulk Fuel Tank	40400179
Kinder Morgan	0013	60	Bulk Fuel Tank	40400179
Kinder Morgan	0013	61	Bulk Fuel Tank	40400179
Kinder Morgan	0013	B01	Bulk Fuel Tank	40400150
Kinder Morgan	0013	B02	Vapor Recovery Unit	40400153
Kinder Morgan	0013	B04	Bulk Fuel Tank	40400172
Kinder Morgan	0013	B05	Bulk Fuel Tank	40400172

Facility Name	Facility ID	EU[1]	Description	SCC[2]
Kinder Morgan	0013	B06	Pipe/Fitting Fugitives	40400151
Kinder Morgan	0013	B10	Flare Processing	30600904
Kinder Morgan	0013	D02	Diesel Pump	20200102
Kinder Morgan	0013	SR04	Thermal Oxidizer	50410312
Titanium Metals Corp.	0019	A01	Fugitives	30301299
Titanium Metals Corp.	0019	B06	CO Burner/Boiler	10201402
Titanium Metals Corp.	0019	B09	Steam Generator	10200602
Titanium Metals Corp.	0019	B10	Thermal Oxidizer	30301299
Titanium Metals Corp.	0019	C05	Hot Oil Heater	30301201
Titanium Metals Corp.	0019	D02E	Furnace	30301202
Titanium Metals Corp.	0019	D02W	Furnace	30301299
Titanium Metals Corp.	0019	E03	Generator	30301202
Titanium Metals Corp.	0019	G02	Generator	20200104
Titanium Metals Corp.	0019	G10	Generator	20200104
Titanium Metals Corp.	0019	M11	Furnace	30399999
Planet Hollywood	0026	01	Boiler	10300603
Circus Circus Hotel and Casino	0047	1	Boiler	10300603
Flamingo Las Vegas	0073	1	Boiler	10300603
Monte Carlo Hotel and Casino	0074	1	Boiler	10300603
LASCO Bathware	0075	01	Plastics	30800799
Four Queens Hotel and Casino	0076	1	Boiler	10300603
Fremont Hotel	0077	1	Boiler	10300603
Golden Nugget Hotel and Casino	0081	1	Boiler	10300603
Horseshoe Club	0085	1	Boiler	10300603
Riviera Hotel and Casino	0086	1	Boiler	10300603
Tronox	0095	A01	Generator	20300101
Tronox	0095	A02	Generator	20300101
Tronox	0095	A03	Generator	20300101
Tronox	0095	A04	Generator	20300101
Tronox	0095	A05	Boiler	10300602
Tronox	0095	A07	Boiler	10300602
Tronox	0095	A10	Chem. Manufacturing	30107002
Tronox	0095	A15	Chem. Manufacturing	30107002
Tronox	0095	A17	Chem. Manufacturing	30107002
Sahara Hotel and Casino	0133	1	Boiler	10300603
J R Simplot Company	0138	01	Mining	30504099
J R Simplot Company	0138	02	Dryer	30504033
Laughlin Landfill	0149	01	Solid Waste Disp.	50300603
Tropicana Hotel and Casino	0153	1	Boiler	10300603
Royal Cement	0154	01	Kiln	30500699
Plaza Hotel and Casino	0155	1	Boiler	10300603
Bally's Hotel and Casino (257)	0256	1	Boiler	10300603
Harrah's Las Vegas	0257	1	Boiler	10300603
Caesars Palace (257)	0276	1	Boiler	10300603
Mirage/Treasure Island	0282	1	Boiler	10300603
Catalina Plastic and Coating	0323	01	Plastics	40201399
Las Vegas Cogeneration	0329	01	Turbine	20100201

Facility Name	Facility ID	EU[1]	Description	SCC[2]
Las Vegas Cogeneration	0329	03	Turbine	20100201
Las Vegas Cogeneration	0329	04	Turbine	20100201
Las Vegas Cogeneration	0329	05	Turbine	20100201
Las Vegas Cogeneration	0329	06	Turbine	20100201
Las Vegas Cogeneration	0329	08	Boiler	10100602
Las Vegas Cogeneration	0329	09	Boiler	10100602
Las Vegas Cogeneration	0329	10	Generator	20100102
Las Vegas Cogeneration	0329	11	Generator	20100102
Morgan Adhesive	0347	01	Surface Coating	40201301
Nevada Cogeneration Assoc. #1	0360	01	Turbine	20300203
Nevada Cogeneration Assoc. #1	0360	02	Turbine	20300203
Nevada Cogeneration Assoc. #1	0360	03	Turbine	20300203
Nevada Cogeneration Assoc. #1	0360	04	Generator	20200102
Nevada Cogeneration Assoc. #1	0360	06	Generator	20200102
Nevada Cogeneration Assoc. #1	0360	08	Generator	20200102
Aggregate Industries	0372	01	Generator	20100102
Aggregate Industries	0372	02	Mineral Products	30500242
Aggregate Industries	0372	03	Mineral Products	30500208
Aggregate Industries	0372	04	Mineral Products	30500208
Aggregate Industries	0372	05	Mineral Products	30500208
Aggregate Industries	0372	06	Boiler	10300602
Aggregate Industries	0372	07	Generator	20100102
Aggregate Industries	0372	08	Boiler	10300602
Aggregate Industries	0372	09	Generator	20100102
Aggregate Industries	0372	10	Boiler	10300602
Aggregate Industries	0372	11	Mineral Products	30502514
Aggregate Industries	0372	12	Mineral Products	30502508
Aggregate Industries	0372	13	Mineral Products	30502599
Nevada Cogeneration Assoc. #2	0391	01	Turbine	20300203
Nevada Cogeneration Assoc. #2	0391	02	Turbine	20300203
Nevada Cogeneration Assoc. #2	0391	03	Turbine	20300203
Nevada Cogeneration Assoc. #2	0391	04	Generator	20200101
Nevada Cogeneration Assoc. #2	0391	05	Generator	20200101
Nevada Cogeneration Assoc. #2	0391	07	Generator	20100201
Saguaro Power Company	0393	01	Turbine	20100201
Saguaro Power Company	0393	02	Turbine	20100201
Saguaro Power Company	0393	03	Starter	20100102
Saguaro Power Company	0393	04	Starter	20100102
Saguaro Power Company	0393	05	Boiler	10100601
Saguaro Power Company	0393	06	Boiler	10100602
Saguaro Power Company	0393	07	Generator	20100102
Saguaro Power Company	0393	09	Cooling Tower	38500101
Republic DUMPCO (Apex)	0395	02	Generator	20100102
Republic DUMPCO (Apex)	0395	03	Generator	20200102
Republic DUMPCO (Apex)	0395	04	Generator	20200102
Republic DUMPCO (Apex)	0395	05	Generator	20200102
Republic DUMPCO (Apex)	0395	06	Fugitives	30502503

Facility Name	Facility ID	EU[1]	Description	SCC[2]
Republic DUMPCO (Apex)	0395	07	Flare	50200601
City of Las Vegas WPCF	0402	01	Generator	20200102
City of Las Vegas WPCF	0402	02	Generator	20200102
City of Las Vegas WPCF	0402	03	Generator	20200202
City of Las Vegas WPCF	0402	04	Waste Flare	50100789
City of Las Vegas WPCF	0402	05	Waste Flare	50100789
City of Las Vegas WPCF	0402	06	Blower Engines	50100799
City of Las Vegas WPCF	0402	07	Boilers	50100799
City of Las Vegas WPCF	0402	08	Boilers	50100799
Nevada Sun Peak Partnerships	0423	01	Turbine	20100201
Nevada Sun Peak Partnerships	0423	02	Turbine	20100201
Nevada Sun Peak Partnerships	0423	03	Turbine	20100201
Fitzgeralds	0434	1	Boiler	10300603
Kern River (Goodsprings)	0468	1	Turbine	20300202
Capital Cabinets	0482	01	Surface Coating	40201901
Nevada Ready Mix	0512	1	Mineral Products	30502599
Boulder City Landfill	0527	1	Solid Waste Disp.	50300603
NV Energy (Harry Allen)	0533	01	Turbine	20100201
NV Energy (Harry Allen)	0533	02	Generator	20100102
NV Energy (Harry Allen)	0533	03	Turbine	20100201
NV Energy (Harry Allen)	0533	04	Turbine	20100201
NV Energy (Harry Allen)	0533	07	Generator	20100102
NV Energy (Harry Allen)	0533	08	Generator	20100102
NV Energy (Harry Allen)	0533	09	Turbine	20100201
NV Energy (Harry Allen)	0533	10	Generator	20100102
Stratosphere Hotel and Casino	0564	1	Boiler	10300603
Georgia Pacific	0593	C01	Impact Mill	30501513
Georgia Pacific	0593	C02	Impact Mill	30501513
Georgia Pacific	0593	C03	Impact Mill	30501513
Georgia Pacific	0593	C04	Impact Mill	30501513
Georgia Pacific	0593	C05	Impact Mill	30501513
Georgia Pacific	0593	E03	Dryer	30501520
Georgia Pacific	0593	E105	Grinder	30501502
Georgia Pacific	0593	E106	Grinder	30501502
Georgia Pacific	0593	E110	Calciner	30501511
Georgia Pacific	0593	E111	Calciner	30501511
Georgia Pacific	0593	E145	Generator	20200202
Georgia Pacific	0593	E146	Generator	20200202
Georgia Pacific	0593	E147	Generator	20200202
Georgia Pacific	0593	E148	Generator	20200202
Georgia Pacific	0593	E153	Generator	20200202
Georgia Pacific	0593	E154	Mineral Products	30501599
Georgia Pacific	0593	G33	Generator	20100102
Georgia Pacific	0593	G34	Generator	20100102
Georgia Pacific	0593	Z01	Mineral Products	30501599
Las Vegas Club	0603	1	Boiler	10300603
Excalibur Hotel and Casino	0609	1	Boiler	10300603

Facility Name	Facility ID	EU[1]	Description	SCC[2]
Westward Ho Hotel and Casino	0610	1	Boiler	10300603
Bill's Gambling Hall	0611	1	Boiler	10300603
Imperial Palace Hotel and Casino	0613	1	Boiler	10300603
El Dorado Energy	0652	A01	Turbine	20100201
El Dorado Energy	0652	A02	Turbine	20100201
El Dorado Energy	0652	A03	Generator	20200102
El Dorado Energy	0652	A07	Petroleum Storage	40600305
Venetian Hotel and Casino	0697	1	Boiler	10300603
Mandalay Bay/Four Seasons (825)	0737	1	Boiler	10300603
Paris Hotel and Casino (257)	0749	1	Boiler	10300603
Bellagio/Boardwalk (825)	0756	1	Boiler	10300603
MGM Grand/New York New York	0825	1	Boiler	10300603
Las Vegas Valley Water Dist.	0837	1	Pump	20200202
Luxor Hotel and Casino	0856	1	Boiler	10300603
Universal Urethane	0859	01	Surface Coating	40202240
Republic Services (Sunrise)	15033	01	Flare	50300601
NV Energy (Chuck Lenzie)	1513	01	Turbine	20100201
NV Energy (Chuck Lenzie)	1513	03	Turbine	20100201
NV Energy (Chuck Lenzie)	1513	05	Turbine	20100201
NV Energy (Chuck Lenzie)	1513	07	Turbine	20100201
NV Energy (Chuck Lenzie)	1513	09	Boiler	10200603
NV Energy (Chuck Lenzie)	1513	10	Boiler	10200603
NV Energy (Chuck Lenzie)	1513	12	Boiler	20201001
NV Energy (Chuck Lenzie)	1513	13	Boiler	20201001
NV Energy (Chuck Lenzie)	1513	14	Generator	20200102
NV Energy (Chuck Lenzie)	1513	15	Generator	20100102
NV Energy (Chuck Lenzie)	1513	16	Boiler	10500206
Las Vegas Power Company, LLC	1520	A01,2	Turbine	20100201
Las Vegas Power Company, LLC	1520	A03,4	Turbine	20100201
Las Vegas Power Company, LLC	1520	A05	Generator	20100102
Las Vegas Power Company, LLC	1520	A06	Generator	20100102
Las Vegas Power Company, LLC	1520	A07	Generator	20100102
NV Energy (Walter Higgins)	1550	A01,2	Turbine	20100201
NV Energy (Walter Higgins)	1550	A03,4	Turbine	20100201
NV Energy (Walter Higgins)	1550	A05	Boiler	10300602
NV Energy (Walter Higgins)	1550	A06	Generator	20200102
NV Energy (Silverhawk)	1584	A01	Turbine	20100201
NV Energy (Silverhawk)	1584	A03	Turbine	20100201
NV Energy (Silverhawk)	1584	A05	Generator	20200102
NV Energy (Silverhawk)	1584	A06	Generator	20200102
Kern River (Dry Lake-Apex)	1590	1	Turbine	20300202
NV Energy (State-Clark Station)	AP49110398	01	Boiler	10100602
NV Energy (State-Clark Station)	AP49110398	02	Boiler	10100602
NV Energy (State-Clark Station)	AP49110398	03	Boiler	10100602
NV Energy (State-Sunrise Station)	AP49110399	01	Boiler	10100602
NV Energy (Reid-Gardner)	AP49110400	1	Boiler	10100101
NV Energy (Reid-Gardner)	AP49110400	2	Boiler	10100101

Facility Name	Facility ID	EU[1]	Description	SCC[2]
NV Energy (Reid-Gardner)	AP49110400	3	Boiler	10100101
NV Energy (Reid-Gardner)	AP49110400	4	Boiler	10100101
NV Energy (Reid-Gardner)	AP49110400	5	Cooling Tower	38500101
Southern California Edison (Mojave)	AP49110774	1	Boiler	10100101
Potential New Power Facility	PRJEGU33	#1	Turbine	20100201
Potential New Power Facility	PRJEGU33	#2	Turbine	20100201

[1]EU = emissions unit.
[2]SCC = Source Classification Code.

Table 2-2. 2008 Emissions Projected in 2007 by Environ (tpy)

Facility ID	EU	Pollutant	2008 Emissions
0003	01	CO	0
0003	01	NOx	0
0003	01	VOC	0
0003	02	CO	107.13
0003	02	NOx	226.03
0003	02	VOC	3.17
0003	03	CO	163.41
0003	03	NOx	213.78
0003	03	VOC	2.51
0003	04	CO	33.16
0003	04	NOx	259.73
0003	04	VOC	3.31
0003	05	CO	514.54
0003	05	NOx	764.46
0003	05	VOC	12.61
0003	07	CO	0
0003	07	NOx	0
0003	07	VOC	0
0003	10	CO	0.09
0003	10	NOx	0.43
0003	10	VOC	0.02
0003	28	CO	35.96
0003	28	NOx	9.13
0003	28	VOC	1.54
0004	4-01	VOC	18.85
0004	4-E11	CO	1.00
0004	4-E11	NOx	17.56
0004	4-E11	VOC	0.54
0004	4-F1	CO	0
0004	4-F1	NOx	0
0004	4-F1	VOC	0
0004	4-F2	CO	0.14
0004	4-F2	NOx	0.68
0004	4-F2	VOC	0.04

Facility ID	EU	Pollutant	2008 Emissions
0004	4-F3	CO	0.14
0004	4-F3	NOx	0.70
0004	4-F3	VOC	0.04
0004	4-F4	CO	0.15
0004	4-F4	NOx	0.70
0004	4-F4	VOC	0.04
0004	4-G1	CO	0
0004	4-G1	NOx	0
0004	4-G1	VOC	0
0004	4-G1a	CO	0.72
0004	4-G1a	NOx	3.46
0004	4-G1a	VOC	0.18
0004	4-G1b	CO	0.73
0004	4-G1b	NOx	3.46
0004	4-G1b	VOC	0.19
0004	4-G1c	CO	0.73
0004	4-G1c	NOx	3.46
0004	4-G1c	VOC	0.18
0004	4-J3	CO	85.88
0004	4-J3	NOx	21.30
0004	4-J3	VOC	1.27
0004	4-L4	CO	0.47
0004	4-L4	NOx	2.16
0004	4-L4	VOC	0.17
0004	B8	CO	0.58
0004	B8	NOx	22.94
0004	B8	VOC	0.18
0004	J2	CO	0.22
0004	J2	NOx	1.05
0004	J2	VOC	0.06
0007	04	CO	2.14
0007	04	NOx	7.58
0007	04	VOC	0.47
0007	05	CO	22.45
0007	05	NOx	730.23
0007	05	VOC	0.85
0007	06	CO	34.74
0007	06	NOx	671.05
0007	06	VOC	4.64
0007	07	CO	41.78
0007	07	NOx	697.42
0007	07	VOC	6.17
0007	08	CO	38.06
0007	08	NOx	560.64
0007	08	VOC	0.71
0007	21	CO	0.01

Facility ID	EU	Pollutant	2008 Emissions
0007	21	NOx	0.06
0007	21	VOC	0.003
0007	22	CO	0.02
0007	22	NOx	0.08
0007	22	VOC	0.01
0007	23	CO	0.02
0007	23	NOx	0.04
0007	23	VOC	0.003
0008	8-01	CO	28.10
0008	8-01	NOx	40.48
0008	8-01	VOC	0.07
0008	8-02	CO	0.02
0008	8-02	NOx	0.07
0008	8-02	VOC	0.59
0011	01	VOC	29.25
0011	05	CO	5.51
0011	05	NOx	18.89
0011	05	VOC	0.44
0011	09	CO	8.89
0011	09	NOx	4.15
0011	09	VOC	0.39
0011	10	CO	8.89
0011	10	NOx	4.15
0011	10	VOC	0.39
0011	11	CO	8.89
0011	11	NOx	4.15
0011	11	VOC	0.39
0011	12	CO	4.75
0011	12	NOx	2.06
0011	12	VOC	0.19
0011	13	CO	4.75
0011	13	NOx	2.06
0011	13	VOC	0.19
0011	14	CO	4.75
0011	14	NOx	2.06
0011	14	VOC	0.19
0011	18	CO	8.97
0011	18	NOx	2.71
0011	18	VOC	0.27
0011	19	CO	10.47
0011	19	NOx	3.16
0011	19	VOC	0.31
0011	20	CO	7.48
0011	20	NOx	2.26
0011	20	VOC	0.22
0011	21	CO	1.50

Facility ID	EU	Pollutant	2008 Emissions
0011	21	NOx	0.45
0011	21	VOC	0.05
0011	22	CO	1.50
0011	22	NOx	0.45
0011	22	VOC	0.05
0011	25	CO	25.52
0011	25	NOx	14.78
0011	25	VOC	1.11
0011	26	CO	25.52
0011	26	NOx	14.78
0011	26	VOC	1.11
0011	30	CO	50.89
0011	30	NOx	33.89
0011	30	VOC	1.76
0011	31	CO	50.89
0011	31	NOx	33.89
0011	31	VOC	1.76
0011	32	CO	50.89
0011	32	NOx	33.89
0011	32	VOC	1.76
0011	45	CO	0
0011	45	NOx	0
0011	45	VOC	0
0011	46	CO	0
0011	46	NOx	0
0011	46	VOC	0
0011	48	CO	0
0011	48	NOx	0
0011	48	VOC	0
0011	50	CO	0
0011	50	NOx	0
0011	50	VOC	0
0011	51	CO	0
0011	51	NOx	0
0011	51	VOC	0
0011	52	CO	0
0011	52	NOx	0
0011	52	VOC	0
0011	01a	CO	5.01
0011	01a	NOx	31.30
0011	01a	VOC	7.91
0011	18a	CO	0.25
0011	18a	NOx	1.57
0011	18a	VOC	0.13
0011	19a	CO	0.29
0011	19a	NOx	1.83

Facility ID	EU	Pollutant	2008 Emissions
0011	19a	VOC	0.15
0011	20a	CO	0.21
0011	20a	NOx	1.31
0011	20a	VOC	0.11
0011	21a	CO	0.05
0011	21a	NOx	0.26
0011	21a	VOC	0.01
0011	22a	CO	0.05
0011	22a	NOx	0.26
0011	22a	VOC	0.01
0012	01	CO	40.21
0012	01	NOx	8.05
0012	01	VOC	9.90
0012	02	CO	0.03
0012	02	NOx	0.04
0012	02	VOC	0
0012	03	CO	68.30
0012	03	NOx	0
0012	03	VOC	6.60
0013	01	VOC	1.60
0013	02	VOC	1.66
0013	03	VOC	1.39
0013	04	VOC	1.44
0013	05	VOC	1.28
0013	06	VOC	1.41
0013	07	VOC	1.90
0013	08	VOC	2.10
0013	09	VOC	1.61
0013	10	VOC	1.61
0013	11	VOC	1.84
0013	12	VOC	1.88
0013	13	VOC	0.17
0013	14	VOC	0.13
0013	15	VOC	0.10
0013	16	VOC	2.07
0013	17	VOC	3.33
0013	18	VOC	0.13
0013	19	VOC	1.10
0013	20	VOC	1.21
0013	21	VOC	3.38
0013	22	VOC	0.55
0013	23	VOC	0.08
0013	24	VOC	0.08
0013	27	VOC	0.13
0013	28	VOC	0.15
0013	29	VOC	1.60

Facility ID	EU	Pollutant	2008 Emissions
0013	30	VOC	0.01
0013	31	VOC	0
0013	32	VOC	0.01
0013	33	VOC	0.01
0013	34	VOC	0.10
0013	36	VOC	0.003
0013	38	VOC	0
0013	39	VOC	0
0013	45	VOC	1.46
0013	46	VOC	1.46
0013	47	VOC	1.35
0013	48	VOC	1.42
0013	53	VOC	0.01
0013	54	VOC	0.02
0013	56	VOC	0.02
0013	57	VOC	0.02
0013	101	VOC	396.12
0013	B01	VOC	50.06
0013	B02	VOC	7.20
0013	B04	VOC	1.15
0013	B05	VOC	0.98
0013	B06	VOC	5.05
0013	B10	CO	0.08
0013	B10	NOx	0.001
0013	B10	VOC	0.02
0013	D02	CO	0
0013	D02	NOx	0
0013	D02	VOC	0
0019	A01	CO	31.51
0019	A01	VOC	1.18
0019	B06	CO	23.10
0019	B06	NOx	1.90
0019	B09	CO	0.005
0019	B09	NOx	1.00
0019	B09	VOC	0.20
0019	B10	CO	0.14
0019	B10	NOx	0.12
0019	B10	VOC	0.26
0019	C05	CO	0.0001
0019	C05	NOx	0.0005
0019	D02E	CO	0
0019	D02E	NOx	0
0019	D02W	CO	0
0019	D02W	NOx	0
0019	E03	CO	0.0002
0019	E03	NOx	0.0009

Facility ID	EU	Pollutant	2008 Emissions
0019	E03	VOC	0.0008
0019	F01	CO	0.02
0019	F01	NOx	0.10
0019	F02	CO	0
0019	F02	NOx	0
0019	F03	CO	0
0019	F03	NOx	0
0019	F04	CO	0
0019	F04	NOx	0
0019	F05	CO	0
0019	F05	NOx	0
0019	F06	CO	0
0019	F06	NOx	0
0019	G02	CO	0.0004
0019	G02	NOx	0.002
0019	G02	VOC	0.002
0019	G10	CO	0.0001
0019	G10	NOx	0.0003
0019	G10	VOC	0.0003
0019	M11	CO	0
0019	M11	NOx	0
0019	M11	VOC	0
0026	01	CO	3.84
0026	01	NOx	7.90
0026	01	VOC	0.40
0047	1	CO	7.94
0047	1	NOx	6.50
0047	1	VOC	2.91
0073	1	CO	7.79
0073	1	NOx	4.83
0073	1	VOC	0.76
0074	1	CO	3.99
0074	1	NOx	2.56
0074	1	VOC	0.27
0075	01	CO	0.16
0075	01	NOx	0.90
0075	01	VOC	40.90
0075	02	VOC	404.57
0076	1	CO	0.34
0076	1	NOx	4.13
0076	1	VOC	0.26
0077	1	CO	1.68
0077	1	NOx	1.10
0077	1	VOC	0.11
0081	1	CO	1.01
0081	1	NOx	1.95

Facility ID	EU	Pollutant	2008 Emissions
0081	1	VOC	0.03
0085	1	CO	8.15
0085	1	NOx	5.00
0085	1	VOC	0.54
0086	1	CO	6.68
0086	1	NOx	10.14
0086	1	VOC	0.46
0133	1	CO	4.59
0133	1	NOx	5.55
0133	1	VOC	0.41
0138	02	CO	2.99
0138	02	NOx	185.81
0138	02	VOC	0.76
0153	1	CO	10.55
0153	1	NOx	6.83
0153	1	VOC	0.73
0154	01	CO	4.01
0154	01	NOx	54.25
0154	01	VOC	0.69
0155	1	CO	11.11
0155	1	NOx	9.37
0155	1	VOC	0.88
0256	1	CO	8.76
0256	1	NOx	13.85
0256	1	VOC	4.56
0257	1	CO	1.13
0257	1	NOx	4.99
0257	1	VOC	0.31
0276	1	CO	2.36
0276	1	NOx	9.30
0276	1	VOC	1.78
0282	1	CO	17.96
0282	1	NOx	16.94
0282	1	VOC	6.09
0323	01	CO	0.47
0323	01	NOx	0.28
0323	01	VOC	18.10
0329	01	CO	7.35
0329	01	NOx	4.51
0329	01	VOC	0.43
0329	03	CO	23.62
0329	03	NOx	11.99
0329	03	VOC	9.09
0329	04	CO	23.62
0329	04	NOx	11.99
0329	04	VOC	9.09

Facility ID	EU	Pollutant	2008 Emissions
0329	05	CO	23.62
0329	05	NOx	11.99
0329	05	VOC	9.09
0329	06	CO	23.62
0329	06	NOx	11.99
0329	06	VOC	9.09
0329	08	CO	0.48
0329	08	NOx	0.02
0329	08	VOC	0.01
0329	09	CO	0.60
0329	09	NOx	0.02
0329	09	VOC	0.01
0329	10	CO	0.01
0329	10	NOx	0.002
0329	10	VOC	0.003
0329	11	CO	0.01
0329	11	NOx	0.002
0329	11	VOC	0.003
0347	01	CO	1.56
0347	01	NOx	1.86
0347	01	VOC	0.19
0360	01	CO	12.09
0360	01	NOx	33.48
0360	01	VOC	5.75
0360	02	CO	11.16
0360	02	NOx	39.24
0360	02	VOC	1.00
0360	03	CO	11.57
0360	03	NOx	36.77
0360	03	VOC	0.85
0360	04	CO	0.06
0360	04	NOx	0.02
0360	04	VOC	0.004
0391	01	CO	9.75
0391	01	NOx	39.66
0391	01	VOC	1.33
0391	02	CO	12.16
0391	02	NOx	39.74
0391	02	VOC	0.64
0391	03	CO	9.99
0391	03	NOx	41.87
0391	03	VOC	0.64
0391	04	CO	0.05
0391	04	NOx	0.01
0391	04	VOC	0.004
0391	05	CO	0.05

Facility ID	EU	Pollutant	2008 Emissions
0391	05	NOx	0.23
0391	05	VOC	0.02
0393	01	CO	6.86
0393	01	NOx	39.02
0393	01	VOC	3.42
0393	02	CO	12.10
0393	02	NOx	36.74
0393	02	VOC	3.36
0393	03	CO	0.03
0393	03	NOx	0.11
0393	03	VOC	0
0393	04	CO	0.03
0393	04	NOx	0.11
0393	04	VOC	0
0393	05	CO	0.03
0393	05	NOx	0.36
0393	05	VOC	0.05
0393	06	CO	0
0393	06	NOx	0.46
0393	06	VOC	0.09
0393	07	CO	0.13
0393	07	NOx	0.64
0393	07	VOC	0.02
0395	02	CO	0
0395	02	NOx	0
0395	02	VOC	0
0395	03	CO	3.91
0395	03	NOx	7.02
0395	03	VOC	0.66
0395	04	CO	0.42
0395	04	NOx	2.62
0395	04	VOC	0.07
0395	05	CO	0.29
0395	05	NOx	1.77
0395	05	VOC	0.05
0395	06	CO	3.37
0395	06	NOx	13.25
0395	06	VOC	3.10
0395	07	CO	0
0395	07	NOx	2.15
0395	07	VOC	0
0402	01	CO	0.25
0402	01	NOx	0.17
0402	01	VOC	0.01
0402	02	CO	0.11
0402	02	NOx	0.51

Facility ID	EU	Pollutant	2008 Emissions
0402	02	VOC	0.01
0402	03	CO	0.06
0402	03	NOx	0.22
0402	03	VOC	0.02
0402	04	CO	0
0402	04	NOx	0
0402	04	VOC	0
0402	05	CO	1.69
0402	05	NOx	4.26
0402	05	VOC	0.60
0402	06	CO	33.84
0402	06	NOx	10.04
0402	06	VOC	19.30
0402	07	CO	0
0402	07	NOx	0
0402	07	VOC	0
0402	08	VOC	14.18
0423	01	CO	2.17
0423	01	NOx	36.60
0423	01	VOC	0.61
0423	02	CO	2.07
0423	02	NOx	34.89
0423	02	VOC	0.59
0423	03	CO	2.55
0423	03	NOx	42.90
0423	03	VOC	0.72
0434	1	CO	4.26
0434	1	NOx	4.88
0434	1	VOC	0.31
0468	1	CO	3.81
0468	1	NOx	76.77
0468	1	VOC	0
0482	01	VOC	17.93
0533	01	CO	5.34
0533	01	NOx	7.42
0533	01	VOC	0.33
0533	02	CO	0.04
0533	02	NOx	0.22
0533	02	VOC	0.01
0533	07	CO	0.03
0533	07	NOx	0.14
0533	07	VOC	0.01
0533	08	CO	0.22
0533	08	NOx	0.21
0533	08	VOC	0.01
0564	1	CO	28.10

Facility ID	EU	Pollutant	2008 Emissions
0564	1	NOx	25.04
0564	1	VOC	4.48
0593	E01	CO	0.01
0593	E01	NOx	0.07
0593	E01	VOC	1.66
0593	E105	CO	0.60
0593	E105	NOx	0.72
0593	E105	VOC	0.05
0593	E106	CO	0.60
0593	E106	NOx	0.72
0593	E106	VOC	0.05
0593	E110	CO	2.10
0593	E110	NOx	2.50
0593	E110	VOC	0.15
0593	E111	CO	2.15
0593	E111	NOx	2.56
0593	E111	VOC	0.15
0593	E145	CO	1.26
0593	E145	NOx	1.10
0593	E145	VOC	0.09
0593	E146	CO	0.13
0593	E146	NOx	0.11
0593	E146	VOC	0.01
0593	E147	CO	0.13
0593	E147	NOx	0.11
0593	E147	VOC	0.01
0593	E148	CO	0.13
0593	E148	NOx	0.11
0593	E148	VOC	0.01
0593	E153	CO	0.13
0593	E153	NOx	0.11
0593	E153	VOC	0.01
0593	EP13	CO	13.17
0593	EP13	NOx	3.63
0593	EP13	VOC	0.25
0593	EP14	CO	13.17
0593	EP14	NOx	3.63
0593	EP14	VOC	0.25
0593	EP15	CO	13.17
0593	EP15	NOx	3.63
0593	EP15	VOC	0.25
0593	EP16	CO	13.17
0593	EP16	NOx	3.63
0593	EP16	VOC	0.25
0593	EP17	CO	13.17
0593	EP17	NOx	3.63

Facility ID	EU	Pollutant	2008 Emissions
0593	EP17	VOC	0.25
0593	EP36	CO	27.27
0593	EP36	NOx	5.70
0593	EP36	VOC	1.66
0593	EP36a	CO	27.27
0593	EP36a	NOx	5.70
0593	EP36a	VOC	1.66
0593	EP36b	CO	27.27
0593	EP36b	NOx	5.70
0593	EP36b	VOC	1.66
0593	EP36c	CO	27.27
0593	EP36c	NOx	5.70
0593	EP36c	VOC	1.66
0593	EP36d	CO	27.27
0593	EP36d	NOx	5.70
0593	EP36d	VOC	1.66
0603	1	CO	4.01
0603	1	NOx	5.65
0603	1	VOC	0.32
0609	1	CO	5.26
0609	1	NOx	5.39
0609	1	VOC	1.74
0610	1	CO	0.39
0610	1	NOx	0.79
0610	1	VOC	0.05
0611	1	CO	0.23
0611	1	NOx	0.27
0611	1	VOC	0.02
0613	1	CO	7.09
0613	1	NOx	5.68
0613	1	VOC	2.18
0652	A01	CO	2.45
0652	A01	NOx	48.56
0652	A01	VOC	1.84
0652	A02	CO	2.40
0652	A02	NOx	46.80
0652	A02	VOC	1.80
0652	A03	CO	0.01
0652	A03	NOx	0.04
0652	A03	VOC	0.004
0652	A07	VOC	0.01
0697	1	CO	0.37
0697	1	NOx	4.42
0697	1	VOC	0.87
0737	1	CO	26.88
0737	1	NOx	33.00

Facility ID	EU	Pollutant	2008 Emissions
0737	1	VOC	1.80
0749	1	CO	9.15
0749	1	NOx	5.41
0749	1	VOC	1.18
0756	1	CO	44.26
0756	1	NOx	33.97
0756	1	VOC	5.36
0825	1	CO	38.36
0825	1	NOx	36.82
0825	1	VOC	9.88
0856	1	CO	11.22
0856	1	NOx	7.26
0856	1	VOC	1.25
0859	01	VOC	50.41
0886	1	VOC	2.76
0886	2	VOC	5.25
0897	2	VOC	24.23
0897	1328	CO	0.77
0897	1328	NOx	0.91
0897	1328	VOC	12.75
1520	A01,2	CO	61.79
1520	A01,2	NOx	97.53
1520	A01,2	VOC	31.62
1520	A03,4	CO	59.88
1520	A03,4	NOx	94.51
1520	A03,4	VOC	30.64
1520	A05	CO	1.65
1520	A05	NOx	0.67
1520	A05	VOC	0.07
1520	A06	CO	0.16
1520	A06	NOx	0.26
1520	A06	VOC	0.04
1520	A07	CO	0.01
1520	A07	NOx	0.02
1520	A07	VOC	0.003
1536	1	CO	8.02
1536	1	NOx	3.03
1536	1	VOC	23.79
1536	2	VOC	45.19
1550	A01,2	CO	70.43
1550	A01,2	NOx	78.73
1550	A01,2	VOC	21.69
1550	A03,4	CO	70.74
1550	A03,4	NOx	79.07
1550	A03,4	VOC	21.79
1550	A05	CO	0.27

Facility ID	EU	Pollutant	2008 Emissions
1550	A05	NOx	0.07
1550	A05	VOC	0.03
1550	A06	CO	0.01
1550	A06	NOx	0.02
1550	A06	VOC	0
1584	A01	CO	119.56
1584	A01	NOx	152.39
1584	A01	VOC	0.50
1584	A03	CO	123.34
1584	A03	NOx	157.21
1584	A03	VOC	0.50
1590	1	CO	2.48
1590	1	NOx	18.35
1590	1	VOC	0
15033	01	CO	16.98
15033	01	NOx	2.72
15033	01	VOC	3.90
AP49110398	01	CO	49.84
AP49110398	01	NOx	262.00
AP49110398	01	VOC	3.04
AP49110398	02	CO	77.43
AP49110398	02	NOx	723.90
AP49110398	02	VOC	4.73
AP49110398	03	CO	22.86
AP49110398	03	NOx	274.57
AP49110398	03	VOC	4.73
AP49110399	01	CO	102.10
AP49110399	01	NOx	880.82
AP49110399	01	VOC	1.46
AP49110400	1	CO	101.43
AP49110400	1	NOx	1,820.11
AP49110400	1	VOC	9.56
AP49110400	2	CO	92.67
AP49110400	2	NOx	2,144.15
AP49110400	2	VOC	8.74
AP49110400	3	CO	93.71
AP49110400	3	NOx	1,638.21
AP49110400	3	VOC	8.82
AP49110400	4	CO	216.85
AP49110400	4	NOx	3,306.31
AP49110400	4	VOC	20.42
AP49110774	1	CO	1,174.40
AP49110774	1	NOx	12,683.61
AP49110774	1	VOC	138.64
PRJEGU33	#1	CO	164.25
PRJEGU33	#1	NOx	136.35

Facility ID	EU	Pollutant	2008 Emissions
PRJEGU33	#1	VOC	10.75
PRJEGU33	#2	CO	164.25
PRJEGU33	#2	NOx	136.35
PRJEGU33	#2	VOC	10.75

Table 2-3. 2018 Emissions Projected in 2007 by Environ (tpy)

Facility ID	EU	Pollutant	2018 Emissions
0003	01	CO	0
0003	01	NOx	0
0003	01	VOC	0
0003	02	CO	136.80
0003	02	NOx	288.65
0003	02	VOC	3.58
0003	03	CO	208.68
0003	03	NOx	273.00
0003	03	VOC	2.83
0003	04	CO	42.35
0003	04	NOx	331.68
0003	04	VOC	3.74
0003	05	CO	657.09
0003	05	NOx	976.23
0003	05	VOC	14.23
0003	07	CO	0
0003	07	NOx	0
0003	07	VOC	0
0003	10	CO	0.12
0003	10	NOx	0.55
0003	10	VOC	0.03
0003	23	CO	0
0003	23	NOx	0
0003	23	VOC	0
0003	24	CO	0
0003	24	NOx	0
0003	24	VOC	0
0003	26	CO	0
0003	26	NOx	0
0003	26	VOC	0
0003	27	CO	0
0003	27	NOx	0
0003	27	VOC	0
0003	28	CO	45.92
0003	28	NOx	11.66
0003	28	VOC	1.74
0004	4-01	VOC	21.23

Facility ID	EU	Pollutant	2018 Emissions
0004	4-E11	CO	1.28
0004	4-E11	NOx	20.77
0004	4-E11	VOC	0.69
0004	4-F1	CO	0
0004	4-F1	NOx	0
0004	4-F1	VOC	0
0004	4-F2	CO	0.18
0004	4-F2	NOx	0.81
0004	4-F2	VOC	0.05
0004	4-F3	CO	0.18
0004	4-F3	NOx	0.82
0004	4-F3	VOC	0.05
0004	4-F4	CO	0.20
0004	4-F4	NOx	0.82
0004	4-F4	VOC	0.05
0004	4-G1	CO	0
0004	4-G1	NOx	0
0004	4-G1	VOC	0
0004	4-G1a	CO	0.92
0004	4-G1a	NOx	4.09
0004	4-G1a	VOC	0.23
0004	4-G1b	CO	0.93
0004	4-G1b	NOx	4.09
0004	4-G1b	VOC	0.24
0004	4-G1c	CO	0.93
0004	4-G1c	NOx	4.09
0004	4-G1c	VOC	0.23
0004	4-J3	CO	109.67
0004	4-J3	NOx	25.19
0004	4-J3	VOC	1.63
0004	4-L4	CO	0.53
0004	4-L4	NOx	2.29
0004	4-L4	VOC	0.20
0004	B8	CO	0.66
0004	B8	NOx	24.24
0004	B8	VOC	0.21
0004	J2	CO	0.29
0004	J2	NOx	1.24
0004	J2	VOC	0.08
0007	04	CO	1.88
0007	04	NOx	5.22
0007	04	VOC	0.42
0007	05	CO	19.69
0007	05	NOx	502.81
0007	05	VOC	0.74
0007	06	CO	30.47

Facility ID	EU	Pollutant	2018 Emissions
0007	06	NOx	462.07
0007	06	VOC	4.07
0007	07	CO	36.65
0007	07	NOx	480.22
0007	07	VOC	5.41
0007	08	CO	33.38
0007	08	NOx	386.04
0007	08	VOC	0.63
0007	21	CO	0.01
0007	21	NOx	0.07
0007	21	VOC	0.003
0007	22	CO	0.02
0007	22	NOx	0.09
0007	22	VOC	0.01
0007	23	CO	0.02
0007	23	NOx	0.05
0007	23	VOC	0.00
0008	8-01	CO	24.65
0008	8-01	NOx	27.87
0008	8-01	VOC	0.06
0008	8-02	CO	0.02
0008	8-02	NOx	0.08
0008	8-02	VOC	0.71
0011	01	VOC	32.95
0011	05	CO	7.03
0011	05	NOx	24.13
0011	05	VOC	0.56
0011	09	CO	11.36
0011	09	NOx	5.30
0011	09	VOC	0.50
0011	10	CO	11.36
0011	10	NOx	5.30
0011	10	VOC	0.50
0011	11	CO	11.36
0011	11	NOx	5.30
0011	11	VOC	0.50
0011	12	CO	6.07
0011	12	NOx	2.64
0011	12	VOC	0.24
0011	13	CO	6.07
0011	13	NOx	2.64
0011	13	VOC	0.24
0011	14	CO	6.07
0011	14	NOx	2.64
0011	14	VOC	0.24
0011	18	CO	11.46

Facility ID	EU	Pollutant	2018 Emissions
0011	18	NOx	3.46
0011	18	VOC	0.35
0011	19	CO	13.37
0011	19	NOx	4.04
0011	19	VOC	0.39
0011	20	CO	9.55
0011	20	NOx	2.89
0011	20	VOC	0.29
0011	21	CO	1.91
0011	21	NOx	0.57
0011	21	VOC	0.06
0011	22	CO	1.91
0011	22	NOx	0.57
0011	22	VOC	0.06
0011	25	CO	32.59
0011	25	NOx	18.87
0011	25	VOC	1.42
0011	26	CO	32.59
0011	26	NOx	18.87
0011	26	VOC	1.42
0011	30	CO	64.98
0011	30	NOx	43.28
0011	30	VOC	2.24
0011	31	CO	64.98
0011	31	NOx	43.28
0011	31	VOC	2.24
0011	32	CO	64.98
0011	32	NOx	43.28
0011	32	VOC	2.24
0011	45	CO	0
0011	45	NOx	0
0011	45	VOC	0
0011	46	CO	0
0011	46	NOx	0
0011	46	VOC	0
0011	48	CO	0
0011	48	NOx	0
0011	48	VOC	0
0011	50	CO	0
0011	50	NOx	0
0011	50	VOC	0
0011	51	CO	0
0011	51	NOx	0
0011	51	VOC	0
0011	52	CO	0
0011	52	NOx	0

Facility ID	EU	Pollutant	2018 Emissions
0011	52	VOC	0
0011	01a	CO	5.65
0011	01a	NOx	35.26
0011	01a	VOC	8.91
0011	18a	CO	0.32
0011	18a	NOx	2.00
0011	18a	VOC	0.17
0011	19a	CO	0.38
0011	19a	NOx	2.33
0011	19a	VOC	0.20
0011	20a	CO	0.27
0011	20a	NOx	1.67
0011	20a	VOC	0.14
0011	21a	CO	0.06
0011	21a	NOx	0.33
0011	21a	VOC	0.02
0011	22a	CO	0.06
0011	22a	NOx	0.33
0011	22a	VOC	0.02
0012	01	CO	51.59
0012	01	NOx	10.32
0012	01	VOC	12.70
0012	02	CO	0.04
0012	02	NOx	0.05
0012	02	VOC	0
0012	03	CO	87.63
0012	03	NOx	0
0012	03	VOC	8.47
0013	01	VOC	1.87
0013	02	VOC	1.94
0013	03	VOC	1.62
0013	04	VOC	1.68
0013	05	VOC	1.49
0013	06	VOC	1.64
0013	07	VOC	2.22
0013	08	VOC	2.45
0013	09	VOC	1.88
0013	10	VOC	1.88
0013	11	VOC	2.15
0013	12	VOC	2.19
0013	13	VOC	0.19
0013	14	VOC	0.15
0013	15	VOC	0.12
0013	16	VOC	2.42
0013	17	VOC	3.89
0013	18	VOC	0.15

Facility ID	EU	Pollutant	2018 Emissions
0013	19	VOC	1.28
0013	20	VOC	1.41
0013	21	VOC	3.94
0013	22	VOC	0.64
0013	23	VOC	0.09
0013	24	VOC	0.09
0013	27	VOC	0.15
0013	28	VOC	0.18
0013	29	VOC	1.87
0013	30	VOC	0.01
0013	31	VOC	0
0013	32	VOC	0.01
0013	33	VOC	0.01
0013	34	VOC	0.11
0013	36	VOC	0.00
0013	38	VOC	0
0013	39	VOC	0
0013	45	VOC	1.70
0013	46	VOC	1.70
0013	47	VOC	1.58
0013	48	VOC	1.66
0013	53	VOC	0.01
0013	54	VOC	0.02
0013	56	VOC	0.02
0013	57	VOC	0.02
0013	101	VOC	462.29
0013	B01	VOC	58.42
0013	B02	VOC	8.40
0013	B04	VOC	1.34
0013	B05	VOC	1.15
0013	B06	VOC	5.89
0013	B10	CO	0.08
0013	B10	NOx	0.001
0013	B10	VOC	0.02
0013	D02	CO	0
0013	D02	NOx	0
0013	D02	VOC	0
0019	A01	CO	42.63
0019	A01	VOC	1.59
0019	B06	CO	28.58
0019	B06	NOx	2.35
0019	B09	CO	0.01
0019	B09	NOx	0.93
0019	B09	VOC	0.23
0019	B10	CO	0.18
0019	B10	NOx	0.17

Facility ID	EU	Pollutant	2018 Emissions
0019	B10	VOC	0.35
0019	C05	CO	0.0001
0019	C05	NOx	0.0006
0019	D02E	CO	0
0019	D02E	NOx	0
0019	D02W	CO	0
0019	D02W	NOx	0
0019	E03	CO	0.0003
0019	E03	NOx	0.0012
0019	E03	VOC	0.0011
0019	F01	CO	0.03
0019	F01	NOx	0.13
0019	F02	CO	0
0019	F02	NOx	0
0019	F03	CO	0
0019	F03	NOx	0
0019	F04	CO	0
0019	F04	NOx	0
0019	F05	CO	0
0019	F05	NOx	0
0019	F06	CO	0
0019	F06	NOx	0
0019	G02	CO	0.0004
0019	G02	NOx	0.0020
0019	G02	VOC	0.0019
0019	G10	CO	0.0001
0019	G10	NOx	0.0004
0019	G10	VOC	0.0003
0019	M11	CO	0
0019	M11	NOx	0
0019	M11	VOC	0
0026	01	CO	4.92
0026	01	NOx	10.12
0026	01	VOC	0.51
0047	1	CO	10.17
0047	1	NOx	8.32
0047	1	VOC	3.73
0073	1	CO	9.98
0073	1	NOx	6.19
0073	1	VOC	0.97
0074	1	CO	5.11
0074	1	NOx	3.28
0074	1	VOC	0.35
0075	01	CO	0.23
0075	01	NOx	1.30
0075	01	VOC	58.80

Facility ID	EU	Pollutant	2018 Emissions
0075	02	VOC	581.63
0076	1	CO	0.44
0076	1	NOx	5.29
0076	1	VOC	0.33
0077	1	CO	2.15
0077	1	NOx	1.41
0077	1	VOC	0.15
0081	1	CO	1.29
0081	1	NOx	2.50
0081	1	VOC	0.04
0085	1	CO	10.44
0085	1	NOx	6.40
0085	1	VOC	0.70
0086	1	CO	8.55
0086	1	NOx	12.98
0086	1	VOC	0.60
0133	1	CO	5.88
0133	1	NOx	7.10
0133	1	VOC	0.52
0138	02	CO	3.37
0138	02	NOx	209.30
0138	02	VOC	0.76
0153	1	CO	13.51
0153	1	NOx	8.74
0153	1	VOC	0.93
0154	01	CO	5.38
0154	01	NOx	64.24
0154	01	VOC	0.92
0155	1	CO	14.23
0155	1	NOx	12.00
0155	1	VOC	1.13
0256	1	CO	11.21
0256	1	NOx	17.73
0256	1	VOC	5.84
0257	1	CO	1.45
0257	1	NOx	6.39
0257	1	VOC	0.39
0276	1	CO	3.02
0276	1	NOx	11.91
0276	1	VOC	2.28
0282	1	CO	23.00
0282	1	NOx	21.70
0282	1	VOC	7.80
0323	01	CO	0.67
0323	01	NOx	0.40
0323	01	VOC	25.66

Facility ID	EU	Pollutant	2018 Emissions
0329	01	CO	6.45
0329	01	NOx	3.19
0329	01	VOC	0.38
0329	03	CO	23.62
0329	03	NOx	12.32
0329	03	VOC	9.11
0329	04	CO	23.62
0329	04	NOx	12.32
0329	04	VOC	9.11
0329	05	CO	23.62
0329	05	NOx	12.32
0329	05	VOC	9.11
0329	06	CO	23.62
0329	06	NOx	12.32
0329	06	VOC	9.11
0329	08	CO	0.42
0329	08	NOx	0.02
0329	08	VOC	0.01
0329	09	CO	0.53
0329	09	NOx	0.02
0329	09	VOC	0.01
0329	10	CO	0.0010
0329	10	NOx	0.0002
0329	10	VOC	0.0003
0329	11	CO	0.0010
0329	11	NOx	0.0002
0329	11	VOC	0.0003
0347	01	CO	2.21
0347	01	NOx	2.64
0347	01	VOC	0.27
0360	01	CO	15.48
0360	01	NOx	42.87
0360	01	VOC	7.36
0360	02	CO	14.29
0360	02	NOx	50.25
0360	02	VOC	1.28
0360	03	CO	14.81
0360	03	NOx	47.08
0360	03	VOC	1.09
0360	04	CO	0.07
0360	04	NOx	0.02
0360	04	VOC	0.0046
0391	01	CO	12.49
0391	01	NOx	50.78
0391	01	VOC	1.70
0391	02	CO	15.57

Facility ID	EU	Pollutant	2018 Emissions
0391	02	NOx	50.89
0391	02	VOC	0.81
0391	03	CO	12.79
0391	03	NOx	53.62
0391	03	VOC	0.81
0391	04	CO	0.06
0391	04	NOx	0.01
0391	04	VOC	0.0046
0391	05	CO	0.06
0391	05	NOx	0.27
0391	05	VOC	0.02
0393	01	CO	6.01
0393	01	NOx	26.87
0393	01	VOC	3.00
0393	02	CO	10.61
0393	02	NOx	25.30
0393	02	VOC	2.95
0393	03	CO	0.0030
0393	03	NOx	0.01
0393	03	VOC	0
0393	04	CO	0.0030
0393	04	NOx	0.01
0393	04	VOC	0
0393	05	CO	0.03
0393	05	NOx	0.30
0393	05	VOC	0.04
0393	06	CO	0
0393	06	NOx	0.38
0393	06	VOC	0.08
0393	07	CO	0.01
0393	07	NOx	0.06
0393	07	VOC	0.0020
0395	02	CO	0
0395	02	NOx	0
0395	02	VOC	0
0395	03	CO	4.46
0395	03	NOx	8.01
0395	03	VOC	0.75
0395	04	CO	0.48
0395	04	NOx	2.99
0395	04	VOC	0.08
0395	05	CO	0.34
0395	05	NOx	2.02
0395	05	VOC	0.06
0395	06	CO	3.80
0395	06	NOx	14.92

Facility ID	EU	Pollutant	2018 Emissions
0395	06	VOC	3.49
0395	07	CO	0
0395	07	NOx	2.15
0395	07	VOC	0
0402	01	CO	0.29
0402	01	NOx	0.20
0402	01	VOC	0.01
0402	02	CO	0.13
0402	02	NOx	0.58
0402	02	VOC	0.01
0402	03	CO	0.07
0402	03	NOx	0.15
0402	03	VOC	0.03
0402	04	CO	0
0402	04	NOx	0
0402	04	VOC	0
0402	05	CO	2.20
0402	05	NOx	5.55
0402	05	VOC	0.78
0402	06	CO	44.06
0402	06	NOx	13.08
0402	06	VOC	25.14
0402	07	CO	0
0402	07	NOx	0
0402	07	VOC	0
0402	08	VOC	18.46
0423	01	CO	1.91
0423	01	NOx	25.20
0423	01	VOC	0.54
0423	02	CO	1.82
0423	02	NOx	24.02
0423	02	VOC	0.52
0423	03	CO	2.23
0423	03	NOx	29.54
0423	03	VOC	0.64
0434	1	CO	5.46
0434	1	NOx	6.24
0434	1	VOC	0.39
0468	1	CO	4.88
0468	1	NOx	98.30
0468	1	VOC	0
0482	01	VOC	27.76
0533	01	CO	5.34
0533	01	NOx	7.42
0533	01	VOC	0.33
0533	02	CO	0.0041

Facility ID	EU	Pollutant	2018 Emissions
0533	02	NOx	0.02
0533	02	VOC	0.0010
0533	07	CO	0.0030
0533	07	NOx	0.01
0533	07	VOC	0.0010
0533	08	CO	0.02
0533	08	NOx	0.02
0533	08	VOC	0.0010
0564	1	CO	35.99
0564	1	NOx	32.06
0564	1	VOC	5.74
0593	E01	CO	0.02
0593	E01	NOx	0.09
0593	E01	VOC	2.12
0593	E105	CO	0.77
0593	E105	NOx	0.92
0593	E105	VOC	0.06
0593	E106	CO	0.77
0593	E106	NOx	0.92
0593	E106	VOC	0.06
0593	E110	CO	2.68
0593	E110	NOx	3.19
0593	E110	VOC	0.20
0593	E111	CO	2.74
0593	E111	NOx	3.27
0593	E111	VOC	0.20
0593	E145	CO	1.46
0593	E145	NOx	0.74
0593	E145	VOC	0.10
0593	E146	CO	0.15
0593	E146	NOx	0.08
0593	E146	VOC	0.01
0593	E147	CO	0.15
0593	E147	NOx	0.08
0593	E147	VOC	0.01
0593	E148	CO	0.15
0593	E148	NOx	0.08
0593	E148	VOC	0.01
0593	E153	CO	0.15
0593	E153	NOx	0.08
0593	E153	VOC	0.01
0593	EP13	CO	16.82
0593	EP13	NOx	4.64
0593	EP13	VOC	0.32
0593	EP14	CO	16.82
0593	EP14	NOx	4.64

Facility ID	EU	Pollutant	2018 Emissions
0593	EP14	VOC	0.32
0593	EP15	CO	16.82
0593	EP15	NOx	4.64
0593	EP15	VOC	0.32
0593	EP16	CO	16.82
0593	EP16	NOx	4.64
0593	EP16	VOC	0.32
0593	EP17	CO	16.82
0593	EP17	NOx	4.64
0593	EP17	VOC	0.32
0593	EP36	CO	34.82
0593	EP36	NOx	7.27
0593	EP36	VOC	2.12
0593	EP36a	CO	34.82
0593	EP36a	NOx	7.27
0593	EP36a	VOC	2.12
0593	EP36b	CO	34.82
0593	EP36b	NOx	7.27
0593	EP36b	VOC	2.12
0593	EP36c	CO	34.82
0593	EP36c	NOx	7.27
0593	EP36c	VOC	2.12
0593	EP36d	CO	34.82
0593	EP36d	NOx	7.27
0593	EP36d	VOC	2.12
0603	1	CO	5.14
0603	1	NOx	7.23
0603	1	VOC	0.41
0609	1	CO	6.74
0609	1	NOx	6.90
0609	1	VOC	2.22
0610	1	CO	0.49
0610	1	NOx	1.02
0610	1	VOC	0.06
0611	1	CO	0.29
0611	1	NOx	0.35
0611	1	VOC	0.03
0613	1	CO	9.08
0613	1	NOx	7.28
0613	1	VOC	2.79
0652	A01	CO	2.45
0652	A01	NOx	48.56
0652	A01	VOC	1.84
0652	A02	CO	2.40
0652	A02	NOx	46.80
0652	A02	VOC	1.80

Facility ID	EU	Pollutant	2018 Emissions
0652	A03	CO	0.01
0652	A03	NOx	0.04
0652	A03	VOC	0.0043
0652	A07	VOC	0.01
0697	1	CO	0.48
0697	1	NOx	5.66
0697	1	VOC	1.12
0737	1	CO	34.42
0737	1	NOx	42.26
0737	1	VOC	2.31
0749	1	CO	11.72
0749	1	NOx	6.93
0749	1	VOC	1.51
0756	1	CO	56.68
0756	1	NOx	43.49
0756	1	VOC	6.87
0825	1	CO	49.11
0825	1	NOx	47.15
0825	1	VOC	12.65
0856	1	CO	14.36
0856	1	NOx	9.29
0856	1	VOC	1.60
0859	01	VOC	72.48
0886	1	VOC	3.97
0886	2	VOC	7.55
0897	2	VOC	34.35
0897	1328	CO	1.10
0897	1328	NOx	1.29
0897	1328	VOC	18.07
1520	A01,2	CO	61.79
1520	A01,2	NOx	97.46
1520	A01,2	VOC	31.62
1520	A03,4	CO	59.88
1520	A03,4	NOx	94.44
1520	A03,4	VOC	30.64
1520	A05	CO	1.88
1520	A05	NOx	0.77
1520	A05	VOC	0.08
1520	A06	CO	0.19
1520	A06	NOx	0.30
1520	A06	VOC	0.04
1520	A07	CO	0.01
1520	A07	NOx	0.02
1520	A07	VOC	0.0034
1536	1	CO	11.37
1536	1	NOx	4.30

Facility ID	EU	Pollutant	2018 Emissions
1536	1	VOC	33.72
1536	2	VOC	64.06
1550	A01,2	CO	70.43
1550	A01,2	NOx	78.72
1550	A01,2	VOC	21.69
1550	A03,4	CO	70.74
1550	A03,4	NOx	79.06
1550	A03,4	VOC	21.78
1550	A05	CO	0.35
1550	A05	NOx	0.09
1550	A05	VOC	0.04
1550	A06	CO	0.01
1550	A06	NOx	0.03
1550	A06	VOC	0
1584	A01	CO	119.56
1584	A01	NOx	152.39
1584	A01	VOC	0.50
1584	A03	CO	123.34
1584	A03	NOx	157.21
1584	A03	VOC	0.50
1590	1	CO	3.18
1590	1	NOx	23.50
1590	1	VOC	0
15033	01	CO	22.31
15033	01	NOx	3.57
15033	01	VOC	5.12
AP49110398	01	CO	43.71
AP49110398	01	NOx	262.00
AP49110398	01	VOC	2.67
AP49110398	02	CO	67.91
AP49110398	02	NOx	723.90
AP49110398	02	VOC	4.15
AP49110398	03	CO	20.05
AP49110398	03	NOx	274.57
AP49110398	03	VOC	4.15
AP49110399	01	CO	89.54
AP49110399	01	NOx	880.82
AP49110399	01	VOC	1.35
AP49110400	1	CO	167.62
AP49110400	1	NOx	1,820.11
AP49110400	1	VOC	9.56
AP49110400	2	CO	153.13
AP49110400	2	NOx	2,144.15
AP49110400	2	VOC	8.74
AP49110400	3	CO	154.86
AP49110400	3	NOx	1,638.21

Facility ID	EU	Pollutant	2018 Emissions
AP49110400	3	VOC	8.82
AP49110400	4	CO	358.34
AP49110400	4	NOx	3,306.31
AP49110400	4	VOC	20.42
AP49110774	1	CO	1,174.40
AP49110774	1	NOx	12,683.61
AP49110774	1	VOC	138.64
PRJEGU33	#1	CO	394.20
PRJEGU33	#1	NOx	443.48
PRJEGU33	#1	VOC	25.81
PRJEGU33	#2	CO	394.20
PRJEGU33	#2	NOx	443.48
PRJEGU33	#2	VOC	25.81

Table 2-4. Derivation of 2022 Growth Factors Based on Previous 2008 and 2018 Emissions Projections by Environ in 2007

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0003	01	CO	0	0	0	-0.4	20100102
0003	01	NOx	0	0	0	-0.4	20100102
0003	01	VOC	0	0	0	-0.4	20100102
0003	02	CO	107.13	136.80	1.28	1.39	30501604
0003	02	NOx	226.03	288.65	1.28	1.39	30501604
0003	02	VOC	3.17	3.58	1.13	1.18	30501604
0003	03	CO	163.41	208.68	1.28	1.39	30501604
0003	03	NOx	213.78	273.00	1.28	1.39	30501604
0003	03	VOC	2.51	2.83	1.13	1.18	30501604
0003	04	CO	33.16	42.35	1.28	1.39	30501604
0003	04	NOx	259.73	331.68	1.28	1.39	30501604
0003	04	VOC	3.31	3.74	1.13	1.18	30501604
0003	05	CO	514.54	657.09	1.28	1.39	30501604
0003	05	NOx	764.46	976.23	1.28	1.39	30501604
0003	05	VOC	12.61	14.23	1.13	1.18	30501604
0003	07	CO	0	0	0	-0.4	20100102
0003	07	NOx	0	0	0	-0.4	20100102
0003	07	VOC	0	0	0	-0.4	20100102
0003	10	CO	0.09	0.12	1.28	1.39	10300603
0003	10	NOx	0.43	0.55	1.28	1.39	10300603
0003	10	VOC	0.02	0.03	1.13	1.18	10300603
0003	28	CO	35.96	45.92	1.28	1.39	30501699
0003	28	NOx	9.13	11.66	1.28	1.39	30501699
0003	28	VOC	1.54	1.74	1.13	1.18	30501699
0004	4-01	VOC	18.85	21.23	1.13	1.18	30500421
0004	4-E11	CO	1.00	1.28	1.28	1.39	30501513

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0004	4-E11	NOx	17.56	20.77	1.18	1.26	30501513
0004	4-E11	VOC	0.54	0.69	1.28	1.39	30501513
0004	4-F1	CO	0	0	0	-0.4	30501502
0004	4-F1	NOx	0	0	0	-0.4	30501502
0004	4-F1	VOC	0	0	0	-0.4	30501502
0004	4-F2	CO	0.14	0.18	1.28	1.39	30501502
0004	4-F2	NOx	0.68	0.81	1.18	1.26	30501502
0004	4-F2	VOC	0.04	0.05	1.28	1.39	30501502
0004	4-F3	CO	0.14	0.18	1.28	1.39	30501511
0004	4-F3	NOx	0.70	0.82	1.18	1.26	30501511
0004	4-F3	VOC	0.04	0.05	1.28	1.39	30501511
0004	4-F4	CO	0.15	0.20	1.28	1.39	30501511
0004	4-F4	NOx	0.70	0.82	1.18	1.26	30501511
0004	4-F4	VOC	0.04	0.05	1.28	1.39	30501511
0004	4-G1	CO	0	0	0	-0.4	30501511
0004	4-G1	NOx	0	0	0	-0.4	30501511
0004	4-G1	VOC	0	0	0	-0.4	30501511
0004	4-G1a	CO	0.72	0.92	1.28	1.39	30501511
0004	4-G1a	NOx	3.46	4.09	1.18	1.26	30501511
0004	4-G1a	VOC	0.18	0.23	1.28	1.39	30501511
0004	4-G1b	CO	0.73	0.93	1.28	1.39	30501511
0004	4-G1b	NOx	3.46	4.09	1.18	1.26	30501511
0004	4-G1b	VOC	0.19	0.24	1.28	1.39	30501511
0004	4-G1c	CO	0.73	0.93	1.28	1.39	30501511
0004	4-G1c	NOx	3.46	4.09	1.18	1.26	30501511
0004	4-G1c	VOC	0.18	0.23	1.28	1.39	30501511
0004	4-J3	CO	85.88	109.67	1.28	1.39	30501520
0004	4-J3	NOx	21.30	25.19	1.18	1.26	30501520
0004	4-J3	VOC	1.27	1.63	1.28	1.39	30501520
0004	B8	CO	0.58	0.66	1.14	1.20	20200401
0004	B8	NOx	22.94	24.24	1.06	1.08	20200401
0004	B8	VOC	0.18	0.21	1.14	1.20	20200401
0004	J2	CO	0.22	0.29	1.28	1.39	30501599
0004	J2	NOx	1.05	1.24	1.18	1.26	30501599
0004	J2	VOC	0.06	0.08	1.28	1.39	30501599
0004	L3	CO	0.47	0.53	1.14	1.20	20200401
0004	L3	NOx	2.16	2.29	1.06	1.08	20200401
0004	L3	VOC	0.17	0.20	1.14	1.20	20200401
0007	04	CO	2.14	1.88	0.88	0.83	20100201
0007	04	NOx	7.58	5.22	0.69	0.56	20100201
0007	04	VOC	0.47	0.42	0.88	0.83	20100201
0007	05	CO	22.45	19.69	0.88	0.83	20100201
0007	05	NOx	730.23	502.81	0.69	0.56	20100201
0007	05	VOC	0.85	0.74	0.88	0.83	20100201
0007	06	CO	34.74	30.47	0.88	0.83	20100201

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0007	06	NOx	671.05	462.07	0.69	0.56	20100201
0007	06	VOC	4.64	4.07	0.88	0.83	20100201
0007	07	CO	41.78	36.65	0.88	0.83	20100201
0007	07	NOx	697.42	480.22	0.69	0.56	20100201
0007	07	VOC	6.17	5.41	0.88	0.83	20100201
0007	08	CO	38.06	33.38	0.88	0.83	20100201
0007	08	NOx	560.64	386.04	0.69	0.56	20100201
0007	08	VOC	0.71	0.63	0.88	0.83	20100201
0007	21	CO	0.01	0.01	1.14	1.20	20200102
0007	21	NOx	0.06	0.07	1.14	1.20	20200102
0007	21	VOC	0.003	0.003	1.14	1.20	20200102
0007	22	CO	0.02	0.02	1.14	1.20	20200102
0007	22	NOx	0.08	0.09	1.14	1.20	20200102
0007	22	VOC	0.01	0.01	1.14	1.20	20200102
0008	8-01	CO	28.10	24.65	0.88	0.83	20100102
0008	8-01	NOx	40.48	27.87	0.69	0.56	20100102
0008	8-01	VOC	0.07	0.06	0.92	0.89	20100102
0008	8-02	CO	0.02	0.02	1.14	1.20	20200102
0008	8-02	NOx	0.07	0.08	1.14	1.20	20200102
0008	8-02	VOC	0.59	0.71	1.20	1.28	20200102
0011	01	VOC	29.25	32.95	1.13	1.18	30502513
0011	05	CO	5.51	7.03	1.28	1.39	30501501
0011	05	NOx	18.89	24.13	1.28	1.39	30501501
0011	05	VOC	0.44	0.56	1.28	1.39	30501501
0011	09	CO	8.89	11.36	1.28	1.39	30501513
0011	09	NOx	4.15	5.30	1.28	1.39	30501513
0011	09	VOC	0.39	0.50	1.28	1.39	30501513
0011	10	CO	8.89	11.36	1.28	1.39	30501513
0011	10	NOx	4.15	5.30	1.28	1.39	30501513
0011	10	VOC	0.39	0.50	1.28	1.39	30501513
0011	11	CO	8.89	11.36	1.28	1.39	30501513
0011	11	NOx	4.15	5.30	1.28	1.39	30501513
0011	11	VOC	0.39	0.50	1.28	1.39	30501513
0011	12	CO	4.75	6.07	1.28	1.39	30501513
0011	12	NOx	2.06	2.64	1.28	1.39	30501513
0011	12	VOC	0.19	0.24	1.28	1.39	30501513
0011	13	CO	4.75	6.07	1.28	1.39	30501513
0011	13	NOx	2.06	2.64	1.28	1.39	30501513
0011	13	VOC	0.19	0.24	1.28	1.39	30501513
0011	14	CO	4.75	6.07	1.28	1.39	30501513
0011	14	NOx	2.06	2.64	1.28	1.39	30501513
0011	14	VOC	0.19	0.24	1.28	1.39	30501513
0011	18	CO	8.97	11.46	1.28	1.39	30501520
0011	18	NOx	2.71	3.46	1.28	1.39	30501520
0011	18	VOC	0.27	0.35	1.28	1.39	30501520

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0011	19	CO	10.47	13.37	1.28	1.39	30501520
0011	19	NOx	3.16	4.04	1.28	1.39	30501520
0011	19	VOC	0.31	0.39	1.28	1.39	30501520
0011	20	CO	7.48	9.55	1.28	1.39	30501520
0011	20	NOx	2.26	2.89	1.28	1.39	30501520
0011	20	VOC	0.22	0.29	1.28	1.39	30501520
0011	21	CO	1.50	1.91	1.28	1.39	30501520
0011	21	NOx	0.45	0.57	1.28	1.39	30501520
0011	21	VOC	0.05	0.06	1.28	1.39	30501520
0011	22	CO	1.50	1.91	1.28	1.39	30501520
0011	22	NOx	0.45	0.57	1.28	1.39	30501520
0011	22	VOC	0.05	0.06	1.28	1.39	30501520
0011	25	CO	25.52	32.59	1.28	1.39	30501513
0011	25	NOx	14.78	18.87	1.28	1.39	30501513
0011	25	VOC	1.11	1.42	1.28	1.39	30501513
0011	26	CO	25.52	32.59	1.28	1.39	30501513
0011	26	NOx	14.78	18.87	1.28	1.39	30501513
0011	26	VOC	1.11	1.42	1.28	1.39	30501513
0011	30	CO	50.89	64.98	1.28	1.39	30501520
0011	30	NOx	33.89	43.28	1.28	1.39	30501520
0011	30	VOC	1.76	2.24	1.28	1.39	30501520
0011	31	CO	50.89	64.98	1.28	1.39	30501520
0011	31	NOx	33.89	43.28	1.28	1.39	30501520
0011	31	VOC	1.76	2.24	1.28	1.39	30501520
0011	32	CO	50.89	64.98	1.28	1.39	30501520
0011	32	NOx	33.89	43.28	1.28	1.39	30501520
0011	32	VOC	1.76	2.24	1.28	1.39	30501520
0011	45	CO	0	0	0	-0.4	30501513
0011	45	NOx	0	0	0	-0.4	30501513
0011	45	VOC	0	0	0	-0.4	30501513
0011	46	CO	0	0	0	-0.4	30501513
0011	46	NOx	0	0	0	-0.4	30501513
0011	46	VOC	0	0	0	-0.4	30501513
0011	48	CO	0	0	0	-0.4	30501507
0011	48	NOx	0	0	0	-0.4	30501507
0011	48	VOC	0	0	0	-0.4	30501507
0011	50	CO	0	0	0	-0.4	30501520
0011	50	NOx	0	0	0	-0.4	30501520
0011	50	VOC	0	0	0	-0.4	30501520
0011	51	CO	0	0	0	-0.4	30501520
0011	51	NOx	0	0	0	-0.4	30501520
0011	51	VOC	0	0	0	-0.4	30501520
0011	52	CO	0	0	0	-0.4	30501520
0011	52	NOx	0	0	0	-0.4	30501520
0011	52	VOC	0	0	0	-0.4	30501520

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0011	01a	CO	5.01	5.65	1.13	1.18	30502513
0011	01a	NOx	31.30	35.26	1.13	1.18	30502513
0011	01a	VOC	7.91	8.91	1.13	1.18	30502513
0011	18a	CO	0.25	0.32	1.28	1.39	30501520
0011	18a	NOx	1.57	2.00	1.28	1.39	30501520
0011	18a	VOC	0.13	0.17	1.28	1.39	30501520
0011	19a	CO	0.29	0.38	1.28	1.39	30501520
0011	19a	NOx	1.83	2.33	1.28	1.39	30501520
0011	19a	VOC	0.15	0.20	1.28	1.39	30501520
0011	20a	CO	0.21	0.27	1.28	1.39	30501520
0011	20a	NOx	1.31	1.67	1.28	1.39	30501520
0011	20a	VOC	0.11	0.14	1.28	1.39	30501520
0011	21a	CO	0.05	0.06	1.28	1.39	30501520
0011	21a	NOx	0.26	0.33	1.28	1.39	30501520
0011	21a	VOC	0.01	0.02	1.28	1.39	30501520
0011	22a	CO	0.05	0.06	1.28	1.39	30501520
0011	22a	NOx	0.26	0.33	1.28	1.39	30501520
0011	22a	VOC	0.01	0.02	1.28	1.39	30501520
0012	01	CO	40.21	51.59	1.28	1.40	30500257
0012	01	NOx	8.05	10.32	1.28	1.40	30500257
0012	01	VOC	9.90	12.70	1.28	1.40	30500257
0012	02	CO	0.03	0.04	1.26	1.37	30500206
0012	02	NOx	0.04	0.05	1.26	1.37	30500206
0012	02	VOC	0	0	0	-0.4	30500206
0012	03	CO	68.30	87.63	1.28	1.40	30500298
0012	03	NOx	0	0	0	-0.4	30500298
0012	03	VOC	6.60	8.47	1.28	1.40	30500298
0013	01	VOC	1.60	1.87	1.17	1.23	40400142
0013	02	VOC	1.66	1.94	1.17	1.23	40400142
0013	03	VOC	1.39	1.62	1.17	1.23	40400132
0013	04	VOC	1.44	1.68	1.17	1.23	40400132
0013	05	VOC	1.28	1.49	1.17	1.23	40400132
0013	06	VOC	1.41	1.64	1.17	1.23	40400142
0013	07	VOC	1.90	2.22	1.17	1.23	40400142
0013	08	VOC	2.10	2.45	1.17	1.23	40400142
0013	09	VOC	1.61	1.88	1.17	1.23	40400142
0013	10	VOC	1.61	1.88	1.17	1.23	40400142
0013	11	VOC	1.84	2.15	1.17	1.23	40400142
0013	12	VOC	1.88	2.19	1.17	1.23	40400142
0013	13	VOC	0.17	0.19	1.17	1.23	40400172
0013	14	VOC	0.13	0.15	1.17	1.23	40400179
0013	15	VOC	0.10	0.12	1.17	1.23	40400179
0013	16	VOC	2.07	2.42	1.17	1.23	40400172
0013	17	VOC	3.33	3.89	1.17	1.23	40400172
0013	18	VOC	0.13	0.15	1.17	1.23	40400170

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0013	19	VOC	1.10	1.28	1.17	1.23	40400121
0013	20	VOC	1.21	1.41	1.17	1.23	40400121
0013	21	VOC	3.38	3.94	1.17	1.23	40400172
0013	22	VOC	0.55	0.64	1.17	1.23	40400130
0013	23	VOC	0.08	0.09	1.17	1.23	40400130
0013	24	VOC	0.08	0.09	1.17	1.23	40400130
0013	27	VOC	0.13	0.15	1.17	1.23	40400170
0013	28	VOC	0.15	0.18	1.17	1.23	40400170
0013	29	VOC	1.60	1.87	1.17	1.23	40400172
0013	30	VOC	0.01	0.01	1.17	1.23	40400199
0013	31	VOC	0	0	0	-0.4	40400199
0013	32	VOC	0.01	0.01	1.17	1.23	40400199
0013	33	VOC	0.01	0.01	1.17	1.23	40400199
0013	34	VOC	0.10	0.11	1.17	1.23	40400199
0013	36	VOC	0.003	0.004	1.17	1.23	40400199
0013	38	VOC	0	0	0	-0.4	40400199
0013	39	VOC	0	0	0	-0.4	40400199
0013	45	VOC	1.46	1.70	1.17	1.23	40400172
0013	46	VOC	1.46	1.70	1.17	1.23	40400172
0013	47	VOC	1.35	1.58	1.17	1.23	40400172
0013	48	VOC	1.42	1.66	1.17	1.23	40400172
0013	53	VOC	0.01	0.01	1.17	1.23	40400199
0013	54	VOC	0.02	0.02	1.17	1.23	40400199
0013	56	VOC	0.02	0.02	1.17	1.23	40400179
0013	57	VOC	0.02	0.02	1.17	1.23	40400179
0013	101	VOC	396.12	462.29	1.17	1.23	40400199
0013	B01	VOC	50.06	58.42	1.17	1.23	40400150
0013	B02	VOC	7.20	8.40	1.17	1.23	40400153
0013	B04	VOC	1.15	1.34	1.17	1.23	40400172
0013	B05	VOC	0.98	1.15	1.17	1.23	40400172
0013	B06	VOC	5.05	5.89	1.17	1.23	40400151
0013	B10	CO	0.08	0.08	0.97	0.96	30600904
0013	B10	NOx	0.001	0.001	0.97	0.96	30600904
0013	B10	VOC	0.02	0.02	0.97	0.96	30600904
0013	D02	CO	0	0	0	-0.4	20200102
0013	D02	NOx	0	0	0	-0.4	20200102
0013	D02	VOC	0	0	0	-0.4	20200102
0019	A01	CO	31.51	42.63	1.35	1.49	30301299
0019	A01	VOC	1.18	1.59	1.35	1.49	30301299
0019	B06	CO	23.10	28.58	1.24	1.33	10201402
0019	B06	NOx	1.90	2.35	1.24	1.33	10201402
0019	B09	CO	0.005	0.01	1.16	1.23	10200602
0019	B09	NOx	1.00	0.93	0.93	0.90	10200602
0019	B09	VOC	0.20	0.23	1.16	1.23	10200602
0019	B10	CO	0.14	0.18	1.35	1.49	30301299

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0019	B10	NOx	0.12	0.17	1.35	1.49	30301299
0019	B10	VOC	0.26	0.35	1.35	1.49	30301299
0019	C05	CO	0.0001	0.0001	1.35	1.49	30301201
0019	C05	NOx	0.0005	0.0006	1.35	1.49	30301201
0019	D02E	CO	0	0	0	-0.4	30301202
0019	D02E	NOx	0	0	0	-0.4	30301202
0019	D02W	CO	0	0	0	-0.4	30301299
0019	D02W	NOx	0	0	0	-0.4	30301299
0019	E03	CO	0.0002	0.0003	1.35	1.49	30301202
0019	E03	NOx	0.0009	0.001	1.35	1.49	30301202
0019	E03	VOC	0.0008	0.001	1.35	1.49	30301202
0019	G02	CO	0.0004	0.0004	1.14	1.20	20200104
0019	G02	NOx	0.002	0.002	1.14	1.20	20200104
0019	G02	VOC	0.002	0.002	1.14	1.20	20200104
0019	G10	CO	0.0001	0.0001	1.14	1.20	20200104
0019	G10	NOx	0.0003	0.0004	1.14	1.20	20200104
0019	G10	VOC	0.0003	0.0003	1.14	1.20	20200104
0019	M11	CO	0	0	0	-0.4	30399999
0019	M11	NOx	0	0	0	-0.4	30399999
0019	M11	VOC	0	0	0	-0.4	30399999
0026	01	CO	3.84	4.92	1.28	1.39	10300603
0026	01	NOx	7.90	10.12	1.28	1.39	10300603
0026	01	VOC	0.40	0.51	1.28	1.39	10300603
0047	1	CO	7.94	10.17	1.28	1.39	10300603
0047	1	NOx	6.50	8.32	1.28	1.39	10300603
0047	1	VOC	2.91	3.73	1.28	1.39	10300603
0073	1	CO	7.79	9.98	1.28	1.39	10300603
0073	1	NOx	4.83	6.19	1.28	1.39	10300603
0073	1	VOC	0.76	0.97	1.28	1.39	10300603
0074	1	CO	3.99	5.11	1.28	1.39	10300603
0074	1	NOx	2.56	3.28	1.28	1.39	10300603
0074	1	VOC	0.27	0.35	1.28	1.39	10300603
0075	01	CO	0.16	0.23	1.44	1.61	30800799
0075	01	NOx	0.90	1.30	1.44	1.61	30800799
0075	01	VOC	40.90	58.80	1.44	1.61	30800799
0075	02	VOC	404.57	581.63	1.44	1.61	30800799
0076	1	CO	0.34	0.44	1.28	1.39	10300603
0076	1	NOx	4.13	5.29	1.28	1.39	10300603
0076	1	VOC	0.26	0.33	1.28	1.39	10300603
0077	1	CO	1.68	2.15	1.28	1.39	10300603
0077	1	NOx	1.10	1.41	1.28	1.39	10300603
0077	1	VOC	0.11	0.15	1.28	1.39	10300603
0081	1	CO	1.01	1.29	1.28	1.39	10300603
0081	1	NOx	1.95	2.50	1.28	1.39	10300603
0081	1	VOC	0.03	0.04	1.28	1.39	10300603

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0085	1	CO	8.15	10.44	1.28	1.39	10300603
0085	1	NOx	5.00	6.40	1.28	1.39	10300603
0085	1	VOC	0.54	0.70	1.28	1.39	10300603
0086	1	CO	6.68	8.55	1.28	1.39	10300603
0086	1	NOx	10.14	12.98	1.28	1.39	10300603
0086	1	VOC	0.46	0.60	1.28	1.39	10300603
0133	1	CO	4.59	5.88	1.28	1.39	10300603
0133	1	NOx	5.55	7.10	1.28	1.39	10300603
0133	1	VOC	0.41	0.52	1.28	1.39	10300603
0138	02	CO	2.99	3.37	1.13	1.18	30504033
0138	02	NOx	185.81	209.30	1.13	1.18	30504033
0138	02	VOC	0.76	0.76	1	1	30504033
0153	1	CO	10.55	13.51	1.28	1.39	10300603
0153	1	NOx	6.83	8.74	1.28	1.39	10300603
0153	1	VOC	0.73	0.93	1.28	1.39	10300603
0154	01	CO	4.01	5.38	1.34	1.48	30500699
0154	01	NOx	54.25	64.24	1.18	1.26	30500699
0154	01	VOC	0.69	0.92	1.34	1.48	30500699
0155	1	CO	11.11	14.23	1.28	1.39	10300603
0155	1	NOx	9.37	12.00	1.28	1.39	10300603
0155	1	VOC	0.88	1.13	1.28	1.39	10300603
0256	1	CO	8.76	11.21	1.28	1.39	10300603
0256	1	NOx	13.85	17.73	1.28	1.39	10300603
0256	1	VOC	4.56	5.84	1.28	1.39	10300603
0257	1	CO	1.13	1.45	1.28	1.39	10300603
0257	1	NOx	4.99	6.39	1.28	1.39	10300603
0257	1	VOC	0.31	0.39	1.28	1.39	10300603
0276	1	CO	2.36	3.02	1.28	1.39	10300603
0276	1	NOx	9.30	11.91	1.28	1.39	10300603
0276	1	VOC	1.78	2.28	1.28	1.39	10300603
0282	1	CO	17.96	23.00	1.28	1.39	10300603
0282	1	NOx	16.94	21.70	1.28	1.39	10300603
0282	1	VOC	6.09	7.80	1.28	1.39	10300603
0323	01	CO	0.47	0.67	1.42	1.58	40201399
0323	01	NOx	0.28	0.40	1.42	1.58	40201399
0323	01	VOC	18.10	25.66	1.42	1.58	40201399
0329	01	CO	7.35	6.45	0.88	0.83	20100201
0329	01	NOx	4.51	3.19	0.71	0.59	20100201
0329	01	VOC	0.43	0.38	0.88	0.83	20100201
0329	03	CO	23.62	23.62	1	1	20100201
0329	03	NOx	11.99	12.32	1.03	1.04	20100201
0329	03	VOC	9.09	9.11	1.00	1.00	20100201
0329	04	CO	23.62	23.62	1	1	20100201
0329	04	NOx	11.99	12.32	1.03	1.04	20100201
0329	04	VOC	9.09	9.11	1.00	1.00	20100201

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0329	05	CO	23.62	23.62	1	1	20100201
0329	05	NOx	11.99	12.32	1.03	1.04	20100201
0329	05	VOC	9.09	9.11	1.00	1.00	20100201
0329	06	CO	23.62	23.62	1	1	20100201
0329	06	NOx	11.99	12.32	1.03	1.04	20100201
0329	06	VOC	9.09	9.11	1.00	1.00	20100201
0329	08	CO	0.48	0.42	0.88	0.83	10100602
0329	08	NOx	0.02	0.02	0.86	0.81	10100602
0329	08	VOC	0.01	0.01	0.88	0.83	10100602
0329	09	CO	0.60	0.53	0.88	0.83	10100602
0329	09	NOx	0.02	0.02	0.86	0.81	10100602
0329	09	VOC	0.01	0.01	0.88	0.83	10100602
0329	10	CO	0.01	0.001	0.10	0.001	20100102
0329	10	NOx	0.002	0.0002	0.10	0.0002	20100102
0329	10	VOC	0.003	0.0003	0.10	0.0003	20100102
0329	11	CO	0.01	0.001	0.10	0.001	20100102
0329	11	NOx	0.002	0.0002	0.10	0.0002	20100102
0329	11	VOC	0.003	0.0003	0.10	0.0003	20100102
0360	01	CO	12.09	15.48	1.28	1.39	20300203
0360	01	NOx	33.48	42.87	1.28	1.39	20300203
0360	01	VOC	5.75	7.36	1.28	1.39	20300203
0360	02	CO	11.16	14.29	1.28	1.39	20300203
0360	02	NOx	39.24	50.25	1.28	1.39	20300203
0360	02	VOC	1.00	1.28	1.28	1.39	20300203
0360	03	CO	11.57	14.81	1.28	1.39	20300203
0360	03	NOx	36.77	47.08	1.28	1.39	20300203
0360	03	VOC	0.85	1.09	1.28	1.39	20300203
0360	04	CO	0.06	0.07	1.14	1.20	20200102
0360	04	NOx	0.02	0.02	1.14	1.20	20200102
0360	04	VOC	0.004	0.005	1.14	1.20	20200102
0391	01	CO	9.75	12.49	1.28	1.39	20300203
0391	01	NOx	39.66	50.78	1.28	1.39	20300203
0391	01	VOC	1.33	1.70	1.28	1.39	20300203
0391	02	CO	12.16	15.57	1.28	1.39	20300203
0391	02	NOx	39.74	50.89	1.28	1.39	20300203
0391	02	VOC	0.64	0.81	1.28	1.39	20300203
0391	03	CO	9.99	12.79	1.28	1.39	20300203
0391	03	NOx	41.87	53.62	1.28	1.39	20300203
0391	03	VOC	0.64	0.81	1.28	1.39	20300203
0391	04	CO	0.05	0.06	1.14	1.20	20200101
0391	04	NOx	0.01	0.01	0.90	0.86	20200101
0391	04	VOC	0.004	0.005	1.14	1.20	20200101
0391	05	CO	0.05	0.06	1.14	1.20	20200102
0391	05	NOx	0.23	0.27	1.14	1.20	20200102
0391	05	VOC	0.02	0.02	1.14	1.20	20200102

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0393	01	CO	6.86	6.01	0.88	0.83	20100201
0393	01	NOx	39.02	26.87	0.69	0.56	20100201
0393	01	VOC	3.42	3.00	0.88	0.83	20100201
0393	02	CO	12.10	10.61	0.88	0.83	20100201
0393	02	NOx	36.74	25.30	0.69	0.56	20100201
0393	02	VOC	3.36	2.95	0.88	0.83	20100201
0393	03	CO	0.03	0.003	0.10	0.003	20100102
0393	03	NOx	0.11	0.01	0.10	0.01	20100102
0393	03	VOC	0	0	0	-0.4	20100102
0393	04	CO	0.03	0.003	0.10	0.003	20100102
0393	04	NOx	0.11	0.01	0.10	0.01	20100102
0393	04	VOC	0	0	0	-0.4	20100102
0393	05	CO	0.03	0.03	0.88	0.83	10100601
0393	05	NOx	0.36	0.30	0.84	0.78	10100601
0393	05	VOC	0.05	0.04	0.88	0.83	10100601
0393	06	CO	0	0	0	-0.4	10100602
0393	06	NOx	0.46	0.38	0.84	0.78	10100602
0393	06	VOC	0.09	0.08	0.88	0.83	10100602
0393	07	CO	0.13	0.01	0.10	0.01	20100102
0393	07	NOx	0.64	0.06	0.10	0.06	20100102
0393	07	VOC	0.02	0.002	0.10	0.002	20100102
0395	02	CO	0	0	0	-0.4	20200102
0395	02	NOx	0	0	0	-0.4	20200102
0395	02	VOC	0	0	0	-0.4	20200102
0395	03	CO	3.91	4.46	1.14	1.20	20200102
0395	03	NOx	7.02	8.01	1.14	1.20	20200102
0395	03	VOC	0.66	0.75	1.14	1.20	20200102
0395	04	CO	0.42	0.48	1.14	1.20	20200102
0395	04	NOx	2.62	2.99	1.14	1.20	20200102
0395	04	VOC	0.07	0.08	1.14	1.20	20200102
0395	05	CO	0.29	0.34	1.14	1.20	20200102
0395	05	NOx	1.77	2.02	1.14	1.20	20200102
0395	05	VOC	0.05	0.06	1.14	1.20	20200102
0395	06	CO	3.37	3.80	1.13	1.18	30502503
0395	06	NOx	13.25	14.92	1.13	1.18	30502503
0395	06	VOC	3.10	3.49	1.13	1.18	30502503
0395	07	CO	0	0	0	-0.4	50200601
0395	07	NOx	2.15	2.15	1.00	1.00	50200601
0395	07	VOC	0	0	0	-0.4	50200601
0402	01	CO	0.25	0.29	1.14	1.20	20200102
0402	01	NOx	0.17	0.20	1.14	1.20	20200102
0402	01	VOC	0.01	0.01	1.14	1.20	20200102
0402	02	CO	0.11	0.13	1.14	1.20	20200102
0402	02	NOx	0.51	0.58	1.14	1.20	20200102
0402	02	VOC	0.01	0.01	1.14	1.20	20200102

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0402	03	CO	0.06	0.07	1.16	1.23	20200202
0402	03	NOx	0.22	0.15	0.68	0.55	20200202
0402	03	VOC	0.02	0.03	1.16	1.23	20200202
0402	04	CO	0	0	0	-0.4	50100789
0402	04	NOx	0	0	0	-0.4	50100789
0402	04	VOC	0	0	0	-0.4	50100789
0402	05	CO	1.69	2.20	1.30	1.42	50100789
0402	05	NOx	4.26	5.55	1.30	1.42	50100789
0402	05	VOC	0.60	0.78	1.30	1.42	50100789
0402	06	CO	33.84	44.06	1.30	1.42	50100799
0402	06	NOx	10.04	13.08	1.30	1.42	50100799
0402	06	VOC	19.30	25.14	1.30	1.42	50100799
0402	07	CO	0	0	0	-0.4	50100799
0402	07	NOx	0	0	0	-0.4	50100799
0402	07	VOC	0	0	0	-0.4	50100799
0402	08	VOC	14.18	18.46	1.30	1.42	50100799
0423	01	CO	2.17	1.91	0.88	0.83	20100201
0423	01	NOx	36.60	25.20	0.69	0.56	20100201
0423	01	VOC	0.61	0.54	0.88	0.83	20100201
0423	02	CO	2.07	1.82	0.88	0.83	20100201
0423	02	NOx	34.89	24.02	0.69	0.56	20100201
0423	02	VOC	0.59	0.52	0.88	0.83	20100201
0423	03	CO	2.55	2.23	0.88	0.83	20100201
0423	03	NOx	42.90	29.54	0.69	0.56	20100201
0423	03	VOC	0.72	0.64	0.88	0.83	20100201
0434	1	CO	4.26	5.46	1.28	1.39	10300603
0434	1	NOx	4.88	6.24	1.28	1.39	10300603
0434	1	VOC	0.31	0.39	1.28	1.39	10300603
0468	1	CO	3.81	4.88	1.28	1.39	20300202
0468	1	NOx	76.77	98.30	1.28	1.39	20300202
0468	1	VOC	0	0	0	-0.4	20300202
0482	01	VOC	17.93	27.76	1.55	1.77	40201901
0533	01	CO	5.34	5.34	1	1	20100201
0533	01	NOx	7.42	7.42	1	1	20100201
0533	01	VOC	0.33	0.33	1	1	20100201
0533	02	CO	0.04	0.004	0.10	0.004	20100102
0533	02	NOx	0.22	0.02	0.10	0.02	20100102
0533	02	VOC	0.01	0.001	0.10	0.001	20100102
0533	07	CO	0.03	0.003	0.10	0.003	20100102
0533	07	NOx	0.14	0.01	0.10	0.01	20100102
0533	07	VOC	0.01	0.001	0.10	0.001	20100102
0533	08	CO	0.22	0.02	0.10	0.02	20100102
0533	08	NOx	0.21	0.02	0.10	0.02	20100102
0533	08	VOC	0.01	0.001	0.10	0.001	20100102
0564	1	CO	28.10	35.99	1.28	1.39	10300603

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0564	1	NOx	25.04	32.06	1.28	1.39	10300603
0564	1	VOC	4.48	5.74	1.28	1.39	10300603
0593	E105	CO	0.60	0.77	1.28	1.39	30501502
0593	E105	NOx	0.72	0.92	1.28	1.39	30501502
0593	E105	VOC	0.05	0.06	1.28	1.39	30501502
0593	E106	CO	0.60	0.77	1.28	1.39	30501502
0593	E106	NOx	0.72	0.92	1.28	1.39	30501502
0593	E106	VOC	0.05	0.06	1.28	1.39	30501502
0593	E110	CO	2.10	2.68	1.28	1.39	30501511
0593	E110	NOx	2.50	3.19	1.28	1.39	30501511
0593	E110	VOC	0.15	0.20	1.28	1.39	30501511
0593	E111	CO	2.15	2.74	1.28	1.39	30501511
0593	E111	NOx	2.56	3.27	1.28	1.39	30501511
0593	E111	VOC	0.15	0.20	1.28	1.39	30501511
0593	E145	CO	1.26	1.46	1.16	1.23	20200202
0593	E145	NOx	1.10	0.74	0.68	0.55	20200202
0593	E145	VOC	0.09	0.10	1.16	1.23	20200202
0593	E146	CO	0.13	0.15	1.16	1.23	20200202
0593	E146	NOx	0.11	0.08	0.68	0.55	20200202
0593	E146	VOC	0.01	0.01	1.16	1.23	20200202
0593	E147	CO	0.13	0.15	1.16	1.23	20200202
0593	E147	NOx	0.11	0.08	0.68	0.55	20200202
0593	E147	VOC	0.01	0.01	1.16	1.23	20200202
0593	E148	CO	0.13	0.15	1.16	1.23	20200202
0593	E148	NOx	0.11	0.08	0.68	0.55	20200202
0593	E148	VOC	0.01	0.01	1.16	1.23	20200202
0593	E153	CO	0.13	0.15	1.16	1.23	20200202
0593	E153	NOx	0.11	0.08	0.68	0.55	20200202
0593	E153	VOC	0.01	0.01	1.16	1.23	20200202
0603	1	CO	4.01	5.14	1.28	1.39	10300603
0603	1	NOx	5.65	7.23	1.28	1.39	10300603
0603	1	VOC	0.32	0.41	1.28	1.39	10300603
0609	1	CO	5.26	6.74	1.28	1.39	10300603
0609	1	NOx	5.39	6.90	1.28	1.39	10300603
0609	1	VOC	1.74	2.22	1.28	1.39	10300603
0610	1	CO	0.39	0.49	1.28	1.39	10300603
0610	1	NOx	0.79	1.02	1.28	1.39	10300603
0610	1	VOC	0.05	0.06	1.28	1.39	10300603
0611	1	CO	0.23	0.29	1.28	1.39	10300603
0611	1	NOx	0.27	0.35	1.28	1.39	10300603
0611	1	VOC	0.02	0.03	1.28	1.39	10300603
0613	1	CO	7.09	9.08	1.28	1.39	10300603
0613	1	NOx	5.68	7.28	1.28	1.39	10300603
0613	1	VOC	2.18	2.79	1.28	1.39	10300603
0652	A01	CO	2.45	2.45	1	1	20100201

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
0652	A01	NOx	48.56	48.56	1.00	1.00	20100201
0652	A01	VOC	1.84	1.84	1	1	20100201
0652	A02	CO	2.40	2.40	1	1	20100201
0652	A02	NOx	46.80	46.80	1.00	1.00	20100201
0652	A02	VOC	1.80	1.80	1	1	20100201
0652	A03	CO	0.01	0.01	1.14	1.20	20200102
0652	A03	NOx	0.04	0.04	1.14	1.20	20200102
0652	A03	VOC	0.004	0.004	1.14	1.20	20200102
0652	A07	VOC	0.01	0.01	1.14	1.20	20200102
0697	1	CO	0.37	0.48	1.28	1.39	10300603
0697	1	NOx	4.42	5.66	1.28	1.39	10300603
0697	1	VOC	0.87	1.12	1.28	1.39	10300603
0737	1	CO	26.88	34.42	1.28	1.39	10300603
0737	1	NOx	33.00	42.26	1.28	1.39	10300603
0737	1	VOC	1.80	2.31	1.28	1.39	10300603
0749	1	CO	9.15	11.72	1.28	1.39	10300603
0749	1	NOx	5.41	6.93	1.28	1.39	10300603
0749	1	VOC	1.18	1.51	1.28	1.39	10300603
0756	1	CO	44.26	56.68	1.28	1.39	10300603
0756	1	NOx	33.97	43.49	1.28	1.39	10300603
0756	1	VOC	5.36	6.87	1.28	1.39	10300603
0825	1	CO	38.36	49.11	1.28	1.39	10300603
0825	1	NOx	36.82	47.15	1.28	1.39	10300603
0825	1	VOC	9.88	12.65	1.28	1.39	10300603
0856	1	CO	11.22	14.36	1.28	1.39	10300603
0856	1	NOx	7.26	9.29	1.28	1.39	10300603
0856	1	VOC	1.25	1.60	1.28	1.39	10300603
0859	01	VOC	50.41	72.48	1.44	1.61	40202240
1520	A01,2	CO	61.79	61.79	1	1	20100201
1520	A01,2	NOx	97.53	97.46	1.00	1.00	20100201
1520	A01,2	VOC	31.62	31.62	1.00	1.00	20100201
1520	A03,4	CO	59.88	59.88	1	1	20100201
1520	A03,4	NOx	94.51	94.44	1.00	1.00	20100201
1520	A03,4	VOC	30.64	30.64	1.00	1.00	20100201
1520	A05	CO	1.65	1.88	1.14	1.20	20200102
1520	A05	NOx	0.67	0.77	1.14	1.20	20200102
1520	A05	VOC	0.07	0.08	1.14	1.20	20200102
1520	A06	CO	0.16	0.19	1.14	1.20	20200102
1520	A06	NOx	0.26	0.30	1.14	1.20	20200102
1520	A06	VOC	0.04	0.04	1.14	1.20	20200102
1520	A07	CO	0.01	0.01	1.14	1.20	20200102
1520	A07	NOx	0.02	0.02	1.14	1.20	20200102
1520	A07	VOC	0.003	0.003	1.14	1.20	20200102
1550	A01,2	CO	70.43	70.43	1	1	20100201
1550	A01,2	NOx	78.73	78.72	1.00	1.00	20100201

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
1550	A01,2	VOC	21.69	21.69	1.00	1.00	20100201
1550	A03,4	CO	70.74	70.74	1	1	20100201
1550	A03,4	NOx	79.07	79.06	1.00	1.00	20100201
1550	A03,4	VOC	21.79	21.78	1.00	1.00	20100201
1550	A05	CO	0.27	0.35	1.28	1.39	10300602
1550	A05	NOx	0.07	0.09	1.28	1.39	10300602
1550	A05	VOC	0.03	0.04	1.28	1.39	10300602
1550	A06	CO	0.01	0.01	1.14	1.20	20200102
1550	A06	NOx	0.02	0.03	1.14	1.20	20200102
1550	A06	VOC	0	0	0	-0.4	20200102
1584	AO1	CO	119.56	119.56	1	1	20100201
1584	AO1	NOx	152.39	152.39	1	1	20100201
1584	AO1	VOC	0.50	0.50	1	1	20100201
1584	AO3	CO	123.34	123.34	1	1	20100201
1584	AO3	NOx	157.21	157.21	1	1	20100201
1584	AO3	VOC	0.50	0.50	1	1	20100201
1590	1	CO	2.48	3.18	1.28	1.39	20300202
1590	1	NOx	18.35	23.50	1.28	1.39	20300202
1590	1	VOC	0	0	0	-0.4	20300202
15033	01	CO	16.98	22.31	1.31	1.44	50300601
15033	01	NOx	2.72	3.57	1.31	1.44	50300601
15033	01	VOC	3.90	5.12	1.31	1.44	50300601
49110398	01	CO	49.84	43.71	0.88	0.83	10100602
49110398	01	NOx	262.00	262.00	1	1	10100602
49110398	01	VOC	3.04	2.67	0.88	0.83	10100602
49110398	02	CO	77.43	67.91	0.88	0.83	10100602
49110398	02	NOx	723.90	723.90	1	1	10100602
49110398	02	VOC	4.73	4.15	0.88	0.83	10100602
49110398	03	CO	22.86	20.05	0.88	0.83	10100602
49110398	03	NOx	274.57	274.57	1	1	10100602
49110398	03	VOC	4.73	4.15	0.88	0.83	10100602
49110399	01	CO	102.10	89.54	0.88	0.83	10100602
49110399	01	NOx	880.82	880.82	1	1	10100602
49110399	01	VOC	1.46	1.35	0.92	0.89	10100602
49110400	1	CO	101.43	167.62	1.65	1.91	10100202
49110400	1	NOx	1,820.11	1,820.11	1	1	10100202
49110400	1	VOC	9.56	9.56	1	1	10100202
49110400	2	CO	92.67	153.13	1.65	1.91	10100202
49110400	2	NOx	2,144.15	2,144.15	1	1	10100202
49110400	2	VOC	8.74	8.74	1	1	10100202
49110400	3	CO	93.71	154.86	1.65	1.91	10100202
49110400	3	NOx	1,638.21	1,638.21	1	1	10100202
49110400	3	VOC	8.82	8.82	1	1	10100202
49110400	4	CO	216.85	358.34	1.65	1.91	10100202
49110400	4	NOx	3,306.31	3,306.31	1	1	10100202

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC
49110400	4	VOC	20.42	20.42	1	1	10100202
49110774	1	CO	1,174.40	1,174.40	1	1	10100101
49110774	1	NOx	12,683.61	12,683.61	1	1	10100101
49110774	1	VOC	138.64	138.64	1	1	10100101
PRJEGU33	#1	CO	n/a	394.20	n/a	1.01	20100201
PRJEGU33	#1	NOx	n/a	443.48	n/a	1.01	20100201
PRJEGU33	#1	VOC	n/a	25.81	n/a	1.01	20100201
PRJEGU33	#2	CO	n/a	394.20	n/a	1.01	20100201
PRJEGU33	#2	NOx	n/a	443.48	n/a	1.01	20100201
PRJEGU33	#2	VOC	n/a	25.81	n/a	1.01	20100201

Table 2-5. DAQEM Assignment of 2022 Growth Factors

Facility ID	EU	SCC	Pollutant	2022 GF	2008 Emissions (tpy)	2022 Emissions (tpy)	GF Derivation
0005	01	30501516	CO	1.41	0.08	0.11	EGAS
0005	01	30501516	NOx	1.41	0.10	0.14	EGAS
0005	01	30501516	VOC	1.41	0.59	0.83	EGAS
0007	27	20100201	CO	1.20	0.06	0.07	Common SCC
0007	27	20100201	NOx	1.20	0.48	0.57	Common SCC
0007	27	20100201	VOC	1.20	0.01	0.01	Common SCC
0007	28	20100201	CO	1.20	0.03	0.04	Common SCC
0007	28	20100201	NOx	1.20	0.30	0.36	Common SCC
0007	28	20100201	VOC	1.20	0.01	0.01	Common SCC
0007	29	20100201	CO	1.20	0.03	0.04	Common SCC
0007	29	20100201	NOx	1.20	0.32	0.38	Common SCC
0007	29	20100201	VOC	1.20	0.01	0.01	Common SCC
0007	30	20100201	CO	1.20	0.01	0.01	Common SCC
0007	30	20100201	NOx	1.20	0.05	0.06	Common SCC
0007	30	20100201	VOC	1.20	0.001	0.001	Common SCC
0007	31	20100201	CO	1.20	0.19	0.23	Common SCC
0007	31	20100201	NOx	1.20	1.02	1.22	Common SCC
0007	31	20100201	VOC	1.20	0.05	0.06	Common SCC
0007	32	20100201	CO	1.20	0.12	0.14	Common SCC
0007	32	20100201	NOx	1.20	0.48	0.57	Common SCC
0007	32	20100201	VOC	1.20	0.02	0.02	Common SCC
0007	33	20100201	CO	1.20	0.02	0.02	Common SCC
0007	33	20100201	NOx	1.20	0.13	0.16	Common SCC
0007	33	20100201	VOC	1.20	0.01	0.01	Common SCC
0007	34	20100201	CO	1.20	0.33	0.40	Common SCC
0007	34	20100201	NOx	1.20	1.57	1.88	Common SCC
0007	34	20100201	VOC	1.20	0.04	0.05	Common SCC
0007	35	20100201	CO	1.20	0.61	0.73	Common SCC
0007	35	20100201	NOx	1.20	2.94	3.52	Common SCC

Facility ID	EU	SCC	Pollutant	2022 GF	2008 Emissions (tpy)	2022 Emissions (tpy)	GF Derivation
0007	35	20100201	VOC	1.20	0.09	0.11	Common SCC
0007	36	20100201	CO	1.20	0.55	0.66	Common SCC
0007	36	20100201	NOx	1.20	2.27	2.72	Common SCC
0007	36	20100201	VOC	1.20	0.08	0.10	Common SCC
0007	37	20100201	CO	1.20	0.46	0.55	Common SCC
0007	37	20100201	NOx	1.20	2.07	2.48	Common SCC
0007	37	20100201	VOC	1.20	0.06	0.07	Common SCC
0007	38	20100201	CO	1.20	0.31	0.37	Common SCC
0007	38	20100201	NOx	1.20	1.57	1.88	Common SCC
0007	38	20100201	VOC	1.20	0.02	0.02	Common SCC
0007	45	20200102	CO	1.20	0.02	0.02	Common SCC
0007	45	20200102	NOx	1.20	0.04	0.05	Common SCC
0007	45	20200102	VOC	1.20	0.001	0.001	Common SCC
0007	46	20200102	CO	1.20	0	0	Common SCC
0007	46	20200102	NOx	1.20	0	0	Common SCC
0007	46	20200102	VOC	1.20	0	0	Common SCC
0011	36	30501501	CO	1.39	16.65	23.11	Common SCC
0011	36	30501501	NOx	1.39	4.32	6.00	Common SCC
0011	36	30501501	VOC	1.39	0.30	0.42	Common SCC
0013	26	40400170	VOC	1.23	0.01	0.01	Common SCC
0013	37	40400199	VOC	1.23	0.004	0.004	Common SCC
0013	42	40400199	VOC	1.23	0.02	0.02	Common SCC
0013	58	40400179	VOC	1.23	3.24	4.00	Common SCC
0013	59	40400179	VOC	1.23	0.17	0.20	Common SCC
0013	60	40400179	VOC	1.23	3.23	3.99	Common SCC
0013	61	40400179	VOC	1.23	1.64	2.02	Common SCC
0013	SR04	50410312	CO	1.25	0.09	0.11	EGAS
0013	SR04	50410312	NOx	1.25	0.51	0.64	EGAS
0013	SR04	50410312	VOC	1.25	0.32	0.40	EGAS
0095	A01	20300101	CO	1.09	0.01	0.01	EGAS
0095	A01	20300101	NOx	1.09	0.05	0.06	EGAS
0095	A01	20300101	VOC	1.09	0.004	0.004	EGAS
0095	A02	20300101	CO	1.09	0.02	0.02	EGAS
0095	A02	20300101	NOx	1.09	0.09	0.10	EGAS
0095	A02	20300101	VOC	1.09	0.01	0.01	EGAS
0095	A03	20300101	CO	1.09	0.02	0.02	EGAS
0095	A03	20300101	NOx	1.09	0.09	0.10	EGAS
0095	A03	20300101	VOC	1.09	0.01	0.01	EGAS
0095	A04	20300101	CO	1.09	0.06	0.06	EGAS
0095	A04	20300101	NOx	1.09	0.26	0.28	EGAS
0095	A04	20300101	VOC	1.09	0.02	0.02	EGAS
0095	A05	10300602	CO	1.39	0.65	0.91	Common SCC
0095	A05	10300602	NOx	1.39	4.90	6.82	Common SCC
0095	A05	10300602	VOC	1.39	0.88	1.23	Common SCC
0095	A07	10300602	CO	1.39	0.11	0.15	Common SCC

Facility ID	EU	SCC	Pollutant	2022 GF	2008 Emissions (tpy)	2022 Emissions (tpy)	GF Derivation
0095	A07	10300602	NOx	1.39	2.23	3.11	Common SCC
0095	A07	10300602	VOC	1.39	0.11	0.15	Common SCC
0095	A10	30107002	CO	1.45	36.80	53.40	EGAS
0095	A10	30107002	NOx	1.45	0.08	0.12	EGAS
0095	A10	30107002	VOC	1.45	0	0	EGAS
0095	A15	30107002	CO	1.45	0.39	0.57	EGAS
0095	A15	30107002	NOx	1.45	1.84	2.67	EGAS
0095	A15	30107002	VOC	1.45	0	0	EGAS
0095	A17	30107002	VOC	1.45	0.70	1.02	EGAS
0149	01	50300603	CO	1	3.42	3.42	Common SCC
0149	01	50300603	NOx	1	15.80	15.80	Common SCC
0149	01	50300603	VOC	1	4.97	4.97	Common SCC
0360	06	20200102	CO	1.20	0.01	0.01	Common SCC
0360	06	20200102	NOx	1.20	0	0	Common SCC
0360	06	20200102	VOC	1.20	0	0	Common SCC
0360	08	20200102	CO	1.20	0	0	Common SCC
0360	08	20200102	NOx	1.20	0	0	Common SCC
0360	08	20200102	VOC	1.20	0	0	Common SCC
0372	01	20100102	CO	1.20	0.41	0.49	Common SCC
0372	01	20100102	NOx	1.20	2.26	2.71	Common SCC
0372	01	20100102	VOC	1.20	0.12	0.14	Common SCC
0372	02	30500242	CO	1.21	13.28	16.02	Common SCC
0372	02	30500242	NOx	1.21	6.85	8.26	Common SCC
0372	02	30500242	VOC	1.21	4.24	5.11	Common SCC
0372	03	30500208	CO	1	0.06	0.06	Common SCC
0372	03	30500208	NOx	1	0.24	0.24	Common SCC
0372	03	30500208	VOC	1	0.08	0.08	Common SCC
0372	04	30500208	CO	1	0.09	0.09	Common SCC
0372	04	30500208	NOx	1	0.36	0.36	Common SCC
0372	04	30500208	VOC	1	0.13	0.13	Common SCC
0372	05	30500208	CO	1	0.05	0.05	Common SCC
0372	05	30500208	NOx	1	0.20	0.20	Common SCC
0372	05	30500208	VOC	1	0.07	0.07	Common SCC
0372	06	10300602	CO	1.39	0	0	Common SCC
0372	06	10300602	NOx	1.39	0	0	Common SCC
0372	06	10300602	VOC	1.39	0	0	Common SCC
0372	07	20100102	CO	1.20	0.17	0.20	EGAS
0372	07	20100102	NOx	1.20	1.68	2.01	EGAS
0372	07	20100102	VOC	1.20	0.04	0.05	EGAS
0372	08	10300602	CO	1.39	0	0	Common SCC
0372	08	10300602	NOx	1.39	0	0	Common SCC
0372	08	10300602	VOC	1.39	0	0	Common SCC
0372	09	20100102	CO	1.20	0	0	EGAS
0372	09	20100102	NOx	1.20	0	0	EGAS
0372	09	20100102	VOC	1.20	0	0	EGAS

Facility ID	EU	SCC	Pollutant	2022 GF	2008 Emissions (tpy)	2022 Emissions (tpy)	GF Derivation
0372	10	10300602	CO	1.39	0	0	Common SCC
0372	10	10300602	NOx	1.39	0	0	Common SCC
0372	10	10300602	VOC	1.39	0	0	Common SCC
0372	11	30502514	CO	1.41	18.85	26.52	EGAS
0372	11	30502514	NOx	1.41	2.22	3.12	EGAS
0372	12	30502508	CO	1.41	0	0	EGAS
0372	12	30502508	NOx	1.41	0	0	EGAS
0372	12	30502508	VOC	1.41	0	0	EGAS
0372	13	30502599	CO	1.41	0.04	0.06	EGAS
0372	13	30502599	NOx	1.41	0.25	0.35	EGAS
0372	13	30502599	VOC	1.41	0.02	0.03	EGAS
0391	07	20100201	CO	1	0	0	Common SCC
0391	07	20100201	NOx	1.04	0.01	0.01	Common SCC
0391	07	20100201	VOC	1.00	0	0	Common SCC
0512	1	30502599	CO	1.41	0	0	EGAS
0512	1	30502599	NOx	1.41	0	0	EGAS
0512	1	30502599	VOC	1.41	0.12	0.17	EGAS
0527	1	50300603	VOC	1	4.87	4.87	Common SCC
0533	03	20100201	CO	1	0	0	Common SCC
0533	03	20100201	NOx	1.04	0	0	Common SCC
0533	03	20100201	VOC	1.00	0	0	Common SCC
0533	04	20100201	CO	1	0	0	Common SCC
0533	04	20100201	NOx	1.04	0	0	Common SCC
0533	04	20100201	VOC	1.00	0	0	Common SCC
0533	09	20100201	CO	1	0.10	0.1	Common SCC
0533	09	20100201	NOx	1.04	2.40	2.49	Common SCC
0533	09	20100201	VOC	1.00	0.01	0.01	Common SCC
0533	10	20100102	CO	1	0.02	0.02	Common SCC
0533	10	20100102	NOx	1	0.07	0.07	Common SCC
0533	10	20100102	VOC	1	0.001	0.001	Common SCC
0593	C01	30501513	CO	1.39	8.38	11.63	Common SCC
0593	C01	30501513	NOx	1.39	2.33	3.23	Common SCC
0593	C01	30501513	VOC	1.39	0.16	0.22	Common SCC
0593	C02	30501513	CO	1.39	8.38	11.63	Common SCC
0593	C02	30501513	NOx	1.39	2.33	3.23	Common SCC
0593	C02	30501513	VOC	1.39	0.16	0.22	Common SCC
0593	C03	30501513	CO	1.39	8.38	11.63	Common SCC
0593	C03	30501513	NOx	1.39	2.33	3.23	Common SCC
0593	C03	30501513	VOC	1.39	0.16	0.22	Common SCC
0593	C04	30501513	CO	1.39	8.38	11.63	Common SCC
0593	C04	30501513	NOx	1.39	2.33	3.23	Common SCC
0593	C04	30501513	VOC	1.39	0.16	0.22	Common SCC
0593	C05	30501513	CO	1.39	8.38	11.63	Common SCC
0593	C05	30501513	NOx	1.39	2.33	3.23	Common SCC
0593	C05	30501513	VOC	1.39	0.16	0.22	Common SCC

Facility ID	EU	SCC	Pollutant	2022 GF	2008 Emissions (tpy)	2022 Emissions (tpy)	GF Derivation
0593	E03a	30501520	CO	1.39	16.75	23.25	Common SCC
0593	E03a	30501520	NOx	1.39	3.59	4.98	Common SCC
0593	E03a	30501520	VOC	1.39	0.89	1.24	Common SCC
0593	E03b	30501520	CO	1.39	16.8	23.32	Common SCC
0593	E03b	30501520	NOx	1.39	3.59	4.98	Common SCC
0593	E03b	30501520	VOC	1.39	0.89	1.24	Common SCC
0593	E03c	30501520	CO	1.39	16.8	23.32	Common SCC
0593	E03c	30501520	NOx	1.39	3.59	4.98	Common SCC
0593	E03c	30501520	VOC	1.39	0.89	1.24	Common SCC
0593	E03d	30501520	CO	1.39	16.8	23.32	Common SCC
0593	E03d	30501520	NOx	1.39	3.59	4.98	Common SCC
0593	E03d	30501520	VOC	1.39	0.89	1.24	Common SCC
0593	E03e	30501520	CO	1.39	16.8	23.32	Common SCC
0593	E03e	30501520	NOx	1.39	3.59	4.98	Common SCC
0593	E03e	30501520	VOC	1.39	0.89	1.24	Common SCC
0593	G33	20100102	CO	1	0.003	0.003	Common SCC
0593	G33	20100102	NOx	1	0.001	0.001	Common SCC
0593	G33	20100102	VOC	1	0	0	Common SCC
0593	G34	20100102	CO	1	0.04	0.04	Common SCC
0593	G34	20100102	NOx	1	0.01	0.01	Common SCC
0593	G34	20100102	VOC	1	0.01	0.01	Common SCC
0593	Z01	30501599	CO	1.39	0.01	0.02	Common SCC
0593	Z01	30501599	NOx	1.39	0.06	0.08	Common SCC
0593	Z01	30501599	VOC	1.39	0.003	0.004	Common SCC
0837	1	20200202	CO	1.23	5.05	6.19	Common SCC
0837	1	20200202	NOx	0.546486	2.39	1.31	Common SCC
0837	1	20200202	VOC	1.23	0.06	0.07	Common SCC
1513	01	20100201	CO	1	1.99	1.99	Common SCC
1513	01	20100201	NOx	1.04	61.97	64.37	Common SCC
1513	01	20100201	VOC	1.00	4.41	4.42	Common SCC
1513	03	20100201	CO	1	3.46	3.46	Common SCC
1513	03	20100201	NOx	1.04	62.70	65.13	Common SCC
1513	03	20100201	VOC	1.00	1.91	1.91	Common SCC
1513	05	20100201	CO	1	1.23	1.23	Common SCC
1513	05	20100201	NOx	1.04	61.44	63.82	Common SCC
1513	05	20100201	VOC	1.00	0.10	0.10	Common SCC
1513	07	20100201	CO	1	2.26	2.26	Common SCC
1513	07	20100201	NOx	1.04	58.51	60.78	Common SCC
1513	07	20100201	VOC	1.00	0.10	0.10	Common SCC
1513	09	10200603	CO	1.25	0.01	0.01	EGAS
1513	09	10200603	NOx	1.25	0.09	0.11	EGAS
1513	09	10200603	VOC	1.25	0.1	0.12	EGAS
1513	10	10200603	CO	1.25	0.001	0.001	EGAS
1513	10	10200603	NOx	1.25	0.001	0.001	EGAS
1513	10	10200603	VOC	1.25	0.05	0.06	EGAS

Facility ID	EU	SCC	Pollutant	2022 GF	2008 Emissions (tpy)	2022 Emissions (tpy)	GF Derivation
1513	12	20201001	CO	1.16	0.07	0.08	EGAS
1513	12	20201001	NOx	1.16	0.06	0.07	EGAS
1513	12	20201001	VOC	1.16	0.01	0.01	EGAS
1513	13	20201001	CO	1.16	0.07	0.08	EGAS
1513	13	20201001	NOx	1.16	0.06	0.07	EGAS
1513	13	20201001	VOC	1.16	0.01	0.01	EGAS
1513	14	20200102	CO	1.20	0.15	0.18	Common SCC
1513	14	20200102	NOx	1.20	0.12	0.14	Common SCC
1513	14	20200102	VOC	1.20	0.01	0.01	Common SCC
1513	15	20200102	CO	1.20	0	0	Common SCC
1513	15	20200102	NOx	1.20	0	0	Common SCC
1513	15	20200102	VOC	1.20	0	0	Common SCC
1513	16	10500206	CO	1.40	0.01	0.01	EGAS
1513	16	10500206	NOx	1.40	0.05	0.07	EGAS
1513	16	10500206	VOC	1.40	0.07	0.10	EGAS
1584	A05	20200102	CO	1.20	0.03	0.04	Common SCC
1584	A05	20200102	NOx	1.20	0.13	0.16	Common SCC
1584	A05	20200102	VOC	1.20	0.01	0.01	Common SCC
1584	A06	20200102	CO	1.20	0.001	0.001	Common SCC
1584	A06	20200102	NOx	1.20	0.001	0.001	Common SCC
1584	A06	20200102	VOC	1.20	0.001	0.001	Common SCC

Table 2-6. All Factors and Emissions from All Units

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0003	01	20100102	CO	0.01	1	0.01	1	0.01
0003	01	20100102	NOx	0.05	1	0.05	1	0.05
0003	01	20100102	VOC	0.01	1	0.01	1	0.01
0003	02	30501604	CO	52.68	1.39	73.11	1.19	62.90
0003	02	30501604	NOx	127.39	1.39	176.80	1.19	152.09
0003	02	30501604	VOC	1.89	1.18	2.23	1.09	2.06
0003	03	30501604	CO	51.54	1.39	71.53	1.19	61.53
0003	03	30501604	NOx	115.21	1.39	159.89	1.19	137.55
0003	03	30501604	VOC	1.36	1.18	1.60	1.09	1.48
0003	04	30501604	CO	26.05	1.39	36.15	1.19	31.10
0003	04	30501604	NOx	202.93	1.39	281.63	1.19	242.28
0003	04	30501604	VOC	2.61	1.18	3.08	1.09	2.84
0003	05	30501604	CO	130.5	1.39	181.11	1.19	155.81
0003	05	30501604	NOx	648.63	1.39	900.19	1.19	774.41
0003	05	30501604	VOC	11.88	1.18	14.02	1.09	12.95
0003	07	20100102	CO	0.03	1	0.03	1	0.03
0003	07	20100102	NOx	0.12	1	0.12	1	0.12

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0003	07	20100102	VOC	0.01	1	0.01	1	0.01
0003	10	10300603	CO	0.35	1.39	0.49	1.20	0.42
0003	10	10300603	NOx	0.41	1.39	0.57	1.20	0.49
0003	10	10300603	VOC	0.02	1.18	0.02	1.09	0.02
0003	28	30501699	CO	18.06	1.39	25.06	1.19	21.56
0003	28	30501699	NOx	4.58	1.39	6.36	1.19	5.47
0003	28	30501699	VOC	1.85	1.18	2.18	1.09	2.02
0004	01	30500421	VOC	9.36	1.18	11.02	1.09	10.19
0004	B8	20200401	CO	0	1	0	1	0
0004	B8	20200401	NOx	0	1	0	1	0
0004	B8	20200401	VOC	0	1	0	1	0
0004	E11	30501513	CO	0.51	1.39	0.71	1.19	0.61
0004	E11	30501513	NOx	8.18	1.26	10.27	1.13	9.23
0004	E11	30501513	VOC	0.32	1.39	0.44	1.19	0.38
0004	F1	30501502	CO	0	1	0	1	0
0004	F1	30501502	NOx	0	1	0	1	0
0004	F1	30501502	VOC	0	1	0	1	0
0004	F2	30501502	CO	0	1.39	0	1.19	0
0004	F2	30501502	NOx	0	1.26	0	1.13	0
0004	F2	30501502	VOC	0	1.39	0	1.19	0
0004	F3	30501511	CO	0	1.39	0	1.19	0
0004	F3	30501511	NOx	0	1.26	0	1.13	0
0004	F3	30501511	VOC	0	1.39	0	1.19	0
0004	F4	30501511	CO	0	1.39	0	1.19	0
0004	F4	30501511	NOx	0	1.26	0	1.13	0
0004	F4	30501511	VOC	0	1.39	0	1.19	0
0004	G1	30501511	CO	1.45	1	1.45	1	1.45
0004	G1	30501511	NOx	6.91	1	6.91	1	6.91
0004	G1	30501511	VOC	0.36	1	0.36	1	0.36
0004	G1a	30501511	CO	0	1.39	0	1.19	0
0004	G1a	30501511	NOx	0	1.26	0	1.13	0
0004	G1a	30501511	VOC	0	1.39	0	1.19	0
0004	G1b	30501511	CO	0	1.39	0	1.19	0
0004	G1b	30501511	NOx	0	1.26	0	1.13	0
0004	G1b	30501511	VOC	0	1.39	0	1.19	0
0004	G1c	30501511	CO	0	1.39	0	1.19	0
0004	G1c	30501511	NOx	0	1.26	0	1.13	0
0004	G1c	30501511	VOC	0	1.39	0	1.19	0
0004	J2	30501599	CO	0	1.39	0	1.19	0
0004	J2	30501599	NOx	0	1.26	0	1.13	0
0004	J2	30501599	VOC	0	1.39	0	1.19	0
0004	J3	30501520	CO	51.66	1.39	71.70	1.19	61.68
0004	J3	30501520	NOx	12.71	1.26	15.96	1.13	14.34
0004	J3	30501520	VOC	0.77	1.39	1.07	1.19	0.92

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0004	L4	20200401	CO	0.21	1.20	0.25	1.10	0.23
0004	L4	20200401	NOx	0.97	1.08	1.05	1.04	1.01
0004	L4	20200401	VOC	0.02	1.20	0.02	1.10	0.02
0005	01	30501516	CO	0.08	1.41	0.11	1.20	0.10
0005	01	30501516	NOx	0.1	1.41	0.14	1.20	0.12
0005	01	30501516	VOC	0.59	1.41	0.83	1.20	0.71
0007	04	20100201	CO	0.8	0.83	0.66	0.91	0.73
0007	04	20100201	NOx	3.00	0.56	1.69	0.78	2.35
0007	04	20100201	VOC	0.20	0.83	0.17	0.91	0.18
0007	05	20100201	CO	31.40	0.83	26.00	0.91	28.70
0007	05	20100201	NOx	234.3	0.56	132.14	0.78	183.22
0007	05	20100201	VOC	1.60	0.83	1.32	0.91	1.46
0007	06	20100201	CO	56.80	0.83	47.02	0.91	51.91
0007	06	20100201	NOx	351.00	0.56	197.96	0.78	274.48
0007	06	20100201	VOC	0.40	0.83	0.33	0.91	0.37
0007	07	20100201	CO	50.80	0.83	42.06	0.91	46.43
0007	07	20100201	NOx	390.10	0.56	220.02	0.78	305.06
0007	07	20100201	VOC	3.30	0.83	2.73	0.91	3.02
0007	08	20100201	CO	26.20	0.83	21.69	0.91	23.95
0007	08	20100201	NOx	216.40	0.56	122.05	0.78	169.22
0007	08	20100201	VOC	1.90	0.83	1.57	0.91	1.74
0007	21	20200102	CO	0.01	1.20	0.01	1.10	0.01
0007	21	20200102	NOx	0.03	1.20	0.04	1.10	0.03
0007	21	20200102	VOC	0.002	1.20	0.002	1.10	0.002
0007	22	20200102	CO	0	1.20	0	1.10	0
0007	22	20200102	NOx	0	1.20	0	1.10	0
0007	22	20200102	VOC	0	1.20	0	1.10	0
0007	27	20200201	CO	0.06	1.20	0.07	1.10	0.07
0007	27	20200201	NOx	0.48	1.20	0.57	1.10	0.53
0007	27	20200201	VOC	0.01	1.20	0.01	1.10	0.01
0007	28	20200201	CO	0.03	1.20	0.04	1.10	0.03
0007	28	20200201	NOx	0.30	1.20	0.36	1.10	0.33
0007	28	20200201	VOC	0.01	1.20	0.01	1.10	0.009
0007	29	20200201	CO	0.03	1.20	0.04	1.10	0.03
0007	29	20200201	NOx	0.32	1.20	0.38	1.10	0.35
0007	29	20200201	VOC	0.01	1.20	0.01	1.10	0.01
0007	30	20200201	CO	0.01	1.20	0.01	1.10	0.01
0007	30	20200201	NOx	0.05	1.20	0.06	1.10	0.05
0007	30	20200201	VOC	0.001	1.20	0.001	1.10	0.001
0007	31	20200201	CO	0.19	1.20	0.23	1.10	0.21
0007	31	20200201	NOx	1.02	1.20	1.22	1.10	1.12
0007	31	20200201	VOC	0.05	1.20	0.06	1.10	0.05
0007	32	20200201	CO	0.12	1.20	0.14	1.10	0.13
0007	32	20200201	NOx	0.48	1.20	0.57	1.10	0.53

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0007	32	20200201	VOC	0.02	1.20	0.02	1.10	0.02
0007	33	20200201	CO	0.02	1.20	0.02	1.10	0.02
0007	33	20200201	NOx	0.13	1.20	0.16	1.10	0.14
0007	33	20200201	VOC	0.01	1.20	0.01	1.10	0.01
0007	34	20200201	CO	0.33	1.20	0.40	1.10	0.36
0007	34	20200201	NOx	1.57	1.20	1.88	1.10	1.72
0007	34	20200201	VOC	0.04	1.20	0.05	1.10	0.04
0007	35	20200201	CO	0.61	1.20	0.73	1.10	0.67
0007	35	20200201	NOx	2.94	1.20	3.52	1.10	3.23
0007	35	20200201	VOC	0.09	1.20	0.11	1.10	0.10
0007	36	20200201	CO	0.55	1.20	0.66	1.10	0.60
0007	36	20200201	NOx	2.27	1.20	2.72	1.10	2.49
0007	36	20200201	VOC	0.08	1.20	0.10	1.10	0.09
0007	37	20200201	CO	0.46	1.20	0.55	1.10	0.51
0007	37	20200201	NOx	2.07	1.20	2.48	1.10	2.27
0007	37	20200201	VOC	0.06	1.20	0.07	1.10	0.07
0007	38	20200201	CO	0.31	1.20	0.37	1.10	0.34
0007	38	20200201	NOx	1.57	1.20	1.88	1.10	1.72
0007	38	20200201	VOC	0.02	1.20	0.02	1.10	0.02
0007	45	20200102	CO	0.02	1.20	0.02	1.10	0.02
0007	45	20200102	NOx	0.04	1.20	0.05	1.10	0.04
0007	45	20200102	VOC	0.001	1.20	0.001	1.10	0.001
0007	46	20200102	CO	0	1.20	0	1.10	0
0007	46	20200102	NOx	0	1.20	0	1.10	0
0007	46	20200102	VOC	0	1.20	0	1.10	0
0008	8-01	20100201	CO	2.12	0.83	1.76	0.91	1.94
0008	8-01	20100201	NOx	7.86	0.56	4.43	0.78	6.15
0008	8-01	20100201	VOC	0.05	0.89	0.04	0.95	0.05
0008	8-02	20200102	CO	0.02	1.20	0.02	1.10	0.02
0008	8-02	20200102	NOx	0.07	1.20	0.08	1.10	0.08
0008	8-02	20200102	VOC	2.41	1.28	3.08	1.14	2.75
0011	01	30502513	CO	0	1.18	0	1.09	0
0011	01	30502513	NOx	0	1.18	0	1.09	0
0011	01	30502513	VOC	20.55	1.18	24.19	1.09	22.37
0011	05	30501501	CO	0	1.39	0	1.19	0
0011	05	30501501	NOx	0	1.39	0	1.19	0
0011	05	30501501	VOC	0	1.39	0	1.19	0
0011	09	30501513	CO	0.19	1.39	0.26	1.19	0.23
0011	09	30501513	NOx	1.19	1.39	1.65	1.19	1.42
0011	09	30501513	VOC	0.10	1.39	0.14	1.19	0.12
0011	10	30501513	CO	0.19	1.39	0.26	1.19	0.23
0011	10	30501513	NOx	1.19	1.39	1.65	1.19	1.42
0011	10	30501513	VOC	0.10	1.39	0.14	1.19	0.12
0011	11	30501513	CO	0.19	1.39	0.26	1.19	0.23

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0011	11	30501513	NOx	1.19	1.39	1.65	1.19	1.42
0011	11	30501513	VOC	0.10	1.39	0.14	1.19	0.12
0011	12	30501513	CO	0.09	1.39	0.12	1.19	0.11
0011	12	30501513	NOx	0.60	1.39	0.83	1.19	0.72
0011	12	30501513	VOC	0.05	1.39	0.07	1.19	0.06
0011	13	30501513	CO	0.09	1.39	0.12	1.19	0.11
0011	13	30501513	NOx	0.60	1.39	0.83	1.19	0.72
0011	13	30501513	VOC	0.05	1.39	0.07	1.19	0.06
0011	14	30501513	CO	0.09	1.39	0.12	1.19	0.11
0011	14	30501513	NOx	0.60	1.39	0.83	1.19	0.72
0011	14	30501513	VOC	0.04	1.39	0.06	1.19	0.05
0011	18	30501520	CO	67.41	1.39	93.55	1.19	80.48
0011	18	30501520	NOx	20.38	1.39	28.28	1.19	24.33
0011	18	30501520	VOC	1.99	1.39	2.76	1.19	2.38
0011	19	30501520	CO	78.65	1.39	109.15	1.19	93.90
0011	19	30501520	NOx	23.78	1.39	33.00	1.19	28.39
0011	19	30501520	VOC	2.32	1.39	3.22	1.19	2.77
0011	20	30501520	CO	44.94	1.39	62.37	1.19	53.65
0011	20	30501520	NOx	13.59	1.39	18.86	1.19	16.23
0011	20	30501520	VOC	1.33	1.39	1.85	1.19	1.59
0011	21	30501520	CO	17.98	1.39	24.95	1.19	21.47
0011	21	30501520	NOx	5.43	1.39	7.54	1.19	6.48
0011	21	30501520	VOC	0.53	1.39	0.74	1.19	0.63
0011	22	30501520	CO	15.73	1.39	21.83	1.19	18.78
0011	22	30501520	NOx	4.76	1.39	6.61	1.19	5.68
0011	22	30501520	VOC	0.46	1.39	0.64	1.19	0.55
0011	25	30501513	CO	1.19	1.39	1.65	1.19	1.42
0011	25	30501513	NOx	2.71	1.39	3.76	1.19	3.24
0011	25	30501513	VOC	0.12	1.39	0.17	1.19	0.14
0011	26	30501513	CO	1.19	1.39	1.65	1.19	1.42
0011	26	30501513	NOx	2.71	1.39	3.76	1.19	3.24
0011	26	30501513	VOC	0.12	1.39	0.17	1.19	0.14
0011	30	30501520	CO	3.44	1.39	4.77	1.19	4.11
0011	30	30501520	NOx	8.11	1.39	11.26	1.19	9.68
0011	30	30501520	VOC	0.24	1.39	0.33	1.19	0.29
0011	31	30501520	CO	2.68	1.39	3.72	1.19	3.20
0011	31	30501520	NOx	6.31	1.39	8.76	1.19	7.53
0011	31	30501520	VOC	0.18	1.39	0.25	1.19	0.21
0011	32	30501520	CO	1.53	1.39	2.12	1.19	1.83
0011	32	30501520	NOx	3.60	1.39	5.00	1.19	4.30
0011	32	30501520	VOC	0.11	1.39	0.15	1.19	0.13
0011	36	30501501	CO	16.65	1.39	23.11	1.19	19.88
0011	36	30501501	NOx	4.32	1.39	6.00	1.19	5.16
0011	36	30501501	VOC	0.30	1.39	0.42	1.19	0.36

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0011	45	30501513	CO	1.19	1	1.19	1	1.19
0011	45	30501513	NOx	2.71	1	2.71	1	2.71
0011	45	30501513	VOC	0.12	1	0.12	1	0.12
0011	46	30501513	CO	1.19	1	1.19	1	1.19
0011	46	30501513	NOx	2.71	1	2.71	1	2.71
0011	46	30501513	VOC	0.12	1	0.12	1	0.12
0011	48	30501507	CO	0	1	0	1	0
0011	48	30501507	NOx	0	1	0	1	0
0011	48	30501507	VOC	0	1	0	1	0
0011	50	30501520	CO	3.44	1	3.44	1	3.44
0011	50	30501520	NOx	8.11	1	8.11	1	8.11
0011	50	30501520	VOC	0.24	1	0.24	1	0.24
0011	51	30501520	CO	2.68	1	2.68	1	2.68
0011	51	30501520	NOx	6.31	1	6.31	1	6.31
0011	51	30501520	VOC	0.18	1	0.18	1	0.18
0011	52	30501520	CO	1.53	1	1.53	1	1.53
0011	52	30501520	NOx	3.60	1	3.60	1	3.60
0011	52	30501520	VOC	0.11	1	0.11	1	0.11
0011	01a	30502513	CO	8.03	1.18	9.45	1.09	8.74
0011	01a	30502513	NOx	4.22	1.18	4.97	1.09	4.59
0011	01a	30502513	VOC	0.28	1.18	0.33	1.09	0.30
0011	18a	30501520	CO	6.51	1.39	9.03	1.19	7.77
0011	18a	30501520	NOx	2.60	1.39	3.61	1.19	3.10
0011	18a	30501520	VOC	0.05	1.39	0.07	1.19	0.06
0011	19a	30501520	CO	7.59	1.39	10.53	1.19	9.06
0011	19a	30501520	NOx	3.03	1.39	4.21	1.19	3.62
0011	19a	30501520	VOC	0.06	1.39	0.08	1.19	0.07
0011	20a	30501520	CO	4.34	1.39	6.02	1.19	5.18
0011	20a	30501520	NOx	1.73	1.39	2.40	1.19	2.07
0011	20a	30501520	VOC	0.03	1.39	0.04	1.19	0.04
0011	21a	30501520	CO	1.74	1.39	2.41	1.19	2.08
0011	21a	30501520	NOx	0.69	1.39	0.96	1.19	0.82
0011	21a	30501520	VOC	0.01	1.39	0.01	1.19	0.01
0011	22a	30501520	CO	1.52	1.39	2.11	1.19	1.81
0011	22a	30501520	NOx	0.61	1.39	0.85	1.19	0.73
0011	22a	30501520	VOC	0.01	1.39	0.01	1.19	0.01
0012	01	30500257	CO	16.30	1.40	22.76	1.20	19.53
0012	01	30500257	NOx	3.42	1.40	4.78	1.20	4.10
0012	01	30500257	VOC	5.85	1.40	8.17	1.20	7.01
0012	02	30500206	CO	0	1.37	0	1.19	0
0012	02	30500206	NOx	0	1.37	0	1.19	0
0012	02	30500206	VOC	0	1	0	1	0
0012	03	30500298	CO	0.29	1.40	0.40	1.20	0.35
0012	03	30500298	NOx	2.10	1	2.10	1	2.10

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0012	03	30500298	VOC	2.98	1.40	4.16	1.20	3.57
0013	01	40400142	VOC	1.17	1.23	1.45	1.12	1.31
0013	02	40400142	VOC	1.03	1.23	1.27	1.12	1.15
0013	03	40400132	VOC	0.92	1.23	1.14	1.12	1.03
0013	04	40400132	VOC	1.09	1.23	1.34	1.12	1.21
0013	05	40400132	VOC	0.59	1.23	0.73	1.12	0.66
0013	06	40400142	VOC	0.91	1.23	1.12	1.12	1.01
0013	07	40400142	VOC	1.30	1.23	1.61	1.12	1.45
0013	08	40400142	VOC	1.45	1.23	1.79	1.12	1.62
0013	09	40400142	VOC	1.05	1.23	1.30	1.12	1.18
0013	10	40400142	VOC	1.06	1.23	1.30	1.12	1.18
0013	11	40400142	VOC	0.34	1.23	0.42	1.12	0.38
0013	12	40400142	VOC	1.30	1.23	1.61	1.12	1.45
0013	13	40400172	VOC	0.35	1.23	0.43	1.12	0.39
0013	14	40400179	VOC	0.07	1.23	0.08	1.12	0.07
0013	15	40400179	VOC	0.09	1.23	0.12	1.12	0.10
0013	16	40400172	VOC	1.77	1.23	2.18	1.12	1.97
0013	17	40400172	VOC	1.95	1.23	2.40	1.12	2.17
0013	18	40400170	VOC	0.20	1.23	0.24	1.12	0.22
0013	19	40400121	VOC	1.33	1.23	1.65	1.12	1.49
0013	20	40400121	VOC	1.18	1.23	1.45	1.12	1.31
0013	21	40400172	VOC	1.89	1.23	2.33	1.12	2.11
0013	22	40400130	VOC	0.68	1.23	0.83	1.12	0.76
0013	23	40400130	VOC	0.08	1.23	0.10	1.12	0.09
0013	24	40400130	VOC	0.08	1.23	0.10	1.12	0.09
0013	26	40400170	VOC	0.01	1.23	0.009	1.12	0.008
0013	27	40400170	VOC	0.22	1.23	0.27	1.12	0.25
0013	28	40400170	VOC	0.73	1.23	0.89	1.12	0.81
0013	29	40400172	VOC	0.31	1.23	0.39	1.12	0.35
0013	30	40400199	VOC	0.001	1.23	0.001	1.12	0.001
0013	31	40400199	VOC	0.01	1.23	0.01	1.12	0.01
0013	32	40400199	VOC	0.01	1.23	0.02	1.12	0.02
0013	33	40400199	VOC	0.02	1.23	0.02	1.12	0.02
0013	34	40400199	VOC	0.01	1.23	0.02	1.12	0.01
0013	36	40400199	VOC	0	1.23	0	1.12	0
0013	37	40400199	VOC	0.004	1.23	0.004	1.12	0.004
0013	38	40400199	VOC	0	1.23	0	1.12	0
0013	39	40400199	VOC	0.002	1.23	0.002	1.12	0.002
0013	42	40400199	VOC	0.02	1.23	0.02	1.12	0.02
0013	45	40400172	VOC	0.81	1.23	1.00	1.12	0.90
0013	46	40400172	VOC	0.85	1.23	1.05	1.12	0.95
0013	47	40400172	VOC	1.05	1.23	1.29	1.12	1.17
0013	48	40400172	VOC	0.60	1.23	0.75	1.12	0.68
0013	53	40400199	VOC	0.001	1.23	0.001	1.12	0.001

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0013	54	40400199	VOC	0.002	1.23	0.002	1.12	0.002
0013	56	40400179	VOC	0.08	1.23	0.10	1.12	0.09
0013	57	40400179	VOC	0.07	1.23	0.08	1.12	0.08
0013	58	40400179	VOC	3.24	1.23	4.00	1.12	3.62
0013	59	40400179	VOC	0.17	1.23	0.20	1.12	0.18
0013	60	40400179	VOC	3.23	1.23	3.99	1.12	3.61
0013	61	40400179	VOC	1.64	1.23	2.02	1.12	1.83
0013	B01	40400150	VOC	46.62	1.23	57.53	1.12	52.08
0013	B02	40400153	VOC	2.10	1.23	2.59	1.12	2.35
0013	B04	40400172	VOC	0.65	1.23	0.80	1.12	0.73
0013	B05	40400172	VOC	0.81	1.23	1.00	1.12	0.91
0013	B06	40400151	VOC	5.07	1.23	6.26	1.12	5.66
0013	B10	30600904	CO	0.99	0.96	0.95	0.98	0.97
0013	B10	30600904	NOx	0.18	0.96	0.18	0.98	0.18
0013	B10	30600904	VOC	0.38	0.96	0.36	0.98	0.37
0013	D02	20200102	CO	0.01	1	0.008	1	0.008
0013	D02	20200102	NOx	0.03	1	0.03	1	0.03
0013	D02	20200102	VOC	0.003	1	0.003	1	0.003
0013	SR04	50410312	CO	0.09	1.25	0.11	1.12	0.10
0013	SR04	50410312	NOx	0.51	1.25	0.64	1.12	0.57
0013	SR04	50410312	VOC	0.32	1.25	0.40	1.12	0.36
0019	A01	30301299	CO	316.02	1.49	472.17	1.25	394.10
0019	A01	30301299	NOx	0	1.49	0	1.25	0
0019	A01	30301299	VOC	2.42	1.49	3.62	1.25	3.02
0019	B06	10201402	CO	36.00	1.33	47.95	1.17	41.97
0019	B06	10201402	NOx	0.54	1.33	0.72	1.17	0.63
0019	B09	10200602	CO	0	1.23	0	1.11	0
0019	B09	10200602	NOx	0.23	0.90	0.20	0.95	0.22
0019	B09	10200602	VOC	0.17	1.23	0.21	1.11	0.19
0019	B10	30301202	CO	0.02	1.49	0.02	1.25	0.02
0019	B10	30301202	NOx	0.17	1.49	0.25	1.25	0.21
0019	C05	30301201	CO	0.03	1.49	0.04	1.25	0.04
0019	C05	30301201	NOx	0.14	1.49	0.20	1.25	0.17
0019	D02E	30301202	CO	0	1.49	0	1.25	0
0019	D02E	30301202	NOx	0	1.49	0	1.25	0
0019	D02W	30301299	CO	0	1.49	0	1.25	0
0019	D02W	30301299	NOx	0	1.49	0	1.25	0
0019	E03	30301202	CO	0.0003	1.49	0.0004	1.25	0.0004
0019	E03	30301202	NOx	0.001	1.49	0.002	1.25	0.001
0019	E03	30301202	VOC	0.0001	1.49	0.0001	1.25	0.0001
0019	G02	20200104	CO	0.0004	1.20	0.0005	1.10	0.0005
0019	G02	20200104	NOx	0.002	1.20	0.002	1.10	0.002
0019	G02	20200104	VOC	0.0002	1.20	0.0002	1.10	0.0002
0019	G10	20200104	CO	0.0002	1.20	0.0002	1.10	0.0002

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0019	G10	20200104	NOx	0.0009	1.20	0.001	1.10	0.0009
0019	G10	20200104	VOC	0.0001	1.20	0.0001	1.10	0.0001
0019	M11	30399999	CO	0	1.20	0	1.10	0
0019	M11	30399999	NOx	0	1.20	0	1.10	0
0019	M11	30399999	VOC	0	1.20	0	1.10	0
0026	01	10300603	CO	1.88	1.39	2.62	1.20	2.25
0026	01	10300603	NOx	1.64	1.39	2.28	1.20	1.96
0026	01	10300603	VOC	0.19	1.39	0.26	1.20	0.23
0047	1	10300603	CO	8.90	1.39	12.39	1.20	10.65
0047	1	10300603	NOx	5.12	1.39	7.13	1.20	6.13
0047	1	10300603	VOC	1.01	1.39	1.41	1.20	1.21
0073	1	10300603	CO	5.12	1.39	7.13	1.20	6.13
0073	1	10300603	NOx	4.79	1.39	6.67	1.20	5.73
0073	1	10300603	VOC	0.71	1.39	0.99	1.20	0.85
0074	1	10300603	CO	2.89	1.39	4.02	1.20	3.46
0074	1	10300603	NOx	2.33	1.39	3.24	1.20	2.79
0074	1	10300603	VOC	0.39	1.39	0.54	1.20	0.47
0075	01	30800799	CO	0.09	1.61	0.14	1.31	0.11
0075	01	30800799	NOx	0.63	1.61	1.02	1.31	0.82
0075	01	30800799	VOC	10.04	1.61	16.19	1.31	13.12
0076	1	10300603	CO	3.90	1.39	5.43	1.20	4.67
0076	1	10300603	NOx	3.17	1.39	4.41	1.20	3.79
0076	1	10300603	VOC	0.03	1.39	0.04	1.20	0.04
0077	1	10300603	CO	2.43	1.39	3.38	1.20	2.91
0077	1	10300603	NOx	1.87	1.39	2.60	1.20	2.24
0077	1	10300603	VOC	0.19	1.39	0.26	1.20	0.23
0081	1	10300603	CO	4.66	1.39	6.49	1.20	5.57
0081	1	10300603	NOx	4.29	1.39	5.97	1.20	5.13
0081	1	10300603	VOC	2.29	1.39	3.19	1.20	2.74
0085	1	10300603	CO	10.07	1.39	14.02	1.20	12.05
0085	1	10300603	NOx	6.45	1.39	8.98	1.20	7.72
0085	1	10300603	VOC	0.69	1.39	0.96	1.20	0.83
0086	1	10300603	CO	12.72	1.39	17.71	1.20	15.22
0086	1	10300603	NOx	16.50	1.39	22.98	1.20	19.74
0086	1	10300603	VOC	5.52	1.39	7.69	1.20	6.60
0095	A01	20300101	CO	0.01	1.09	0.01	1.05	0.01
0095	A01	20300101	NOx	0.05	1.09	0.06	1.05	0.05
0095	A01	20300101	VOC	0.004	1.09	0.004	1.05	0.004
0095	A02	20300101	CO	0.02	1.09	0.02	1.05	0.02
0095	A02	20300101	NOx	0.09	1.09	0.10	1.05	0.10
0095	A02	20300101	VOC	0.01	1.09	0.009	1.05	0.008
0095	A03	20300101	CO	0.02	1.09	0.02	1.05	0.02
0095	A03	20300101	NOx	0.09	1.09	0.10	1.05	0.10
0095	A03	20300101	VOC	0.01	1.09	0.009	1.05	0.008

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0095	A04	20300101	CO	0.06	1.09	0.06	1.05	0.06
0095	A04	20300101	NOx	0.26	1.09	0.28	1.05	0.27
0095	A04	20300101	VOC	0.02	1.09	0.02	1.05	0.02
0095	A05	10300602	CO	0.65	1.39	0.91	1.20	0.78
0095	A05	10300602	NOx	4.90	1.39	6.82	1.20	5.86
0095	A05	10300602	VOC	0.88	1.39	1.23	1.20	1.05
0095	A07	10300602	CO	0.11	1.39	0.15	1.20	0.13
0095	A07	10300602	NOx	2.23	1.39	3.11	1.20	2.67
0095	A07	10300602	VOC	0.11	1.39	0.15	1.20	0.13
0095	A10	30107002	CO	36.77	1.45	53.40	1.23	45.08
0095	A10	30107002	NOx	0.08	1.45	0.12	1.23	0.10
0095	A10	30107002	VOC	0	1.45	0	1.23	0
0095	A15	30107002	CO	0.39	1.45	0.57	1.23	0.48
0095	A15	30107002	NOx	1.84	1.45	2.67	1.23	2.26
0095	A15	30107002	VOC	0	1.45	0	1.23	0
0095	A17	30107002	VOC	0.70	1.45	1.02	1.23	0.86
0133	1	10300603	CO	4.04	1.39	5.63	1.20	4.83
0133	1	10300603	NOx	4.89	1.39	6.81	1.20	5.85
0133	1	10300603	VOC	0.36	1.39	0.50	1.20	0.43
0138	01	30504099	CO	8.11	1.18	9.55	1.09	8.83
0138	01	30504099	NOx	0.84	1.18	0.99	1.09	0.91
0138	02	30504033	CO	1.79	1.18	2.11	1.09	1.95
0138	02	30504033	NOx	97.72	1.18	115.02	1.09	106.37
0138	02	30504033	VOC	0.38	1.18	0.45	1.09	0.41
0149	01	50300603	CO	3.42	1	3.42	1	3.42
0149	01	50300603	NOx	15.80	1	15.80	1	15.80
0149	01	50300603	VOC	4.97	1	4.97	1	4.97
0153	1	10300603	CO	4.06	1.39	5.65	1.20	4.86
0153	1	10300603	NOx	6.64	1.39	9.25	1.20	7.94
0153	1	10300603	VOC	0.83	1.39	1.16	1.20	0.99
0154	01	30500699	CO	0	1.48	0	1.24	0
0154	01	30500699	NOx	0	1.26	0	1.13	0
0154	01	30500699	VOC	0	1.48	0	1.24	0
0155	1	10300603	CO	8.78	1.39	12.23	1.20	10.50
0155	1	10300603	NOx	7.52	1.39	10.47	1.20	9.00
0155	1	10300603	VOC	0.76	1.39	1.06	1.20	0.91
0256	1	10300603	CO	1.76	1.39	2.45	1.20	2.11
0256	1	10300603	NOx	4.15	1.39	5.78	1.20	4.96
0256	1	10300603	VOC	0.58	1.39	0.81	1.20	0.69
0257	1	10300603	CO	2.35	1.39	3.27	1.20	2.81
0257	1	10300603	NOx	2.46	1.39	3.43	1.20	2.94
0257	1	10300603	VOC	0.35	1.39	0.49	1.20	0.42
0276	1	10300603	CO	1.99	1.39	2.77	1.20	2.38
0276	1	10300603	NOx	7.59	1.39	10.57	1.20	9.08

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0276	1	10300603	VOC	0.77	1.39	1.07	1.20	0.92
0282	1	10300603	CO	12.61	1.39	17.56	1.20	15.09
0282	1	10300603	NOx	14.06	1.39	19.58	1.20	16.82
0282	1	10300603	VOC	3.83	1.39	5.33	1.20	4.58
0323	01	40201399	CO	0.34	1.58	0.54	1.29	0.44
0323	01	40201399	NOx	0.20	1.58	0.32	1.29	0.26
0323	01	40201399	VOC	6.40	1.58	10.14	1.29	8.27
0329	01	20100201	CO	1.83	0.83	1.52	0.91	1.67
0329	01	20100201	NOx	4.63	0.59	2.73	0.80	3.68
0329	01	20100201	VOC	4.29	0.83	3.55	0.91	3.92
0329	03	20100201	CO	2.05	1	2.05	1	2.05
0329	03	20100201	NOx	5.12	1.04	5.32	1.02	5.22
0329	03	20100201	VOC	4.76	1.00	4.77	1.00	4.77
0329	04	20100201	CO	1.53	1	1.53	1	1.53
0329	04	20100201	NOx	5.24	1.04	5.44	1.02	5.34
0329	04	20100201	VOC	4.69	1.00	4.70	1.00	4.70
0329	05	20100201	CO	1.58	1	1.58	1	1.58
0329	05	20100201	NOx	4.93	1.04	5.12	1.02	5.03
0329	05	20100201	VOC	4.23	1.00	4.24	1.00	4.23
0329	06	20100201	CO	1.83	1	1.83	1	1.83
0329	06	20100201	NOx	4.63	1.04	4.81	1.02	4.72
0329	06	20100201	VOC	4.29	1.00	4.30	1.00	4.30
0329	08	10100602	CO	0.72	0.83	0.60	0.91	0.66
0329	08	10100602	NOx	0.14	0.81	0.11	0.90	0.13
0329	08	10100602	VOC	0.05	0.83	0.04	0.91	0.05
0329	09	10100602	CO	0.71	0.83	0.59	0.91	0.65
0329	09	10100602	NOx	0.14	0.81	0.11	0.90	0.13
0329	09	10100602	VOC	0.05	0.83	0.04	0.91	0.05
0329	10	20100102	CO	0	1	0	1	0
0329	10	20100102	NOx	0.01	1	0.01	1	0.01
0329	10	20100102	VOC	0	1	0	1	0
0329	11	20100102	CO	0	1	0	1	0
0329	11	20100102	NOx	0	1	0	1	0
0329	11	20100102	VOC	0	1	0	1	0
0360	01	20300203	CO	16.01	1.39	22.30	1.20	19.15
0360	01	20300203	NOx	30.05	1.39	41.85	1.20	35.95
0360	01	20300203	VOC	0.20	1.39	0.28	1.20	0.24
0360	02	20300203	CO	21.28	1.39	29.64	1.20	25.46
0360	02	20300203	NOx	32.11	1.39	44.72	1.20	38.41
0360	02	20300203	VOC	3.85	1.39	5.36	1.20	4.61
0360	03	20300203	CO	15.66	1.39	21.81	1.20	18.73
0360	03	20300203	NOx	32.45	1.39	45.19	1.20	38.82
0360	03	20300203	VOC	4.21	1.39	5.86	1.20	5.04
0360	04	20200102	CO	0.06	1.20	0.07	1.10	0.07

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0360	04	20200102	NOx	0.02	1.20	0.02	1.10	0.02
0360	04	20200102	VOC	0	1.20	0	1.10	0
0360	06	20200102	CO	0.01	1.20	0.01	1.10	0.01
0360	06	20200102	NOx	0	1.20	0	1.10	0
0360	06	20200102	VOC	0	1.20	0	1.10	0
0360	08	20200102	CO	0	1.20	0	1.10	0
0360	08	20200102	NOx	0	1.20	0	1.10	0
0360	08	20200102	VOC	0	1.20	0	1.10	0
0372	01	20100102	CO	0.41	1.20	0.49	1.10	0.45
0372	01	20100102	NOx	2.26	1.20	2.71	1.10	2.48
0372	01	20100102	VOC	0.12	1.20	0.14	1.10	0.13
0372	02	30500242	CO	13.28	1.21	16.02	1.10	14.65
0372	02	30500242	NOx	6.85	1.21	8.26	1.10	7.56
0372	02	30500242	VOC	4.24	1.21	5.11	1.10	4.68
0372	03	30500208	CO	0.06	1	0.06	1	0.06
0372	03	30500208	NOx	0.24	1	0.24	1	0.24
0372	03	30500208	VOC	0.08	1	0.08	1	0.08
0372	04	30500208	CO	0.09	1	0.09	1	0.09
0372	04	30500208	NOx	0.36	1	0.36	1	0.36
0372	04	30500208	VOC	0.13	1	0.13	1	0.13
0372	05	30500208	CO	0.05	1	0.05	1	0.05
0372	05	30500208	NOx	0.20	1	0.20	1	0.20
0372	05	30500208	VOC	0.07	1	0.07	1	0.07
0372	06	10300602	CO	0	1.39	0	1.20	0
0372	06	10300602	NOx	0	1.39	0	1.20	0
0372	06	10300602	VOC	0	1.39	0	1.20	0
0372	07	20100102	CO	0.17	1.20	0.20	1.10	0.19
0372	07	20100102	NOx	1.68	1.20	2.01	1.10	1.85
0372	07	20100102	VOC	0.04	1.20	0.05	1.10	0.04
0372	08	10300602	CO	0	1.39	0	1.20	0
0372	08	10300602	NOx	0	1.39	0	1.20	0
0372	08	10300602	VOC	0	1.39	0	1.20	0
0372	09	20100102	CO	0	1.20	0	1.10	0
0372	09	20100102	NOx	0	1.20	0	1.10	0
0372	09	20100102	VOC	0	1.20	0	1.10	0
0372	10	10300602	CO	0	1.39	0	1.20	0
0372	10	10300602	NOx	0	1.39	0	1.20	0
0372	10	10300602	VOC	0	1.39	0	1.20	0
0372	11	30502514	CO	18.85	1.41	26.52	1.20	22.68
0372	11	30502514	NOx	2.22	1.41	3.12	1.20	2.67
0372	12	30502508	CO	0	1.41	0	1.20	0
0372	12	30502508	NOx	0	1.41	0	1.20	0
0372	12	30502508	VOC	0	1.41	0	1.20	0
0372	13	30502599	CO	0.04	1.41	0.06	1.20	0.05

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0372	13	30502599	NOx	0.25	1.41	0.35	1.20	0.30
0372	13	30502599	VOC	0.02	1.41	0.03	1.20	0.02
0391	01	20300203	CO	7.71	1.39	10.74	1.20	9.22
0391	01	20300203	NOx	32.69	1.39	45.53	1.20	39.11
0391	01	20300203	VOC	4.23	1.39	5.89	1.20	5.06
0391	02	20300203	CO	12.58	1.39	17.52	1.20	15.05
0391	02	20300203	NOx	31.51	1.39	43.88	1.20	37.70
0391	02	20300203	VOC	7.69	1.39	10.71	1.20	9.20
0391	03	20300203	CO	10.32	1.39	14.37	1.20	12.35
0391	03	20300203	NOx	33.97	1.39	47.31	1.20	40.64
0391	03	20300203	VOC	4.12	1.39	5.74	1.20	4.93
0391	04	20200101	CO	0.07	1.20	0.08	1.10	0.08
0391	04	20200101	NOx	0.02	0.86	0.02	0.93	0.02
0391	04	20200101	VOC	0.004	1.20	0.005	1.10	0.004
0391	05	20200102	CO	0.05	1.20	0.06	1.10	0.05
0391	05	20200102	NOx	0.21	1.20	0.25	1.10	0.23
0391	05	20200102	VOC	0.02	1.20	0.02	1.10	0.02
0391	07	20100201	CO	0	1	0	1	0
0391	07	20100201	NOx	0.01	1.04	0.01	1.02	0.01
0391	07	20100201	VOC	0	1.00	0	1.00	0
0393	01	20100201	CO	6.55	0.83	5.42	0.91	5.98
0393	01	20100201	NOx	29.98	0.56	16.91	0.78	23.44
0393	01	20100201	VOC	1.54	0.83	1.28	0.91	1.41
0393	02	20100201	CO	7.70	0.83	6.37	0.91	7.03
0393	02	20100201	NOx	29.75	0.56	16.78	0.78	23.26
0393	02	20100201	VOC	1.60	0.83	1.33	0.91	1.46
0393	03	20100102	CO	0.11	1	0.11	1	0.11
0393	03	20100102	NOx	0.42	1	0.42	1	0.42
0393	03	20100102	VOC	0.01	1	0.01	1	0.01
0393	04	20100102	CO	0.12	1	0.12	1	0.12
0393	04	20100102	NOx	0.45	1	0.45	1	0.45
0393	04	20100102	VOC	0.01	1	0.01	1	0.01
0393	05	10100602	CO	0.12	0.83	0.10	0.91	0.11
0393	05	10100602	NOx	7.27	0.78	5.65	0.89	6.46
0393	05	10100602	VOC	1.80	0.83	1.49	0.91	1.65
0393	06	10100602	CO	0.12	1	0.12	1	0.12
0393	06	10100602	NOx	2.93	0.78	2.28	0.89	2.60
0393	06	10100602	VOC	0.59	0.83	0.49	0.91	0.54
0393	07	20100102	CO	0	1	0	1	0
0393	07	20100102	NOx	0	1	0	1	0
0393	07	20100102	VOC	0	1	0	1	0
0393	09	40600302	VOC	0.20	0.99	0.20	1.00	0.20
0395	02	20200102	CO	0	1	0	1	0
0395	02	20200102	NOx	0	1	0	1	0

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0395	02	20200102	VOC	0	1	0	1	0
0395	03	20200102	CO	17.09	1.20	20.46	1.10	18.78
0395	03	20200102	NOx	30.70	1.20	36.76	1.10	33.73
0395	03	20200102	VOC	2.89	1.20	3.46	1.10	3.18
0395	04	20200102	CO	2.16	1.20	2.59	1.10	2.37
0395	04	20200102	NOx	13.52	1.20	16.19	1.10	14.85
0395	04	20200102	VOC	0.36	1.20	0.43	1.10	0.40
0395	05	20200102	CO	0	1.20	0	1.10	0
0395	05	20200102	NOx	0	1.20	0	1.10	0
0395	05	20200102	VOC	0	1.20	0	1.10	0
0395	06	30502503	CO	8.63	1.18	10.15	1.09	9.39
0395	06	30502503	NOx	41.23	1.18	48.53	1.09	44.88
0395	06	30502503	VOC	3.77	1.18	4.44	1.09	4.10
0395	07	50200601	CO	0.26	1	0.26	1	0.26
0395	07	50200601	NOx	1.36	1	1.36	1	1.36
0395	07	50200601	VOC	0.01	1	0.01	1	0.01
0402	01	20200102	CO	0	1.20	0	1.10	0
0402	01	20200102	NOx	0	1.20	0	1.10	0
0402	01	20200102	VOC	0	1.20	0	1.10	0
0402	02	20200102	CO	0	1.20	0	1.10	0
0402	02	20200102	NOx	0	1.20	0	1.10	0
0402	02	20200102	VOC	0	1.20	0	1.10	0
0402	03	20200202	CO	0	1.23	0	1.11	0
0402	03	20200202	NOx	0	0.55	0	0.77	0
0402	03	20200202	VOC	0	1.23	0	1.11	0
0402	04	50100789	CO	0	1	0	1	0
0402	04	50100789	NOx	0	1	0	1	0
0402	04	50100789	VOC	0	1	0	1	0
0402	05	50100789	CO	0	1.42	0	1.21	0
0402	05	50100789	NOx	0	1.42	0	1.21	0
0402	05	50100789	VOC	0	1.42	0	1.21	0
0402	06	50100799	CO	0	1.42	0	1.21	0
0402	06	50100799	NOx	0	1.42	0	1.21	0
0402	06	50100799	VOC	0	1.42	0	1.21	0
0402	07	50100799	CO	0	1	0	1	0
0402	07	50100799	NOx	0	1	0	1	0
0402	07	50100799	VOC	0	1	0	1	0
0402	08	50100799	CO	20.66	1.42	29.40	1.21	25.03
0402	08	50100799	NOx	13.52	1.42	19.24	1.21	16.38
0402	08	50100799	VOC	11.20	1.42	15.94	1.21	13.57
0423	01	20100201	CO	0.06	0.83	0.05	0.91	0.05
0423	01	20100201	NOx	3.23	0.56	1.82	0.78	2.53
0423	01	20100201	VOC	0.07	0.83	0.06	0.91	0.06
0423	02	20100201	CO	0.08	0.83	0.07	0.91	0.07

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
0423	02	20100201	NOx	4.79	0.56	2.70	0.78	3.75
0423	02	20100201	VOC	0.10	0.83	0.08	0.91	0.09
0423	03	20100201	CO	0.05	0.83	0.04	0.91	0.05
0423	03	20100201	NOx	2.70	0.56	1.52	0.78	2.11
0423	03	20100201	VOC	0.06	0.83	0.05	0.91	0.05
0434	1	10300603	CO	3.03	1.39	4.22	1.20	3.62
0434	1	10300603	NOx	3.86	1.39	5.38	1.20	4.62
0434	1	10300603	VOC	0.23	1.39	0.32	1.20	0.28
0468	1	20300202	CO	14.00	1.39	19.50	1.20	16.75
0468	1	20300202	NOx	67.50	1.39	94.01	1.20	80.75
0468	1	20300202	VOC	7.93	1.39	11.04	1.20	9.49
0482	01	40201901	CO	0.27	1.45	0.39	1.22	0.33
0482	01	40201901	NOx	0.32	1.45	0.46	1.22	0.39
0482	01	40201901	VOC	3.82	1.77	6.75	1.38	5.29
0512	1	30502599	CO	0	1.41	0	1.20	0
0512	1	30502599	NOx	0	1.41	0	1.20	0
0512	1	30502599	VOC	0.12	1.41	0.17	1.20	0.14
527	1	50300603	VOC	4.87	1	4.87	1	4.87
0533	01	20100201	CO	1.71	1	1.71	1	1.71
0533	01	20100201	NOx	3.20	1	3.20	1	3.20
0533	01	20100201	VOC	0.01	1	0.01	1	0.01
0533	02	20100102	CO	0.06	1	0.06	1	0.06
0533	02	20100102	NOx	0.40	1	0.40	1	0.40
0533	02	20100102	VOC	0.02	1	0.02	1	0.02
0533	03	20100201	CO	0	1	0	1	0
0533	03	20100201	NOx	0	1.04	0	1.02	0
0533	03	20100201	VOC	0	1.00	0	1.00	0
0533	04	20100201	CO	0	1	0	1	0
0533	04	20100201	NOx	0	1.04	0	1.02	0
0533	04	20100201	VOC	0	1.00	0	1.00	0
0533	07	20100102	CO	0.01	1	0.01	1	0.01
0533	07	20100102	NOx	0.06	1	0.06	1	0.06
0533	07	20100102	VOC	0.001	1	0.001	1	0.001
0533	08	20100102	CO	0.18	1	0.18	1	0.18
0533	08	20100102	NOx	0.17	1	0.17	1	0.17
0533	08	20100102	VOC	0.001	1	0.001	1	0.001
0533	09	20100201	CO	0.10	1	0.10	1	0.10
0533	09	20100201	NOx	2.40	1.04	2.49	1.02	2.45
0533	09	20100201	VOC	0.01	1.00	0.01	1.00	0.01
0533	10	20100102	CO	0.02	1	0.02	1	0.02
0533	10	20100102	NOx	0.07	1	0.07	1	0.07
0533	10	20100102	VOC	0.001	1	0.001	1	0.001
0564	1	10300603	CO	7.25	1.39	10.10	1.20	8.67
0564	1	10300603	NOx	8.93	1.39	12.44	1.20	10.68

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0564	1	10300603	VOC	0.74	1.39	1.03	1.20	0.89
0593	C01	30501513	CO	8.38	1.39	11.63	1.19	10.01
0593	C01	30501513	NOx	2.33	1.39	3.23	1.19	2.78
0593	C01	30501513	VOC	0.16	1.39	0.22	1.19	0.19
0593	C02	30501513	CO	8.38	1.39	11.63	1.19	10.01
0593	C02	30501513	NOx	2.33	1.39	3.23	1.19	2.78
0593	C02	30501513	VOC	0.16	1.39	0.22	1.19	0.19
0593	C03	30501513	CO	8.38	1.39	11.63	1.19	10.01
0593	C03	30501513	NOx	2.33	1.39	3.23	1.19	2.78
0593	C03	30501513	VOC	0.16	1.39	0.22	1.19	0.19
0593	C04	30501513	CO	8.38	1.39	11.63	1.19	10.01
0593	C04	30501513	NOx	2.33	1.39	3.23	1.19	2.78
0593	C04	30501513	VOC	0.16	1.39	0.22	1.19	0.19
0593	C05	30501513	CO	8.38	1.39	11.63	1.19	10.01
0593	C05	30501513	NOx	2.33	1.39	3.23	1.19	2.78
0593	C05	30501513	VOC	0.16	1.39	0.22	1.19	0.19
0593	E03a	30501520	CO	16.75	1.39	23.25	1.19	20.00
0593	E03a	30501520	NOx	3.59	1.39	4.98	1.19	4.29
0593	E03a	30501520	VOC	0.89	1.39	1.24	1.19	1.06
0593	E03b	30501520	CO	16.80	1.39	23.32	1.19	20.06
0593	E03b	30501520	NOx	3.59	1.39	4.98	1.19	4.29
0593	E03b	30501520	VOC	0.89	1.39	1.24	1.19	1.06
0593	E03c	30501520	CO	16.80	1.39	23.32	1.19	20.06
0593	E03c	30501520	NOx	3.59	1.39	4.98	1.19	4.29
0593	E03c	30501520	VOC	0.89	1.39	1.24	1.19	1.06
0593	E03d	30501520	CO	16.80	1.39	23.32	1.19	20.06
0593	E03d	30501520	NOx	3.59	1.39	4.98	1.19	4.29
0593	E03d	30501520	VOC	0.89	1.39	1.24	1.19	1.06
0593	E03e	30501520	CO	16.80	1.39	23.32	1.19	20.06
0593	E03e	30501520	NOx	3.59	1.39	4.98	1.19	4.29
0593	E03e	30501520	VOC	0.89	1.39	1.24	1.19	1.06
0593	E105	30501502	CO	0.10	1.39	0.14	1.19	0.12
0593	E105	30501502	NOx	0.12	1.39	0.17	1.19	0.15
0593	E105	30501502	VOC	0.01	1.39	0.01	1.19	0.008
0593	E106	30501502	CO	0.10	1.39	0.13	1.19	0.12
0593	E106	30501502	NOx	0.12	1.39	0.16	1.19	0.14
0593	E106	30501502	VOC	0.01	1.39	0.01	1.19	0.008
0593	E110	30501511	CO	2.17	1.39	3.01	1.19	2.59
0593	E110	30501511	NOx	2.58	1.39	3.58	1.19	3.08
0593	E110	30501511	VOC	0.16	1.39	0.22	1.19	0.19
0593	E111	30501511	CO	2.02	1.39	2.80	1.19	2.41
0593	E111	30501511	NOx	2.41	1.39	3.34	1.19	2.87
0593	E111	30501511	VOC	0.14	1.39	0.20	1.19	0.17
0593	E145	20200202	CO	1.50	1.23	1.84	1.11	1.67

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0593	E145	20200202	NOx	1.79	0.55	0.98	0.77	1.38
0593	E145	20200202	VOC	0.11	1.23	0.13	1.11	0.12
0593	E146	20200202	CO	0.23	1.23	0.28	1.11	0.25
0593	E146	20200202	NOx	0.27	0.55	0.15	0.77	0.21
0593	E146	20200202	VOC	0.02	1.23	0.02	1.11	0.02
0593	E147	20200202	CO	0.17	1.23	0.21	1.11	0.19
0593	E147	20200202	NOx	0.20	0.55	0.11	0.77	0.16
0593	E147	20200202	VOC	0.01	1.23	0.01	1.11	0.01
0593	E148	20200202	CO	0.20	1.23	0.24	1.11	0.22
0593	E148	20200202	NOx	0.23	0.55	0.13	0.77	0.18
0593	E148	20200202	VOC	0.01	1.23	0.02	1.11	0.02
0593	E153	20200202	CO	0.04	1.23	0.05	1.11	0.04
0593	E153	20200202	NOx	0.05	0.55	0.02	0.77	0.03
0593	E153	20200202	VOC	0.003	1.23	0.004	1.11	0.003
0593	E154	30501599	CO	0.04	1.39	0.05	1.19	0.05
0593	E154	30501599	NOx	0.05	1.39	0.06	1.19	0.05
0593	E154	30501599	VOC	0.003	1.39	0.004	1.19	0.004
0593	G33	20100102	CO	0.003	1	0.003	1	0.003
0593	G33	20100102	NOx	0.001	1	0.001	1	0.001
0593	G33	20100102	VOC	0	1	0	1	0
0593	G34	20100102	CO	0.04	1	0.04	1	0.04
0593	G34	20100102	NOx	0.01	1	0.008	1	0.008
0593	G34	20100102	VOC	0.01	1	0.009	1	0.009
0593	Z01	30501599	CO	0.01	1.39	0.02	1.19	0.02
0593	Z01	30501599	NOx	0.06	1.39	0.08	1.19	0.07
0593	Z01	30501599	VOC	0.003	1.39	0.004	1.19	0.004
0603	1	10300603	CO	3.54	1.39	4.93	1.20	4.24
0603	1	10300603	NOx	4.98	1.39	6.94	1.20	5.96
0603	1	10300603	VOC	0.28	1.39	0.39	1.20	0.33
0609	1	10300603	CO	9.26	1.39	12.90	1.20	11.08
0609	1	10300603	NOx	5.24	1.39	7.30	1.20	6.27
0609	1	10300603	VOC	0.91	1.39	1.27	1.20	1.09
0611	1	10300603	CO	1.29	1.39	1.80	1.20	1.54
0611	1	10300603	NOx	1.79	1.39	2.49	1.20	2.14
0611	1	10300603	VOC	0.11	1.39	0.15	1.20	0.13
0613	1	10300603	CO	2.42	1.39	3.37	1.20	2.90
0613	1	10300603	NOx	2.71	1.39	3.77	1.20	3.24
0613	1	10300603	VOC	0.71	1.39	0.99	1.20	0.85
0652	A01	20100201	CO	0	1	0	1	0
0652	A01	20100201	NOx	75.23	1	75.23	1	75.23
0652	A01	20100201	VOC	3.69	1	3.69	1	3.69
0652	A02	20100201	CO	0	1	0	1	0
0652	A02	20100201	NOx	76.82	1	76.82	1	76.82
0652	A02	20100201	VOC	3.33	1	3.33	1	3.33

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0652	A03	20200102	CO	0.06	1.20	0.07	1.10	0.07
0652	A03	20200102	NOx	1.45	1.20	1.74	1.10	1.59
0652	A03	20200102	VOC	0.01	1.20	0.01	1.10	0.01
0652	A07	40600305	VOC	0.23	1.20	0.27	1.10	0.25
0697	1	10300603	CO	1.01	1.39	1.41	1.20	1.21
0697	1	10300603	NOx	8.20	1.39	11.42	1.20	9.81
0697	1	10300603	VOC	1.99	1.39	2.77	1.20	2.38
0737	1	10300603	CO	16.18	1.39	22.53	1.20	19.36
0737	1	10300603	NOx	14.17	1.39	19.73	1.20	16.95
0737	1	10300603	VOC	2.48	1.39	3.45	1.20	2.97
0749	1	10300603	CO	5.81	1.39	8.09	1.20	6.95
0749	1	10300603	NOx	3.48	1.39	4.85	1.20	4.16
0749	1	10300603	VOC	0.52	1.39	0.72	1.20	0.62
0756	1	10300603	CO	19.66	1.39	27.38	1.20	23.52
0756	1	10300603	NOx	14.07	1.39	19.60	1.20	16.83
0756	1	10300603	VOC	5.40	1.39	7.52	1.20	6.46
0825	1	10300603	CO	19.23	1.39	26.78	1.20	23.01
0825	1	10300603	NOx	15.25	1.39	21.24	1.20	18.24
0825	1	10300603	VOC	2.90	1.39	4.04	1.20	3.47
0837	1	20200202	CO	5.05	1.23	6.19	1.11	5.62
0837	1	20200202	NOx	2.39	0.55	1.31	0.77	1.85
0837	1	20200202	VOC	0.06	1.23	0.07	1.11	0.07
0856	1	10300603	CO	14.96	1.39	20.83	1.20	17.90
0856	1	10300603	NOx	8.64	1.39	12.03	1.20	10.34
0856	1	10300603	VOC	1.35	1.39	1.88	1.20	1.62
0859	01	40202240	VOC	21.90	1.39	30.50	1.20	26.20
1513	01	20100201	CO	1.99	1	1.99	1	1.99
1513	01	20100201	NOx	61.97	1.04	64.37	1.02	63.17
1513	01	20100201	VOC	4.41	1.00	4.42	1.00	4.42
1513	03	20100201	CO	3.46	1	3.46	1	3.46
1513	03	20100201	NOx	62.70	1.04	65.13	1.02	63.91
1513	03	20100201	VOC	1.91	1.00	1.91	1.00	1.91
1513	05	20100201	CO	1.23	1	1.23	1	1.23
1513	05	20100201	NOx	61.44	1.04	63.82	1.02	62.63
1513	05	20100201	VOC	0.10	1.00	0.10	1.00	0.10
1513	07	20100201	CO	2.26	1	2.26	1	2.26
1513	07	20100201	NOx	58.51	1.04	60.78	1.02	59.64
1513	07	20100201	VOC	0.10	1.00	0.10	1.00	0.10
1513	09	10200603	CO	0.01	1.25	0.01	1.12	0.01
1513	09	10200603	NOx	0.09	1.25	0.11	1.12	0.10
1513	09	10200603	VOC	0.10	1.25	0.12	1.12	0.11
1513	10	10200603	CO	0.001	1.25	0.001	1.12	0.001
1513	10	10200603	NOx	0.001	1.25	0.001	1.12	0.001
1513	10	10200603	VOC	0.05	1.25	0.06	1.12	0.06

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
1513	12	20201001	CO	0.07	1.16	0.08	1.08	0.08
1513	12	20201001	NOx	0.06	1.16	0.07	1.08	0.06
1513	12	20201001	VOC	0.01	1.16	0.01	1.08	0.01
1513	13	20201001	CO	0.07	1.16	0.08	1.08	0.08
1513	13	20201001	NOx	0.06	1.16	0.07	1.08	0.06
1513	13	20201001	VOC	0.01	1.16	0.01	1.08	0.01
1513	14	20200102	CO	0.15	1.20	0.18	1.10	0.16
1513	14	20200102	NOx	0.12	1.20	0.14	1.10	0.13
1513	14	20200102	VOC	0.01	1.20	0.01	1.10	0.01
1513	15	20200102	CO	0	1.20	0	1.10	0
1513	15	20200102	NOx	0	1.20	0	1.10	0
1513	15	20200102	VOC	0	1.20	0	1.10	0
1513	16	10500206	CO	0.01	1.40	0.01	1.20	0.01
1513	16	10500206	NOx	0.05	1.40	0.07	1.20	0.06
1513	16	10500206	VOC	0.07	1.40	0.10	1.20	0.08
1520	A01,2	20100201	CO	12.60	1	12.60	1	12.60
1520	A01,2	20100201	NOx	73.60	1	73.60	1	73.60
1520	A01,2	20100201	VOC	4.40	1	4.40	1	4.40
1520	A03,4	20100201	CO	9.30	1	9.30	1	9.30
1520	A03,4	20100201	NOx	71.10	1	71.10	1	71.10
1520	A03,4	20100201	VOC	4.10	1	4.10	1	4.10
1520	A05	20200102	CO	2.00	1.20	2.39	1.10	2.20
1520	A05	20200102	NOx	2.40	1.20	2.87	1.10	2.64
1520	A05	20200102	VOC	0.20	1.20	0.24	1.10	0.22
1520	A06	20200102	CO	0.02	1.20	0.02	1.10	0.02
1520	A06	20200102	NOx	0.09	1.20	0.11	1.10	0.10
1520	A06	20200102	VOC	0.01	1.20	0.01	1.10	0.01
1520	A07	20200102	CO	0.02	1.20	0.02	1.10	0.02
1520	A07	20200102	NOx	0.10	1.20	0.12	1.10	0.11
1520	A07	20200102	VOC	0.01	1.20	0.01	1.10	0.01
1550	A01,2	20100201	CO	1.84	1	1.84	1	1.84
1550	A01,2	20100201	NOx	9.49	1	9.49	1	9.49
1550	A01,2	20100201	VOC	0.01	1	0.01	1	0.01
1550	A03,4	20100201	CO	0	1	0	1	0
1550	A03,4	20100201	NOx	8.08	1	8.08	1	8.08
1550	A03,4	20100201	VOC	0.18	1	0.18	1	0.18
1550	A05	10300602	CO	0.09	1.39	0.13	1.20	0.11
1550	A05	10300602	NOx	0.06	1.39	0.08	1.20	0.07
1550	A05	10300602	VOC	0.01	1.39	0.01	1.20	0.01
1550	A06	20200102	CO	0.43	1.20	0.51	1.10	0.47
1550	A06	20200102	NOx	1.87	1.20	2.24	1.10	2.05
1550	A06	20200102	VOC	0.05	1	0.05	1	0.05
1584	A01,2	20100201	CO	14.71	1	14.71	1	14.71
1584	A01,2	20100201	NOx	53.57	1	53.57	1	53.57

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
1584	A01,2	20100201	VOC	0.15	1	0.15	1	0.15
1584	A03,4	20100201	CO	5.81	1	5.81	1	5.81
1584	A03,4	20100201	NOx	48.53	1	48.53	1	48.53
1584	A03,4	20100201	VOC	0.15	1	0.15	1	0.15
1584	A05	20200102	CO	0.03	1.20	0.04	1.10	0.03
1584	A05	20200102	NOx	0.13	1.20	0.16	1.10	0.14
1584	A05	20200102	VOC	0.01	1.20	0.01	1.10	0.01
1584	A06	20200102	CO	0.001	1.20	0.001	1.10	0.001
1584	A06	20200102	NOx	0.001	1.20	0.001	1.10	0.001
1584	A06	20200102	VOC	0.001	1.20	0.001	1.10	0.001
1590	1	20300202	CO	2.42	1.39	3.37	1.20	2.90
1590	1	20300202	NOx	32.20	1.39	44.84	1.20	38.52
1590	1	20300202	VOC	0.04	1.39	0.06	1.20	0.05
15033	01	50300601	CO	14.84	1.44	21.36	1.22	18.10
15033	01	50300601	NOx	2.37	1.44	3.41	1.22	2.89
15033	01	50300601	VOC	3.73	1.44	5.37	1.22	4.55
AP49110398	01	10100602	CO	0	0.28	0	0.64	0
AP49110398	01	10100602	NOx	0	1	0	1	0
AP49110398	01	10100602	VOC	0	0.83	0	0.91	0
AP49110398	02	10100602	CO	0	0.83	0	0.91	0
AP49110398	02	10100602	NOx	0	1	0	1	0
AP49110398	02	10100602	VOC	0	0.83	0	0.91	0
AP49110398	03	10100602	CO	0	0.83	0	0.91	0
AP49110398	03	10100602	NOx	0	1	0	1	0
AP49110398	03	10100602	VOC	0	0.83	0	0.91	0
AP49110399	01	10100602	CO	22.34	0.83	18.50	0.91	20.42
AP49110399	01	10100602	NOx	55.58	1	55.58	1	55.58
AP49110399	01	10100602	VOC	3.79	0.83	3.14	0.91	3.46
AP49110400	1	10100101	CO	68.48	1.91	131.04	1.46	99.76
AP49110400	1	10100101	NOx	1,312.85	1	1,312.85	1	1,312.85
AP49110400	1	10100101	VOC	8.22	1	8.22	1	8.22
AP49110400	2	10100101	CO	79.58	1.91	152.28	1.46	115.93
AP49110400	2	10100101	NOx	1,609.71	1	1,609.71	1	1,609.71
AP49110400	2	10100101	VOC	9.55	1	9.55	1	9.55
AP49110400	3	10100101	CO	77.68	1.91	148.64	1.46	113.16
AP49110400	3	10100101	NOx	1,012.73	1	1,012.73	1	1,012.73
AP49110400	3	10100101	VOC	9.32	1	9.32	1	9.32
AP49110400	4	10100101	CO	182.20	1.91	348.64	1.46	265.42
AP49110400	4	10100101	NOx	1,623.27	1	1,623.27	1	1,623.27
AP49110400	4	10100101	VOC	21.86	1	21.86	1	21.86
AP49110400	5	40600402	VOC	0.54	1.78	0.96	1.39	0.75
AP49110774	1	10100101	CO	0	1	0	1	0
AP49110774	1	10100101	NOx	0	1	0	1	0
AP49110774	1	10100101	VOC	0	1	0	1	0

Facility ID	EU	SCC	Pollutant	Actual 2008 Emissions (tpy)	2022 GF	Projected 2022 Emissions (tpy)	2015 GF	Projected 2015 Emissions (tpy)
PRJEGU33	#1	20100201	CO	394.20	1	394.20	1	394.20
PRJEGU33	#1	20100201	NOx	443.48	1	443.48	1	443.48
PRJEGU33	#1	20100201	VOC	25.81	1	25.81	1	25.81
PRJEGU33	#2	20100201	CO	394.20	1	394.20	1	394.20
PRJEGU33	#2	20100201	NOx	443.48	1	443.48	1	443.48
PRJEGU33	#2	20100201	VOC	25.81	1	25.81	1	25.81

Table 2-7. Projected 2022 CO Point Source Emissions

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0003	01	0.01	1	20100102	0.01	a	0.05	0.05	25
0003	02	52.68	1.39	30501604	73.11		288.66	400.61	25
0003	03	51.54	1.39	30501604	71.53		282.41	391.94	25
0003	04	26.05	1.39	30501604	36.15		142.74	198.10	25
0003	05	130.50	1.39	30501604	181.11		715.07	992.40	25
0003	07	0.03	1	20100102	0.03	a	0.16	0.16	25
0003	10	0.35	1.39	10300603	0.49		1.92	2.67	25
0003	28	18.06	1.39	30501699	25.06		98.96	137.34	25
0004	B8	0	1.20	20200401	0		0	0	25
0004	E11	0.51	1.39	30501513	0.71		2.79	3.88	25
0004	F1	0	1.39	30501502	0		0	0	25
0004	F2	0	1.39	30501502	0		0	0	25
0004	F3	0	1.39	30501511	0		0	0	25
0004	F4	0	1.39	30501511	0		0	0	25
0004	G1	1.45	1.39	30501511	2.01		7.95	11.03	25
0004	G1a	0	1.39	30501511	0		0	0	25
0004	G1b	0	1.39	30501511	0		0	0	25
0004	G1c	0	1.39	30501511	0		0	0	25
0004	J2	0	1.39	30501599	0		0	0	25
0004	J3	51.66	1.39	30501520	71.70		283.07	392.85	25
0004	L3	0.21	1.20	20200401	0.25		1.15	1.38	25
0005	01	0.08	1.41	30501516	0.11	**	0.44	0.62	25
0007	04	0.80	0.83	20100201	0.66		4.73	3.92	27
0007	05	31.40	0.83	20100201	26.00		185.82	153.84	27
0007	06	56.80	0.83	20100201	47.02		336.13	278.28	27
0007	07	50.80	0.83	20100201	42.06		300.62	248.89	27
0007	08	26.20	0.83	20100201	21.69		155.05	128.36	27
0007	21	0.01	1.20	20200102	0.01		0.06	0.07	27
0007	22	0	1.20	20200102	0		0	0	27
0007	27	0.06	1.20	20200201	0.07		0.36	0.43	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0007	28	0.03	1.20	20200201	0.04		0.18	0.21	27
0007	29	0.03	1.20	20200201	0.04		0.18	0.21	27
0007	30	0.01	1.20	20200201	0.01		0.06	0.07	27
0007	31	0.19	1.20	20200201	0.23		1.12	1.35	27
0007	32	0.12	1.20	20200201	0.14		0.71	0.85	27
0007	33	0.02	1.20	20200201	0.02		0.12	0.14	27
0007	34	0.33	1.20	20200201	0.40		1.95	2.34	27
0007	35	0.61	1.20	20200201	0.73		3.61	4.32	27
0007	36	0.55	1.20	20200201	0.66		3.25	3.90	27
0007	37	0.46	1.20	20200201	0.55		2.72	3.26	27
0007	38	0.31	1.20	20200201	0.37		1.83	2.20	27
0007	45	0.02	1.20	20200102	0.02		0.12	0.14	27
0007	46	0	1.20	20200102	0		0	0	27
0008	8-01	2.12	0.83	20100102	1.76		46.47	38.47	100
0008	8-02	0.02	1.20	20200102	0.02		0.44	0.52	100
0011	01	0	1.18	30502513	0		0	0	25
0011	05	0	1.39	30501501	0		0	0	25
0011	09	0.19	1.39	30501513	0.26		1.04	1.44	25
0011	10	0.19	1.39	30501513	0.26		1.04	1.44	25
0011	11	0.19	1.39	30501513	0.26		1.04	1.44	25
0011	12	0.09	1.39	30501513	0.12		0.49	0.68	25
0011	13	0.09	1.39	30501513	0.12		0.49	0.68	25
0011	14	0.09	1.39	30501513	0.12		0.49	0.68	25
0011	18	67.41	1.39	30501520	93.55		369.37	512.63	25
0011	19	78.65	1.39	30501520	109.15		430.96	598.10	25
0011	20	44.94	1.39	30501520	62.37		246.25	341.75	25
0011	21	17.98	1.39	30501520	24.95		98.52	136.73	25
0011	22	15.73	1.39	30501520	21.83		86.19	119.62	25
0011	25	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	26	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	30	3.44	1.39	30501520	4.77		18.85	26.16	25
0011	31	2.68	1.39	30501520	3.72		14.68	20.38	25
0011	32	1.53	1.39	30501520	2.12		8.38	11.64	25
0011	36	16.65	1.39	30501501	23.11		91.23	126.62	25
0011	45	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	46	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	48	0	1.39	30501507	0		0	0	25
0011	50	3.44	1.39	30501520	4.77		18.85	26.16	25
0011	51	2.68	1.39	30501520	3.72		14.68	20.38	25
0011	52	1.53	1.39	30501520	2.12		8.38	11.64	25
0011	01a	8.03	1.18	30502513	9.45		44.00	51.79	25
0011	18a	6.51	1.39	30501520	9.03		35.67	49.51	25
0011	19a	7.59	1.39	30501520	10.53		41.59	57.72	25
0011	20a	4.34	1.39	30501520	6.02		23.78	33.00	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0011	21a	1.74	1.39	30501520	2.41		9.53	13.23	25
0011	22a	1.52	1.39	30501520	2.11		8.33	11.56	25
0012	01	16.30	1.40	30500257	22.76		89.32	124.70	25
0012	02	0	1.37	30500206	0		0	0	25
0012	03	0.29	1.40	30500298	0.40		1.59	2.22	25
0013	B10	0.99	0.96	30600904	0.95		5.44	5.22	25
0013	D02	0.008	1	20200102	0.008	a	0.04	0.04	25
0013	SR04	0.09	1.25	10200602	0.11	**	0.49	0.61	25
0019	A01	316.02	1.49	30301299	472.17		1731.62	2,587.24	25
0019	B06	36.00	1.33	10201402	47.95		197.24	262.75	25
0019	B09	0	1.23	10200602	0		0	0	25
0019	B10	0.02	1.49	30301202	0.02		0.09	0.13	25
0019	C05	0.03	1.49	30301201	0.04		0.16	0.23	25
0019	D02E	0	1.49	30301202	0		0	0	25
0019	D02W	0	1.49	30301299	0		0	0	25
0019	E03	0.0003	1.49	30301202	0.0004		0.002	0.002	25
0019	G02	0.0004	1.20	20200104	0.0005		0.002	0.003	25
0019	G10	0.0002	1.20	20200104	0.0002		0.001	0.001	25
0019	M11	0	1.20	30399999	0		0	0	25
0026	01	1.88	1.39	10300603	2.62		10.30	14.35	25
0047	1	8.90	1.39	10300603	12.39		48.77	67.92	25
0073	1	5.12	1.39	10300603	7.13		28.05	39.07	25
0074	1	2.89	1.39	10300603	4.02		15.84	22.05	25
0075	01	0.09	1.61	30800799	0.14		0.47	0.76	25
0076	1	3.90	1.39	10300603	5.43		21.37	29.76	25
0077	1	2.43	1.39	10300603	3.38		13.32	18.54	25
0081	1	4.66	1.39	10300603	6.49		25.53	35.56	25
0085	1	10.07	1.39	10300603	14.02		55.18	76.85	25
0086	1	12.72	1.39	10300603	17.71		69.70	97.07	25
0095	A01	0.01	1.09	20300101	0.01	**	0.07	0.07	25
0095	A02	0.02	1.09	20300101	0.02	**	0.11	0.12	25
0095	A03	0.02	1.09	20300101	0.02	**	0.11	0.12	25
0095	A04	0.06	1.09	20300101	0.06	**	0.31	0.34	25
0095	A05	0.65	1.39	10300602	0.91		3.56	4.96	25
0095	A07	0.11	1.39	10300602	0.15		0.60	0.84	25
0095	A10	36.77	1.45	30107002	53.40	**	201.48	292.59	25
0095	A15	0.39	1.45	30107002	0.57	**	2.14	3.10	25
0133	1	4.04	1.39	10300603	5.63		22.14	30.83	25
0138	01	8.11	1.18	30504099	9.55		44.44	52.30	25
0138	02	1.79	1.18	30504033	2.11		9.81	11.54	25
0149	01	3.42	1	50300603	3.42		18.74	18.74	25
0153	1	4.06	1.39	10300603	5.65		22.25	30.98	25
0154	01	0	1.48	30500699	0		0	0	25
0155	1	8.78	1.39	10300603	12.23		48.11	67.00	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0256	1	1.76	1.39	10300603	2.45		9.64	13.43	25
0257	1	2.35	1.39	10300603	3.27		12.88	17.93	25
0276	1	1.99	1.39	10300603	2.77		10.90	15.19	25
0282	1	12.61	1.39	10300603	17.56		69.10	96.23	25
0323	01	0.34	1.58	40201399	0.54		1.86	2.95	25
0329	01	1.83	0.83	20100201	1.52		20.46	16.94	51
0329	03	2.05	1	20100201	2.05		22.92	22.92	51
0329	04	1.53	1	20100201	1.53		17.10	17.10	51
0329	05	1.58	1	20100201	1.58		17.66	17.66	51
0329	06	1.83	1	20100201	1.83		20.46	20.46	51
0329	08	0.72	0.83	10100602	0.60		8.05	6.66	51
0329	09	0.71	0.83	10100602	0.59		7.94	6.57	51
0329	10	0	1	20100102	0		0	0	51
0329	11	0	1	20100102	0		0	0	51
0360	01	16.01	1.39	20300203	22.30		94.74	131.95	27
0360	02	21.28	1.39	20300203	29.64		125.93	175.38	27
0360	03	15.66	1.39	20300203	21.81		92.67	129.06	27
0360	04	0.06	1.20	20200102	0.07		0.36	0.43	27
0360	06	0.01	1.20	20200102	0.01		0.06	0.07	27
0360	08	0	1.20	20200102	0		0	0	27
0372	01	0.41	1.20	20100102	0.49		2.25	2.69	25
0372	02	13.28	1.21	30500242	16.02		72.77	87.78	25
0372	03	0.06	1	30500208	0.06		0.32	0.32	25
0372	04	0.09	1	30500208	0.09		0.49	0.49	25
0372	05	0.05	1	30500208	0.05		0.27	0.27	25
0372	06	0	1.39	10300602	0		0	0	25
0372	07	0.17	1.20	20100102	0.20		0.93	1.12	25
0372	08	0	1.39	10300602	0		0	0	25
0372	09	0	1.20	20100102	0		0	0	25
0372	10	0	1.39	10300602	0		0	0	25
0372	11	18.85	1.41	30502514	26.52	**	103.29	145.30	25
0372	12	0	1.41	30502508	0	**	0	0	25
0372	13	0.04	1.41	30502599	0.06	**	0.22	0.31	25
0391	01	7.71	1.39	20300203	10.74		45.63	63.54	27
0391	02	12.58	1.39	20300203	17.52		74.45	103.68	27
0391	03	10.32	1.39	20300203	14.37		61.07	85.05	27
0391	04	0.07	1.20	20200101	0.08		0.41	0.50	27
0391	05	0.05	1.20	20200102	0.06		0.30	0.35	27
0391	07	0	1	20100201	0		0	0	27
0393	01	6.55	0.83	20100201	5.42		38.74	32.07	27
0393	02	7.70	0.83	20100201	6.37		45.55	37.71	27
0393	03	0.11	1	20100102	0.11	a	0.65	0.65	27
0393	04	0.12	1	20100102	0.12	a	0.71	0.71	27
0393	05	0.12	0.83	10100602	0.10		0.73	0.61	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0393	06	0.12	1	10100602	0.12	a	0.68	0.68	27
0393	07	0	1	20100102	0		0	0	27
0395	02	0	1	20200102	0		0	0	25
0395	03	17.09	1.20	20200102	20.46		93.64	112.12	25
0395	04	2.16	1.20	20200102	2.59		11.84	14.17	25
0395	05	0	1.20	20200102	0		0	0	25
0395	06	8.63	1.18	30502503	10.15		47.26	55.63	25
0395	07	0.26	1	50200601	0.26	a	1.40	1.40	25
0402	01	0	1.20	20200102	0		0	0	25
0402	02	0	1.20	20200102	0		0	0	25
0402	03	0	1.23	20200202	0		0	0	25
0402	04	0	1	50100789	0		0	0	25
0402	05	0	1.42	50100789	0		0	0	25
0402	06	0	1.42	50100799	0		0	0	25
0402	07	0	1	50100799	0		0	0	25
0402	08	20.66	1.42	50100799	29.40		113.21	161.07	25
0423	01	0.06	0.83	20100201	0.05		0.49	0.40	37
0423	02	0.08	0.83	20100201	0.07		0.65	0.54	37
0423	03	0.05	0.83	20100201	0.04		0.41	0.34	37
0434	1	3.03	1.39	10300603	4.22		16.60	23.12	25
0468	1	14.00	1.39	20300202	19.50		76.71	106.84	25
0482	01	0.27	1.45	40201901	0.39	**	1.48	2.14	25
0512	1	0	1.41	30502599	0	**	0	0	25
0533	01	1.71	1	20100201	1.71		29.98	29.98	80
0533	02	0.06	1	20100102	0.06	a	1.05	1.05	80
0533	03	0	1	20100201	0	a	0	0	80
0533	04	0	1	20100201	0	a	0	0	80
0533	07	0.01	1	20100102	0.01	a	0.18	0.18	80
0533	08	0.18	1	20100102	0.18	a	3.16	3.16	80
0533	09	0.10	1	20100201	0.10	a	1.75	1.75	80
0533	10	0.02	1	20100102	0.02	a	0.35	0.35	80
0564	1	7.25	1.39	10300603	10.10		39.73	55.33	25
0593	C01	8.38	1.39	30501513	11.63		45.92	63.73	25
0593	C02	8.38	1.39	30501513	11.63		45.92	63.73	25
0593	C03	8.38	1.39	30501513	11.63		45.92	63.73	25
0593	C04	8.38	1.39	30501513	11.63		45.92	63.73	25
0593	C05	8.38	1.39	30501513	11.63		45.92	63.73	25
0593	E03a	16.75	1.39	30501520	23.25		91.78	127.38	25
0593	E03b	16.80	1.39	30501520	23.32		92.05	127.76	25
0593	E03c	16.80	1.39	30501520	23.32		92.05	127.76	25
0593	E03d	16.80	1.39	30501520	23.32		92.05	127.76	25
0593	E03e	16.80	1.39	30501520	23.32		92.05	127.76	25
0593	E105	0.10	1.39	30501502	0.14		0.57	0.79	25
0593	E106	0.10	1.39	30501502	0.13		0.53	0.74	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0593	E110	2.17	1.39	30501511	3.01		11.88	16.49	25
0593	E111	2.02	1.39	30501511	2.80		11.07	15.36	25
0593	E145	1.50	1.23	20200202	1.84		8.22	10.07	25
0593	E146	0.23	1.23	20200202	0.28		1.24	1.52	25
0593	E147	0.17	1.23	20200202	0.21		0.94	1.15	25
0593	E148	0.20	1.23	20200202	0.24		1.07	1.31	25
0593	E153	0.04	1.23	20200202	0.05		0.21	0.26	25
0593	E154	0.04	1.39	20200202	0.05		0.21	0.29	25
0593	G33	0.003	1	20100102	0.003	a	0.02	0.02	25
0593	G34	0.04	1	20100102	0.04	a	0.19	0.19	25
0593	Z01	0.01	1.39	30501599	0.02		0.07	0.10	25
0603	1	3.54	1.39	10300603	4.93		19.40	27.01	25
0609	1	9.26	1.39	10300603	12.90		50.74	70.66	25
0611	1	1.29	1.39	10300603	1.80		7.07	9.84	25
0613	1	2.42	1.39	10300603	3.37		13.26	18.47	25
0652	A01	0	1	20100201	0		0	0	27
0652	A02	0	1	20100201	0		0	0	27
0652	A03	0.06	1.20	20200102	0.07		0.36	0.43	27
0697	1	1.01	1.39	10300603	1.41		5.53	7.71	25
0737	1	16.18	1.39	10300603	22.53		88.66	123.47	25
0749	1	5.81	1.39	10300603	8.09		31.84	44.34	25
0756	1	19.66	1.39	10300603	27.38		107.73	150.03	25
0825	1	19.23	1.39	10300603	26.78		105.37	146.75	25
0837	1	5.05	1.23	20200202	6.19		27.67	33.91	25
0856	1	14.96	1.39	10300603	20.83		81.97	114.16	25
1513	01	1.99	1	20100201	1.99		10.90	10.90	25
1513	03	3.46	1	20100201	3.46		18.96	18.96	25
1513	05	1.23	1	20100201	1.23		6.74	6.74	25
1513	07	2.26	1	20100201	2.26		12.38	12.38	25
1513	09	0.01	1.25	10200603	0.01	**	0.05	0.07	25
1513	10	0.001	1.25	10200603	0.001	**	0.01	0.01	25
1513	12	0.07	1.16	20201001	0.08	**	0.38	0.45	25
1513	13	0.07	1.16	20201001	0.08	**	0.38	0.45	25
1513	14	0.15	1.20	20200102	0.18		0.82	0.98	25
1513	15	0	1.20	20200102	0		0	0	25
1513	16	0.01	1.40	10500206	0.01	**	0.05	0.08	25
1520	A01,2	12.60	1	20100201	12.60		124.27	124.27	45
1520	A03,4	9.30	1	20100201	9.30		91.73	91.73	45
1520	A05	2.00	1.20	20200102	2.39		19.73	23.62	45
1520	A06	0.02	1.20	20200102	0.02		0.20	0.24	45
1520	A07	0.02	1.20	20200102	0.02		0.20	0.24	45
1550	A01,2	1.84	1	20100201	1.84		12.50	12.50	31
1550	A03,4	0	1	20100201	0		0	0	31
1550	A05	0.09	1.39	10300602	0.13		0.61	0.85	31

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
1550	A06	0.43	1.20	20200102	0.51		2.92	3.50	31
1584	A01,2	14.71	1	20100201	14.71		96.72	96.72	30
1584	A03,4	5.81	1	20100201	5.81		38.20	38.20	30
1584	A05	0.03	1.20	20200102	0.04		0.20	0.24	30
1584	A06	0.001	1.20	20200102	0.001		0.01	0.01	30
1590	1	2.42	1.39	20300202	3.37		13.26	18.47	25
15033	01	14.84	1.44	50300601	21.36		81.32	117.05	25
AP49110398	01	0	0.28	10100602	0		0	0	25
AP49110398	02	0	0.83	10100602	0		0	0	25
AP49110398	03	0	0.83	10100602	0		0	0	25
AP49110399	01	22.34	0.83	10100602	18.50		249.72	206.74	51
AP49110400	1	68.48	1.91	10100101	131.04		405.25	775.45	27
AP49110400	2	79.58	1.91	10100101	152.28		470.94	901.14	25
AP49110400	3	77.68	1.91	10100101	148.64		459.70	879.63	27
AP49110400	4	182.20	1.91	10100101	348.64		1078.22	2,063.19	27
AP49110774	1	0	1	10100101	0		0	0	27
PRJEGU33	#1	0	1	20100201	394.20	b	0	2,332.80	27
PRJEGU33	#2	0	1	20100201	394.20	b	0	2,332.80	27

** = Growth Factor taken from EGAS.
a = DAQEM assigned growth factor.
b = For 2018 projected emission units, the most conservative growth factors for similar SCC emission units used with a four-year growth term (2018-2022).

Table 2-8. Projected 2022 VOC Point Source Emissions

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0003	01	0.01	1	20100102	0.01	a	0.05	0.05	25
0003	02	1.89	1.18	30501604	2.23		10.36	12.22	25
0003	03	1.36	1.18	30501604	1.60		7.45	8.79	25
0003	04	2.61	1.18	30501604	3.08		14.30	16.87	25
0003	05	11.88	1.18	30501604	14.02		65.10	76.81	25
0003	07	0.01	1	20100102	0.01	a	0.05	0.05	25
0003	10	0.02	1.18	10300603	0.02		0.11	0.13	25
0003	28	1.85	1.18	30501699	2.18		10.14	11.96	25
0004	01	9.36	1.18	30500421	11.02		51.29	60.37	25
0004	B8	0	1	20200401	0	a	0	0	25
0004	E11	0.32	1.39	30501513	0.44		1.75	2.43	25
0004	F1	0	1	30501502	0	a	0	0	25
0004	F2	0	1.39	30501502	0		0	0	25
0004	F3	0	1.39	30501511	0		0	0	25
0004	F4	0	1.39	30501511	0		0	0	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0004	G1	0.36	1	30501511	0.36	a	1.97	1.97	25
0004	G1a	0	1.39	30501511	0		0	0	25
0004	G1b	0	1.39	30501511	0		0	0	25
0004	G1c	0	1.39	30501511	0		0	0	25
0004	J2	0	1.39	30501599	0		0	0	25
0004	J3	0.77	1.39	30501520	1.07		4.22	5.86	25
0004	L3	0.02	1.20	20200401	0.02		0.11	0.13	25
0004	B8	0	1	20200401	0	a	0	0	25
0005	01	0.59	1.41	30501516	0.83	**	3.23	4.55	25
0007	04	0.20	0.83	20100201	0.17		1.18	0.98	27
0007	05	1.60	0.83	20100201	1.32		9.47	7.84	27
0007	06	0.40	0.83	20100201	0.33		2.37	1.96	27
0007	07	3.30	0.83	20100201	2.73		19.53	16.17	27
0007	08	1.90	0.83	20100201	1.57		11.24	9.31	27
0007	21	0.002	1.20	20200102	0.002		0.01	0.01	27
0007	22	0	1.20	20200102	0		0	0	27
0007	27	0.01	1.20	20200201	0.01		0.06	0.07	27
0007	28	0.009	1.20	20200201	0.01		0.05	0.06	27
0007	29	0.01	1.20	20200201	0.01		0.06	0.07	27
0007	30	0.001	1.20	20200201	0.001		0.006	0.007	27
0007	31	0.05	1.20	20200201	0.06		0.30	0.35	27
0007	32	0.02	1.20	20200201	0.02		0.12	0.14	27
0007	33	0.01	1.20	20200201	0.01		0.06	0.07	27
0007	34	0.04	1.20	20200201	0.05		0.24	0.28	27
0007	35	0.09	1.20	20200201	0.11		0.53	0.64	27
0007	36	0.08	1.20	20200201	0.10		0.47	0.57	27
0007	37	0.06	1.20	20200201	0.07		0.36	0.43	27
0007	38	0.02	1.20	20200201	0.02		0.12	0.14	27
0007	45	0.001	1.20	20200102	0.001		0.006	0.007	27
0007	46	0	1.20	20200102	0		0	0	27
0008	8-01	0.05	0.89	20100102	0.04		1.10	0.98	100
0008	8-02	2.41	1.28	20200102	3.08		52.82	67.60	100
0011	01	20.55	1.18	30502513	24.19		112.60	132.53	25
0011	05	0	1.39	30501501	0		0	0	25
0011	09	0.10	1.39	30501513	0.14		0.55	0.76	25
0011	10	0.10	1.39	30501513	0.14		0.55	0.76	25
0011	11	0.10	1.39	30501513	0.14		0.55	0.76	25
0011	12	0.05	1.39	30501513	0.07		0.27	0.38	25
0011	13	0.05	1.39	30501513	0.07		0.27	0.38	25
0011	14	0.04	1.39	30501513	0.06		0.22	0.30	25
0011	18	1.99	1.39	30501520	2.76		10.90	15.13	25
0011	19	2.32	1.39	30501520	3.22		12.71	17.64	25
0011	20	1.33	1.39	30501520	1.85		7.29	10.11	25
0011	21	0.53	1.39	30501520	0.74		2.90	4.03	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0011	22	0.46	1.39	30501520	0.64		2.52	3.50	25
0011	25	0.12	1.39	30501513	0.17		0.66	0.91	25
0011	26	0.12	1.39	30501513	0.17		0.66	0.91	25
0011	30	0.24	1.39	30501520	0.33		1.32	1.83	25
0011	31	0.18	1.39	30501520	0.25		0.99	1.37	25
0011	32	0.11	1.39	30501520	0.15		0.60	0.84	25
0011	36	0.30	1.39	30501501	0.42		1.64	2.28	25
0011	45	0.12	1	30501513	0.12	a	0.66	0.66	25
0011	46	0.12	1	30501513	0.12	a	0.66	0.66	25
0011	48	0	1	30501507	0	a	0	0	25
0011	50	0.24	1	30501520	0.24	a	1.32	1.32	25
0011	51	0.18	1	30501520	0.18	a	0.99	0.99	25
0011	52	0.11	1	30501520	0.11	a	0.60	0.60	25
0011	01a	0.28	1.18	30502513	0.33		1.53	1.81	25
0011	18a	0.05	1.39	30501520	0.07		0.27	0.38	25
0011	19a	0.06	1.39	30501520	0.08		0.33	0.46	25
0011	20a	0.03	1.39	30501520	0.04		0.16	0.23	25
0011	21a	0.01	1.39	30501520	0.01		0.05	0.08	25
0011	22a	0.01	1.39	30501520	0.01		0.05	0.08	25
0012	01	5.85	1.40	30500257	8.17		32.05	44.76	25
0012	02	0	1	30500206	0		0	0	25
0012	03	2.98	1.40	30500298	4.16		16.33	22.80	25
0013	01	1.17	1.23	40400142	1.45		6.42	7.92	25
0013	02	1.03	1.23	40400142	1.27		5.66	6.98	25
0013	03	0.92	1.23	40400132	1.14		5.05	6.23	25
0013	04	1.09	1.23	40400132	1.34		5.95	7.35	25
0013	05	0.59	1.23	40400132	0.73		3.22	3.98	25
0013	06	0.91	1.23	40400142	1.12		4.97	6.14	25
0013	07	1.30	1.23	40400142	1.61		7.13	8.80	25
0013	08	1.45	1.23	40400142	1.79		7.95	9.81	25
0013	09	1.05	1.23	40400142	1.30		5.77	7.12	25
0013	10	1.06	1.23	40400142	1.30		5.78	7.14	25
0013	11	0.34	1.23	40400142	0.42		1.85	2.29	25
0013	12	1.30	1.23	40400142	1.61		7.13	8.80	25
0013	13	0.35	1.23	40400172	0.43		1.91	2.36	25
0013	14	0.07	1.23	40400179	0.08		0.36	0.44	25
0013	15	0.09	1.23	40400179	0.12		0.51	0.63	25
0013	16	1.77	1.23	40400172	2.18		9.68	11.94	25
0013	17	1.95	1.23	40400172	2.40		10.66	13.15	25
0013	18	0.20	1.23	40400170	0.24		1.08	1.33	25
0013	19	1.33	1.23	40400121	1.65		7.31	9.02	25
0013	20	1.18	1.23	40400121	1.45		6.45	7.96	25
0013	21	1.89	1.23	40400172	2.33		10.33	12.75	25
0013	22	0.68	1.23	40400130	0.83		3.70	4.57	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0013	23	0.08	1.23	40400130	0.10		0.45	0.55	25
0013	24	0.08	1.23	40400130	0.10		0.42	0.52	25
0013	26	0.008	1.23	40400170	0.009		0.04	0.05	25
0013	27	0.22	1.23	40400170	0.27		1.21	1.49	25
0013	28	0.73	1.23	40400170	0.89		3.97	4.90	25
0013	29	0.31	1.23	40400172	0.39		1.72	2.12	25
0013	30	0.001	1.23	40400199	0.001		0.005	0.007	25
0013	31	0.01	1.23	40400199	0.01		0.06	0.08	25
0013	32	0.01	1.23	40400199	0.02		0.08	0.10	25
0013	33	0.02	1.23	40400199	0.02		0.11	0.13	25
0013	34	0.01	1.23	40400199	0.02		0.07	0.09	25
0013	36	0	1.23	40400199	0		0	0	25
0013	37	0.004	1.23	40400199	0.004		0.02	0.02	25
0013	38	0	1.23	40400199	0		0	0	25
0013	39	0.002	1.23	40400199	0.002		0.01	0.01	25
0013	42	0.02	1.23	40400199	0.02		0.11	0.13	25
0013	45	0.81	1.23	40400172	1.00		4.44	5.47	25
0013	46	0.85	1.23	40400172	1.05		4.65	5.74	25
0013	47	1.05	1.23	40400172	1.29		5.74	7.08	25
0013	48	0.60	1.23	40400172	0.75		3.31	4.09	25
0013	53	0.001	1.23	40400199	0.001		0.005	0.007	25
0013	54	0.002	1.23	40400199	0.002		0.01	0.01	25
0013	56	0.08	1.23	40400179	0.10		0.42	0.52	25
0013	57	0.07	1.23	40400179	0.08		0.38	0.46	25
0013	58	3.24	1.23	40400179	4.00		17.75	21.90	25
0013	59	0.17	1.23	40400179	0.20		0.90	1.12	25
0013	60	3.23	1.23	40400179	3.99		17.70	21.84	25
0013	61	1.64	1.23	40400179	2.02		8.96	11.06	25
0013	B01	46.62	1.23	40400150	57.53		255.47	315.22	25
0013	B02	2.10	1.23	40400153	2.59		11.52	14.21	25
0013	B04	0.65	1.23	40400172	0.80		3.57	4.40	25
0013	B05	0.81	1.23	40400172	1.00		4.45	5.50	25
0013	B06	5.07	1.23	40400151	6.26		27.79	34.28	25
0013	B10	0.38	0.96	30600904	0.36		2.06	1.98	25
0013	D02	0.003	1	20200102	0.003	a	0.02	0.02	25
0013	SR04	0.32	1.25	10200602	0.40	**	1.78	2.22	25
0019	A01	2.42	1.49	30301299	3.62		13.26	19.81	25
0019	B09	0.17	1.23	10200602	0.21		0.94	1.15	25
0019	E03	0.0001	1.49	30301202	0.0001		0.001	0.0008	25
0019	G02	0.0002	1.20	20200104	0.0002		0.001	0.001	25
0019	G10	0.00007	1.20	20200104	0.0001		0.0004	0.0005	25
0019	M11	0	1.20	30399999	0		0	0	25
0026	01	0.19	1.39	10300603	0.26		1.04	1.45	25
0047	1	1.01	1.39	10300603	1.41		5.53	7.71	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0073	1	0.71	1.39	10300603	0.99		3.89	5.42	25
0074	1	0.39	1.39	10300603	0.54		2.14	2.98	25
0075	01	10.04	1.61	30800799	16.19		55.01	88.72	25
0076	1	0.03	1.39	10300603	0.04		0.16	0.23	25
0077	1	0.19	1.39	10300603	0.26		1.04	1.45	25
0081	1	2.29	1.39	10300603	3.19		12.55	17.48	25
0085	1	0.69	1.39	10300603	0.96		3.78	5.27	25
0086	1	5.52	1.39	10300603	7.69		30.25	42.12	25
0095	A01	0.004	1.09	20300101	0.004	**	0.02	0.02	25
0095	A02	0.008	1.09	20300101	0.009	**	0.04	0.05	25
0095	A03	0.008	1.09	20300101	0.009	**	0.04	0.05	25
0095	A04	0.02	1.09	20300101	0.02	**	0.11	0.12	25
0095	A05	0.88	1.39	10300602	1.23		4.82	6.72	25
0095	A07	0.11	1.39	10300602	0.15		0.60	0.84	25
0095	A10	0	1.45	30107002	0	**	0	0	25
0095	A15	0	1.45	30107002	0	**	0	0	25
0095	A17	0.70	0.99	40600402	0.70	**	3.86	3.83	25
0133	1	0.36	1.39	10300603	0.50		1.97	2.75	25
0138	02	0.38	1.18	30504033	0.45		2.08	2.45	25
0149	01	4.97	1	50300603	4.97		27.23	27.23	25
0153	1	0.83	1.39	10300603	1.16		4.55	6.33	25
0154	01	0	1.48	30500699	0		0	0	25
0155	1	0.76	1.39	10300603	1.06		4.16	5.80	25
0256	1	0.58	1.39	10300603	0.81		3.18	4.43	25
0257	1	0.35	1.39	10300603	0.49		1.92	2.67	25
0276	1	0.77	1.39	10300603	1.07		4.22	5.88	25
0282	1	3.83	1.39	10300603	5.33		20.99	29.23	25
0323	01	6.40	1.58	40201399	10.14		35.07	55.57	25
0329	01	4.29	0.83	20100201	3.55		47.95	39.70	51
0329	03	4.76	1.00	20100201	4.77		53.21	53.33	51
0329	04	4.69	1.00	20100201	4.70		52.43	52.55	51
0329	05	4.23	1.00	20100201	4.24		47.28	47.39	51
0329	06	4.29	1.00	20100201	4.30		47.95	48.07	51
0329	08	0.05	0.83	10100602	0.04		0.56	0.46	51
0329	09	0.05	0.83	10100602	0.04		0.56	0.46	51
0329	10	0	1	20100102	0		0	0	51
0329	11	0	1	20100102	0		0	0	51
0360	01	0.20	1.39	20300203	0.28		1.18	1.65	27
0360	02	3.85	1.39	20300203	5.36		22.78	31.73	27
0360	03	4.21	1.39	20300203	5.86		24.91	34.70	27
0360	04	0	1.20	20200102	0		0	0	27
0360	06	0	1.20	20200102	0		0	0	27
0360	08	0	1.20	20200102	0		0	0	27
0372	01	0.12	1.20	20100102	0.14		0.66	0.79	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0372	02	4.24	1.21	30500242	5.11		23.23	28.02	25
0372	03	0.08	1	30500208	0.08		0.44	0.44	25
0372	04	0.13	1	30500208	0.13		0.69	0.69	25
0372	05	0.07	1	30500208	0.07		0.38	0.38	25
0372	06	0	1.39	10300602	0		0	0	25
0372	07	0.04	1.20	20100102	0.05		0.22	0.26	25
0372	08	0	1.39	10300602	0		0	0	25
0372	09	0	1.20	20100102	0		0	0	25
0372	10	0	1.39	10300602	0		0	0	25
0372	12	0	1.41	30502508	0	**	0	0	25
0372	13	0.02	1.41	30502599	0.03	**	0.11	0.15	25
0391	01	4.23	1.39	20300203	5.89		25.03	34.86	27
0391	02	7.69	1.39	20300203	10.71		45.51	63.38	27
0391	03	4.12	1.39	20300203	5.74		24.38	33.96	27
0391	04	0.004	1.20	20200101	0.005		0.02	0.03	27
0391	05	0.02	1.20	20200102	0.02		0.12	0.14	27
0391	07	0	1.00	20100201	0		0	0	27
0393	01	1.54	0.83	20100201	1.28		9.12	7.55	27
0393	02	1.60	0.83	20100201	1.33		9.47	7.84	27
0393	03	0.01	1	20100102	0.01	a	0.07	0.07	27
0393	04	0.01	1	20100102	0.01	a	0.08	0.08	27
0393	05	1.80	0.83	10100602	1.49		10.65	8.82	27
0393	06	0.59	0.83	10100602	0.49		3.51	2.91	27
0393	07	0	1	20100102	0		0	0	27
0393	09	0.20	0.99	40600302	0.20	**	1.20	1.19	27
0395	02	0	1	20200102	0		0	0	25
0395	03	2.89	1.20	20200102	3.46		15.84	18.96	25
0395	04	0.36	1.20	20200102	0.43		1.97	2.36	25
0395	05	0	1.20	20200102	0		0	0	25
0395	06	3.77	1.18	30502503	4.44		20.66	24.31	25
0395	07	0.01	1	50200601	0.01	a	0.05	0.05	25
0402	01	0	1.20	20200102	0		0	0	25
0402	02	0	1.20	20200102	0		0	0	25
0402	03	0	1.23	20200202	0		0	0	25
0402	04	0	1	50100789	0		0	0	25
0402	05	0	1.42	50100789	0		0	0	25
0402	06	0	1.42	50100799	0		0	0	25
0402	07	0	1	50100799	0		0	0	25
0402	08	11.20	1.42	50100799	15.94		61.37	87.32	25
0423	01	0.07	0.83	20100201	0.06		0.57	0.47	37
0423	02	0.10	0.83	20100201	0.08		0.81	0.67	37
0423	03	0.06	0.83	20100201	0.05		0.45	0.38	37
0434	1	0.23	1.39	10300603	0.32		1.26	1.76	25
0468	1	7.93	1.39	20300202	11.04		43.45	60.52	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0482	01	3.82	1.77	40201901	6.75		20.93	37.01	25
0512	1	0.12	1.41	30502599	0.17	**	0.66	0.92	25
0527	1	4.87	1	50300603	4.87		26.68	26.68	25
0533	01	0.01	1	20100201	0.01	a	0.18	0.18	80
0533	02	0.02	1	20100102	0.02	a	0.35	0.35	80
0533	03	0	1.00	20100201	0		0	0	80
0533	04	0	1.00	20100201	0		0	0	80
0533	07	0.001	1	20100102	0.001	a	0.02	0.02	80
0533	08	0.001	1	20100102	0.001	a	0.02	0.02	80
0533	09	0.01	1.00	20100201	0.01		0.18	0.18	80
0533	10	0.001	1	20100102	0.001	a	0.02	0.02	80
0564	1	0.74	1.39	10300603	1.03		4.05	5.65	25
0593	C01	0.16	1.39	30501513	0.22		0.88	1.22	25
0593	C02	0.16	1.39	30501513	0.22		0.88	1.22	25
0593	C03	0.16	1.39	30501513	0.22		0.88	1.22	25
0593	C04	0.16	1.39	30501513	0.22		0.88	1.22	25
0593	C05	0.16	1.39	30501513	0.22		0.88	1.22	25
0593	E03a	0.89	1.39	30501520	1.24		4.88	6.77	25
0593	E03b	0.89	1.39	30501520	1.24		4.88	6.77	25
0593	E03c	0.89	1.39	30501520	1.24		4.88	6.77	25
0593	E03d	0.89	1.39	30501520	1.24		4.88	6.77	25
0593	E03e	0.89	1.39	30501520	1.24		4.88	6.77	25
0593	E105	0.007	1.39	30501502	0.01		0.04	0.05	25
0593	E106	0.007	1.39	30501502	0.01		0.04	0.05	25
0593	E110	0.16	1.39	30501511	0.22		0.85	1.18	25
0593	E111	0.14	1.39	30501511	0.20		0.79	1.10	25
0593	E145	0.11	1.23	20200202	0.13		0.59	0.72	25
0593	E146	0.02	1.23	20200202	0.02		0.09	0.11	25
0593	E147	0.01	1.23	20200202	0.01		0.07	0.08	25
0593	E148	0.01	1.23	20200202	0.02		0.08	0.09	25
0593	E153	0.003	1.23	20200202	0.004		0.02	0.02	25
0593	E154	0.003	1.39	20200202	0.004		0.02	0.02	25
0593	G33	0	1	20100102	0		0	0	25
0593	G34	0.009	1	20100102	0.009	a	0.05	0.05	25
0593	Z01	0.003	1.39	30501599	0.004		0.02	0.02	25
0603	1	0.28	1.39	10300603	0.39		1.53	2.14	25
0609	1	0.91	1.39	10300603	1.27		4.99	6.94	25
0611	1	0.11	1.39	10300603	0.15		0.60	0.84	25
0613	1	0.71	1.39	10300603	0.99		3.89	5.42	25
0652	A01	3.69	1	20100201	3.69		21.84	21.84	27
0652	A02	3.33	1	20100201	3.33		19.71	19.71	27
0652	A03	0.01	1.20	20200102	0.01		0.06	0.07	27
0652	A07	0.23	1.20	20200102	0.27		1.34	1.60	27
0697	1	1.99	1.39	10300603	2.77		10.90	15.19	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0737	1	2.48	1.39	10300603	3.45		13.59	18.93	25
0749	1	0.52	1.39	10300603	0.72		2.85	3.97	25
0756	1	5.40	1.39	10300603	7.52		29.59	41.21	25
0825	1	2.90	1.39	10300603	4.04		15.89	22.13	25
0837	1	0.06	1.23	20200202	0.07		0.33	0.40	25
0856	1	1.35	1.39	10300603	1.88		7.40	10.30	25
0859	01	21.90	1.39	40202240	30.50		120.00	167.12	25
1513	01	4.41	1.00	20100201	4.42		24.16	24.22	25
1513	03	1.91	1.00	20100201	1.91		10.47	10.49	25
1513	05	0.10	1.00	20100201	0.10		0.55	0.55	25
1513	07	0.10	1.00	20100201	0.10		0.55	0.55	25
1513	09	0.10	1.25	10200603	0.12	**	0.55	0.68	25
1513	10	0.05	1.25	10200603	0.06	**	0.27	0.34	25
1513	12	0.01	1.16	20201001	0.01	**	0.05	0.06	25
1513	13	0.01	1.16	20201001	0.01	**	0.05	0.06	25
1513	14	0.01	1.20	20200102	0.01		0.05	0.07	25
1513	15	0	1.20	20200102	0		0	0	25
1513	16	0.07	1.40	10500206	0.10	**	0.38	0.54	25
1520	A01,2	4.40	1	20100201	4.40		43.40	43.40	45
1520	A03,4	4.10	1	20100201	4.10		40.44	40.44	45
1520	A05	0.20	1.20	20200102	0.24		1.97	2.36	45
1520	A06	0.01	1.20	20200102	0.01		0.10	0.12	45
1520	A07	0.01	1.20	20200102	0.01		0.10	0.12	45
1550	A01,2	0.01	1	20100201	0.01	a	0.07	0.07	31
1550	A03,4	0.18	1	20100201	0.18	a	1.22	1.22	31
1550	A05	0.01	1.39	10300602	0.01		0.07	0.09	31
1550	A06	0.05	1	20200102	0.05	a	0.34	0.34	31
1584	A01,2	0.15	1	20100201	0.15		0.99	0.99	30
1584	A03,4	0.15	1	20100201	0.15		0.99	0.99	30
1584	A05	0.01	1.20	20200102	0.01		0.07	0.08	30
1584	A06	0.001	1.20	20200102	0.001		0.007	0.008	30
1590	1	0.04	1.39	20300202	0.06		0.22	0.31	25
15033	01	3.73	1.44	50300601	5.37		20.44	29.42	25
AP49110398	01	0	0.83	10100602	0		0	0	25
AP49110398	02	0	0.83	10100602	0		0	0	25
AP49110398	03	0	0.83	10100602	0		0	0	25
AP49110399	01	3.79	0.83	10100602	3.14		42.36	35.07	51
AP49110400	1	8.22	1	10100101	8.22		48.64	48.64	27
AP49110400	2	9.55	1	10100101	9.55		56.52	56.52	27
AP49110400	3	9.32	1	10100101	9.32		55.15	55.15	27
AP49110400	4	21.86	1	10100101	21.86		129.36	129.36	27
AP49110400	5	0.54	1.78	40600402	0.96		3.20	5.68	27
AP49110774	1	0	1	10100101	0		0	0	25
PRJEGU33	#1	0	1	20100201	25.81	b	0	152.74	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
PRJEGU33	#2	0	1	20100201	25.81	b	0	152.74	27

** = Growth Factor taken from EGAS.
a = DAQEM assigned growth factor.
b = For 2018 projected emission units, the most conservative growth factors for similar SCC emission units were used with a four-year growth term (2018-2022).

Table 2-9. Projected 2022 NO_x Point Source Emissions

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0003	01	0.05	1	20100102	0.05	a	0.27	0.27	25
0003	02	127.39	1.39	30501604	176.80		698.03	968.75	25
0003	03	115.21	1.39	30501604	159.89		631.29	876.13	25
0003	04	202.93	1.39	30501604	281.63		1,111.95	1,543.20	25
0003	05	648.63	1.39	30501604	900.19		3,554.14	4,932.57	25
0003	07	0.12	1	20100102	0.12	a	0.66	0.66	25
0003	10	0.41	1.39	10300603	0.57		2.25	3.13	25
0003	28	4.58	1.39	30501699	6.36		25.10	34.83	25
0004	B8	0	1.08	20200401	0		0	0	25
0004	E11	8.18	1.26	30501513	10.27		44.82	56.29	25
0004	F1	0	1.26	30501502	0		0	0	25
0004	F2	0	1.26	30501502	0		0	0	25
0004	F3	0	1.26	30501511	0		0	0	25
0004	F4	0	1.26	30501511	0		0	0	25
0004	G1	6.91	1.26	30501511	8.68		37.86	47.55	25
0004	G1a	0	1.26	30501511	0		0	0	25
0004	G1b	0	1.26	30501511	0		0	0	25
0004	G1c	0	1.26	30501511	0		0	0	25
0004	J2	0	1.26	30501599	0		0	0	25
0004	J3	12.71	1.26	30501520	15.96		69.64	87.46	25
0004	L3	0.97	1.08	20200401	1.05		5.32	5.74	25
0005	01	0.10	1.41	30501516	0.14	**	0.55	0.77	25
0007	04	3.00	0.56	20100201	1.69		17.75	10.01	27
0007	05	234.30	0.56	20100201	132.14		1,386.54	782.01	27
0007	06	351.00	0.56	20100201	197.96		2,077.15	1,171.51	27
0007	07	390.10	0.56	20100201	220.02		2,308.54	1,302.01	27
0007	08	216.40	0.56	20100201	122.05		1,280.61	722.26	27
0007	21	0.03	1.20	20200102	0.04		0.18	0.21	27
0007	22	0	1.20	20200102	0		0	0	27
0007	27	0.48	1.20	20200201	0.57		2.84	3.40	27
0007	28	0.30	1.20	20200201	0.36		1.78	2.13	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0007	29	0.32	1.20	20200201	0.38		1.89	2.27	27
0007	30	0.05	1.20	20200201	0.06		0.30	0.35	27
0007	31	1.02	1.20	20200201	1.22		6.04	7.23	27
0007	32	0.48	1.20	20200201	0.57		2.84	3.40	27
0007	33	0.13	1.20	20200201	0.16		0.77	0.92	27
0007	34	1.57	1.20	20200201	1.88		9.29	11.12	27
0007	35	2.94	1.20	20200201	3.52		17.40	20.83	27
0007	36	2.27	1.20	20200201	2.72		13.43	16.08	27
0007	37	2.07	1.20	20200201	2.48		12.25	14.67	27
0007	38	1.57	1.20	20200201	1.88		9.29	11.12	27
0007	45	0.04	1.20	20200102	0.05		0.24	0.28	27
0007	46	0	1.20	20200102	0		0	0	27
0008	8-01	7.86	0.56	20100102	4.43		172.27	97.16	100
0008	8-02	0.07	1.20	20200102	0.08		1.53	1.84	100
0011	01	0	1.18	30502513	0		0	0	25
0011	05	0	1.39	30501501	0		0	0	25
0011	09	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	10	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	11	1.19	1.39	30501513	1.65		6.52	9.05	25
0011	12	0.60	1.39	30501513	0.83		3.29	4.56	25
0011	13	0.60	1.39	30501513	0.83		3.29	4.56	25
0011	14	0.60	1.39	30501513	0.83		3.29	4.56	25
0011	18	20.38	1.39	30501520	28.28		111.67	154.98	25
0011	19	23.78	1.39	30501520	33.00		130.30	180.84	25
0011	20	13.59	1.39	30501520	18.86		74.47	103.35	25
0011	21	5.43	1.39	30501520	7.54		29.75	41.29	25
0011	22	4.76	1.39	30501520	6.61		26.08	36.20	25
0011	25	2.71	1.39	30501513	3.76		14.85	20.61	25
0011	26	2.71	1.39	30501513	3.76		14.85	20.61	25
0011	30	8.11	1.39	30501520	11.26		44.44	61.67	25
0011	31	6.31	1.39	30501520	8.76		34.58	47.98	25
0011	32	3.60	1.39	30501520	5.00		19.73	27.38	25
0011	36	4.32	1.39	30501501	6.00		23.67	32.85	25
0011	45	2.71	1.39	30501513	3.76		14.85	20.61	25
0011	46	2.71	1.39	30501513	3.76		14.85	20.61	25
0011	48	0	1.39	30501507	0		0	0	25
0011	50	8.11	1.39	30501520	11.26		44.44	61.67	25
0011	51	6.31	1.39	30501520	8.76		34.58	47.98	25
0011	52	3.60	1.39	30501520	5.00		19.73	27.38	25
0011	01a	4.22	1.18	30502513	4.97		23.12	27.22	25
0011	18a	2.60	1.39	30501520	3.61		14.25	19.77	25
0011	19a	3.03	1.39	30501520	4.21		16.60	23.04	25
0011	20a	1.73	1.39	30501520	2.40		9.48	13.16	25
0011	21a	0.69	1.39	30501520	0.96		3.78	5.25	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0011	22a	0.61	1.39	30501520	0.85		3.34	4.64	25
0012	01	3.42	1.40	30500257	4.78		18.74	26.16	25
0012	02	0	1.37	30500206	0		0	0	25
0012	03	2.10	1.37	30500298	2.88		11.51	15.77	25
0013	B10	0.18	0.96	30600904	0.18		1.00	0.96	25
0013	D02	0.03	1	20200102	0.03	a	0.19	0.19	25
0013	SR04	0.51	1.25	10200602	0.64	**	2.79	3.48	25
0019	A01	0	1.49	30301299	0		0	0	25
0019	B06	0.54	1.33	10201402	0.72		2.96	3.95	25
0019	B09	0.23	0.90	10200602	0.20		1.24	1.12	25
0019	B10	0.17	1.49	30301202	0.25		0.93	1.39	25
0019	C05	0.14	1.49	30301201	0.20		0.74	1.11	25
0019	D02E	0	1.49	30301202	0		0	0	25
0019	D02W	0	1.49	30301299	0		0	0	25
0019	E03	0.001	1.49	30301202	0.002		0.007	0.01	25
0019	G02	0.002	1.20	20200104	0.002		0.01	0.01	25
0019	G10	0.0009	1.20	20200104	0.001		0.005	0.006	25
0019	M11	0	1.20	30399999	0		0	0	25
0026	01	1.64	1.39	10300603	2.28		8.99	12.52	25
0047	1	5.12	1.39	10300603	7.13		28.05	39.07	25
0073	1	4.79	1.39	10300603	6.67		26.25	36.55	25
0074	1	2.33	1.39	10300603	3.24		12.77	17.78	25
0075	01	0.63	1.61	30800799	1.02		3.45	5.57	25
0076	1	3.17	1.39	10300603	4.41		17.37	24.19	25
0077	1	1.87	1.39	10300603	2.60		10.25	14.27	25
0081	1	4.29	1.39	10300603	5.97		23.51	32.74	25
0085	1	6.45	1.39	10300603	8.98		35.34	49.22	25
0086	1	16.50	1.39	10300603	22.98		90.41	125.91	25
0095	A01	0.05	1.09	20300101	0.06	**	0.28	0.31	25
0095	A02	0.09	1.09	20300101	0.10	**	0.50	0.55	25
0095	A03	0.09	1.09	20300101	0.10	**	0.50	0.55	25
0095	A04	0.26	1.09	20300101	0.28	**	1.40	1.53	25
0095	A05	4.90	1.39	10300602	6.82		26.85	37.39	25
0095	A07	2.23	1.39	10300602	3.11		12.22	17.02	25
0095	A10	0.08	1.45	30107002	0.12	**	0.44	0.64	25
0095	A15	1.84	1.45	30107002	2.67	**	10.08	14.64	25
0133	1	4.89	1.39	10300603	6.81		26.79	37.32	25
0138	01	0.84	1.18	30504099	0.99		4.60	5.42	25
0138	02	97.72	1.18	30504033	115.02		535.45	630.23	25
0149	01	15.80	1	50300603	15.80		86.58	86.58	25
0153	1	6.64	1.39	10300603	9.25		36.38	50.67	25
0154	01	0	1.26	30500699	0		0	0	25
0155	1	7.52	1.39	10300603	10.47		41.21	57.39	25
0256	1	4.15	1.39	10300603	5.78		22.74	31.67	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0257	1	2.46	1.39	10300603	3.43		13.48	18.77	25
0276	1	7.59	1.39	10300603	10.57		41.59	57.92	25
0282	1	14.06	1.39	10300603	19.58		77.04	107.29	25
0323	01	0.20	1.58	40201399	0.32		1.10	1.74	25
0329	01	4.63	0.59	20100201	2.73		51.75	30.57	51
0329	03	5.12	1.04	20100201	5.32		57.23	59.45	51
0329	04	5.24	1.04	20100201	5.44		58.57	60.84	51
0329	05	4.93	1.04	20100201	5.12		55.11	57.24	51
0329	06	4.63	1.04	20100201	4.81		51.75	53.76	51
0329	08	0.14	0.81	10100602	0.11		1.56	1.27	51
0329	09	0.14	0.81	10100602	0.11		1.56	1.27	51
0329	10	0.01	1	20100102	0.01	a	0.11	0.11	51
0329	11	0	1	20100102	0		0	0	51
0360	01	30.05	1.39	20300203	41.85		177.83	247.66	27
0360	02	32.11	1.39	20300203	44.72		190.02	264.64	27
0360	03	32.45	1.39	20300203	45.19		192.03	267.44	27
0360	04	0.02	1.20	20200102	0.02		0.12	0.14	27
0360	06	0	1.20	20200102	0		0	0	27
0360	08	0	1.20	20200102	0		0	0	27
0372	01	2.26	1.20	20100102	2.71		12.38	14.83	25
0372	02	6.85	1.21	30500242	8.26		37.53	45.28	25
0372	03	0.24	1	30500208	0.24		1.29	1.29	25
0372	04	0.36	1	30500208	0.36		1.96	1.96	25
0372	05	0.20	1	30500208	0.20		1.11	1.11	25
0372	06	0	1.39	10300602	0		0	0	25
0372	07	1.68	1.20	20100102	2.01		9.21	11.02	25
0372	08	0	1.39	10300602	0		0	0	25
0372	09	0	1.20	20100102	0		0	0	25
0372	10	0	1.39	10300602	0		0	0	25
0372	11	2.22	1.41	30502514	3.12	**	12.16	17.11	25
0372	12	0	1.41	30502508	0	**	0	0	25
0372	13	0.25	1.41	30502599	0.35	**	1.37	1.93	25
0391	01	32.69	1.39	20300203	45.53		193.45	269.42	27
0391	02	31.51	1.39	20300203	43.88		186.47	259.69	27
0391	03	33.97	1.39	20300203	47.31		201.03	279.97	27
0391	04	0.02	0.86	20200101	0.02		0.12	0.10	27
0391	05	0.21	1.20	20200102	0.25		1.24	1.49	27
0391	07	0.01	1.04	20100201	0.01		0.06	0.06	27
0393	01	29.98	0.56	20100201	16.91		177.40	100.06	27
0393	02	29.75	0.56	20100201	16.78		176.04	99.29	27
0393	03	0.42	1	20100102	0.42	a	2.49	2.49	27
0393	04	0.45	1	20100102	0.45	a	2.68	2.68	27
0393	05	7.27	0.78	10100602	5.65		43.02	33.43	27
0393	06	2.93	0.78	10100602	2.28		17.35	13.48	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0393	07	0	1	20100102	0		0	0	27
0395	02	0	1	20200102	0		0	0	25
0395	03	30.70	1.20	20200102	36.76		168.22	201.40	25
0395	04	13.52	1.20	20200102	16.19		74.08	88.70	25
0395	05	0	1.20	20200102	0		0	0	25
0395	06	41.23	1.18	30502503	48.53		225.91	265.90	25
0395	07	1.36	1	50200601	1.36		7.46	7.46	25
0402	01	0	1.20	20200102	0		0	0	25
0402	02	0	1.20	20200102	0		0	0	25
0402	03	0	0.55	20200202	0		0	0	25
0402	04	0	1	50100789	0		0	0	25
0402	05	0	1.42	50100789	0		0	0	25
0402	06	0	1.42	50100799	0		0	0	25
0402	07	0	1	50100799	0		0	0	25
0402	08	13.52	1.42	50100799	19.24		74.08	105.41	25
0423	01	3.23	0.56	20100201	1.82		26.19	14.77	37
0423	02	4.79	0.56	20100201	2.70		38.84	21.91	37
0423	03	2.70	0.56	20100201	1.52		21.90	12.35	37
0434	1	3.86	1.39	10300603	5.38		21.15	29.46	25
0468	1	67.50	1.39	20300202	94.01		369.86	515.10	25
0482	01	0.32	1.45	40201901	0.46	**	1.75	2.54	25
0512	1	0	1.41	30502599	0	**	0	0	25
0533	01	3.20	1	20100201	3.20		56.11	56.11	80
0533	02	0.40	1	20100102	0.40	a	7.01	7.01	80
0533	03	0	1.04	20100201	0		0	0	80
0533	04	0	1.04	20100201	0		0	0	80
0533	07	0.06	1	20100102	0.06	a	1.05	1.05	80
0533	08	0.17	1	20100102	0.17	a	2.98	2.98	80
0533	09	2.40	1.04	20100201	2.49		42.08	43.71	80
0533	10	0.07	1	20100102	0.07	a	1.23	1.23	80
0564	1	8.93	1.39	10300603	12.44		48.93	68.15	25
0593	C01	2.33	1.39	30501513	3.23		12.77	17.72	25
0593	C02	2.33	1.39	30501513	3.23		12.77	17.72	25
0593	C03	2.33	1.39	30501513	3.23		12.77	17.72	25
0593	C04	2.33	1.39	30501513	3.23		12.77	17.72	25
0593	C05	2.33	1.39	30501513	3.23		12.77	17.72	25
0593	E03a	3.59	1.39	30501520	4.98		19.67	27.30	25
0593	E03b	3.59	1.39	30501520	4.98		19.67	27.30	25
0593	E03c	3.59	1.39	30501520	4.98		19.67	27.30	25
0593	E03d	3.59	1.39	30501520	4.98		19.67	27.30	25
0593	E03e	3.59	1.39	30501520	4.98		19.67	27.30	25
0593	E105	0.12	1.39	30501502	0.17		0.68	0.94	25
0593	E106	0.12	1.39	30501502	0.16		0.64	0.88	25
0593	E110	2.58	1.39	30501511	3.58		14.14	19.63	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
0593	E111	2.41	1.39	30501511	3.34		13.19	18.30	25
0593	E145	1.79	0.55	20200202	0.98		9.80	5.35	25
0593	E146	0.27	0.55	20200202	0.15		1.47	0.81	25
0593	E147	0.20	0.55	20200202	0.11		1.12	0.61	25
0593	E148	0.23	0.55	20200202	0.13		1.27	0.69	25
0593	E153	0.05	0.55	20200202	0.02		0.25	0.13	25
0593	E154	0.05	1.39	20200202	0.06		0.25	0.34	25
0593	G33	0.001	1	20100102	0.001	a	0.005	0.005	25
0593	G34	0.008	1	20100102	0.008	a	0.04	0.04	25
0593	Z01	0.06	1.39	30501599	0.08		0.33	0.46	25
0603	1	4.98	1.39	10300603	6.94		27.29	38.00	25
0609	1	5.24	1.39	10300603	7.30		28.71	39.99	25
0611	1	1.79	1.39	10300603	2.49		9.81	13.66	25
0613	1	2.71	1.39	10300603	3.77		14.85	20.68	25
0652	A01	75.23	1	20100201	75.23		445.20	445.20	27
0652	A02	76.82	1	20100201	76.82		454.61	454.61	27
0652	A03	1.45	1.20	20200102	1.74		8.58	10.27	27
0697	1	8.20	1.39	10300603	11.42		44.93	62.58	25
0737	1	14.17	1.39	10300603	19.73		77.64	108.13	25
0749	1	3.48	1.39	10300603	4.85		19.07	26.56	25
0756	1	14.07	1.39	10300603	19.60		77.10	107.37	25
0825	1	15.25	1.39	10300603	21.24		83.56	116.38	25
0837	1	2.39	0.55	20200202	1.31		13.10	7.16	25
0856	1	8.64	1.39	10300603	12.03		47.34	65.93	25
1513	01	61.97	1.04	20100201	64.37		339.56	352.72	25
1513	03	62.70	1.04	20100201	65.13		343.56	356.88	25
1513	05	61.44	1.04	20100201	63.82		336.66	349.70	25
1513	07	58.51	1.04	20100201	60.78		320.60	333.03	25
1513	09	0.09	1.25	10200603	0.11	**	0.49	0.61	25
1513	10	0.001	1.25	10200603	0.001	**	0.005	0.007	25
1513	12	0.06	1.16	20201001	0.07	**	0.33	0.38	25
1513	13	0.06	1.16	20201001	0.07	**	0.33	0.38	25
1513	14	0.12	1.20	20200102	0.14		0.66	0.79	25
1513	15	0	1.20	20200102	0		0	0	25
1513	16	0.05	1.40	10500206	0.07	**	0.29	0.41	25
1520	A01,2	73.60	1	20100201	73.60		725.92	725.92	45
1520	A03,4	71.10	1	20100201	71.10		701.26	701.26	45
1520	A05	2.40	1.20	20200102	2.87		23.67	28.31	45
1520	A06	0.09	1.20	20200102	0.11		0.89	1.06	45
1520	A07	0.10	1.20	20200102	0.12		0.99	1.18	45
1550	A01,2	9.49	1	20100201	9.49		64.48	64.48	31
1550	A03,4	8.08	1	20100201	8.08		54.90	54.90	31
1550	A05	0.06	1.39	10300602	0.08		0.41	0.57	31
1550	A06	1.87	1.20	20200102	2.24		12.71	15.21	31

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	SCC	2022 Projected (tpy)	Note	2008 Pounds per Summer Day	2022 Pounds per Summer Day	Summer Proportion (%)
1584	A01,2	53.57	1	20100201	53.57		352.24	352.24	30
1584	A03,4	48.53	1	20100201	48.53		319.10	319.10	30
1584	A05	0.13	1.20	20200102	0.16		0.85	1.02	30
1584	A06	0.001	1.20	20200102	0.001		0.007	0.008	30
1590	1	32.20	1.39	20300202	44.84		176.44	245.72	25
15033	01	2.37	1.44	50300601	3.41		12.99	18.69	25
AP49110398	01	0	1	10100602	0		0	0	25
AP49110398	02	0	1	10100602	0		0	0	25
AP49110398	03	0	1	10100602	0		0	0	25
AP49110399	01	55.58	1	10100602	55.58		621.28	621.28	51
AP49110400	1	1,312.85	1	10100101	1,312.85		7,769.19	7,769.19	27
AP49110400	2	1,609.71	1	10100101	1,609.71		9,525.96	9,525.96	27
AP49110400	3	1,012.73	1	10100101	1,012.73		5,993.14	5,993.14	27
AP49110400	4	1,623.27	1	10100101	1,623.27		9,606.20	9,606.20	27
AP49110774	1	0	1	10100101	0		0	0	25
PRJEGU33	#1	0	1	20100201	443.47	b	0	2,624.40	27
PRJEGU33	#2	0	1	20100201	443.47	b	0	2,624.40	27

** = Growth Factor taken from EGAS.

a = DAQEM assigned growth factor.

b = For 2018 projected emission units, the most conservative growth factors for similar SCC emission units were used with a four-year growth term (2018-2022).

Table 2-10. Derivation of 2015 Growth Factors

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0003	01	CO	0	0	0	-0.4	20100102	1	1
0003	01	NOx	0	0	0	-0.4	20100102	1	1
0003	01	VOC	0	0	0	-0.4	20100102	1	1
0003	02	CO	107.13	136.80	1.28	1.39	30501604	1.03	1.19
0003	02	NOx	226.03	288.65	1.28	1.39	30501604	1.03	1.19
0003	02	VOC	3.17	3.58	1.13	1.18	30501604	1.01	1.09
0003	03	CO	163.41	208.68	1.28	1.39	30501604	1.03	1.19
0003	03	NOx	213.78	273.00	1.28	1.39	30501604	1.03	1.19
0003	03	VOC	2.51	2.83	1.13	1.18	30501604	1.01	1.09
0003	04	CO	33.16	42.35	1.28	1.39	30501604	1.03	1.19
0003	04	NOx	259.73	331.68	1.28	1.39	30501604	1.03	1.19
0003	04	VOC	3.31	3.74	1.13	1.18	30501604	1.01	1.09
0003	05	CO	514.54	657.09	1.28	1.39	30501604	1.03	1.19
0003	05	NOx	764.46	976.23	1.28	1.39	30501604	1.03	1.19
0003	05	VOC	12.61	14.23	1.13	1.18	30501604	1.01	1.09
0003	07	CO	0	0	0	-0.4	20100102	1	1

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0003	07	NOx	0	0	0	-0.4	20100102	1	1
0003	07	VOC	0	0	0	-0.4	20100102	1	1
0003	10	CO	0.09	0.12	1.28	1.39	10300603	1.03	1.20
0003	10	NOx	0.43	0.55	1.28	1.39	10300603	1.03	1.20
0003	10	VOC	0.02	0.03	1.13	1.18	10300603	1.01	1.09
0003	23	CO	0	0	0	-0.4	30500208	1	1
0003	23	NOx	0	0	0	-0.4	30500208	1	1
0003	23	VOC	0	0	0	-0.4	30500208	1	1
0003	24	CO	0	0	0	-0.4	30500205	1	1
0003	24	NOx	0	0	0	-0.4	30500205	1	1
0003	24	VOC	0	0	0	-0.4	30500205	1	1
0003	26	CO	0	0	0	-0.4	20100102	1	1
0003	26	NOx	0	0	0	-0.4	20100102	1	1
0003	26	VOC	0	0	0	-0.4	20100102	1	1
0003	27	CO	0	0	0	-0.4	20100102	1	1
0003	27	NOx	0	0	0	-0.4	20100102	1	1
0003	27	VOC	0	0	0	-0.4	20100102	1	1
0003	28	CO	35.96	45.92	1.28	1.39	30501699	1.03	1.19
0003	28	NOx	9.13	11.66	1.28	1.39	30501699	1.03	1.19
0003	28	VOC	1.54	1.74	1.13	1.18	30501699	1.01	1.09
0004	4-01	VOC	18.85	21.23	1.13	1.18	30500421	1.01	1.09
0004	4-E11	CO	1.00	1.28	1.28	1.39	30501513	1.03	1.19
0004	4-E11	NOx	17.56	20.77	1.18	1.26	30501513	1.02	1.13
0004	4-E11	VOC	0.54	0.69	1.28	1.39	30501513	1.03	1.19
0004	4-F1	CO	0	0	0	-0.4	30501502	1	1
0004	4-F1	NOx	0	0	0	-0.4	30501502	1	1
0004	4-F1	VOC	0	0	0	-0.4	30501502	1	1
0004	4-F2	CO	0.14	0.18	1.28	1.39	30501502	1.03	1.19
0004	4-F2	NOx	0.68	0.81	1.18	1.26	30501502	1.02	1.13
0004	4-F2	VOC	0.04	0.05	1.28	1.39	30501502	1.03	1.19
0004	4-F3	CO	0.14	0.18	1.28	1.39	30501511	1.03	1.19
0004	4-F3	NOx	0.70	0.82	1.18	1.26	30501511	1.02	1.13
0004	4-F3	VOC	0.04	0.05	1.28	1.39	30501511	1.03	1.19
0004	4-F4	CO	0.15	0.20	1.28	1.39	30501511	1.03	1.19
0004	4-F4	NOx	0.70	0.82	1.18	1.26	30501511	1.02	1.13
0004	4-F4	VOC	0.04	0.05	1.28	1.39	30501511	1.03	1.19
0004	4-G1	CO	0	0	0	-0.4	30501511	1	1
0004	4-G1	NOx	0	0	0	-0.4	30501511	1	1
0004	4-G1	VOC	0	0	0	-0.4	30501511	1	1
0004	4-G1a	CO	0.72	0.92	1.28	1.39	30501511	1.03	1.19
0004	4-G1a	NOx	3.46	4.09	1.18	1.26	30501511	1.02	1.13
0004	4-G1a	VOC	0.18	0.23	1.28	1.39	30501511	1.03	1.19
0004	4-G1b	CO	0.73	0.93	1.28	1.39	30501511	1.03	1.19
0004	4-G1b	NOx	3.46	4.09	1.18	1.26	30501511	1.02	1.13
0004	4-G1b	VOC	0.19	0.24	1.28	1.39	30501511	1.03	1.19

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0004	4-G1c	CO	0.73	0.93	1.28	1.39	30501511	1.03	1.19
0004	4-G1c	NOx	3.46	4.09	1.18	1.26	30501511	1.02	1.13
0004	4-G1c	VOC	0.18	0.23	1.28	1.39	30501511	1.03	1.19
0004	4-J3	CO	85.88	109.67	1.28	1.39	30501520	1.03	1.19
0004	4-J3	NOx	21.30	25.19	1.18	1.26	30501520	1.02	1.13
0004	4-J3	VOC	1.27	1.63	1.28	1.39	30501520	1.03	1.19
0004	4-L4	CO	0.47	0.53	1.14	1.20	20200401	1.01	1.10
0004	4-L4	NOx	2.16	2.29	1.06	1.08	20200401	1.01	1.04
0004	4-L4	VOC	0.17	0.20	1.14	1.20	20200401	1.01	1.10
0004	B8	CO	0.58	0.66	1.14	1.20	20200401	1.01	1.10
0004	B8	NOx	22.94	24.24	1.06	1.08	20200401	1.01	1.04
0004	B8	VOC	0.18	0.21	1.14	1.20	20200401	1.01	1.10
0004	J2	CO	0.22	0.29	1.28	1.39	30501599	1.03	1.19
0004	J2	NOx	1.05	1.24	1.18	1.26	30501599	1.02	1.13
0004	J2	VOC	0.06	0.08	1.28	1.39	30501599	1.03	1.19
0007	04	CO	2.14	1.88	0.88	0.83	20100201	0.99	0.91
0007	04	NOx	7.58	5.22	0.69	0.56	20100201	0.97	0.78
0007	04	VOC	0.47	0.42	0.88	0.83	20100201	0.99	0.91
0007	05	CO	22.45	19.69	0.88	0.83	20100201	0.99	0.91
0007	05	NOx	730.23	502.81	0.69	0.56	20100201	0.97	0.78
0007	05	VOC	0.85	0.74	0.88	0.83	20100201	0.99	0.91
0007	06	CO	34.74	30.47	0.88	0.83	20100201	0.99	0.91
0007	06	NOx	671.05	462.07	0.69	0.56	20100201	0.97	0.78
0007	06	VOC	4.64	4.07	0.88	0.83	20100201	0.99	0.91
0007	07	CO	41.78	36.65	0.88	0.83	20100201	0.99	0.91
0007	07	NOx	697.42	480.22	0.69	0.56	20100201	0.97	0.78
0007	07	VOC	6.17	5.41	0.88	0.83	20100201	0.99	0.91
0007	08	CO	38.06	33.38	0.88	0.83	20100201	0.99	0.91
0007	08	NOx	560.64	386.04	0.69	0.56	20100201	0.97	0.78
0007	08	VOC	0.71	0.63	0.88	0.83	20100201	0.99	0.91
0007	21	CO	0.01	0.01	1.14	1.20	20200102	1.01	1.10
0007	21	NOx	0.06	0.07	1.14	1.20	20200102	1.01	1.10
0007	21	VOC	0.003	0.003	1.14	1.20	20200102	1.01	1.10
0007	22	CO	0.02	0.02	1.14	1.20	20200102	1.01	1.10
0007	22	NOx	0.08	0.09	1.14	1.20	20200102	1.01	1.10
0007	22	VOC	0.01	0.01	1.14	1.20	20200102	1.01	1.10
0007	23	CO	0.02	0.02	1.14	1.20	20200102	1.01	1.10
0007	23	NOx	0.04	0.05	1.14	1.20	20200102	1.01	1.10
0007	23	VOC	0.003	0.003	1.14	1.20	20200102	1.01	1.10
0008	8-01	CO	28.10	24.65	0.88	0.83	20100102	0.99	0.91
0008	8-01	NOx	40.48	27.87	0.69	0.56	20100102	0.97	0.78
0008	8-01	VOC	0.07	0.06	0.92	0.89	20100102	0.99	0.95
0008	8-02	CO	0.02	0.02	1.14	1.20	20200102	1.01	1.10
0008	8-02	NOx	0.07	0.08	1.14	1.20	20200102	1.01	1.10
0008	8-02	VOC	0.59	0.71	1.20	1.28	20200102	1.02	1.14

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0011	01	VOC	29.25	32.95	1.13	1.18	30502513	1.01	1.09
0011	05	CO	5.51	7.03	1.28	1.39	30501501	1.03	1.19
0011	05	NOx	18.89	24.13	1.28	1.39	30501501	1.03	1.19
0011	05	VOC	0.44	0.56	1.28	1.39	30501501	1.03	1.19
0011	09	CO	8.89	11.36	1.28	1.39	30501513	1.03	1.19
0011	09	NOx	4.15	5.30	1.28	1.39	30501513	1.03	1.19
0011	09	VOC	0.39	0.50	1.28	1.39	30501513	1.03	1.19
0011	10	CO	8.89	11.36	1.28	1.39	30501513	1.03	1.19
0011	10	NOx	4.15	5.30	1.28	1.39	30501513	1.03	1.19
0011	10	VOC	0.39	0.50	1.28	1.39	30501513	1.03	1.19
0011	11	CO	8.89	11.36	1.28	1.39	30501513	1.03	1.19
0011	11	NOx	4.15	5.30	1.28	1.39	30501513	1.03	1.19
0011	11	VOC	0.39	0.50	1.28	1.39	30501513	1.03	1.19
0011	12	CO	4.75	6.07	1.28	1.39	30501513	1.03	1.19
0011	12	NOx	2.06	2.64	1.28	1.39	30501513	1.03	1.19
0011	12	VOC	0.19	0.24	1.28	1.39	30501513	1.03	1.19
0011	13	CO	4.75	6.07	1.28	1.39	30501513	1.03	1.19
0011	13	NOx	2.06	2.64	1.28	1.39	30501513	1.03	1.19
0011	13	VOC	0.19	0.24	1.28	1.39	30501513	1.03	1.19
0011	14	CO	4.75	6.07	1.28	1.39	30501513	1.03	1.19
0011	14	NOx	2.06	2.64	1.28	1.39	30501513	1.03	1.19
0011	14	VOC	0.19	0.24	1.28	1.39	30501513	1.03	1.19
0011	18	CO	8.97	11.46	1.28	1.39	30501520	1.03	1.19
0011	18	NOx	2.71	3.46	1.28	1.39	30501520	1.03	1.19
0011	18	VOC	0.27	0.35	1.28	1.39	30501520	1.03	1.19
0011	19	CO	10.47	13.37	1.28	1.39	30501520	1.03	1.19
0011	19	NOx	3.16	4.04	1.28	1.39	30501520	1.03	1.19
0011	19	VOC	0.31	0.39	1.28	1.39	30501520	1.03	1.19
0011	20	CO	7.48	9.55	1.28	1.39	30501520	1.03	1.19
0011	20	NOx	2.26	2.89	1.28	1.39	30501520	1.03	1.19
0011	20	VOC	0.22	0.29	1.28	1.39	30501520	1.03	1.19
0011	21	CO	1.50	1.91	1.28	1.39	30501520	1.03	1.19
0011	21	NOx	0.45	0.57	1.28	1.39	30501520	1.03	1.19
0011	21	VOC	0.05	0.06	1.28	1.39	30501520	1.03	1.19
0011	22	CO	1.50	1.91	1.28	1.39	30501520	1.03	1.19
0011	22	NOx	0.45	0.57	1.28	1.39	30501520	1.03	1.19
0011	22	VOC	0.05	0.06	1.28	1.39	30501520	1.03	1.19
0011	25	CO	25.52	32.59	1.28	1.39	30501513	1.03	1.19
0011	25	NOx	14.78	18.87	1.28	1.39	30501513	1.03	1.19
0011	25	VOC	1.11	1.42	1.28	1.39	30501513	1.03	1.19
0011	26	CO	25.52	32.59	1.28	1.39	30501513	1.03	1.19
0011	26	NOx	14.78	18.87	1.28	1.39	30501513	1.03	1.19
0011	26	VOC	1.11	1.42	1.28	1.39	30501513	1.03	1.19
0011	30	CO	50.89	64.98	1.28	1.39	30501520	1.03	1.19
0011	30	NOx	33.89	43.28	1.28	1.39	30501520	1.03	1.19

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0011	30	VOC	1.76	2.24	1.28	1.39	30501520	1.03	1.19
0011	31	CO	50.89	64.98	1.28	1.39	30501520	1.03	1.19
0011	31	NOx	33.89	43.28	1.28	1.39	30501520	1.03	1.19
0011	31	VOC	1.76	2.24	1.28	1.39	30501520	1.03	1.19
0011	32	CO	50.89	64.98	1.28	1.39	30501520	1.03	1.19
0011	32	NOx	33.89	43.28	1.28	1.39	30501520	1.03	1.19
0011	32	VOC	1.76	2.24	1.28	1.39	30501520	1.03	1.19
0011	45	CO	0	0	0	-0.4	30501513	1	1
0011	45	NOx	0	0	0	-0.4	30501513	1	1
0011	45	VOC	0	0	0	-0.4	30501513	1	1
0011	46	CO	0	0	0	-0.4	30501513	1	1
0011	46	NOx	0	0	0	-0.4	30501513	1	1
0011	46	VOC	0	0	0	-0.4	30501513	1	1
0011	48	CO	0	0	0	-0.4	30501507	1	1
0011	48	NOx	0	0	0	-0.4	30501507	1	1
0011	48	VOC	0	0	0	-0.4	30501507	1	1
0011	50	CO	0	0	0	-0.4	30501520	1	1
0011	50	NOx	0	0	0	-0.4	30501520	1	1
0011	50	VOC	0	0	0	-0.4	30501520	1	1
0011	51	CO	0	0	0	-0.4	30501520	1	1
0011	51	NOx	0	0	0	-0.4	30501520	1	1
0011	51	VOC	0	0	0	-0.4	30501520	1	1
0011	52	CO	0	0	0	-0.4	30501520	1	1
0011	52	NOx	0	0	0	-0.4	30501520	1	1
0011	52	VOC	0	0	0	-0.4	30501520	1	1
0011	01a	CO	5.01	5.65	1.13	1.18	30502513	1.01	1.09
0011	01a	NOx	31.30	35.26	1.13	1.18	30502513	1.01	1.09
0011	01a	VOC	7.91	8.91	1.13	1.18	30502513	1.01	1.09
0011	18a	CO	0.25	0.32	1.28	1.39	30501520	1.03	1.19
0011	18a	NOx	1.57	2.00	1.28	1.39	30501520	1.03	1.19
0011	18a	VOC	0.13	0.17	1.28	1.39	30501520	1.03	1.19
0011	19a	CO	0.29	0.38	1.28	1.39	30501520	1.03	1.19
0011	19a	NOx	1.83	2.33	1.28	1.39	30501520	1.03	1.19
0011	19a	VOC	0.15	0.20	1.28	1.39	30501520	1.03	1.19
0011	20a	CO	0.21	0.27	1.28	1.39	30501520	1.03	1.19
0011	20a	NOx	1.31	1.67	1.28	1.39	30501520	1.03	1.19
0011	20a	VOC	0.11	0.14	1.28	1.39	30501520	1.03	1.19
0011	21a	CO	0.05	0.06	1.28	1.39	30501520	1.03	1.19
0011	21a	NOx	0.26	0.33	1.28	1.39	30501520	1.03	1.19
0011	21a	VOC	0.01	0.02	1.28	1.39	30501520	1.03	1.19
0011	22a	CO	0.05	0.06	1.28	1.39	30501520	1.03	1.19
0011	22a	NOx	0.26	0.33	1.28	1.39	30501520	1.03	1.19
0011	22a	VOC	0.01	0.02	1.28	1.39	30501520	1.03	1.19
0012	01	CO	40.21	51.59	1.28	1.40	30500257	1.03	1.20
0012	01	NOx	8.05	10.32	1.28	1.40	30500257	1.03	1.20

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0012	01	VOC	9.90	12.70	1.28	1.40	30500257	1.03	1.20
0012	02	CO	0.03	0.04	1.26	1.37	30500206	1.03	1.19
0012	02	NOx	0.04	0.05	1.26	1.37	30500206	1.03	1.19
0012	02	VOC	0	0	0	-0.4	30500206	1	1
0012	03	CO	68.30	87.63	1.28	1.40	30500298	1.03	1.20
0012	03	NOx	0	0	0	-0.4	30500298	1	1
0012	03	VOC	6.60	8.47	1.28	1.40	30500298	1.03	1.20
0013	01	VOC	1.60	1.87	1.17	1.23	40400142	1.02	1.12
0013	02	VOC	1.66	1.94	1.17	1.23	40400142	1.02	1.12
0013	03	VOC	1.39	1.62	1.17	1.23	40400132	1.02	1.12
0013	04	VOC	1.44	1.68	1.17	1.23	40400132	1.02	1.12
0013	05	VOC	1.28	1.49	1.17	1.23	40400132	1.02	1.12
0013	06	VOC	1.41	1.64	1.17	1.23	40400142	1.02	1.12
0013	07	VOC	1.90	2.22	1.17	1.23	40400142	1.02	1.12
0013	08	VOC	2.10	2.45	1.17	1.23	40400142	1.02	1.12
0013	09	VOC	1.61	1.88	1.17	1.23	40400142	1.02	1.12
0013	10	VOC	1.61	1.88	1.17	1.23	40400142	1.02	1.12
0013	11	VOC	1.84	2.15	1.17	1.23	40400142	1.02	1.12
0013	12	VOC	1.88	2.19	1.17	1.23	40400142	1.02	1.12
0013	13	VOC	0.17	0.19	1.17	1.23	40400172	1.02	1.12
0013	14	VOC	0.13	0.15	1.17	1.23	40400179	1.02	1.12
0013	15	VOC	0.10	0.12	1.17	1.23	40400179	1.02	1.12
0013	16	VOC	2.07	2.42	1.17	1.23	40400172	1.02	1.12
0013	17	VOC	3.33	3.89	1.17	1.23	40400172	1.02	1.12
0013	18	VOC	0.13	0.15	1.17	1.23	40400170	1.02	1.12
0013	19	VOC	1.10	1.28	1.17	1.23	40400121	1.02	1.12
0013	20	VOC	1.21	1.41	1.17	1.23	40400121	1.02	1.12
0013	21	VOC	3.38	3.94	1.17	1.23	40400172	1.02	1.12
0013	22	VOC	0.55	0.64	1.17	1.23	40400130	1.02	1.12
0013	23	VOC	0.08	0.09	1.17	1.23	40400130	1.02	1.12
0013	24	VOC	0.08	0.09	1.17	1.23	40400130	1.02	1.12
0013	27	VOC	0.13	0.15	1.17	1.23	40400170	1.02	1.12
0013	28	VOC	0.15	0.18	1.17	1.23	40400170	1.02	1.12
0013	29	VOC	1.60	1.87	1.17	1.23	40400172	1.02	1.12
0013	30	VOC	0.007	0.008	1.17	1.23	40400199	1.02	1.12
0013	31	VOC	0	0	0	-0.4	40400199	1	1
0013	32	VOC	0.009	0.01	1.17	1.23	40400199	1.02	1.12
0013	33	VOC	0.009	0.01	1.17	1.23	40400199	1.02	1.12
0013	34	VOC	0.10	0.11	1.17	1.23	40400199	1.02	1.12
0013	36	VOC	0.003	0.004	1.17	1.23	40400199	1.02	1.12
0013	38	VOC	0	0	0	-0.4	40400199	1	1
0013	39	VOC	0	0	0	-0.4	40400199	1	1
0013	45	VOC	1.46	1.70	1.17	1.23	40400172	1.02	1.12
0013	46	VOC	1.46	1.70	1.17	1.23	40400172	1.02	1.12
0013	47	VOC	1.35	1.58	1.17	1.23	40400172	1.02	1.12

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0013	48	VOC	1.42	1.66	1.17	1.23	40400172	1.02	1.12
0013	53	VOC	0.01	0.01	1.17	1.23	40400199	1.02	1.12
0013	54	VOC	0.02	0.02	1.17	1.23	40400199	1.02	1.12
0013	56	VOC	0.02	0.02	1.17	1.23	40400179	1.02	1.12
0013	57	VOC	0.02	0.02	1.17	1.23	40400179	1.02	1.12
0013	101	VOC	396.12	462.29	1.17	1.23	40400199	1.02	1.12
0013	B01	VOC	50.06	58.42	1.17	1.23	40400150	1.02	1.12
0013	B02	VOC	7.20	8.40	1.17	1.23	40400153	1.02	1.12
0013	B04	VOC	1.15	1.34	1.17	1.23	40400172	1.02	1.12
0013	B05	VOC	0.98	1.15	1.17	1.23	40400172	1.02	1.12
0013	B06	VOC	5.05	5.89	1.17	1.23	40400151	1.02	1.12
0013	B10	CO	0.08	0.08	0.97	0.96	30600904	1.00	0.98
0013	B10	NOx	0.001	0.001	0.97	0.96	30600904	1.00	0.98
0013	B10	VOC	0.02	0.02	0.97	0.96	30600904	1.00	0.98
0013	D02	CO	0	0	0	-0.4	20200102	1	1
0013	D02	NOx	0	0	0	-0.4	20200102	1	1
0013	D02	VOC	0	0	0	-0.4	20200102	1	1
0019	A01	CO	31.51	42.63	1.35	1.49	30301299	1.04	1.25
0019	A01	VOC	1.18	1.59	1.35	1.49	30301299	1.04	1.25
0019	B06	CO	23.10	28.58	1.24	1.33	10201402	1.02	1.17
0019	B06	NOx	1.90	2.35	1.24	1.33	10201402	1.02	1.17
0019	B09	CO	0.005	0.006	1.16	1.23	10200602	1.02	1.11
0019	B09	NOx	1.00	0.93	0.93	0.90	10200602	0.99	0.95
0019	B09	VOC	0.20	0.23	1.16	1.23	10200602	1.02	1.11
0019	B10	CO	0.14	0.18	1.35	1.49	30301202	1.04	1.25
0019	B10	NOx	0.12	0.17	1.35	1.49	30301202	1.04	1.25
0019	B10	VOC	0.26	0.35	1.35	1.49	30301202	1.04	1.25
0019	C05	CO	0.0001	0.0001	1.35	1.49	30301201	1.04	1.25
0019	C05	NOx	0.0005	0.0006	1.35	1.49	30301201	1.04	1.25
0019	D02E	CO	0	0	0	-0.4	30301202	1	1
0019	D02E	NOx	0	0	0	-0.4	30301202	1	1
0019	D02W	CO	0	0	0	-0.4	30301299	1	1
0019	D02W	NOx	0	0	0	-0.4	30301299	1	1
0019	E03	CO	0.0002	0.0003	1.35	1.49	30301202	1.04	1.25
0019	E03	NOx	0.0009	0.001	1.35	1.49	30301202	1.04	1.25
0019	E03	VOC	0.0008	0.001	1.35	1.49	30301202	1.04	1.25
0019	F01	CO	0.02	0.03	1.35	1.49	30301202	1.04	1.25
0019	F01	NOx	0.10	0.13	1.35	1.49	30301202	1.04	1.25
0019	F02	CO	0	0	0	-0.4	30301202	1	1
0019	F02	NOx	0	0	0	-0.4	30301202	1	1
0019	F03	CO	0	0	0	-0.4	30301202	1	1
0019	F03	NOx	0	0	0	-0.4	30301202	1	1
0019	F04	CO	0	0	0	-0.4	30301202	1	1
0019	F04	NOx	0	0	0	-0.4	30301202	1	1
0019	F05	CO	0	0	0	-0.4	30301202	1	1

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0019	F05	NOx	0	0	0	-0.4	30301202	1	1
0019	F06	CO	0	0	0	-0.4	30301202	1	1
0019	F06	NOx	0	0	0	-0.4	30301202	1	1
0019	G02	CO	0.0004	0.0004	1.14	1.20	20200104	1.01	1.10
0019	G02	NOx	0.002	0.002	1.14	1.20	20200104	1.01	1.10
0019	G02	VOC	0.002	0.002	1.14	1.20	20200104	1.01	1.10
0019	G10	CO	0.0001	0.0001	1.14	1.20	20200104	1.01	1.10
0019	G10	NOx	0.0003	0.0004	1.14	1.20	20200104	1.01	1.10
0019	G10	VOC	0.0003	0.0003	1.14	1.20	20200104	1.01	1.10
0019	M11	CO	0	0	0	-0.4	30399999	1	1
0019	M11	NOx	0	0	0	-0.4	30399999	1	1
0019	M11	VOC	0	0	0	-0.4	30399999	1	1
0026	01	CO	3.84	4.92	1.28	1.39	10300603	1.03	1.20
0026	01	NOx	7.90	10.12	1.28	1.39	10300603	1.03	1.20
0026	01	VOC	0.40	0.51	1.28	1.39	10300603	1.03	1.20
0047	1	CO	7.94	10.17	1.28	1.39	10300603	1.03	1.20
0047	1	NOx	6.50	8.32	1.28	1.39	10300603	1.03	1.20
0047	1	VOC	2.91	3.73	1.28	1.39	10300603	1.03	1.20
0073	1	CO	7.79	9.98	1.28	1.39	10300603	1.03	1.20
0073	1	NOx	4.83	6.19	1.28	1.39	10300603	1.03	1.20
0073	1	VOC	0.76	0.97	1.28	1.39	10300603	1.03	1.20
0074	1	CO	3.99	5.11	1.28	1.39	10300603	1.03	1.20
0074	1	NOx	2.56	3.28	1.28	1.39	10300603	1.03	1.20
0074	1	VOC	0.27	0.35	1.28	1.39	10300603	1.03	1.20
0075	01	CO	0.16	0.23	1.44	1.61	30800799	1.04	1.31
0075	01	NOx	0.90	1.30	1.44	1.61	30800799	1.04	1.31
0075	01	VOC	40.90	58.80	1.44	1.61	30800799	1.04	1.31
0075	02	VOC	404.57	581.63	1.44	1.61	30800799	1.04	1.31
0076	1	CO	0.34	0.44	1.28	1.39	10300603	1.03	1.20
0076	1	NOx	4.13	5.29	1.28	1.39	10300603	1.03	1.20
0076	1	VOC	0.26	0.33	1.28	1.39	10300603	1.03	1.20
0077	1	CO	1.68	2.15	1.28	1.39	10300603	1.03	1.20
0077	1	NOx	1.10	1.41	1.28	1.39	10300603	1.03	1.20
0077	1	VOC	0.11	0.15	1.28	1.39	10300603	1.03	1.20
0081	1	CO	1.01	1.29	1.28	1.39	10300603	1.03	1.20
0081	1	NOx	1.95	2.50	1.28	1.39	10300603	1.03	1.20
0081	1	VOC	0.03	0.04	1.28	1.39	10300603	1.03	1.20
0085	1	CO	8.15	10.44	1.28	1.39	10300603	1.03	1.20
0085	1	NOx	5.00	6.40	1.28	1.39	10300603	1.03	1.20
0085	1	VOC	0.54	0.70	1.28	1.39	10300603	1.03	1.20
0086	1	CO	6.68	8.55	1.28	1.39	10300603	1.03	1.20
0086	1	NOx	10.14	12.98	1.28	1.39	10300603	1.03	1.20
0086	1	VOC	0.46	0.60	1.28	1.39	10300603	1.03	1.20
0114	1	CO	38.29	49.03	1.28	1.39	10300603	1.03	1.20
0114	1	NOx	49.33	63.17	1.28	1.39	10300603	1.03	1.20

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0114	1	VOC	20.29	25.98	1.28	1.39	10300603	1.03	1.20
0114	2	CO	1,409.45	1,681.95	1.19	1.27	27501015	1.02	1.14
0114	2	NOx	604.78	721.71	1.19	1.27	27501015	1.02	1.14
0114	2	VOC	221.42	264.22	1.19	1.27	27501015	1.02	1.14
0133	1	CO	4.59	5.88	1.28	1.39	10300603	1.03	1.20
0133	1	NOx	5.55	7.10	1.28	1.39	10300603	1.03	1.20
0133	1	VOC	0.41	0.52	1.28	1.39	10300603	1.03	1.20
0138	02	CO	2.99	3.37	1.13	1.18	30504033	1.01	1.09
0138	02	NOx	185.81	209.30	1.13	1.18	30504033	1.01	1.09
0138	02	VOC	0.76	0.76	1.00	1.00	30504033	1	1
0149	01	CO	3.42	3.42	1	1	50300603	1	1
0149	01	NOx	15.80	15.80	1	1	50300603	1	1
0149	01	VOC	4.97	4.97	1	1	50300603	1	1
0153	1	CO	10.55	13.51	1.28	1.39	10300603	1.03	1.20
0153	1	NOx	6.83	8.74	1.28	1.39	10300603	1.03	1.20
0153	1	VOC	0.73	0.93	1.28	1.39	10300603	1.03	1.20
0154	01	CO	4.01	5.38	1.34	1.48	30500699	1.03	1.24
0154	01	NOx	54.25	64.24	1.18	1.26	30500699	1.02	1.13
0154	01	VOC	0.69	0.92	1.34	1.48	30500699	1.03	1.24
0155	1	CO	11.11	14.23	1.28	1.39	10300603	1.03	1.20
0155	1	NOx	9.37	12.00	1.28	1.39	10300603	1.03	1.20
0155	1	VOC	0.88	1.13	1.28	1.39	10300603	1.03	1.20
0256	1	CO	8.76	11.21	1.28	1.39	10300603	1.03	1.20
0256	1	NOx	13.85	17.73	1.28	1.39	10300603	1.03	1.20
0256	1	VOC	4.56	5.84	1.28	1.39	10300603	1.03	1.20
0257	1	CO	1.13	1.45	1.28	1.39	10300603	1.03	1.20
0257	1	NOx	4.99	6.39	1.28	1.39	10300603	1.03	1.20
0257	1	VOC	0.31	0.39	1.28	1.39	10300603	1.03	1.20
0276	1	CO	2.36	3.02	1.28	1.39	10300603	1.03	1.20
0276	1	NOx	9.30	11.91	1.28	1.39	10300603	1.03	1.20
0276	1	VOC	1.78	2.28	1.28	1.39	10300603	1.03	1.20
0282	1	CO	17.96	23.00	1.28	1.39	10300603	1.03	1.20
0282	1	NOx	16.94	21.70	1.28	1.39	10300603	1.03	1.20
0282	1	VOC	6.09	7.80	1.28	1.39	10300603	1.03	1.20
0323	01	CO	0.47	0.67	1.42	1.58	40201399	1.04	1.29
0323	01	NOx	0.28	0.40	1.42	1.58	40201399	1.04	1.29
0323	01	VOC	18.10	25.66	1.42	1.58	40201399	1.04	1.29
0329	01	CO	7.35	6.45	0.88	0.83	20100201	0.99	0.91
0329	01	NOx	4.51	3.19	0.71	0.59	20100201	0.97	0.80
0329	01	VOC	0.43	0.38	0.88	0.83	20100201	0.99	0.91
0329	03	CO	23.62	23.62	1.00	1.00	20100201	1	1
0329	03	NOx	11.99	12.32	1.03	1.04	20100201	1.00	1.02
0329	03	VOC	9.09	9.11	1.00	1.00	20100201	1.00	1.00
0329	04	CO	23.62	23.62	1.00	1.00	20100201	1	1
0329	04	NOx	11.99	12.32	1.03	1.04	20100201	1.00	1.02

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0329	04	VOC	9.09	9.11	1.00	1.00	20100201	1.00	1.00
0329	05	CO	23.62	23.62	1.00	1.00	20100201	1	1
0329	05	NOx	11.99	12.32	1.03	1.04	20100201	1.00	1.02
0329	05	VOC	9.09	9.11	1.00	1.00	20100201	1.00	1.00
0329	06	CO	23.62	23.62	1.00	1.00	20100201	1	1
0329	06	NOx	11.99	12.32	1.03	1.04	20100201	1.00	1.02
0329	06	VOC	9.09	9.11	1.00	1.00	20100201	1.00	1.00
0329	08	CO	0.48	0.42	0.88	0.83	10100602	0.99	0.91
0329	08	NOx	0.02	0.02	0.86	0.81	10100602	0.99	0.90
0329	08	VOC	0.009	0.008	0.88	0.83	10100602	0.99	0.91
0329	09	CO	0.60	0.53	0.88	0.83	10100602	0.99	0.91
0329	09	NOx	0.02	0.02	0.86	0.81	10100602	0.99	0.90
0329	09	VOC	0.01	0.01	0.88	0.83	10100602	0.99	0.91
0329	10	CO	0.01	0.001	0.10	0.001	20100102	0.91	0.37
0329	10	NOx	0.002	0.0002	0.10	0.0002	20100102	0.91	0.37
0329	10	VOC	0.003	0.0003	0.10	0.0003	20100102	0.91	0.37
0329	11	CO	0.01	0.001	0.10	0.001	20100102	0.91	0.37
0329	11	NOx	0.002	0.0002	0.10	0.0002	20100102	0.91	0.37
0329	11	VOC	0.003	0.0003	0.10	0.0003	20100102	0.91	0.37
0347	01	CO	1.56	2.21	1.42	1.58	40201301	1.04	1.29
0347	01	NOx	1.86	2.64	1.42	1.58	40201301	1.04	1.29
0347	01	VOC	0.19	0.27	1.42	1.58	40201301	1.04	1.29
0360	01	CO	12.09	15.48	1.28	1.39	20300203	1.03	1.20
0360	01	NOx	33.48	42.87	1.28	1.39	20300203	1.03	1.20
0360	01	VOC	5.75	7.36	1.28	1.39	20300203	1.03	1.20
0360	02	CO	11.16	14.29	1.28	1.39	20300203	1.03	1.20
0360	02	NOx	39.24	50.25	1.28	1.39	20300203	1.03	1.20
0360	02	VOC	1.00	1.28	1.28	1.39	20300203	1.03	1.20
0360	03	CO	11.57	14.81	1.28	1.39	20300203	1.03	1.20
0360	03	NOx	36.77	47.08	1.28	1.39	20300203	1.03	1.20
0360	03	VOC	0.85	1.09	1.28	1.39	20300203	1.03	1.20
0360	04	CO	0.06	0.07	1.14	1.20	20200102	1.01	1.10
0360	04	NOx	0.02	0.02	1.14	1.20	20200102	1.01	1.10
0360	04	VOC	0.004	0.005	1.14	1.20	20200102	1.01	1.10
0391	01	CO	9.75	12.49	1.28	1.39	20300203	1.03	1.20
0391	01	NOx	39.66	50.78	1.28	1.39	20300203	1.03	1.20
0391	01	VOC	1.33	1.70	1.28	1.39	20300203	1.03	1.20
0391	02	CO	12.16	15.57	1.28	1.39	20300203	1.03	1.20
0391	02	NOx	39.74	50.89	1.28	1.39	20300203	1.03	1.20
0391	02	VOC	0.64	0.81	1.28	1.39	20300203	1.03	1.20
0391	03	CO	9.99	12.79	1.28	1.39	20300203	1.03	1.20
0391	03	NOx	41.87	53.62	1.28	1.39	20300203	1.03	1.20
0391	03	VOC	0.64	0.81	1.28	1.39	20300203	1.03	1.20
0391	04	CO	0.05	0.06	1.14	1.20	20200101	1.01	1.10
0391	04	NOx	0.009	0.008	0.90	0.86	20200101	0.99	0.93

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0391	04	VOC	0.004	0.005	1.14	1.20	20200101	1.01	1.10
0391	05	CO	0.05	0.06	1.14	1.20	20200102	1.01	1.10
0391	05	NOx	0.23	0.27	1.14	1.20	20200102	1.01	1.10
0391	05	VOC	0.02	0.02	1.14	1.20	20200102	1.01	1.10
0393	01	CO	6.86	6.01	0.88	0.83	20100201	0.99	0.91
0393	01	NOx	39.02	26.87	0.69	0.56	20100201	0.97	0.78
0393	01	VOC	3.42	3.00	0.88	0.83	20100201	0.99	0.91
0393	02	CO	12.10	10.61	0.88	0.83	20100201	0.99	0.91
0393	02	NOx	36.74	25.30	0.69	0.56	20100201	0.97	0.78
0393	02	VOC	3.36	2.95	0.88	0.83	20100201	0.99	0.91
0393	03	CO	0.03	0.003	0.10	0.003	20100102	0.91	0.37
0393	03	NOx	0.11	0.01	0.10	0.01	20100102	0.91	0.37
0393	03	VOC	0	0	0	-0.4	20100102	1	1
0393	04	CO	0.03	0.003	0.10	0.003	20100102	0.91	0.37
0393	04	NOx	0.11	0.01	0.10	0.01	20100102	0.91	0.37
0393	04	VOC	0	0	0	-0.4	20100102	1	1
0393	05	CO	0.03	0.03	0.88	0.83	10100601	0.99	0.91
0393	05	NOx	0.36	0.30	0.84	0.78	10100601	0.98	0.89
0393	05	VOC	0.05	0.04	0.88	0.83	10100601	0.99	0.91
0393	06	CO	0	0	0	-0.4	10100602	1	1
0393	06	NOx	0.46	0.38	0.84	0.78	10100602	0.98	0.89
0393	06	VOC	0.09	0.08	0.88	0.83	10100602	0.99	0.91
0393	07	CO	0.13	0.01	0.10	0.01	20100102	0.91	0.37
0393	07	NOx	0.64	0.06	0.10	0.06	20100102	0.91	0.37
0393	07	VOC	0.02	0.002	0.10	0.002	20100102	0.91	0.37
0395	02	CO	0	0	0	-0.4	20200102	1	1
0395	02	NOx	0	0	0	-0.4	20200102	1	1
0395	02	VOC	0	0	0	-0.4	20200102	1	1
0395	03	CO	3.91	4.46	1.14	1.20	20200102	1.01	1.10
0395	03	NOx	7.02	8.01	1.14	1.20	20200102	1.01	1.10
0395	03	VOC	0.66	0.75	1.14	1.20	20200102	1.01	1.10
0395	04	CO	0.42	0.48	1.14	1.20	20200102	1.01	1.10
0395	04	NOx	2.62	2.99	1.14	1.20	20200102	1.01	1.10
0395	04	VOC	0.07	0.08	1.14	1.20	20200102	1.01	1.10
0395	05	CO	0.29	0.34	1.14	1.20	20200102	1.01	1.10
0395	05	NOx	1.77	2.02	1.14	1.20	20200102	1.01	1.10
0395	05	VOC	0.05	0.06	1.14	1.20	20200102	1.01	1.10
0395	06	CO	3.37	3.80	1.13	1.18	30502503	1.01	1.09
0395	06	NOx	13.25	14.92	1.13	1.18	30502503	1.01	1.09
0395	06	VOC	3.10	3.49	1.13	1.18	30502503	1.01	1.09
0395	07	CO	0	0	0	-0.4	50200601	1	1
0395	07	NOx	2.15	2.15	1.00	1.00	50200601	1.00	1.00
0395	07	VOC	0	0	0	-0.4	50200601	1	1
0402	01	CO	0.25	0.29	1.14	1.20	20200102	1.01	1.10
0402	01	NOx	0.17	0.20	1.14	1.20	20200102	1.01	1.10

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0402	01	VOC	0.01	0.01	1.14	1.20	20200102	1.01	1.10
0402	02	CO	0.11	0.13	1.14	1.20	20200102	1.01	1.10
0402	02	NOx	0.51	0.58	1.14	1.20	20200102	1.01	1.10
0402	02	VOC	0.01	0.01	1.14	1.20	20200102	1.01	1.10
0402	03	CO	0.06	0.07	1.16	1.23	20200202	1.02	1.11
0402	03	NOx	0.22	0.15	0.68	0.55	20200202	0.97	0.77
0402	03	VOC	0.02	0.03	1.16	1.23	20200202	1.02	1.11
0402	04	CO	0	0	0	-0.4	50100789	1	1
0402	04	NOx	0	0	0	-0.4	50100789	1	1
0402	04	VOC	0	0	0	-0.4	50100789	1	1
0402	05	CO	1.69	2.20	1.30	1.42	50100789	1.03	1.21
0402	05	NOx	4.26	5.55	1.30	1.42	50100789	1.03	1.21
0402	05	VOC	0.60	0.78	1.30	1.42	50100789	1.03	1.21
0402	06	CO	33.84	44.06	1.30	1.42	50100799	1.03	1.21
0402	06	NOx	10.04	13.08	1.30	1.42	50100799	1.03	1.21
0402	06	VOC	19.30	25.14	1.30	1.42	50100799	1.03	1.21
0402	07	CO	0	0	0	-0.4	50100799	1	1
0402	07	NOx	0	0	0	-0.4	50100799	1	1
0402	07	VOC	0	0	0	-0.4	50100799	1	1
0402	08	VOC	14.18	18.46	1.30	1.42	50100799	1.03	1.21
0423	01	CO	2.17	1.91	0.88	0.83	20100201	0.99	0.91
0423	01	NOx	36.60	25.20	0.69	0.56	20100201	0.97	0.78
0423	01	VOC	0.61	0.54	0.88	0.83	20100201	0.99	0.91
0423	02	CO	2.07	1.82	0.88	0.83	20100201	0.99	0.91
0423	02	NOx	34.89	24.02	0.69	0.56	20100201	0.97	0.78
0423	02	VOC	0.59	0.52	0.88	0.83	20100201	0.99	0.91
0423	03	CO	2.55	2.23	0.88	0.83	20100201	0.99	0.91
0423	03	NOx	42.90	29.54	0.69	0.56	20100201	0.97	0.78
0423	03	VOC	0.72	0.64	0.88	0.83	20100201	0.99	0.91
0434	1	CO	4.26	5.46	1.28	1.39	10300603	1.03	1.20
0434	1	NOx	4.88	6.24	1.28	1.39	10300603	1.03	1.20
0434	1	VOC	0.31	0.39	1.28	1.39	10300603	1.03	1.20
0468	1	CO	3.81	4.88	1.28	1.39	20300202	1.03	1.20
0468	1	NOx	76.77	98.30	1.28	1.39	20300202	1.03	1.20
0468	1	VOC	0	0	0	-0.4	20300202	1	1
0482	01	VOC	17.93	27.76	1.55	1.77	40201901	1.05	1.38
0533	01	CO	5.34	5.34	1.00	1.00	20100201	1	1
0533	01	NOx	7.42	7.42	1.00	1.00	20100201	1	1
0533	01	VOC	0.33	0.33	1.00	1.00	20100201	1	1
0533	02	CO	0.04	0.004	0.10	0.004	20100102	0.91	0.37
0533	02	NOx	0.22	0.02	0.10	0.02	20100102	0.91	0.37
0533	02	VOC	0.01	0.001	0.10	0.001	20100102	0.91	0.37
0533	07	CO	0.03	0.003	0.10	0.003	20100102	0.91	0.37
0533	07	NOx	0.14	0.01	0.10	0.01	20100102	0.91	0.37
0533	07	VOC	0.01	0.001	0.10	0.001	20100102	0.91	0.37

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0533	08	CO	0.22	0.02	0.10	0.02	20100102	0.91	0.37
0533	08	NOx	0.21	0.02	0.10	0.02	20100102	0.91	0.37
0533	08	VOC	0.01	0.001	0.10	0.001	20100102	0.91	0.37
0564	1	CO	28.10	35.99	1.28	1.39	10300603	1.03	1.20
0564	1	NOx	25.04	32.06	1.28	1.39	10300603	1.03	1.20
0564	1	VOC	4.48	5.74	1.28	1.39	10300603	1.03	1.20
0593	E01	CO	0.01	0.02	1.28	1.39	30501599	1.03	1.19
0593	E01	NOx	0.07	0.09	1.28	1.39	30501599	1.03	1.19
0593	E01	VOC	1.66	2.12	1.28	1.39	30501599	1.03	1.19
0593	E105	CO	0.60	0.77	1.28	1.39	30501502	1.03	1.19
0593	E105	NOx	0.72	0.92	1.28	1.39	30501502	1.03	1.19
0593	E105	VOC	0.05	0.06	1.28	1.39	30501502	1.03	1.19
0593	E106	CO	0.60	0.77	1.28	1.39	30501502	1.03	1.19
0593	E106	NOx	0.72	0.92	1.28	1.39	30501502	1.03	1.19
0593	E106	VOC	0.05	0.06	1.28	1.39	30501502	1.03	1.19
0593	E110	CO	2.10	2.68	1.28	1.39	30501511	1.03	1.19
0593	E110	NOx	2.50	3.19	1.28	1.39	30501511	1.03	1.19
0593	E110	VOC	0.15	0.20	1.28	1.39	30501511	1.03	1.19
0593	E111	CO	2.15	2.74	1.28	1.39	30501511	1.03	1.19
0593	E111	NOx	2.56	3.27	1.28	1.39	30501511	1.03	1.19
0593	E111	VOC	0.15	0.20	1.28	1.39	30501511	1.03	1.19
0593	E145	CO	1.26	1.46	1.16	1.23	20200202	1.02	1.11
0593	E145	NOx	1.10	0.74	0.68	0.55	20200202	0.97	0.77
0593	E145	VOC	0.09	0.10	1.16	1.23	20200202	1.02	1.11
0593	E146	CO	0.13	0.15	1.16	1.23	20200202	1.02	1.11
0593	E146	NOx	0.11	0.08	0.68	0.55	20200202	0.97	0.77
0593	E146	VOC	0.009	0.01	1.16	1.23	20200202	1.02	1.11
0593	E147	CO	0.13	0.15	1.16	1.23	20200202	1.02	1.11
0593	E147	NOx	0.11	0.08	0.68	0.55	20200202	0.97	0.77
0593	E147	VOC	0.009	0.01	1.16	1.23	20200202	1.02	1.11
0593	E148	CO	0.13	0.15	1.16	1.23	20200202	1.02	1.11
0593	E148	NOx	0.11	0.08	0.68	0.55	20200202	0.97	0.77
0593	E148	VOC	0.009	0.01	1.16	1.23	20200202	1.02	1.11
0593	E153	CO	0.13	0.15	1.16	1.23	20200202	1.02	1.11
0593	E153	NOx	0.11	0.08	0.68	0.55	20200202	0.97	0.77
0593	E153	VOC	0.009	0.01	1.16	1.23	20200202	1.02	1.11
0593	EP13	CO	13.17	16.82	1.28	1.39	30501513	1.03	1.19
0593	EP13	NOx	3.63	4.64	1.28	1.39	30501513	1.03	1.19
0593	EP13	VOC	0.25	0.32	1.28	1.39	30501513	1.03	1.19
0593	EP14	CO	13.17	16.82	1.28	1.39	30501513	1.03	1.19
0593	EP14	NOx	3.63	4.64	1.28	1.39	30501513	1.03	1.19
0593	EP14	VOC	0.25	0.32	1.28	1.39	30501513	1.03	1.19
0593	EP15	CO	13.17	16.82	1.28	1.39	30501513	1.03	1.19
0593	EP15	NOx	3.63	4.64	1.28	1.39	30501513	1.03	1.19
0593	EP15	VOC	0.25	0.32	1.28	1.39	30501513	1.03	1.19

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0593	EP16	CO	13.17	16.82	1.28	1.39	30501513	1.03	1.19
0593	EP16	NOx	3.63	4.64	1.28	1.39	30501513	1.03	1.19
0593	EP16	VOC	0.25	0.32	1.28	1.39	30501513	1.03	1.19
0593	EP17	CO	13.17	16.82	1.28	1.39	30501513	1.03	1.19
0593	EP17	NOx	3.63	4.64	1.28	1.39	30501513	1.03	1.19
0593	EP17	VOC	0.25	0.32	1.28	1.39	30501513	1.03	1.19
0593	EP36	CO	27.27	34.82	1.28	1.39	30501520	1.03	1.19
0593	EP36	NOx	5.70	7.27	1.28	1.39	30501520	1.03	1.19
0593	EP36	VOC	1.66	2.12	1.28	1.39	30501520	1.03	1.19
0593	EP36a	CO	27.27	34.82	1.28	1.39	30501520	1.03	1.19
0593	EP36a	NOx	5.70	7.27	1.28	1.39	30501520	1.03	1.19
0593	EP36a	VOC	1.66	2.12	1.28	1.39	30501520	1.03	1.19
0593	EP36b	CO	27.27	34.82	1.28	1.39	30501520	1.03	1.19
0593	EP36b	NOx	5.70	7.27	1.28	1.39	30501520	1.03	1.19
0593	EP36b	VOC	1.66	2.12	1.28	1.39	30501520	1.03	1.19
0593	EP36c	CO	27.27	34.82	1.28	1.39	30501520	1.03	1.19
0593	EP36c	NOx	5.70	7.27	1.28	1.39	30501520	1.03	1.19
0593	EP36c	VOC	1.66	2.12	1.28	1.39	30501520	1.03	1.19
0593	EP36d	CO	27.27	34.82	1.28	1.39	30501520	1.03	1.19
0593	EP36d	NOx	5.70	7.27	1.28	1.39	30501520	1.03	1.19
0593	EP36d	VOC	1.66	2.12	1.28	1.39	30501520	1.03	1.19
0603	1	CO	4.01	5.14	1.28	1.39	10300603	1.03	1.20
0603	1	NOx	5.65	7.23	1.28	1.39	10300603	1.03	1.20
0603	1	VOC	0.32	0.41	1.28	1.39	10300603	1.03	1.20
0609	1	CO	5.26	6.74	1.28	1.39	10300603	1.03	1.20
0609	1	NOx	5.39	6.90	1.28	1.39	10300603	1.03	1.20
0609	1	VOC	1.74	2.22	1.28	1.39	10300603	1.03	1.20
0610	1	CO	0.39	0.49	1.28	1.39	10300603	1.03	1.20
0610	1	NOx	0.79	1.02	1.28	1.39	10300603	1.03	1.20
0610	1	VOC	0.05	0.06	1.28	1.39	10300603	1.03	1.20
0611	1	CO	0.23	0.29	1.28	1.39	10300603	1.03	1.20
0611	1	NOx	0.27	0.35	1.28	1.39	10300603	1.03	1.20
0611	1	VOC	0.02	0.03	1.28	1.39	10300603	1.03	1.20
0613	1	CO	7.09	9.08	1.28	1.39	10300603	1.03	1.20
0613	1	NOx	5.68	7.28	1.28	1.39	10300603	1.03	1.20
0613	1	VOC	2.18	2.79	1.28	1.39	10300603	1.03	1.20
0652	A01	CO	2.45	2.45	1.00	1.00	20100201	1	1
0652	A01	NOx	48.56	48.56	1.00	1.00	20100201	1.00	1.00
0652	A01	VOC	1.84	1.84	1.00	1.00	20100201	1	1
0652	A02	CO	2.40	2.40	1.00	1.00	20100201	1	1
0652	A02	NOx	46.80	46.80	1.00	1.00	20100201	1.00	1.00
0652	A02	VOC	1.80	1.80	1.00	1.00	20100201	1	1
0652	A03	CO	0.01	0.01	1.14	1.20	20200102	1.01	1.10
0652	A03	NOx	0.04	0.04	1.14	1.20	20200102	1.01	1.10
0652	A03	VOC	0.004	0.004	1.14	1.20	20200102	1.01	1.10

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
0652	A07	VOC	0.01	0.01	1.14	1.20	20200102	1.01	1.10
0697	1	CO	0.37	0.48	1.28	1.39	10300603	1.03	1.20
0697	1	NOx	4.42	5.66	1.28	1.39	10300603	1.03	1.20
0697	1	VOC	0.87	1.12	1.28	1.39	10300603	1.03	1.20
0737	1	CO	26.88	34.42	1.28	1.39	10300603	1.03	1.20
0737	1	NOx	33.00	42.26	1.28	1.39	10300603	1.03	1.20
0737	1	VOC	1.80	2.31	1.28	1.39	10300603	1.03	1.20
0749	1	CO	9.15	11.72	1.28	1.39	10300603	1.03	1.20
0749	1	NOx	5.41	6.93	1.28	1.39	10300603	1.03	1.20
0749	1	VOC	1.18	1.51	1.28	1.39	10300603	1.03	1.20
0756	1	CO	44.26	56.68	1.28	1.39	10300603	1.03	1.20
0756	1	NOx	33.97	43.49	1.28	1.39	10300603	1.03	1.20
0756	1	VOC	5.36	6.87	1.28	1.39	10300603	1.03	1.20
0825	1	CO	38.36	49.11	1.28	1.39	10300603	1.03	1.20
0825	1	NOx	36.82	47.15	1.28	1.39	10300603	1.03	1.20
0825	1	VOC	9.88	12.65	1.28	1.39	10300603	1.03	1.20
0856	1	CO	11.22	14.36	1.28	1.39	10300603	1.03	1.20
0856	1	NOx	7.26	9.29	1.28	1.39	10300603	1.03	1.20
0856	1	VOC	1.25	1.60	1.28	1.39	10300603	1.03	1.20
0859	01	VOC	50.41	72.48	1.44	1.61	40202240	1.04	1.31
0886	1	VOC	2.76	3.97	1.44	1.61	40202201	1.04	1.31
0886	2	VOC	5.25	7.55	1.44	1.61	40202201	1.04	1.31
0897	2	VOC	24.23	34.35	1.42	1.58	40201301	1.04	1.29
0897	1328	CO	0.77	1.10	1.42	1.58	40201301	1.04	1.29
0897	1328	NOx	0.91	1.29	1.42	1.58	40201301	1.04	1.29
0897	1328	VOC	12.75	18.07	1.42	1.58	40201301	1.04	1.29
1520	A01,2	CO	61.79	61.79	1.00	1.00	20100201	1	1
1520	A01,2	NOx	97.53	97.46	1.00	1.00	20100201	1.00	1.00
1520	A01,2	VOC	31.62	31.62	1.00	1.00	20100201	1.00	1.00
1520	A03,4	CO	59.88	59.88	1.00	1.00	20100201	1	1
1520	A03,4	NOx	94.51	94.44	1.00	1.00	20100201	1.00	1.00
1520	A03,4	VOC	30.64	30.64	1.00	1.00	20100201	1.00	1.00
1520	A05	CO	1.65	1.88	1.14	1.20	20200102	1.01	1.10
1520	A05	NOx	0.67	0.77	1.14	1.20	20200102	1.01	1.10
1520	A05	VOC	0.07	0.08	1.14	1.20	20200102	1.01	1.10
1520	A06	CO	0.16	0.19	1.14	1.20	20200102	1.01	1.10
1520	A06	NOx	0.26	0.30	1.14	1.20	20200102	1.01	1.10
1520	A06	VOC	0.04	0.04	1.14	1.20	20200102	1.01	1.10
1520	A07	CO	0.01	0.01	1.14	1.20	20200102	1.01	1.10
1520	A07	NOx	0.02	0.02	1.14	1.20	20200102	1.01	1.10
1520	A07	VOC	0.003	0.003	1.14	1.20	20200102	1.01	1.10
1536	1	CO	8.02	11.37	1.42	1.58	40201301	1.04	1.29
1536	1	NOx	3.03	4.30	1.42	1.58	40201301	1.04	1.29
1536	1	VOC	23.79	33.72	1.42	1.58	40201301	1.04	1.29
1536	2	VOC	45.19	64.06	1.42	1.58	40201301	1.04	1.29

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
1550	A01,2	CO	70.43	70.43	1.00	1.00	20100201	1	1
1550	A01,2	NOx	78.73	78.72	1.00	1.00	20100201	1.00	1.00
1550	A01,2	VOC	21.69	21.69	1.00	1.00	20100201	1.00	1.00
1550	A03,4	CO	70.74	70.74	1.00	1.00	20100201	1	1
1550	A03,4	NOx	79.07	79.06	1.00	1.00	20100201	1.00	1.00
1550	A03,4	VOC	21.79	21.78	1.00	1.00	20100201	1.00	1.00
1550	A05	CO	0.27	0.35	1.28	1.39	13030602	1.03	1.20
1550	A05	NOx	0.07	0.09	1.28	1.39	13030602	1.03	1.20
1550	A05	VOC	0.03	0.04	1.28	1.39	13030602	1.03	1.20
1550	A06	CO	0.01	0.01	1.14	1.20	20200102	1.01	1.10
1550	A06	NOx	0.02	0.03	1.14	1.20	20200102	1.01	1.10
1550	A06	VOC	0	0	0	-0.4	20200102	1	1
1584	AO1	CO	119.56	119.56	1.00	1.00	20100102	1	1
1584	AO1	NOx	152.39	152.39	1.00	1.00	20100102	1	1
1584	AO1	VOC	0.50	0.50	1.00	1.00	20100102	1	1
1584	AO3	CO	123.34	123.34	1.00	1.00	20100201	1	1
1584	AO3	NOx	157.21	157.21	1.00	1.00	20100201	1	1
1584	AO3	VOC	0.50	0.50	1.00	1.00	20100201	1	1
1590	1	CO	2.48	3.18	1.28	1.39	30200202	1.03	1.20
1590	1	NOx	18.35	23.50	1.28	1.39	20300202	1.03	1.20
1590	1	VOC	0	0	0	-0.4	20300202	1	1
15033	01	CO	16.98	22.31	1.31	1.44	50300601	1.03	1.22
15033	01	NOx	2.72	3.57	1.31	1.44	50300601	1.03	1.22
15033	01	VOC	3.90	5.12	1.31	1.44	50300601	1.03	1.22
49110398	01	CO	49.84	43.71	0.88	0.83	10100602	0.99	0.91
49110398	01	NOx	262.00	262.00	1.00	1.00	10100602	1	1
49110398	01	VOC	3.04	2.67	0.88	0.83	10100602	0.99	0.91
49110398	02	CO	77.43	67.91	0.88	0.83	10100602	0.99	0.91
49110398	02	NOx	723.90	723.90	1.00	1.00	10100602	1	1
49110398	02	VOC	4.73	4.15	0.88	0.83	10100602	0.99	0.91
49110398	03	CO	22.86	20.05	0.88	0.83	10100602	0.99	0.91
49110398	03	NOx	274.57	274.57	1.00	1.00	10100602	1	1
49110398	03	VOC	4.73	4.15	0.88	0.83	10100602	0.99	0.91
49110399	01	CO	102.10	89.54	0.88	0.83	10100602	0.99	0.91
49110399	01	NOx	880.82	880.82	1.00	1.00	10100602	1	1
49110399	01	VOC	1.46	1.35	0.92	0.89	10100602	0.99	0.95
49110400	1	CO	101.43	167.62	1.65	1.91	10100101	1.07	1.46
49110400	1	NOx	1,820.11	1,820.11	1.00	1.00	10100101	1	1
49110400	1	VOC	9.56	9.56	1.00	1.00	10100101	1	1
49110400	2	CO	92.67	153.13	1.65	1.91	10100101	1.07	1.46
49110400	2	NOx	2,144.15	2,144.15	1.00	1.00	10100101	1	1
49110400	2	VOC	8.74	8.74	1.00	1.00	10100101	1	1
49110400	3	CO	93.71	154.86	1.65	1.91	10100101	1.07	1.46
49110400	3	NOx	1,638.21	1,638.21	1.00	1.00	10100101	1	1
49110400	3	VOC	8.82	8.82	1.00	1.00	10100101	1	1

Facility ID	EU	Pollutant	2008 Emissions (tpy)	2018 Emissions (tpy)	2018 GF	2022 GF	SCC	Yearly GF	2015 GF
49110400	4	CO	216.85	358.34	1.65	1.91	10100101	1.07	1.46
49110400	4	NOx	3,306.31	3,306.31	1.00	1.00	10100101	1	1
49110400	4	VOC	20.42	20.42	1.00	1.00	10100101	1	1
49110774	1	CO	1,174.40	1,174.40	1.00	1.00	10100101	1	1
49110774	1	NOx	12,683.61	12,683.61	1.00	1.00	10100101	1	1
49110774	1	VOC	138.64	138.64	1.00	1.00	10100101	1	1

Table 2-11. Projected 2015 NO_x Point Source Emissions

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0003	01	0.05	1	1	20100102	0.05	a	0.27	0.27	25
0003	02	127.39	1.39	1.19	30501604	152.09		698.03	833.39	25
0003	03	115.21	1.39	1.19	30501604	137.55		631.29	753.71	25
0003	04	202.93	1.39	1.19	30501604	242.28		1,111.95	1,327.57	25
0003	05	648.63	1.39	1.19	30501604	774.41		3,554.14	4,243.35	25
0003	07	0.12	1	1	20100102	0.12	a	0.66	0.66	25
0003	10	0.41	1.39	1.20	10300603	0.49		2.25	2.69	25
0003	28	4.58	1.39	1.19	30501699	5.47		25.10	29.96	25
0004	B8	0	1.08	1.04	20200401	0		0	0	25
0004	E11	8.18	1.26	1.13	30501513	9.23		44.82	50.56	25
0004	F1	0	1.26	1.13	30501502	0		0	0	25
0004	F2	0	1.26	1.13	30501502	0		0	0	25
0004	F3	0	1.26	1.13	30501511	0		0	0	25
0004	F4	0	1.26	1.13	30501511	0		0	0	25
0004	G1	6.91	1.26	1.13	30501511	7.79		37.86	42.71	25
0004	G1a	0	1.26	1.13	30501511	0		0	0	25
0004	G1b	0	1.26	1.13	30501511	0		0	0	25
0004	G1c	0	1.26	1.13	30501511	0		0	0	25
0004	J2	0	1.26	1.13	30501599	0		0	0	25
0004	J3	12.71	1.26	1.13	30501520	14.34		69.64	78.55	25
0004	L3	0.97	1.08	1.04	20200401	1.01		5.32	5.53	25
0005	01	0.10	1.41	1.20	30501516	0.12	**	0.55	0.66	25
0007	04	3.00	0.56	0.78	20100201	2.35		17.75	13.88	27
0007	05	234.30	0.56	0.78	20100201	183.22		1,386.54	1,084.27	27
0007	06	351.00	0.56	0.78	20100201	274.48		2,077.15	1,624.33	27
0007	07	390.10	0.56	0.78	20100201	305.06		2,308.54	1,805.27	27
0007	08	216.40	0.56	0.78	20100201	169.22		1,280.61	1,001.44	27
0007	21	0.03	1.20	1.10	20200102	0.03		0.18	0.20	27
0007	22	0	1.20	1.10	20200102	0		0	0	27
0007	27	0.48	1.20	1.10	20200201	0.53		2.84	3.12	27
0007	28	0.30	1.20	1.10	20200201	0.33		1.78	1.95	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0007	29	0.32	1.20	1.10	20200201	0.35		1.89	2.08	27
0007	30	0.05	1.20	1.10	20200201	0.05		0.30	0.33	27
0007	31	1.02	1.20	1.10	20200201	1.12		6.04	6.63	27
0007	32	0.48	1.20	1.10	20200201	0.53		2.84	3.12	27
0007	33	0.13	1.20	1.10	20200201	0.14		0.77	0.85	27
0007	34	1.57	1.20	1.10	20200201	1.72		9.29	10.21	27
0007	35	2.94	1.20	1.10	20200201	3.23		17.40	19.11	27
0007	36	2.27	1.20	1.10	20200201	2.49		13.43	14.76	27
0007	37	2.07	1.20	1.10	20200201	2.27		12.25	13.46	27
0007	38	1.57	1.20	1.10	20200201	1.72		9.29	10.21	27
0007	45	0.04	1.20	1.10	20200102	0.04		0.24	0.26	27
0007	46	0	1.20	1.10	20200102	0		0	0	27
0008	8-01	7.86	0.56	0.78	20100102	6.15		172.27	134.72	100
0008	8-02	0.07	1.20	1.10	20200102	0.08		1.53	1.69	100
0011	01	0	1.18	1.09	30502513	0		0	0	25
0011	05	0	1.39	1.19	30501501	0		0	0	25
0011	09	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	10	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	11	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	12	0.60	1.39	1.19	30501513	0.72		3.29	3.93	25
0011	13	0.60	1.39	1.19	30501513	0.72		3.29	3.93	25
0011	14	0.60	1.39	1.19	30501513	0.72		3.29	3.93	25
0011	18	20.38	1.39	1.19	30501520	24.33		111.67	133.33	25
0011	19	23.78	1.39	1.19	30501520	28.39		130.30	155.57	25
0011	20	13.59	1.39	1.19	30501520	16.23		74.47	88.91	25
0011	21	5.43	1.39	1.19	30501520	6.48		29.75	35.52	25
0011	22	4.76	1.39	1.19	30501520	5.68		26.08	31.14	25
0011	25	2.71	1.39	1.19	30501513	3.24		14.85	17.73	25
0011	26	2.71	1.39	1.19	30501513	3.24		14.85	17.73	25
0011	30	8.11	1.39	1.19	30501520	9.68		44.44	53.06	25
0011	31	6.31	1.39	1.19	30501520	7.53		34.58	41.28	25
0011	32	3.60	1.39	1.19	30501520	4.30		19.73	23.55	25
0011	36	4.32	1.39	1.19	30501501	5.16		23.67	28.26	25
0011	45	2.71	1.39	1.19	30501513	3.24		14.85	17.73	25
0011	46	2.71	1.39	1.19	30501513	3.24		14.85	17.73	25
0011	48	0	1.39	1.19	30501507	0		0	0	25
0011	50	8.11	1.39	1.19	30501520	9.68		44.44	53.06	25
0011	51	6.31	1.39	1.19	30501520	7.53		34.58	41.28	25
0011	52	3.60	1.39	1.19	30501520	4.30		19.73	23.55	25
0011	01a	4.22	1.18	1.09	30502513	4.59		23.12	25.17	25
0011	18a	2.60	1.39	1.19	30501520	3.10		14.25	17.01	25
0011	19a	3.03	1.39	1.19	30501520	3.62		16.60	19.82	25
0011	20a	1.73	1.39	1.19	30501520	2.07		9.48	11.32	25
0011	21a	0.69	1.39	1.19	30501520	0.82		3.78	4.51	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0011	22a	0.61	1.39	1.19	30501520	0.73		3.34	3.99	25
0012	01	3.42	1.40	1.20	30500257	4.10		18.74	22.45	25
0012	02	0	1.37	1.19	30500206	0		0	0	25
0012	03	2.10	1.37	1.19	30500298	2.49		11.51	13.64	25
0013	B10	0.18	0.96	0.98	30600904	0.18		1.00	0.98	25
0013	D02	0.03	1	1	20200102	0.03	a	0.19	0.19	25
0013	SR04	0.51	1.25	1.12	10200602	0.57	**	2.79	3.14	25
0019	A01	0	1.49	1.25	30301299	0		0	0	25
0019	B06	0.54	1.33	1.17	10201402	0.63		2.96	3.46	25
0019	B09	0.23	0.90	0.95	10200602	0.22		1.24	1.18	25
0019	B10	0.17	1.49	1.25	30301202	0.21		0.93	1.16	25
0019	C05	0.14	1.49	1.25	30301201	0.17		0.74	0.93	25
0019	D02E	0	1.49	1.25	30301202	0		0	0	25
0019	D02W	0	1.49	1.25	30301299	0		0	0	25
0019	E03	0.001	1.49	1.25	30301202	0.001		0.007	0.008	25
0019	G02	0.002	1.20	1.10	20200104	0.002		0.01	0.01	25
0019	G10	0.0009	1.20	1.10	20200104	0.0009		0.005	0.005	25
0019	M11	0	1.20	1.10	30399999	0		0	0	25
0026	01	1.64	1.39	1.20	10300603	1.96		8.99	10.75	25
0047	1	5.12	1.39	1.20	10300603	6.13		28.05	33.56	25
0073	1	4.79	1.39	1.20	10300603	5.73		26.25	31.40	25
0074	1	2.33	1.39	1.20	10300603	2.79		12.77	15.27	25
0075	01	0.63	1.61	1.31	30800799	0.82		3.45	4.51	25
0076	1	3.17	1.39	1.20	10300603	3.79		17.37	20.78	25
0077	1	1.87	1.39	1.20	10300603	2.24		10.25	12.26	25
0081	1	4.29	1.39	1.20	10300603	5.13		23.51	28.12	25
0085	1	6.45	1.39	1.20	10300603	7.72		35.34	42.28	25
0086	1	16.50	1.39	1.20	10300603	19.74		90.41	108.16	25
0095	A01	0.05	1.09	1.05	20300101	0.05	**	0.28	0.30	25
0095	A02	0.09	1.09	1.05	20300101	0.10	**	0.50	0.53	25
0095	A03	0.09	1.09	1.05	20300101	0.10	**	0.50	0.53	25
0095	A04	0.26	1.09	1.05	20300101	0.27	**	1.40	1.47	25
0095	A05	4.90	1.39	1.20	10300602	5.86		26.85	32.12	25
0095	A07	2.23	1.39	1.20	10300602	2.67		12.22	14.62	25
0095	A10	0.08	1.45	1.23	30107002	0.10	**	0.44	0.54	25
0095	A15	1.84	1.45	1.23	30107002	2.26	**	10.08	12.36	25
0133	1	4.89	1.39	1.20	10300603	5.85		26.79	32.06	25
0138	01	0.84	1.18	1.09	30504099	0.91		4.60	5.01	25
0138	02	97.72	1.18	1.09	30504033	106.37		535.45	582.84	25
0149	01	15.80	1	1	50300603	15.80		86.58	86.58	25
0153	1	6.64	1.39	1.20	10300603	7.94		36.38	43.53	25
0154	01	0	1.26	1.13	30500699	0		0	0	25
0155	1	7.52	1.39	1.20	10300603	9.00		41.21	49.30	25
0256	1	4.15	1.39	1.20	10300603	4.96		22.74	27.20	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0257	1	2.46	1.39	1.20	10300603	2.94		13.48	16.13	25
0276	1	7.59	1.39	1.20	10300603	9.08		41.59	49.75	25
0282	1	14.06	1.39	1.20	10300603	16.82		77.04	92.17	25
0323	01	0.20	1.58	1.29	40201399	0.26		1.10	1.42	25
0329	01	4.63	0.59	0.80	20100201	3.68		51.75	41.16	51
0329	03	5.12	1.04	1.02	20100201	5.22		57.23	58.34	51
0329	04	5.24	1.04	1.02	20100201	5.34		58.57	59.71	51
0329	05	4.93	1.04	1.02	20100201	5.03		55.11	56.18	51
0329	06	4.63	1.04	1.02	20100201	4.72		51.75	52.76	51
0329	08	0.14	0.81	0.90	10100602	0.13		1.56	1.42	51
0329	09	0.14	0.81	0.90	10100602	0.13		1.56	1.42	51
0329	10	0.01	1	1	20100102	0.01	a	0.11	0.11	51
0329	11	0	1	1	20100102	0		0	0	51
0360	01	30.05	1.39	1.20	20300203	35.95		177.83	212.75	27
0360	02	32.11	1.39	1.20	20300203	38.41		190.02	227.33	27
0360	03	32.45	1.39	1.20	20300203	38.82		192.03	229.74	27
0360	04	0.02	1.20	1.10	20200102	0.02		0.12	0.13	27
0360	06	0	1.20	1.10	20200102	0		0	0	27
0360	08	0	1.20	1.10	20200102	0		0	0	27
0372	01	2.26	1.20	1.10	20100102	2.48		12.38	13.60	25
0372	02	6.85	1.21	1.10	30500242	7.56		37.53	41.40	25
0372	03	0.24	1	1	30500208	0.24		1.29	1.29	25
0372	04	0.36	1	1	30500208	0.36		1.96	1.96	25
0372	05	0.20	1	1	30500208	0.20		1.11	1.11	25
0372	06	0	1.39	1.20	10300602	0		0	0	25
0372	07	1.68	1.20	1.10	20100102	1.85		9.21	10.11	25
0372	08	0	1.39	1.20	10300602	0		0	0	25
0372	09	0	1.20	1.10	20100102	0		0	0	25
0372	10	0	1.39	1.20	10300602	0		0	0	25
0372	11	2.22	1.41	1.20	30502514	2.67	**	12.16	14.64	25
0372	12	0	1.41	1.20	30502508	0	**	0	0	25
0372	13	0.25	1.41	1.20	30502599	0.30	**	1.37	1.65	25
0391	01	32.69	1.39	1.20	20300203	39.11		193.45	231.44	27
0391	02	31.51	1.39	1.20	20300203	37.70		186.47	223.08	27
0391	03	33.97	1.39	1.20	20300203	40.64		201.03	240.50	27
0391	04	0.02	0.86	0.93	20200101	0.02		0.12	0.11	27
0391	05	0.21	1.20	1.10	20200102	0.23		1.24	1.37	27
0391	07	0.01	1.04	1.02	20100201	0.01		0.06	0.06	27
0393	01	29.98	0.56	0.78	20100201	23.44		177.40	138.73	27
0393	02	29.75	0.56	0.78	20100201	23.26		176.04	137.67	27
0393	03	0.42	1	1	20100102	0.42	a	2.49	2.49	27
0393	04	0.45	1	1	20100102	0.45	a	2.68	2.68	27
0393	05	7.27	0.78	0.89	10100602	6.46		43.02	38.22	27
0393	06	2.93	0.78	0.89	10100602	2.60		17.35	15.41	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0393	07	0	1	1	20100102	0		0	0	27
0395	02	0	1	1	20200102	0		0	0	25
0395	03	30.70	1.20	1.10	20200102	33.73		168.22	184.81	25
0395	04	13.52	1.20	1.10	20200102	14.85		74.08	81.39	25
0395	05	0	1.20	1.10	20200102	0		0	0	25
0395	06	41.23	1.18	1.09	30502503	44.88		225.91	245.90	25
0395	07	1.36	1	1	50200601	1.36		7.46	7.46	25
0402	01	0	1.20	1.10	20200102	0		0	0	25
0402	02	0	1.20	1.10	20200102	0		0	0	25
0402	03	0	0.55	0.77	20200202	0		0	0	25
0402	04	0	1	1	50100789	0		0	0	25
0402	05	0	1.42	1.21	50100789	0		0	0	25
0402	06	0	1.42	1.21	50100799	0		0	0	25
0402	07	0	1	1	50100799	0		0	0	25
0402	08	13.52	1.42	1.21	50100799	16.38		74.08	89.74	25
0423	01	3.23	0.56	0.78	20100201	2.53		26.19	20.48	37
0423	02	4.79	0.56	0.78	20100201	3.75		38.84	30.38	37
0423	03	2.70	0.56	0.78	20100201	2.11		21.90	17.12	37
0434	1	3.86	1.39	1.20	10300603	4.62		21.15	25.30	25
0468	1	67.50	1.39	1.20	20300202	80.75		369.86	442.48	25
0482	01	0.32	1.45	1.22	40201901	0.39	**	1.75	2.14	25
0512	1	0	1.41	1.20	30502599	0	**	0	0	25
0533	01	3.20	1	1	20100201	3.20		56.11	56.11	80
0533	02	0.40	1	1	20100102	0.40	a	7.01	7.01	80
0533	03	0	1.04	1.02	20100201	0		0	0	80
0533	04	0	1.04	1.02	20100201	0		0	0	80
0533	07	0.06	1	1	20100102	0.06	a	1.05	1.05	80
0533	08	0.17	1	1	20100102	0.17	a	2.98	2.98	80
0533	09	2.40	1.04	1.02	20100201	2.45		42.08	42.90	80
0533	10	0.07	1	1	20100102	0.07	a	1.23	1.23	80
0564	1	8.93	1.39	1.20	10300603	10.68		48.93	58.54	25
0593	C01	2.33	1.39	1.19	30501513	2.78		12.77	15.24	25
0593	C02	2.33	1.39	1.19	30501513	2.78		12.77	15.24	25
0593	C03	2.33	1.39	1.19	30501513	2.78		12.77	15.24	25
0593	C04	2.33	1.39	1.19	30501513	2.78		12.77	15.24	25
0593	C05	2.33	1.39	1.19	30501513	2.78		12.77	15.24	25
0593	E03a	3.59	1.39	1.19	30501520	4.29		19.67	23.49	25
0593	E03b	3.59	1.39	1.19	30501520	4.29		19.67	23.49	25
0593	E03c	3.59	1.39	1.19	30501520	4.29		19.67	23.49	25
0593	E03d	3.59	1.39	1.19	30501520	4.29		19.67	23.49	25
0593	E03e	3.59	1.39	1.19	30501520	4.29		19.67	23.49	25
0593	E105	0.12	1.39	1.19	30501502	0.15		0.68	0.81	25
0593	E106	0.12	1.39	1.19	30501502	0.14		0.64	0.76	25
0593	E110	2.58	1.39	1.19	30501511	3.08		14.14	16.88	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0593	E111	2.41	1.39	1.19	30501511	2.87		13.19	15.75	25
0593	E145	1.79	0.55	0.77	20200202	1.38		9.80	7.58	25
0593	E146	0.27	0.55	0.77	20200202	0.21		1.47	1.14	25
0593	E147	0.20	0.55	0.77	20200202	0.16		1.12	0.86	25
0593	E148	0.23	0.55	0.77	20200202	0.18		1.27	0.98	25
0593	E153	0.05	0.55	0.77	20200202	0.03		0.25	0.19	25
0593	E154	0.05	1.39	1.19	20200202	0.05		0.25	0.29	25
0593	G33	0.001	1	1	20100102	0.001	a	0.005	0.005	25
0593	G34	0.008	1	1	20100102	0.008	a	0.04	0.04	25
0593	Z01	0.06	1.39	1.19	30501599	0.07		0.33	0.39	25
0603	1	4.98	1.39	1.20	10300603	5.96		27.29	32.65	25
0609	1	5.24	1.39	1.20	10300603	6.27		28.71	34.35	25
0611	1	1.79	1.39	1.20	10300603	2.14		9.81	11.73	25
0613	1	2.71	1.39	1.20	10300603	3.24		14.85	17.76	25
0652	A01	75.23	1	1	20100201	75.23		445.20	445.20	27
0652	A02	76.82	1	1	20100201	76.82		454.61	454.61	27
0652	A03	1.45	1.20	1.10	20200102	1.59		8.58	9.43	27
0697	1	8.20	1.39	1.20	10300603	9.81		44.93	53.75	25
0737	1	14.17	1.39	1.20	10300603	16.95		77.64	92.89	25
0749	1	3.48	1.39	1.20	10300603	4.16		19.07	22.81	25
0756	1	14.07	1.39	1.20	10300603	16.83		77.10	92.23	25
0825	1	15.25	1.39	1.20	10300603	18.24		83.56	99.97	25
0837	1	2.39	0.55	0.77	20200202	1.85		13.10	10.13	25
0856	1	8.64	1.39	1.20	10300603	10.34		47.34	56.64	25
1513	01	61.97	1.04	1.02	20100201	63.17		339.56	346.14	25
1513	03	62.70	1.04	1.02	20100201	63.91		343.56	350.22	25
1513	05	61.44	1.04	1.02	20100201	62.63		336.66	343.18	25
1513	07	58.51	1.04	1.02	20100201	59.64		320.60	326.82	25
1513	09	0.09	1.25	1.12	10200603	0.10	**	0.49	0.55	25
1513	10	0.001	1.25	1.12	10200603	0.001	**	0.005	0.006	25
1513	12	0.06	1.16	1.08	20201001	0.06	**	0.33	0.36	25
1513	13	0.06	1.16	1.08	20201001	0.06	**	0.33	0.36	25
1513	14	0.12	1.20	1.10	20200102	0.13		0.66	0.72	25
1513	15	0	1.20	1.10	20200102	0		0	0	25
1513	16	0.05	1.40	1.20	10500206	0.06	**	0.29	0.35	25
1520	A01,2	73.60	1	1	20100201	73.60		725.92	725.92	45
1520	A03,4	71.10	1	1	20100201	71.10		701.26	701.26	45
1520	A05	2.40	1.20	1.10	20200102	2.64		23.67	25.99	45
1520	A06	0.09	1.20	1.10	20200102	0.10		0.89	0.97	45
1520	A07	0.10	1.20	1.10	20200102	0.11		0.99	1.08	45
1550	A01,2	9.49	1	1	20100201	9.49		64.48	64.48	31
1550	A03,4	8.08	1	1	20100201	8.08		54.90	54.90	31
1550	A05	0.06	1.39	1.20	10300602	0.07		0.41	0.49	31
1550	A06	1.87	1.20	1.10	20200102	2.05		12.71	13.96	31

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
1584	A01,2	53.57	1	1	20100201	53.57		352.24	352.24	30
1584	A03,4	48.53	1	1	20100201	48.53		319.10	319.10	30
1584	A05	0.13	1.20	1.10	20200102	0.14		0.85	0.94	30
1584	A06	0.001	1.20	1.10	20200102	0.001		0.007	0.007	30
1590	1	32.20	1.39	1.20	20300202	38.52		176.44	211.08	25
15033	01	2.37	1.44	1.22	50300601	2.89		12.99	15.84	25
AP49110398	01	0	1	1	10100602	0		0	0	25
AP49110398	02	0	1	1	10100602	0		0	0	25
AP49110398	03	0	1	1	10100602	0		0	0	25
AP49110399	01	55.58	1	1	10100602	55.58		621.28	621.28	51
AP49110400	1	1,312.85	1	1	10100101	1,312.85		7,769.19	7,769.19	27
AP49110400	2	1,609.71	1	1	10100101	1,609.71		9,525.96	9,525.96	27
AP49110400	3	1,012.73	1	1	10100101	1,012.73		5,993.14	5,993.14	27
AP49110400	4	1,623.27	1	1	10100101	1,623.27		9,606.20	9,606.20	27
AP49110774	1	0	1	1	10100101	0		0	0	25
PRJEGU33	#1	0	1	1	20100201	443.47	b	0	2,624.40	27
PRJEGU33	#2	0	1	1	20100201	443.47	b	0	2,624.40	27

** = Growth Factor taken from EGAS.

a = DAQEM assigned growth factor.

b = For 2018 projected emission units, the most conservative growth factors for similar SCC emission units used with a four-year growth term (2018-2022).

Table 2-12. Projected 2015 VOC Point Source Emissions

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0003	01	0.01	1	1	20100102	0.01	a	0.05	0.05	25
0003	02	1.89	1.18	1.09	30501604	2.06		10.36	11.29	25
0003	03	1.36	1.18	1.09	30501604	1.48		7.45	8.12	25
0003	04	2.61	1.18	1.09	30501604	2.84		14.30	15.59	25
0003	05	11.88	1.18	1.09	30501604	12.95		65.10	70.95	25
0003	07	0.01	1	1	20100102	0.01	a	0.05	0.05	25
0003	10	0.02	1.18	1.09	10300603	0.02		0.11	0.12	25
0003	28	1.85	1.18	1.09	30501699	2.02		10.14	11.05	25
0004	01	9.36	1.18	1.09	30500421	10.19		51.29	55.83	25
0004	B8	0	1	1	20200401	0	a	0	0	25
0004	E11	0.32	1.39	1.19	30501513	0.38		1.75	2.09	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0004	F1	0	1	1	30501502	0	a	0	0	25
0004	F2	0	1.39	1.19	30501502	0		0	0	25
0004	F3	0	1.39	1.19	30501511	0		0	0	25
0004	F4	0	1.39	1.19	30501511	0		0	0	25
0004	G1	0.36	1	1	30501511	0.36	a	1.97	1.97	25
0004	G1a	0	1.39	1.19	30501511	0		0	0	25
0004	G1b	0	1.39	1.19	30501511	0		0	0	25
0004	G1c	0	1.39	1.19	30501511	0		0	0	25
0004	J2	0	1.39	1.19	30501599	0		0	0	25
0004	J3	0.77	1.39	1.19	30501520	0.92		4.22	5.04	25
0004	L3	0.02	1.20	1.10	20200401	0.02		0.11	0.12	25
0004	B8	0	1	1	20200401	0	a	0	0	25
0005	01	0.59	1.41	1.20	30501516	0.71	**	3.23	3.89	25
0007	04	0.20	0.83	0.91	20100201	0.18		1.18	1.08	27
0007	05	1.60	0.83	0.91	20100201	1.46		9.47	8.65	27
0007	06	0.40	0.83	0.91	20100201	0.37		2.37	2.16	27
0007	07	3.30	0.83	0.91	20100201	3.02		19.53	17.85	27
0007	08	1.90	0.83	0.91	20100201	1.74		11.24	10.28	27
0007	21	0.002	1.20	1.10	20200102	0.002		0.01	0.01	27
0007	22	0	1.20	1.10	20200102	0		0	0	27
0007	27	0.01	1.20	1.10	20200201	0.01		0.06	0.07	27
0007	28	0.009	1.20	1.10	20200201	0.009		0.05	0.06	27
0007	29	0.01	1.20	1.10	20200201	0.01		0.06	0.07	27
0007	30	0.001	1.20	1.10	20200201	0.001		0.006	0.007	27
0007	31	0.05	1.20	1.10	20200201	0.05		0.30	0.33	27
0007	32	0.02	1.20	1.10	20200201	0.02		0.12	0.13	27
0007	33	0.01	1.20	1.10	20200201	0.01		0.06	0.07	27
0007	34	0.04	1.20	1.10	20200201	0.04		0.24	0.26	27
0007	35	0.09	1.20	1.10	20200201	0.10		0.53	0.59	27
0007	36	0.08	1.20	1.10	20200201	0.09		0.47	0.52	27
0007	37	0.06	1.20	1.10	20200201	0.07		0.36	0.39	27
0007	38	0.02	1.20	1.10	20200201	0.02		0.12	0.13	27
0007	45	0.001	1.20	1.10	20200102	0.001		0.006	0.007	27
0007	46	0	1.20	1.10	20200102	0		0	0	27
0008	8-01	0.05	0.89	0.95	20100102	0.05		1.10	1.04	100
0008	8-02	2.41	1.28	1.14	20200102	2.75		52.82	60.21	100
0011	01	20.55	1.18	1.09	30502513	22.37		112.60	122.57	25
0011	05	0	1.39	1.19	30501501	0		0	0	25
0011	09	0.10	1.39	1.19	30501513	0.12		0.55	0.65	25
0011	10	0.10	1.39	1.19	30501513	0.12		0.55	0.65	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0011	11	0.10	1.39	1.19	30501513	0.12		0.55	0.65	25
0011	12	0.05	1.39	1.19	30501513	0.06		0.27	0.33	25
0011	13	0.05	1.39	1.19	30501513	0.06		0.27	0.33	25
0011	14	0.04	1.39	1.19	30501513	0.05		0.22	0.26	25
0011	18	1.99	1.39	1.19	30501520	2.38		10.90	13.02	25
0011	19	2.32	1.39	1.19	30501520	2.77		12.71	15.18	25
0011	20	1.33	1.39	1.19	30501520	1.59		7.29	8.70	25
0011	21	0.53	1.39	1.19	30501520	0.63		2.90	3.47	25
0011	22	0.46	1.39	1.19	30501520	0.55		2.52	3.01	25
0011	25	0.12	1.39	1.19	30501513	0.14		0.66	0.79	25
0011	26	0.12	1.39	1.19	30501513	0.14		0.66	0.79	25
0011	30	0.24	1.39	1.19	30501520	0.29		1.32	1.57	25
0011	31	0.18	1.39	1.19	30501520	0.21		0.99	1.18	25
0011	32	0.11	1.39	1.19	30501520	0.13		0.60	0.72	25
0011	36	0.30	1.39	1.19	30501501	0.36		1.64	1.96	25
0011	45	0.12	1	1	30501513	0.12	a	0.66	0.66	25
0011	46	0.12	1	1	30501513	0.12	a	0.66	0.66	25
0011	48	0	1	1	30501507	0	a	0	0	25
0011	50	0.24	1	1	30501520	0.24	a	1.32	1.32	25
0011	51	0.18	1	1	30501520	0.18	a	0.99	0.99	25
0011	52	0.11	1	1	30501520	0.11	a	0.60	0.60	25
0011	01a	0.28	1.18	1.09	30502513	0.30		1.53	1.67	25
0011	18a	0.05	1.39	1.19	30501520	0.06		0.27	0.33	25
0011	19a	0.06	1.39	1.19	30501520	0.07		0.33	0.39	25
0011	20a	0.03	1.39	1.19	30501520	0.04		0.16	0.20	25
0011	21a	0.01	1.39	1.19	30501520	0.01		0.05	0.07	25
0011	22a	0.01	1.39	1.19	30501520	0.01		0.05	0.07	25
0012	01	5.85	1.40	1.20	30500257	7.01		32.05	38.41	25
0012	02	0	1	1	30500206	0		0	0	25
0012	03	2.98	1.40	1.20	30500298	3.57		16.33	19.56	25
0013	01	1.17	1.23	1.12	40400142	1.31		6.42	7.17	25
0013	02	1.03	1.23	1.12	40400142	1.15		5.66	6.32	25
0013	03	0.92	1.23	1.12	40400132	1.03		5.05	5.64	25
0013	04	1.09	1.23	1.12	40400132	1.21		5.95	6.65	25
0013	05	0.59	1.23	1.12	40400132	0.66		3.22	3.60	25
0013	06	0.91	1.23	1.12	40400142	1.01		4.97	5.55	25
0013	07	1.30	1.23	1.12	40400142	1.45		7.13	7.96	25
0013	08	1.45	1.23	1.12	40400142	1.62		7.95	8.88	25
0013	09	1.05	1.23	1.12	40400142	1.18		5.77	6.44	25
0013	10	1.06	1.23	1.12	40400142	1.18		5.78	6.46	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0013	11	0.34	1.23	1.12	40400142	0.38		1.85	2.07	25
0013	12	1.30	1.23	1.12	40400142	1.45		7.13	7.96	25
0013	13	0.35	1.23	1.12	40400172	0.39		1.91	2.13	25
0013	14	0.07	1.23	1.12	40400179	0.07		0.36	0.40	25
0013	15	0.09	1.23	1.12	40400179	0.10		0.51	0.57	25
0013	16	1.77	1.23	1.12	40400172	1.97		9.68	10.81	25
0013	17	1.95	1.23	1.12	40400172	2.17		10.66	11.91	25
0013	18	0.20	1.23	1.12	40400170	0.22		1.08	1.21	25
0013	19	1.33	1.23	1.12	40400121	1.49		7.31	8.16	25
0013	20	1.18	1.23	1.12	40400121	1.31		6.45	7.20	25
0013	21	1.89	1.23	1.12	40400172	2.11		10.33	11.54	25
0013	22	0.68	1.23	1.12	40400130	0.76		3.70	4.14	25
0013	23	0.08	1.23	1.12	40400130	0.09		0.45	0.50	25
0013	24	0.08	1.23	1.12	40400130	0.09		0.42	0.47	25
0013	26	0.008	1.23	1.12	40400170	0.008		0.04	0.05	25
0013	27	0.22	1.23	1.12	40400170	0.25		1.21	1.35	25
0013	28	0.73	1.23	1.12	40400170	0.81		3.97	4.44	25
0013	29	0.31	1.23	1.12	40400172	0.35		1.72	1.92	25
0013	30	0.001	1.23	1.12	40400199	0.001		0.005	0.006	25
0013	31	0.01	1.23	1.12	40400199	0.01		0.06	0.07	25
0013	32	0.01	1.23	1.12	40400199	0.02		0.08	0.09	25
0013	33	0.02	1.23	1.12	40400199	0.02		0.11	0.12	25
0013	34	0.01	1.23	1.12	40400199	0.01		0.07	0.08	25
0013	36	0	1.23	1.12	40400199	0		0	0	25
0013	37	0.004	1.23	1.12	40400199	0.004		0.02	0.02	25
0013	38	0	1.23	1.12	40400199	0		0	0	25
0013	39	0.002	1.23	1.12	40400199	0.002		0.01	0.01	25
0013	42	0.02	1.23	1.12	40400199	0.02		0.11	0.12	25
0013	45	0.81	1.23	1.12	40400172	0.90		4.44	4.95	25
0013	46	0.85	1.23	1.12	40400172	0.95		4.65	5.20	25
0013	47	1.05	1.23	1.12	40400172	1.17		5.74	6.41	25
0013	48	0.60	1.23	1.12	40400172	0.68		3.31	3.70	25
0013	53	0.001	1.23	1.12	40400199	0.001		0.005	0.006	25
0013	54	0.002	1.23	1.12	40400199	0.002		0.01	0.01	25
0013	56	0.08	1.23	1.12	40400179	0.09		0.42	0.47	25
0013	57	0.07	1.23	1.12	40400179	0.08		0.38	0.42	25
0013	58	3.24	1.23	1.12	40400179	3.62		17.75	19.82	25
0013	59	0.17	1.23	1.12	40400179	0.18		0.90	1.01	25
0013	60	3.23	1.23	1.12	40400179	3.61		17.70	19.77	25
0013	61	1.64	1.23	1.12	40400179	1.83		8.96	10.01	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0013	B01	46.62	1.23	1.12	40400150	52.08		255.47	285.35	25
0013	B02	2.10	1.23	1.12	40400153	2.35		11.52	12.86	25
0013	B04	0.65	1.23	1.12	40400172	0.73		3.57	3.98	25
0013	B05	0.81	1.23	1.12	40400172	0.91		4.45	4.98	25
0013	B06	5.07	1.23	1.12	40400151	5.66		27.79	31.04	25
0013	B10	0.38	0.96	0.98	30600904	0.37		2.06	2.02	25
0013	D02	0.003	1	1	20200102	0.003	a	0.02	0.02	25
0013	SR04	0.32	1.25	1.12	10200602	0.36	**	1.78	2.00	25
0019	A01	2.42	1.49	1.25	30301299	3.02		13.26	16.54	25
0019	B09	0.17	1.23	1.11	10200602	0.19		0.94	1.05	25
0019	E03	0.0001	1.49	1.25	30301202	0.0001		0.0005	0.0007	25
0019	G02	0.0002	1.20	1.10	20200104	0.0002		0.001	0.001	25
0019	G10	0.00007	1.20	1.10	20200104	0.0001		0.0004	0.0004	25
0019	M11	0	1.20	1.10	30399999	0		0	0	25
0026	01	0.19	1.39	1.20	10300603	0.23		1.04	1.25	25
0047	1	1.01	1.39	1.20	10300603	1.21		5.53	6.62	25
0073	1	0.71	1.39	1.20	10300603	0.85		3.89	4.65	25
0074	1	0.39	1.39	1.20	10300603	0.47		2.14	2.56	25
0075	01	10.04	1.61	1.31	30800799	13.12		55.01	71.87	25
0076	1	0.03	1.39	1.20	10300603	0.04		0.16	0.20	25
0077	1	0.19	1.39	1.20	10300603	0.23		1.04	1.25	25
0081	1	2.29	1.39	1.20	10300603	2.74		12.55	15.01	25
0085	1	0.69	1.39	1.20	10300603	0.83		3.78	4.52	25
0086	1	5.52	1.39	1.20	10300603	6.60		30.25	36.19	25
0095	A01	0.004	1.09	1.05	20300101	0.004	**	0.02	0.02	25
0095	A02	0.008	1.09	1.05	20300101	0.008	**	0.04	0.05	25
0095	A03	0.008	1.09	1.05	20300101	0.008	**	0.04	0.05	25
0095	A04	0.02	1.09	1.05	20300101	0.02	**	0.11	0.11	25
0095	A05	0.88	1.39	1.20	10300602	1.05		4.82	5.77	25
0095	A07	0.11	1.39	1.20	10300602	0.13		0.60	0.72	25
0095	A10	0	1.45	1.23	30107002	0	**	0	0	25
0095	A15	0	1.45	1.23	30107002	0	**	0	0	25
0095	A17	0.70	0.99	1.00	40600402	0.70	**	3.86	3.85	25
0133	1	0.36	1.39	1.20	10300603	0.43		1.97	2.36	25
0138	02	0.38	1.18	1.09	30504033	0.41		2.08	2.27	25
0149	01	4.97	1	1	50300603	4.97		27.23	27.23	25
0153	1	0.83	1.39	1.20	10300603	0.99		4.55	5.44	25
0154	01	0	1.48	1.24	30500699	0		0	0	25
0155	1	0.76	1.39	1.20	10300603	0.91		4.16	4.98	25
0256	1	0.58	1.39	1.20	10300603	0.69		3.18	3.80	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0257	1	0.35	1.39	1.20	10300603	0.42		1.92	2.29	25
0276	1	0.77	1.39	1.20	10300603	0.92		4.22	5.05	25
0282	1	3.83	1.39	1.20	10300603	4.58		20.99	25.11	25
0323	01	6.40	1.58	1.29	40201399	8.27		35.07	45.32	25
0329	01	4.29	0.83	0.91	20100201	3.92		47.95	43.83	51
0329	03	4.76	1.00	1.00	20100201	4.77		53.21	53.27	51
0329	04	4.69	1.00	1.00	20100201	4.70		52.43	52.49	51
0329	05	4.23	1.00	1.00	20100201	4.23		47.28	47.34	51
0329	06	4.29	1.00	1.00	20100201	4.30		47.95	48.01	51
0329	08	0.05	0.83	0.91	10100602	0.05		0.56	0.51	51
0329	09	0.05	0.83	0.91	10100602	0.05		0.56	0.51	51
0329	10	0	1	1	20100102	0		0	0	51
0329	11	0	1	1	20100102	0		0	0	51
0360	01	0.20	1.39	1.20	20300203	0.24		1.18	1.42	27
0360	02	3.85	1.39	1.20	20300203	4.61		22.78	27.26	27
0360	03	4.21	1.39	1.20	20300203	5.04		24.91	29.81	27
0360	04	0	1.20	1.10	20200102	0		0	0	27
0360	06	0	1.20	1.10	20200102	0		0	0	27
0360	08	0	1.20	1.10	20200102	0		0	0	27
0372	01	0.12	1.20	1.10	20100102	0.13		0.66	0.72	25
0372	02	4.24	1.21	1.10	30500242	4.68		23.23	25.63	25
0372	03	0.08	1	1	30500208	0.08		0.44	0.44	25
0372	04	0.13	1	1	30500208	0.13		0.69	0.69	25
0372	05	0.07	1	1	30500208	0.07		0.38	0.38	25
0372	06	0	1.39	1.20	10300602	0		0	0	25
0372	07	0.04	1.20	1.10	20100102	0.04		0.22	0.24	25
0372	08	0	1.39	1.20	10300602	0		0	0	25
0372	09	0	1.20	1.10	20100102	0		0	0	25
0372	10	0	1.39	1.20	10300602	0		0	0	25
0372	12	0	1.41	1.20	30502508	0	**	0	0	25
0372	13	0.02	1.41	1.20	30502599	0.02	**	0.11	0.13	25
0391	01	4.23	1.39	1.20	20300203	5.06		25.03	29.95	27
0391	02	7.69	1.39	1.20	20300203	9.20		45.51	54.44	27
0391	03	4.12	1.39	1.20	20300203	4.93		24.38	29.17	27
0391	04	0.004	1.20	1.10	20200101	0.004		0.02	0.03	27
0391	05	0.02	1.20	1.10	20200102	0.02		0.12	0.13	27
0391	07	0	1.00	1.00	20100201	0		0	0	27
0393	01	1.54	0.83	0.91	20100201	1.41		9.12	8.33	27
0393	02	1.60	0.83	0.91	20100201	1.46		9.47	8.66	27
0393	03	0.01	1	1	20100102	0.01	a	0.07	0.07	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0393	04	0.01	1	1	20100102	0.01	a	0.08	0.08	27
0393	05	1.80	0.83	0.91	10100602	1.65		10.65	9.74	27
0393	06	0.59	0.83	0.91	10100602	0.54		3.51	3.21	27
0393	07	0	1	1	20100102	0		0	0	27
0393	09	0.20	0.99	1.00	40600302	0.20	**	1.20	1.20	27
0395	02	0	1	1	20200102	0		0	0	25
0395	03	2.89	1.20	1.10	20200102	3.18		15.84	17.40	25
0395	04	0.36	1.20	1.10	20200102	0.40		1.97	2.17	25
0395	05	0	1.20	1.10	20200102	0		0	0	25
0395	06	3.77	1.18	1.09	30502503	4.10		20.66	22.49	25
0395	07	0.01	1	1	50200601	0.01	a	0.05	0.05	25
0402	01	0	1.20	1.10	20200102	0		0	0	25
0402	02	0	1.20	1.10	20200102	0		0	0	25
0402	03	0	1.23	1.11	20200202	0		0	0	25
0402	04	0	1	1	50100789	0		0	0	25
0402	05	0	1.42	1.21	50100789	0		0	0	25
0402	06	0	1.42	1.21	50100799	0		0	0	25
0402	07	0	1	1	50100799	0		0	0	25
0402	08	11.20	1.42	1.21	50100799	13.57		61.37	74.34	25
0423	01	0.07	0.83	0.91	20100201	0.06		0.57	0.52	37
0423	02	0.10	0.83	0.91	20100201	0.09		0.81	0.74	37
0423	03	0.06	0.83	0.91	20100201	0.05		0.45	0.42	37
0434	1	0.23	1.39	1.20	10300603	0.28		1.26	1.51	25
0468	1	7.93	1.39	1.20	20300202	9.49		43.45	51.98	25
0482	01	3.82	1.77	1.38	40201901	5.29		20.93	28.97	25
0512	1	0.12	1.41	1.20	30502599	0.14	**	0.66	0.79	25
0527	1	4.87	1	1	50300603	4.87		26.68	26.68	25
0533	01	0.01	1	1	20100201	0.01	a	0.18	0.18	80
0533	02	0.02	1	1	20100102	0.02	a	0.35	0.35	80
0533	03	0	1.00	1.00	20100201	0		0	0	80
0533	04	0	1.00	1.00	20100201	0		0	0	80
0533	07	0.001	1	1	20100102	0.001	a	0.02	0.02	80
0533	08	0.001	1	1	20100102	0.001	a	0.02	0.02	80
0533	09	0.01	1.00	1.00	20100201	0.01		0.18	0.18	80
0533	10	0.001	1	1	20100102	0.001	a	0.02	0.02	80
0564	1	0.74	1.39	1.20	10300603	0.89		4.05	4.85	25
0593	C01	0.16	1.39	1.19	30501513	0.19		0.88	1.05	25
0593	C02	0.16	1.39	1.19	30501513	0.19		0.88	1.05	25
0593	C03	0.16	1.39	1.19	30501513	0.19		0.88	1.05	25
0593	C04	0.16	1.39	1.19	30501513	0.19		0.88	1.05	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0593	C05	0.16	1.39	1.19	30501513	0.19		0.88	1.05	25
0593	E03a	0.89	1.39	1.19	30501520	1.06		4.88	5.82	25
0593	E03b	0.89	1.39	1.19	30501520	1.06		4.88	5.82	25
0593	E03c	0.89	1.39	1.19	30501520	1.06		4.88	5.82	25
0593	E03d	0.89	1.39	1.19	30501520	1.06		4.88	5.82	25
0593	E03e	0.89	1.39	1.19	30501520	1.06		4.88	5.82	25
0593	E105	0.007	1.39	1.19	30501502	0.008		0.04	0.05	25
0593	E106	0.007	1.39	1.19	30501502	0.008		0.04	0.05	25
0593	E110	0.16	1.39	1.19	30501511	0.19		0.85	1.01	25
0593	E111	0.14	1.39	1.19	30501511	0.17		0.79	0.94	25
0593	E145	0.11	1.23	1.11	20200202	0.12		0.59	0.65	25
0593	E146	0.02	1.23	1.11	20200202	0.02		0.09	0.10	25
0593	E147	0.01	1.23	1.11	20200202	0.01		0.07	0.07	25
0593	E148	0.01	1.23	1.11	20200202	0.02		0.08	0.09	25
0593	E153	0.003	1.23	1.11	20200202	0.003		0.02	0.02	25
0593	E154	0.003	1.39	1.19	20200202	0.004		0.02	0.02	25
0593	G33	0	1	1	20100102	0		0	0	25
0593	G34	0.009	1	1	20100102	0.009	a	0.05	0.05	25
0593	Z01	0.003	1.39	1.19	30501599	0.004		0.02	0.02	25
0603	1	0.28	1.39	1.20	10300603	0.33		1.53	1.84	25
0609	1	0.91	1.39	1.20	10300603	1.09		4.99	5.97	25
0611	1	0.11	1.39	1.20	10300603	0.13		0.60	0.72	25
0613	1	0.71	1.39	1.20	10300603	0.85		3.89	4.65	25
0652	A01	3.69	1	1	20100201	3.69		21.84	21.84	27
0652	A02	3.33	1	1	20100201	3.33		19.71	19.71	27
0652	A03	0.01	1.20	1.10	20200102	0.01		0.06	0.07	27
0652	A07	0.23	1.20	1.10	20200102	0.25		1.34	1.47	27
0697	1	1.99	1.39	1.20	10300603	2.38		10.90	13.05	25
0737	1	2.48	1.39	1.20	10300603	2.97		13.59	16.26	25
0749	1	0.52	1.39	1.20	10300603	0.62		2.85	3.41	25
0756	1	5.40	1.39	1.20	10300603	6.46		29.59	35.40	25
0825	1	2.90	1.39	1.20	10300603	3.47		15.89	19.01	25
0837	1	0.06	1.23	1.11	20200202	0.07		0.33	0.37	25
0856	1	1.35	1.39	1.20	10300603	1.62		7.40	8.85	25
0859	01	21.90	1.39	1.20	40202240	26.20		120.00	143.56	25
1513	01	4.41	1.00	1.00	20100201	4.42		24.16	24.19	25
1513	03	1.91	1.00	1.00	20100201	1.91		10.47	10.48	25
1513	05	0.10	1.00	1.00	20100201	0.10		0.55	0.55	25
1513	07	0.10	1.00	1.00	20100201	0.10		0.55	0.55	25
1513	09	0.10	1.25	1.12	10200603	0.11	**	0.55	0.62	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
1513	10	0.05	1.25	1.12	10200603	0.06	**	0.27	0.31	25
1513	12	0.01	1.16	1.08	20201001	0.01	**	0.05	0.06	25
1513	13	0.01	1.16	1.08	20201001	0.01	**	0.05	0.06	25
1513	14	0.01	1.20	1.10	20200102	0.01		0.05	0.06	25
1513	15	0	1.20	1.10	20200102	0		0	0	25
1513	16	0.07	1.40	1.20	10500206	0.08	**	0.38	0.46	25
1520	A01,2	4.40	1	1	20100201	4.40		43.40	43.40	45
1520	A03,4	4.10	1	1	20100201	4.10		40.44	40.44	45
1520	A05	0.20	1.20	1.10	20200102	0.22		1.97	2.17	45
1520	A06	0.01	1.20	1.10	20200102	0.01		0.10	0.11	45
1520	A07	0.01	1.20	1.10	20200102	0.01		0.10	0.11	45
1550	A01,2	0.01	1	1	20100201	0.01	a	0.07	0.07	31
1550	A03,4	0.18	1	1	20100201	0.18	a	1.22	1.22	31
1550	A05	0.01	1.39	1.20	10300602	0.01		0.07	0.08	31
1550	A06	0.05	1	1	20200102	0.05	a	0.34	0.34	31
1584	A01,2	0.15	1	1	20100201	0.15		0.99	0.99	30
1584	A03,4	0.15	1	1	20100201	0.15		0.99	0.99	30
1584	A05	0.01	1.20	1.10	20200102	0.01		0.07	0.07	30
1584	A06	0.001	1.20	1.10	20200102	0.001		0.007	0.007	30
1590	1	0.04	1.39	1.20	20300202	0.05		0.22	0.26	25
15033	01	3.73	1.44	1.22	50300601	4.55		20.44	24.93	25
AP49110398	01	0	0.83	0.91	10100602	0		0	0	25
AP49110398	02	0	0.83	0.91	10100602	0		0	0	25
AP49110398	03	0	0.83	0.91	10100602	0		0	0	25
AP49110399	01	3.79	0.83	0.91	10100602	3.46		42.36	38.72	51
AP49110400	1	8.22	1	1	10100101	8.22		48.64	48.64	27
AP49110400	2	9.55	1	1	10100101	9.55		56.52	56.52	27
AP49110400	3	9.32	1	1	10100101	9.32		55.15	55.15	27
AP49110400	4	21.86	1	1	10100101	21.86		129.36	129.36	27
AP49110400	5	0.54	1.78	1.39	40600402	0.75		3.20	4.44	27
AP49110774	1	0	1	1	10100101	0		0	0	25
PRJEGU33	#1	0	1	1	20100201	25.81	b	0	152.74	27
PRJEGU33	#2	0	1	1	20100201	25.81	b	0	152.74	27

** = Growth Factor taken from EGAS.

a = DAQEM assigned growth factor.

b = For 2018 projected emission units, the most conservative growth factors for similar SCC emission units were used with a four-year growth term (2018-2022).

Table 2-13. Projected 2015 CO Point Source Emissions

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0003	01	0.01	1	1	20100102	0.01	a	0.05	0.05	25
0003	02	52.68	1.39	1.19	30501604	62.90		288.66	344.63	25
0003	03	51.54	1.39	1.19	30501604	61.53		282.41	337.18	25
0003	04	26.05	1.39	1.19	30501604	31.10		142.74	170.42	25
0003	05	130.50	1.39	1.19	30501604	155.81		715.07	853.73	25
0003	07	0.03	1	1	20100102	0.03	a	0.16	0.16	25
0003	10	0.35	1.39	1.20	10300603	0.42		1.92	2.29	25
0003	28	18.06	1.39	1.19	30501699	21.56		98.96	118.15	25
0004	B8	0	1.20	1.10	20200401	0		0	0	25
0004	E11	0.51	1.39	1.19	30501513	0.61		2.79	3.34	25
0004	F1	0	1.39	1.19	30501502	0		0	0	25
0004	F2	0	1.39	1.19	30501502	0		0	0	25
0004	F3	0	1.39	1.19	30501511	0		0	0	25
0004	F4	0	1.39	1.19	30501511	0		0	0	25
0004	G1	1.45	1.39	1.19	30501511	1.73		7.95	9.49	25
0004	G1a	0	1.39	1.19	30501511	0		0	0	25
0004	G1b	0	1.39	1.19	30501511	0		0	0	25
0004	G1c	0	1.39	1.19	30501511	0		0	0	25
0004	J2	0	1.39	1.19	30501599	0		0	0	25
0004	J3	51.66	1.39	1.19	30501520	61.68		283.07	337.96	25
0004	L3	0.21	1.20	1.10	20200401	0.23		1.15	1.26	25
0005	01	0.08	1.41	1.20	30501516	0.10	**	0.44	0.53	25
0007	04	0.80	0.83	0.91	20100201	0.73		4.73	4.33	27
0007	05	31.40	0.83	0.91	20100201	28.70		185.82	169.83	27
0007	06	56.80	0.83	0.91	20100201	51.91		336.13	307.21	27
0007	07	50.80	0.83	0.91	20100201	46.43		300.62	274.76	27
0007	08	26.20	0.83	0.91	20100201	23.95		155.05	141.70	27
0007	21	0.01	1.20	1.10	20200102	0.01		0.06	0.07	27
0007	22	0	1.20	1.10	20200102	0		0	0	27
0007	27	0.06	1.20	1.10	20200201	0.07		0.36	0.39	27
0007	28	0.03	1.20	1.10	20200201	0.03		0.18	0.20	27
0007	29	0.03	1.20	1.10	20200201	0.03		0.18	0.20	27
0007	30	0.01	1.20	1.10	20200201	0.01		0.06	0.07	27
0007	31	0.19	1.20	1.10	20200201	0.21		1.12	1.24	27
0007	32	0.12	1.20	1.10	20200201	0.13		0.71	0.78	27
0007	33	0.02	1.20	1.10	20200201	0.02		0.12	0.13	27
0007	34	0.33	1.20	1.10	20200201	0.36		1.95	2.15	27
0007	35	0.61	1.20	1.10	20200201	0.67		3.61	3.97	27
0007	36	0.55	1.20	1.10	20200201	0.60		3.25	3.58	27
0007	37	0.46	1.20	1.10	20200201	0.51		2.72	2.99	27
0007	38	0.31	1.20	1.10	20200201	0.34		1.83	2.02	27
0007	45	0.02	1.20	1.10	20200102	0.02		0.12	0.13	27

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0007	46	0	1.20	1.10	20200102	0		0	0	27
0008	8-01	2.12	0.83	0.91	20100102	1.94		46.47	42.47	100
0008	8-02	0.02	1.20	1.10	20200102	0.02		0.44	0.48	100
0011	01	0	1.18	1.09	30502513	0		0	0	25
0011	05	0	1.39	1.19	30501501	0		0	0	25
0011	09	0.19	1.39	1.19	30501513	0.23		1.04	1.24	25
0011	10	0.19	1.39	1.19	30501513	0.23		1.04	1.24	25
0011	11	0.19	1.39	1.19	30501513	0.23		1.04	1.24	25
0011	12	0.09	1.39	1.19	30501513	0.11		0.49	0.59	25
0011	13	0.09	1.39	1.19	30501513	0.11		0.49	0.59	25
0011	14	0.09	1.39	1.19	30501513	0.11		0.49	0.59	25
0011	18	67.41	1.39	1.19	30501520	80.48		369.37	441.00	25
0011	19	78.65	1.39	1.19	30501520	93.90		430.96	514.53	25
0011	20	44.94	1.39	1.19	30501520	53.65		246.25	294.00	25
0011	21	17.98	1.39	1.19	30501520	21.47		98.52	117.63	25
0011	22	15.73	1.39	1.19	30501520	18.78		86.19	102.91	25
0011	25	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	26	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	30	3.44	1.39	1.19	30501520	4.11		18.85	22.50	25
0011	31	2.68	1.39	1.19	30501520	3.20		14.68	17.53	25
0011	32	1.53	1.39	1.19	30501520	1.83		8.38	10.01	25
0011	36	16.65	1.39	1.19	30501501	19.88		91.23	108.92	25
0011	45	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	46	1.19	1.39	1.19	30501513	1.42		6.52	7.79	25
0011	48	0	1.39	1.19	30501507	0		0	0	25
0011	50	3.44	1.39	1.19	30501520	4.11		18.85	22.50	25
0011	51	2.68	1.39	1.19	30501520	3.20		14.68	17.53	25
0011	52	1.53	1.39	1.19	30501520	1.83		8.38	10.01	25
0011	01a	8.03	1.18	1.09	30502513	8.74		44.00	47.89	25
0011	18a	6.51	1.39	1.19	30501520	7.77		35.67	42.59	25
0011	19a	7.59	1.39	1.19	30501520	9.06		41.59	49.65	25
0011	20a	4.34	1.39	1.19	30501520	5.18		23.78	28.39	25
0011	21a	1.74	1.39	1.19	30501520	2.08		9.53	11.38	25
0011	22a	1.52	1.39	1.19	30501520	1.81		8.33	9.94	25
0012	01	16.30	1.40	1.20	30500257	19.53		89.32	107.01	25
0012	02	0	1.37	1.19	30500206	0		0	0	25
0012	03	0.29	1.40	1.20	30500298	0.35		1.59	1.90	25
0013	B10	0.99	0.96	0.98	30600904	0.97		5.44	5.33	25
0013	D02	0.008	1	1	20200102	0.008	a	0.04	0.04	25
0013	SR04	0.09	1.25	1.12	10200602	0.10	**	0.49	0.55	25
0019	A01	316.02	1.49	1.25	30301299	394.10		1,731.62	2,159.43	25
0019	B06	36.00	1.33	1.17	10201402	41.97		197.24	230.00	25
0019	B09	0	1.23	1.11	10200602	0		0	0	25
0019	B10	0.02	1.49	1.25	30301202	0.02		0.09	0.11	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0019	C05	0.03	1.49	1.25	30301201	0.04		0.16	0.19	25
0019	D02E	0	1.49	1.25	30301202	0		0	0	25
0019	D02 W	0	1.49	1.25	30301299	0		0	0	25
0019	E03	0.0003	1.49	1.25	30301202	$0.0004		0.00	0.00	25
0019	G02	0.0004	1.20	1.10	20200104	$0.0005		0.00	0.00	25
0019	G10	0.0002	1.20	1.10	20200104	$0.0002		0.00	0.00	25
0019	M11	0	1.20	1.10	30399999	0		0	0	25
0026	01	1.88	1.39	1.20	10300603	2.25		10.30	12.32	25
0047	1	8.90	1.39	1.20	10300603	10.65		48.77	58.34	25
0073	1	5.12	1.39	1.20	10300603	6.13		28.05	33.56	25
0074	1	2.89	1.39	1.20	10300603	3.46		15.84	18.94	25
0075	01	0.09	1.61	1.31	30800799	0.11		0.47	0.62	25
0076	1	3.90	1.39	1.20	10300603	4.67		21.37	25.57	25
0077	1	2.43	1.39	1.20	10300603	2.91		13.32	15.93	25
0081	1	4.66	1.39	1.20	10300603	5.57		25.53	30.55	25
0085	1	10.07	1.39	1.20	10300603	12.05		55.18	66.01	25
0086	1	12.72	1.39	1.20	10300603	15.22		69.70	83.38	25
0095	A01	0.01	1.09	1.05	20300101	0.01	**	0.07	0.07	25
0095	A02	0.02	1.09	1.05	20300101	0.02	**	0.11	0.11	25
0095	A03	0.02	1.09	1.05	20300101	0.02	**	0.11	0.11	25
0095	A04	0.06	1.09	1.05	20300101	0.06	**	0.31	0.32	25
0095	A05	0.65	1.39	1.20	10300602	0.78		3.56	4.26	25
0095	A07	0.11	1.39	1.20	10300602	0.13		0.60	0.72	25
0095	A10	36.77	1.45	1.23	30107002	45.08	**	201.48	247.03	25
0095	A15	0.39	1.45	1.23	30107002	0.48	**	2.14	2.62	25
0133	1	4.04	1.39	1.20	10300603	4.83		22.14	26.48	25
0138	01	8.11	1.18	1.09	30504099	8.83		44.44	48.37	25
0138	02	1.79	1.18	1.09	30504033	1.95		9.81	10.68	25
0149	01	3.42	1	1	50300603	3.42		18.74	18.74	25
0153	1	4.06	1.39	1.20	10300603	4.86		22.25	26.61	25
0154	01	0	1.48	1.24	30500699	0		0	0	25
0155	1	8.78	1.39	1.20	10300603	10.50		48.11	57.56	25
0256	1	1.76	1.39	1.20	10300603	2.11		9.64	11.54	25
0257	1	2.35	1.39	1.20	10300603	2.81		12.88	15.40	25
0276	1	1.99	1.39	1.20	10300603	2.38		10.90	13.05	25
0282	1	12.61	1.39	1.20	10300603	15.09		69.10	82.66	25
0323	01	0.34	1.58	1.29	40201399	0.44		1.86	2.41	25
0329	01	1.83	0.83	0.91	20100201	1.67		20.46	18.70	51
0329	03	2.05	1	1	20100201	2.05		22.92	22.92	51
0329	04	1.53	1	1	20100201	1.53		17.10	17.10	51
0329	05	1.58	1	1	20100201	1.58		17.66	17.66	51
0329	06	1.83	1	1	20100201	1.83		20.46	20.46	51
0329	08	0.72	0.83	0.91	10100602	0.66		8.05	7.36	51

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0329	09	0.71	0.83	0.91	10100602	0.65		7.94	7.25	51
0329	10	0	1	1	20100102	0		0	0	51
0329	11	0	1	1	20100102	0		0	0	51
0360	01	16.01	1.39	1.20	20300203	19.15		94.74	113.35	27
0360	02	21.28	1.39	1.20	20300203	25.46		125.93	150.66	27
0360	03	15.66	1.39	1.20	20300203	18.73		92.67	110.87	27
0360	04	0.06	1.20	1.10	20200102	0.07		0.36	0.39	27
0360	06	0.01	1.20	1.10	20200102	0.01		0.06	0.07	27
0360	08	0	1.20	1.10	20200102	0		0	0	27
0372	01	0.41	1.20	1.10	20100102	0.45		2.25	2.47	25
0372	02	13.28	1.21	1.10	30500242	14.65		72.77	80.27	25
0372	03	0.06	1	1	30500208	0.06		0.32	0.32	25
0372	04	0.09	1	1	30500208	0.09		0.49	0.49	25
0372	05	0.05	1	1	30500208	0.05		0.27	0.27	25
0372	06	0	1.39	1.20	10300602	0		0	0	25
0372	07	0.17	1.20	1.10	20100102	0.19		0.93	1.02	25
0372	08	0	1.39	1.20	10300602	0		0	0	25
0372	09	0	1.20	1.10	20100102	0		0	0	25
0372	10	0	1.39	1.20	10300602	0		0	0	25
0372	11	18.85	1.41	1.20	30502514	22.68	**	103.29	124.29	25
0372	12	0	1.41	1.20	30502508	0	**	0	0	25
0372	13	0.04	1.41	1.20	30502599	0.05	**	0.22	0.26	25
0391	01	7.71	1.39	1.20	20300203	9.22		45.63	54.58	27
0391	02	12.58	1.39	1.20	20300203	15.05		74.45	89.06	27
0391	03	10.32	1.39	1.20	20300203	12.35		61.07	73.06	27
0391	04	0.07	1.20	1.10	20200101	0.08		0.41	0.46	27
0391	05	0.05	1.20	1.10	20200102	0.05		0.30	0.33	27
0391	07	0	1	1	20100201	0		0	0	27
0393	01	6.55	0.83	0.91	20100201	5.98		38.74	35.40	27
0393	02	7.70	0.83	0.91	20100201	7.03		45.55	41.63	27
0393	03	0.11	1	1	20100102	0.11	a	0.65	0.65	27
0393	04	0.12	1	1	20100102	0.12	a	0.71	0.71	27
0393	05	0.12	0.83	0.91	10100602	0.11		0.73	0.67	27
0393	06	0.12	1	1	10100602	0.12	a	0.68	0.68	27
0393	07	0	1	1	20100102	0		0	0	27
0395	02	0	1	1	20200102	0		0	0	25
0395	03	17.09	1.20	1.10	20200102	18.78		93.64	102.88	25
0395	04	2.16	1.20	1.10	20200102	2.37		11.84	13.00	25
0395	05	0	1.20	1.10	20200102	0		0	0	25
0395	06	8.63	1.18	1.09	30502503	9.39		47.26	51.44	25
0395	07	0.26	1	1	50200601	0.26	a	1.40	1.40	25
0402	01	0	1.20	1.10	20200102	0		0	0	25
0402	02	0	1.20	1.10	20200102	0		0	0	25
0402	03	0	1.23	1.11	20200202	0		0	0	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0402	04	0	1	1	50100789	0		0	0	25
0402	05	0	1.42	1.21	50100789	0		0	0	25
0402	06	0	1.42	1.21	50100799	0		0	0	25
0402	07	0	1	1	50100799	0		0	0	25
0402	08	20.66	1.42	1.21	50100799	25.03		113.21	137.14	25
0423	01	0.06	0.83	0.91	20100201	0.05		0.49	0.44	37
0423	02	0.08	0.83	0.91	20100201	0.07		0.65	0.59	37
0423	03	0.05	0.83	0.91	20100201	0.05		0.41	0.37	37
0434	1	3.03	1.39	1.20	10300603	3.62		16.60	19.86	25
0468	1	14.00	1.39	1.20	20300202	16.75		76.71	91.77	25
0482	01	0.27	1.45	1.22	40201901	0.33	**	1.48	1.81	25
0512	1	0	1.41	1.20	30502599	0	**	0	0	25
0533	01	1.71	1	1	20100201	1.71		29.98	29.98	80
0533	02	0.06	1	1	20100102	0.06	a	1.05	1.05	80
0533	03	0	1	1	20100201	0	a	0	0	80
0533	04	0	1	1	20100201	0	a	0	0	80
0533	07	0.01	1	1	20100102	0.01	a	0.18	0.18	80
0533	08	0.18	1	1	20100102	0.18	a	3.16	3.16	80
0533	09	0.10	1	1	20100201	0.10	a	1.75	1.75	80
0533	10	0.02	1	1	20100102	0.02	a	0.35	0.04	80
0564	1	7.25	1.39	1.20	10300603	8.67		39.73	47.53	25
0593	C01	8.38	1.39	1.19	30501513	10.01		45.92	54.82	25
0593	C02	8.38	1.39	1.19	30501513	10.01		45.92	54.82	25
0593	C03	8.38	1.39	1.19	30501513	10.01		45.92	54.82	25
0593	C04	8.38	1.39	1.19	30501513	10.01		45.92	54.82	25
0593	C05	8.38	1.39	1.19	30501513	10.01		45.92	54.82	25
0593	E03a	16.75	1.39	1.19	30501520	20.00		91.78	109.58	25
0593	E03b	16.80	1.39	1.19	30501520	20.06		92.05	109.91	25
0593	E03c	16.80	1.39	1.19	30501520	20.06		92.05	109.91	25
0593	E03d	16.80	1.39	1.19	30501520	20.06		92.05	109.91	25
0593	E03e	16.80	1.39	1.19	30501520	20.06		92.05	109.91	25
0593	E105	0.10	1.39	1.19	30501502	0.12		0.57	0.68	25
0593	E106	0.10	1.39	1.19	30501502	0.12		0.53	0.63	25
0593	E110	2.17	1.39	1.19	30501511	2.59		11.88	14.18	25
0593	E111	2.02	1.39	1.19	30501511	2.41		11.07	13.21	25
0593	E145	1.50	1.23	1.11	20200202	1.67		8.22	9.15	25
0593	E146	0.23	1.23	1.11	20200202	0.25		1.24	1.38	25
0593	E147	0.17	1.23	1.11	20200202	0.19		0.94	1.05	25
0593	E148	0.20	1.23	1.11	20200202	0.22		1.07	1.19	25
0593	E153	0.04	1.23	1.11	20200202	0.04		0.21	0.23	25
0593	E154	0.04	1.39	1.19	20200202	0.05		0.21	0.25	25
0593	G33	0.003	1	1	20100102	0.003	a	0.02	0.02	25
0593	G34	0.04	1	1	20100102	0.04	a	0.19	0.19	25
0593	Z01	0.01	1.39	1.19	30501599	0.02		0.07	0.09	25

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
0603	1	3.54	1.39	1.20	10300603	4.24		19.40	23.21	25
0609	1	9.26	1.39	1.20	10300603	11.08		50.74	60.70	25
0611	1	1.29	1.39	1.20	10300603	1.54		7.07	8.46	25
0613	1	2.42	1.39	1.20	10300603	2.90		13.26	15.86	25
0652	A01	0	1	1	20100201	0		0	0	27
0652	A02	0	1	1	20100201	0		0	0	27
0652	A03	0.06	1.20	1.10	20200102	0.07		0.36	0.39	27
0697	1	1.01	1.39	1.20	10300603	1.21		5.53	6.62	25
0737	1	16.18	1.39	1.20	10300603	19.36		88.66	106.06	25
0749	1	5.81	1.39	1.20	10300603	6.95		31.84	38.09	25
0756	1	19.66	1.39	1.20	10300603	23.52		107.73	128.88	25
0825	1	19.23	1.39	1.20	10300603	23.01		105.37	126.06	25
0837	1	5.05	1.23	1.11	20200202	5.62		27.67	30.79	25
0856	1	14.96	1.39	1.20	10300603	17.90		81.97	98.07	25
1513	01	1.99	1	1	20100201	1.99		10.90	10.90	25
1513	03	3.46	1	1	20100201	3.46		18.96	18.96	25
1513	05	1.23	1	1	20100201	1.23		6.74	6.74	25
1513	07	2.26	1	1	20100201	2.26		12.38	12.38	25
1513	09	0.01	1.25	1.12	10200603	0.01	**	0.05	0.06	25
1513	10	0.001	1.25	1.12	10200603	0.001	**	0.01	0.01	25
1513	12	0.07	1.16	1.08	20201001	0.08	**	0.38	0.41	25
1513	13	0.07	1.16	1.08	20201001	0.08	**	0.38	0.41	25
1513	14	0.15	1.20	1.10	20200102	0.16		0.82	0.90	25
1513	15	0	1.20	1.10	20200102	0		0	0	25
1513	16	0.01	1.40	1.20	10500206	0.01	**	0.05	0.07	25
1520	A01,2	12.60	1	1	20100201	12.60		124.27	124.27	45
1520	A03,4	9.30	1	1	20100201	9.30		91.73	91.73	45
1520	A05	2.00	1.20	1.10	20200102	2.20		19.73	21.67	45
1520	A06	0.02	1.20	1.10	20200102	0.02		0.20	0.22	45
1520	A07	0.02	1.20	1.10	20200102	0.02		0.20	0.22	45
1550	A01,2	1.84	1	1	20100201	1.84		12.50	12.50	31
1550	A03,4	0	1	1	20100201	0		0	0	31
1550	A05	0.09	1.39	1.20	10300602	0.11		0.61	0.73	31
1550	A06	0.43	1.20	1.10	20200102	0.47		2.92	3.21	31
1584	A01,2	14.71	1	1	20100201	14.71		96.72	96.72	30
1584	A03,4	5.81	1	1	20100201	5.81		38.20	38.20	30
1584	A05	0.03	1.20	1.10	20200102	0.03		0.20	0.22	30
1584	A06	0.001	1.20	1.10	20200102	0.001		0.01	0.01	30
1590	1	2.42	1.39	1.20	20300202	2.90		13.26	15.86	25
15033	01	14.84	1.44	1.22	50300601	18.10		81.32	99.18	25
AP49110398	01	0	0.28	0.64	10100602	0		0	0	25
AP49110398	02	0	0.83	0.91	10100602	0		0	0	25
AP49110398	03	0	0.83	0.91	10100602	0		0	0	25
AP49110399	01	22.34	0.83	0.91	10100602	20.42		249.72	228.23	51

Facility ID	EU	2008 Actual (tpy)	2008 to 2022 GF	2008 to 2015 GF	SCC	2015 Projected (tpy)	Note	2008 Pounds per Summer Day	2015 Pounds per Summer Day	Summer Proportion (%)
AP49110400	1	68.48	1.91	1.46	10100101	99.76		405.25	590.35	27
AP49110400	2	79.58	1.91	1.46	10100101	115.93		470.94	686.04	27
AP49110400	3	77.68	1.91	1.46	10100101	113.16		459.70	669.66	27
AP49110400	4	182.20	1.91	1.46	10100101	265.42		1,078.22	1,570.71	27
AP49110774	1	0	1	1	10100101	0		0	0	27
PRJEGU33	#1	0	1	1	20100201	394.20	b	0	2,332.80	27
PRJEGU33	#2	0	1	1	20100201	394.20	b	0	2,332.80	27

** = Growth Factor taken from EGAS

a = DAQEM assigned growth factor

b = For 2018 projected emission units, the most conservative growth factors for similar SCC emission units were used with a four-year growth term (2018-2022).

Table 2-14. Point Source Emissions Summary (tons per summer day)

Source	2008			2015			2022		
	CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
DAQEM	5.19	11.97	1.16	6.01	12.16	1.29	6.84	12.35	1.42
Potential New Facility	0.00	0.00	0.00	2.33	2.62	0.15	2.33	2.62	0.15
NDEP	1.33	16.76	0.17	1.87	16.76	0.17	2.41	16.76	0.17
Totals	6.52	28.73	1.32	10.22	31.55	1.61	11.58	31.74	1.74

3.0 DEPARTMENT OF AVIATION EMISSIONS

The Clark County Airport System currently includes the following five facilities: McCarran International Airport; North Las Vegas Airport; Henderson Executive Airport; Jean Airport; and Perkins Field Airport. Historically, the Clark County Department of Aviation (DOA) submits facility emissions for these five facilities to DAQEM upon request. DAQEM requested the 2008 and projected 2022 airport emissions from stationary and mobile sources (on-road and nonroad) from the Clark County Airport System. Clark County DOA contracted with Ricondo and Associates, Inc. to address this request.

Interim year (2015) emissions were calculated by DAQEM for the five existing airfields using linear interpolation between 2008 and 2022. In addition to the five airport facilities that compose the 2008 emissions inventory, the 2015 and 2022 inventories include emissions from the following two proposed facilities: South of Sloan Regional Heliport (Heliport) and the Southern Nevada Supplemental Airport (SNSA). The 2015 inventory includes operating emissions for the Heliport and construction emissions for SNSA. The 2022 inventory includes operating emissions for both the Heliport and SNSA.

The on-road portion of emissions have been removed from the point source inventory and addressed in the mobile source category for all airport facilities.

The 2022 inventory emissions were submitted to DAQEM in a report titled *2022 Emission Inventories - Clark County Airport System Airports*. For North Las Vegas Airport, Henderson Executive Airport, Jean Airport, and Perkins Field Airport new 2022 emission modeling and inventories were developed. The following excerpts from the report explain how 2022 inventories for the other Clark County airport facilities, existing and proposed, were developed:

> Emission inventories for future conditions at McCarran International Airport and the proposed Southern Nevada Supplemental Airport were developed as part of the May 2006 Clark County Airport System Emission Inventories. After a review of the assumptions and results, it was determined that the emission inventories for those two facilities represent a conservative estimate of aircraft operations and associated emissions for the year 2022.
>
> An emission inventory for the proposed Heliport was developed for 2017 in support of the *Final Environmental Assessment for a Southern Nevada Regional Heliport* prepared by Ricondo & Associates, Inc. in December 2008. The Heliport is not anticipated to be operational until 2011 and the emission inventory presented in the Final Environmental Assessment was based on a FAA approved activity forecast and the latest available planning data. Since forecasts for this facility are not available beyond 2017 and it is a relatively small source, it was assumed for purposes of this air quality analysis that the 2017 inventory is representative of emissions through 2022.

Complete reports for the 2008 and 2022 airport emissions inventories are available upon request. The following tables summarize emissions from these inventory years, and also the extrapolated emissions for 2015.

Table 3-1. 2008 Actual Airport Emissions (tons per year)

Facility Name	Facility ID	CO	NO_X	VOC
McCarran International Airport	108	6,898.58	4,149.02	854.86
North Las Vegas Airport	24001	2,434.71	9.39	58.07
Henderson Executive Airport	24002	1,136.34	7.06	24.47
Jean Airport	24003	484.94	0.62	9.53
Perkins Field (Overton Airport)	24004	101.01	0.20	1.24
Totals:		**11,055.57**	**4,166.29**	**948.17**

Table 3-2. 2008 Actual Airport Emissions (tons per summer day)

Facility Name	Facility ID	CO	NO_X	VOC
McCarran International Airport	108	18.90	11.37	2.34
North Las Vegas Airport	24001	6.67	0.03	0.16
Henderson Executive Airport	24002	3.11	0.02	0.07
Jean Airport	24003	1.33	0.00	0.03
Perkins Field (Overton Airport)	24004	0.28	0.00	0.00
Totals:		**30.29**	**11.41**	**2.60**

Table 3-3. 2015 Projected Airport Emissions (tons per year)

Facility Name	Facility ID	CO	NO_X	VOC
McCarran International Airport	108	10,628.41	5,254.84	779.78
North Las Vegas Airport	24001	3,566.66	35.87	173.06
Henderson Executive Airport	24002	783.88	12.52	59.44
Jean Airport	24003	284.79	0.43	5.27
Perkins Field (Overton Airport)	24004	135.17	0.16	1.61
Proposed South of Sloan Heliport (Begin 2011)	n/a	44.50	12.05	6.11
Proposed South County (Ivanpah) Airport Construction	n/a	22.95	79.16	6.97
Totals:		**15,466.36**	**5,395.02**	**1,032.23**

Table 3-4. 2015 Projected Airport Emissions (tons per summer day)

Facility Name	Facility ID	CO	NO_X	VOC
McCarran International Airport	108	29.12	14.40	2.14
North Las Vegas Airport	24001	9.77	0.10	0.47
Henderson Executive Airport	24002	2.15	0.03	0.16
Jean Airport	24003	0.78	0.00	0.01
Perkins Field (Overton Airport)	24004	0.37	0.00	0.00
Proposed South of Sloan Heliport	n/a	0.12	0.03	0.02
Proposed South County (Ivanpah) Airport	n/a	0.06	0.22	0.02
Totals:		**42.37**	**14.78**	**2.83**

Table 3-5. 2022 Projected Airport Emissions (tons per year)

Facility Name	Facility ID	CO	NO_X	VOC
McCarran International Airport	108	14,275.97	6,272.11	677.02
North Las Vegas Airport	24001	4,698.60	62.33	288.04
Henderson Executive Airport	24002	431.42	17.98	94.41
Jean Airport	24003	84.64	0.05	1.04
Perkins Field (Overton Airport)	24004	169.33	0.11	1.98
Proposed South of Sloan Heliport	n/a	27.35	7.88	4.43
Proposed South County (Ivanpah) Airport	n/a	9,277.61	4,159.89	445.17
Totals:		**28,964.92**	**10,520.35**	**1,512.09**

Table 3-6. 2022 Projected Airport Emissions (tons per summer day)

Facility Name	Facility ID	CO	NO_X	VOC
McCarran International Airport	108	39.11	17.18	1.85
North Las Vegas Airport	24001	12.87	0.17	0.79
Henderson Executive Airport	24002	1.18	0.05	0.26
Jean Airport	24003	0.23	0.00	0.00
Perkins Field (Overton Airport)	24004	0.46	0.00	0.01
Proposed South of Sloan Heliport	n/a	0.07	0.02	0.01
Proposed South County (Ivanpah) Airport	n/a	25.42	11.40	1.22
Totals:		**79.36**	**28.82**	**4.14**

Table 3-7. Airport Emissions Comparison (tons per summer day)

Year	CO	NO_X	VOC
2008	30.29	11.41	2.60
2015	42.37	14.78	2.83
2022	79.36	28.82	4.14
Emissions Increase:	49.07	17.41	1.54

4.0 NELLIS AIR FORCE BASE EMISSIONS INVENTORY

Nellis Air Force Base is located in Clark County, seven miles northeast of the City of Las Vegas. Nellis is a major training location for military aircrews and is an installation of the Air Combat Command.

Stationary source activities are covered under a Title V permit. The majority of the emissions at Nellis, however, are aircraft. Both types of emissions were evaluated for this ozone maintenance plan.

Stationary source emissions are tracked and reported to DAQEM on an annual basis as outlined in its permit. These are calculated using the Air Program Information Management System (APIMS), and is described in the following excerpt provided by Nellis:

> This tool has been adopted throughout the United States Air Force (USAF) as the standard air management and reporting tool. APIMS incorporates algorithms and emission factors from EPA Publication AP-42, and the Air Emissions Inventory Guidance Document developed by the USAF Institute for Environment, Safety, and Occupational Health Risk Analysis (IERA).
>
> This report documents the best available estimates of actual emissions of criteria pollutants (CP), Hazardous Air Pollutants (HAPs), and all other pollutants listed within the permits using APIMS respective to the source categories standardized … by the United States Air Force.
>
> This report will be used to support the facility’s annual emission fee calculations to support various permitting and other compliance-related activities, and to assist Nellis Air Force Base in tracking compliance with permit requirements under both the federal Clean Air Act Amendments (CAAA) and applicable Clark County Department of Air Quality and Environmental Management (DAQEM) operating permits.

Historically, Nellis submits aircraft emissions information to DAQEM upon request. In order to establish baseline emissions attributable to the base, DAQEM requested that Nellis provide a comprehensive 2008 aircraft emissions inventory. Nellis utilized Emission Dispersion Modeling System (EDMS) to accomplish this, and submitted the results to DAQEM.

Table 4-2 outlines the 2008 inventory that Nellis provided DAQEM for emissions at the base. Note that on-road emissions were excluded from these totals in that they are accounted for in the on-road section of this report.

Table 4-1. Description of Point Source Emissions Units

Facility Name	Facility ID	EU	Description	SCC
Nellis Air Force Base	0114	1	Stationary Source Units Including Boiler Activity	10300603
		2	Aircraft Activity and Support	27501015

Table 4-2. 2008 Emissions Inventory

EU	Activity	CO		NOx		VOC	
		lb/year	ton/year	lb/year	ton/year	lb/year	ton/year
1	Stationary Source	16,558	8.28	20,938	10.47	21,727	10.86
2	Aircraft Operations	1,425,014	712.51	657,888	328.94	471,974	235.99
	Aircraft Engine Testing	16,466	8.23	41,342	20.67	3,870	1.94
	Air Ground Equipment	121,667	60.83	194,556	97.28	19,469	9.73
	Nonroad Emissions	159,463	79.73	13,996	7.00	57,424	28.71
	Totals:	1,739,168	869.58	928,720	464.36	574,464	287.23

DAQEM requested Nellis provide a comprehensive 2022 projected emissions inventory for all activities at its base. In developing this inventory, Nellis included emissions from the beddown of F-35 fighter aircraft, which will be used to train instructor pilots and support the Air Force Weapons School's mission of testing and evaluating state-of-the-art weapons systems and future combat capabilities.

As part of this projection analysis, Nellis utilized EDMS for aircraft emissions and growth estimates from on Base Realignment and Closure (BRAC) for growth parameters, which accounted for increased training mission exercises at Nellis AFB due to the ending of war in Iraq. Tables 4-3 and 4-4 outline the 2015 and 2022 emissions from all activities at Nellis, and Table 4-5 summarizes emissions for years 2008, 2015, and 2022.

Table 4-3. 2015 Emissions Inventory

EU	Activity	CO		NOx		VOC	
		lb/year	ton/year	lb/year	ton/year	lb/year	ton/year
1	Stationary Source	147,585	73.79	210,933	105.47	92,487	46.24
2	Aircraft Operations	730,780	365.39	294,320	147.16	378,120	189.06
	All F-35 Operations	74,320	37.16	122,360	61.18	6,040	3.02
	Aircraft Engine Testing	8,220	4.11	14,160	7.08	1,780	0.89
	Air Ground Equipment	105,160	52.58	314,240	157.12	43,780	21.89
	Nonroad Emissions	1,157,280	578.64	412,340	206.17	132,360	66.18
	Totals:	2,223,345	1,111.67	1,368,353	684.18	654,567	327.28

Table 4-4. 2022 Emissions Inventory

EU	Activity	CO		NOx		VOC	
		lb/year	ton/year	lb/year	ton/year	lb/year	ton/year
1	Stationary Source	149,181	74.59	212,212	106.11	93,556	46.78
2	Aircraft Operations	757,840	378.92	305,240	152.62	392,120	196.06
	All F-35 Operations	222,960	111.48	367,080	183.54	24,000	12.00
	Aircraft Engine Testing	8,540	4.27	14,700	7.35	1,840	0.92
	Air Ground Equipment	109,060	54.53	325,880	162.94	45,400	22.70
	Nonroad Emissions	1,200,140	600.07	427,620	213.81	137,260	68.63
	Totals:	2,447,721	1,223.86	1,652,732	826.37	694,176	347.09

Table 4-5. Summary of 2008 Actual Emissions, and 2015 and 2022 Projected Emissions[1]

Year	Summer Activity (%)	CO		NOx		VOC	
		ton/day	ton/year	ton/day	ton/year	ton/day	ton/year
2008	25	2.38	869.58	1.27	464.36	0.79	287.23
2015	25	3.05	1,111.67	1.87	684.18	0.90	327.28
2022	25	3.35	1,223.86	2.26	826.37	0.95	347.09

[1] Ton/day emissions represent emissions per summer work weekday.

5.0 NONPOINT SOURCE EMISSIONS INVENTORY

5.1 Overview of Nonpoint Source Sectors

Nonpoint sources collectively represent individual point or mobile sources that have not been otherwise inventoried. Nonpoint sources are typically either too numerous, too small, or too difficult to inventory using methodologies for point or mobile sources.[1]

For purposes of emissions inventory development, the basic unit for storing emissions is the source classification code (SCC). Currently, the EPA maintains a database of 1,230 active nonpoint SCCs (1,006 are retired).[2] Within Clark County, significant emissions were identified for 114 of the nonpoint SCCs. Emissions from all other nonpoint SCCs were not considered significant.

SCCs can be grouped together into sectors. EPA has developed methodologies for estimating emissions for a number of sectors. Many of these methodologies are detailed in EPA's emission inventory improvement program (EIIP).[3] The Clark County nonpoint source emissions inventory includes emissions for each of the sectors described in the EIIP chapters and abstracts, except for the following:

- Emissions from the marine vessel loading, ballasting, and transit sector are primarily associated with ocean vessels, and therefore not included.
- Emissions from the municipal waste landfills sector were calculated but subsequently included within the point source emissions inventory.
- Emissions from the asphalt roofing kettles and leaking underground storage tanks (UST) sectors were not considered significant, and therefore not included.

In conjunction with E.H. Pechan & Associates, EPA has developed a series of default emissions inventories for the 2008 national emissions inventory (NEI) effort.[4] Emissions inventories were developed for nonpoint source sectors (including those identified in the EIIP) and for individual nonpoint source SCCs. These emissions inventories generally involve a top-down approach, utilizing local data when available. The Clark County nonpoint source inventory includes emissions from all of these sectors, except for the following:

- *Anthracite coal* is primarily used for residential and commercial space heating. It is primarily mined in eastern Pennsylvania. Due to the relatively mild space heating requirements for southern Nevada residents and businesses, as well as the distance from

[1] 40 CFR § 51.50 (2010).
[2] EPA, EIS Gateway, Source Classification Code List (accessed July 1, 2010).
[3] EPA, Emission Inventory Improvement Program (EIIP), Technical Report Series Vol. 3, available at http://www.epa.gov/ttn/chief/eiip/techreport/volume03/index.html (accessed July 8, 2010).
[4] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, *2008 National Emissions Inventory Data & Documentation*, available at http://www.epa.gov/ttn/chief/net/2008inventory.html#inventorydata (accessed July 8, 2010).

mined locations, it is assumed that emissions from burning *anthracite coal* are not significant.[5]

- The CO, NO_X, and VOC emissions from *paved roads*, *unpaved roads*, *construction (residential, road & commercial/industrial/institutional)* nonpoint sectors are not significant; therefore emissions from these sectors were not included in the inventory.

- The agriculture industry within Clark County is relatively minor; therefore CO, NO_X, and VOC emissions from *animal husbandry* and *fertilizer application* sectors were deemed not significant, and were not included in the inventory.

- Stage 1 emissions from *gasoline distribution bulk plants*, *gasoline distribution bulk terminals*, and *gasoline distribution pipelines* are included within the point source emissions inventory; therefore these emissions were not included in the nonpoint inventory.

The EPA provided state and local agencies that were submitting data for the NEI effort with an additional list of 18 nonpoint source sectors, categories, or SCCs. EPA indicated that agencies need to provide emissions estimates for these sources if they deemed the emissions significant.[6] The Clark County nonpoint source inventory includes emissions from all of these sources except for the following:

- Clark County's agricultural industry is relatively minor, and water resources are limited; therefore emissions from *agricultural tiling* (a practice that removes excess water from the soil subsurface) and *grain elevators* are assumed to be insignificant, and were not included in the inventory.

- Similar to commercial cooking, emissions associated with *cremation, human and animal* do not include emissions from the fuel combustion sector. After accounting for fuel combustion emissions, emissions from *cremation, human and animal* were not deemed significant, and were not included in the inventory.

- CO, NO_x, and VOC emissions from *chrome plating* are not significant, and were not included in the inventory.

- Cotton is not grown within Clark County; therefore emissions from *cotton ginning* were not included in the inventory.

- Emissions from *dental preparation and use*, *drum and barrel reclamation, general laboratory activities*, *hospital sterilization*, *lamp (fluorescent) recycling*, and *lamp breakage* were not deemed significant.

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[5] Coal used by industry is assumed to be bituminous.

[6] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, *2008 National Emissions Inventory Data & Documentation*, available at http://www.epa.gov/ttn/chief/net/2008inventory.html#inventorydata (accessed July 8, 2010).

- Emissions from *mining and quarrying* predominantly consist of particulate matter; therefore CO, NO_x, and VOC emissions from this sector were assumed not significant, and were not included in the inventory.

- CO, NO_x, and VOC emissions associated with *swimming pools* are not significant, and were not included in the inventory.

- Emissions from *wood combustion* and *industrial/commercial/institutional* are not significant during the summer months, and were not included in the inventory.

After attempting to account for all significant nonpoint sector emission sources, a total of 22 sectors were identified in Clark County. The following table provides the estimated summer work weekday emissions from these nonpoint source sectors.[7] In addition to NO_x and VOC emissions, CO emissions were added to determine their potential impact as precursors. Emissions are described for the 2008 baseline year, the 2015 midpoint year, and the 2022 horizon year.

Table 5-1. Nonpoint Sector Baseline and Projected Summer Work Weekday Emissions

Nonpoint Source Sector	Tons per Day								
	2008			2015			2022		
	CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
Fuel Combustion	3.17	5.40	0.08	3.32	5.62	0.08	3.48	5.89	0.08
Residential Wood Combustion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Cooking	0.83	0.00	0.29	0.95	0.00	0.33	1.05	0.00	0.37
Bakeries	0.00	0.00	1.33	0.00	0.00	1.53	0.00	0.00	1.70
Architectural Coating	0.00	0.00	6.07	0.00	0.00	7.48	0.00	0.00	8.58
Auto Body Refinishing	0.00	0.00	0.11	0.00	0.00	0.13	0.00	0.00	0.14
Traffic Markings	0.00	0.00	0.10	0.00	0.00	0.10	0.00	0.00	0.10
Industrial Surface Coating	0.00	0.00	14.73	0.00	0.00	17.30	0.00	0.00	20.95
Degreasing	0.00	0.00	10.85	0.00	0.00	12.97	0.00	0.00	14.81
Dry Cleaning	0.00	0.00	0.44	0.00	0.00	0.52	0.00	0.00	0.58
Graphic Arts	0.00	0.00	3.75	0.00	0.00	4.16	0.00	0.00	4.95
Consumer Products	0.00	0.00	8.54	0.00	0.00	10.10	0.00	0.00	11.40
Cutback Asphalt	0.00	0.00	0.69	0.00	0.00	0.88	0.00	0.00	1.08
Emulsified Asphalt	0.00	0.00	0.94	0.00	0.00	1.21	0.00	0.00	1.49
Pesticide	0.00	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.04
Portable Fuel Container	0.00	0.00	2.77	0.00	0.00	3.11	0.00	0.00	3.41
Gasoline Storage, Transport, and Distribution	0.00	0.00	5.11	0.00	0.00	4.75	0.00	0.00	4.75
Aviation Fuel	0.00	0.00	0.30	0.00	0.00	0.39	0.00	0.00	0.46
Open Burning	0.01	0.01	0.00	0.02	0.01	0.00	0.02	0.01	0.00
Wastewater Treatment	0.00	0.00	0.90	0.00	0.00	1.07	0.00	0.00	1.19
Structure Fires	0.20	0.00	0.04	0.24	0.01	0.04	0.27	0.01	0.05

[7] Work weekday emissions are defined as "[a]ny day of the week except Saturday or Sunday." 40 CFR § 51.50 (2010).

Nonpoint Source Sector	Tons per Day								
	2008			2015			2022		
	CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
Vehicle Fires	0.06	0.00	0.02	0.07	0.00	0.02	0.08	0.00	0.02
Totals	**4.27**	**5.41**	**57.07**	**4.59**	**5.64**	**66.21**	**4.91**	**5.90**	**76.15**
						Differences	**0.63**	**0.49**	**19.08**

5.2 Point and Nonpoint Source Overlap

It is not uncommon for permitted point sources (i.e., stationary sources) to include *fuel combustion* and other nonpoint source emissions. EPA provides a list of the nonpoint source sectors that may have "potential point source contributions...."[8] Together, these sectors represent a total of 55 nonpoint source SCCs.

In order to prevent double-counting of emissions, the 55 nonpoint source SCCs were compared with the entirety of SCCs that make up the point source emissions inventory; however, two factors made identification challenging. First, EPA uses an eight-digit SCC system to identify point sources, and a ten-digit SCC system to identify nonpoint sources. Second, the four-level SCC description of a particular emissions source may not be the same for the point and nonpoint SCC systems.

For example, the four-level SCC description of nonpoint source SCC 2103006000 is a stationary source fuel combustion (burning natural gas) in a boiler or internal combustion engine located at a commercial/institutional facility; yet, the following three point source SCCs could be categorized under this description: (1) an external natural-gas combustion boiler with a power capacity less than 10 million Btu/hr located at a commercial/institutional facility [SCC 10300603]; (2) an external natural-gas combustion boiler with a power capacity between 10 and 100 million Btu/hr located at a commercial/institutional facility [SCC 10300602]; and (3) an internal natural-gas combustion engine powering a turbine located at a commercial/institutional facility [SCC 20300202].

To correct for overlaps, the total amount of point source emissions (i.e., those that could also be categorized under a nonpoint source) were subtracted from the nonpoint source category. In some instances, the permitted emissions in the point source inventory exceeded the estimated emissions from the nonpoint source inventory. If the overlap exceeded the nonpoint source emissions estimate for a specific SCC, then zero emissions were assigned to that SCC.

For example, the permitted point source fuel combustion of natural gas at industrial sources totaled 658.18 tons of CO emissions per year; 1,171.14 tons of NO_x emissions per year; and 41.48 tons of VOC emissions per year. Yet the estimated total nonpoint source emissions for these sources (SCC 2102006000) was 275.00 tons of CO emissions per year; 876.23 tons of NO_x emissions per year; and 18.00 tons of VOC emissions per year. The point and nonpoint estimates had noticeable differences.

[8] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, 2008 National Emissions Inventory Data & Documentation, Nonpoint Section, available at http://www.epa.gov/ttnchie1/net/2008inventory.html (accessed April 15, 2010).

There are several possible explanations for these differences. First, the manner in which the Energy Information Administration (EIA) partitions natural gas consumption among residential, commercial, and industrial sources may not sufficiently approximate the manner in which it is consumed in Clark County. Second, Clark County's share of state-wide fuel consumption may be underestimated. Third, emissions factors and assumed controls used to estimate emissions in stationary source permits may differ from those used to estimate nonpoint source emissions.

Nevertheless, the overlap of emissions was addressed to prevent double-counting. The following table identifies the point source SCCs and their associated annual emissions that overlap the nonpoint source emissions inventory.

Table 5-2. Point and Nonpoint Source Emissions Overlap

Overlapping Sources		2008 Point Source Emissions (tons/year)		
Nonpoint Source SCC	Point Source SCC	CO	NO_x	VOC[9]
2102006000	10200602	0.09	0.74	0.64
	10200603	0.01	0.09	0.15
	20200201	2.72	13.20	0.50
	20200202	7.18	4.93	0.21
	30500257	16.30	3.42	5.85
	30501520	397.32	143.30	13.56
	30500242	13.28	6.85	4.24
	30501604	221.28	998.62	16.32
2103006000	10300602	0.85	7.19	1.35
	10300603	208.71	204.91	48.72
	10500206	0.01	0.05	0.07
	20300202	16.42	99.70	7.98
	20300203	0.00	0.00	0.00
2102004000	20200101	0.07	0.03	0.00
	20200102	22.38	51.76	6.27
	20200104	0.00	0.00	0.00
	30500208	0.20	0.80	0.28
2103004000	20300101	0.11	0.49	0.04
2102007000	20201001	0.14	0.12	0.02
2102002000	30504033	1.79	97.72	0.43
	30501604	39.50	95.54	1.42
2401020000	40201901	0.27	0.32	3.82
2401030000	40201399	0.34	0.20	6.40
2630000000	50100799	20.66	13.52	11.20

5.3 Growth Factors Used to Project Emissions

Projected emissions in an ozone maintenance plan generally are based on growth factors generated by the EGAS Version 5.0 model.[10] However, the use of EGAS growth factors is likely to overstate

[9] Over the years, point source permits have used several variants of VOC and non-VOC emissions. For purposes of determining overlap, it was assumed that ROGs, NMOGs, and non-methane hydrocarbons emissions are synonymous with VOC emissions. Other types of emissions (i.e., TOGs and hydrocarbons) may have included non-VOC emissions. However, because these emissions only amounted to 9.99 tons, it was conservatively assumed that all TOG and hydrocarbon emissions are VOC emissions.

emissions growth. EPA issued a draft document in August 2006 that suggests EGAS factors may be overstating future-year emissions for purposes of regulatory impact analyses.[11] Within federal register documents, EPA has also commented on several occasions that EGAS growth factors may overstate future-year emissions. For example, in the final rule concerning approval and promulgation of implementation plans for Calcasieu Parish in the State of Louisiana, EPA stated that "[t]he EGA[S] system for projecting emissions tends to overstate future emissions since the system relies principally on economic growth for the projections."[12]

In spite of the conservative results, DAQEM utilized EGAS growth factors to project 2022 nonpoint source emissions, with the following exceptions:

First, EGAS factors were not used when the U.S. Department of Energy's (DOE's) EIA projected fuel consumption data was available. EIA provides forecasts for the consumption of natural gas, distillate fuel oil, residual fuel oil, and liquefied petroleum gas. EIA's projected consumption data was used in lieu of EGAS factors to project emissions for the *fuel combustion* sector.[13]

Second, local population projections obtained from the County's Comprehensive Planning Department were used in lieu of EGAS factors to project emissions for the *architectural coating* and *consumer products* nonpoint sectors.[14] Local tourism and military population data was also used to project emissions for the *consumer products* sector.

Third, in lieu of EGAS factors, emissions from the *gasoline storage, transport, and distribution* nonpoint sector were based on: (i) projected controlled and uncontrolled seasonal emissions factors from the Mobile 6.2 model; and (ii) projected gasoline consumption data obtained from the EIA.[15]

5.4 Temporal Profiles

Summer season and summer work weekday emissions were generally estimated using temporal activity profiles established by EPA for the purpose of modeling inventory development.[16] The temporal profiles provide daily, weekly, and monthly information at the SCC level.

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[10] EPA, Technology Transfer Network Economics & Cost Analysis Support, *Emission Growth Factors Models/Tools*, available at http://www.epa.gov/ttn/ecas/gfmodels.html (accessed June 18, 2009).
[11] The document was a preliminary draft and the author stated that it had "...not been formally disseminated by the EPA and should not be construed to represent any Agency determination or policy." Chappell, Linda, *Improving EPA Emissions Forecasting For Regulatory Impact Analyses*, p. 9, available at http://www.epa.gov/ttnecas1/articles.html (Aug. 4, 2006 (draft)).
[12] 73 FR 59518–59520 (October 9, 2008).
[13] U.S. Department of Energy's Energy Information Administration (EIA), Forecasts & Analysis, Table 11, *Liquid Fuels Supply and Disposition*, available at http://www.eia.doe.gov/oiaf/forecasting.html (accessed May 11, 2010), and Table 13, *Natural Gas Supply, Disposition, and Prices*, available at http://www.eia.doe.gov/oiaf/forecasting.html (accessed May 11, 2010).
[14] Clark County Department of Comprehensive Planning, *2009 Clark County Population Forecast: 2009 - 2050*, available at http://www.accessclarkcounty.com/depts/comprehensive_planning/demographics/pages/demographics.aspx (accessed May 3, 2010).
[15] EIA, Forecasts & Analysis, Table 11, *Liquid Fuels Supply and Disposition*, available at http://www.eia.doe.gov/oiaf/forecasting.html (accessed May 11, 2010).
[16] EPA, Emissions Modeling Clearinghouse Temporal Allocation, available at http://www.epa.gov/ttnchie1/emch/temporal/index.html (accessed May 26, 2010).

The following table provides the percent of a nonpoint source sector's activity during the summer season. Where activity varies within a nonpoint sector, all of the SCCs associated with that sector are included and accompanied by the percent of activity.

Table 5-3. Summer Season Temporal Profiles

Nonpoint Source Sector	SCC	Percent Activity Occurring During Summer Season	Source
Fuel Combustion	2102002000	25.0%	EPA *
	2102004000	25.0%	EPA *
	2102005000	25.0%	EPA *
	2102006000	22.4%	Energy Information Administration.[17]
	2102007000	25.0%	EPA *
	2102011000	25.0%	EPA *
	2103002000	15.0%	EPA *
	2103004000	15.0%	EPA *
	2103005000	15.0%	EPA *
	2103006000	16.9%	Energy Information Administration.[18]
	2103007000	25.0%	EPA *
	2103011000	25.0%	EPA *
	2104002000	1.5%	EPA *
	2104004000	1.5%	EPA *
	2104005000	1.5%	EPA *
	2104006000	10.4%	Energy Information Administration.[19]
	2104007000	25.0%	EPA *
	2104011000	0.0%	EPA *
Residential Wood Combustion	All related SCCs	0.0%	Based on the number of heating degree days (HDDs) within Clark County, it was assumed that residential burning generally did not take place during 2008 summer season.
Commercial Cooking	All related SCCs	25.0%	EPA *
Bakeries	All related SCCs	25.0%	EPA *
Architectural Coating	All related SCCs	28.1%	U.S. Census Bureau.[20]
Auto Body Refinishing	All related SCCs	25.0%	EPA *
Traffic Markings	All related SCCs	25.0%	EPA *
Industrial Surface Coating	2401015000	25.7%	EPA *
	2401020000	25.2%	EPA *
	2401030000	25.2%	EPA *
	2401040000	25.2%	EPA *
	2401045000	25.2%	EPA *
	2401050000	25.2%	EPA *
	2401055000	25.2%	EPA *
	2401060000	25.0%	EPA *
	2401065000	25.2%	EPA *

[17] EIA, file name "ngm12vmall.xls" (release date April 29, 2010), available at http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/natural_gas_monthly/ngm.html.
[18] *Id*.
[19] *Id*.
[20] U.S. Census Bureau, Current Industrial Reports (CIR), Paint and Allied Products Seasonal Usage.

Nonpoint Source Sector	SCC	Percent Activity Occurring During Summer Season	Source
	2401070000	26.1%	EPA *
	2401075000	26.0%	EPA *
	2401080000	25.2%	EPA *
	2401085000	26.0%	EPA *
	2401090000	25.4%	EPA *
	2401100000	25.4%	EPA *
	2401200000	25.4%	EPA *
Degreasing	All related SCCs	25.2%	EPA *
Dry Cleaning	All related SCCs	25.5%	EPA *
Graphic Arts	All related SCCs	25.2%	EPA *
Consumer Products	All related SCCs	25.0%	EPA *
Cutback Asphalt	All related SCCs	25.1%	EPA *
Emulsified Asphalt	All related SCCs	25.1%	EPA *
Pesticide	All related SCCs	25.1%	EPA *
Portable Fuel Container	2501011011	74.3%	Output from EPA NONROAD Model, report titled “Equipment Population and Fuel Consumption by SCC for Clark County.”
	2501011012	57.9%	
	2501011013	40.4%	
	2501011014	57.9%	
	2501011015	40.4%	
	2501012011	69.8%	
	2501012012	54.4%	
	2501012013	38.0%	
	2501012014	54.4%	
	2501012015	38.0%	
Gasoline Storage, Transport, and Distribution	All related SCCs	37.9%	Based on gasoline throughput, average summer season temperature, and average summer season RVPs in Clark County.
Aviation Fuel	All related SCCs	37.9%	Assumed similar emissions profile to “Gasoline Storage, Transport, and Distribution” nonpoint sector.
Open Burning	All related SCCs	25.0%	EPA *
Wastewater Treatment	All related SCCs	25.0%	EPA *
Structure Fires	All related SCCs	25.0%	EPA *
Vehicle Fires	All related SCCs	25.0%	EPA *

* EPA, Emissions Modeling Clearinghouse Temporal Allocation <http://www.epa.gov/ttnchie1/emch/temporal/index.html> (accessed May 26, 2010).

The following table provides the estimated number of days per week that nonpoint sector sources emit during the summer season. The table also provides the average percentage of emissions emitted in a week during the summer work weekdays (i.e., Monday through Friday). These values are primarily based on EPA defaults; however, in a few instances EPA defaults were not used or were not available and these are explained in the table.

Table 5-4. Summer Work Weekday Temporal Profiles

Nonpoint Source Sector	Average No. of Operational Days During Course of Week	Percentage of Activity Occurring During Summer Work Weekdays	Source
Fuel Combustion	7	71.4% - 73.6%	*
Residential Wood Combustion	n/a	n/a	Based on the number of heating degree days (HDDs) within Clark County, it was assumed that residential burning generally did not take place during 2008 summer season.
Commercial Cooking	7	71.4%	*
Bakeries	5	100%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-42 (January 2007), citing, EIIP.
Architectural Coating	7	71.4%	*
Auto Body Refinishing	5	100%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-3 (January 2007), citing, EIIP.
Traffic Markings	5	100%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-34 (January 2007), citing, EIIP.
Industrial Surface Coating	5	100%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-11 (January 2007), citing, EIIP, ch. 8, p. 8.3-5 (which states " [s]mall industrial surface coating facilities typically operate five days per week . . . [t]his value may be used if local survey data or point source records on daily resolution are not available.").
Degreasing	6	83.3%	EIIP Vol III, Ch. 1, Table 1.4-3, p. 1.4-11 (8/9/96).
Dry Cleaning	5	100%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-4 (January 2007), citing, EIIP.
Graphic Arts	7	75%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-1 (January 2007), citing, EIIP, ch. 7, p. 7.3-5 (which states " . . . 75 percent of emissions activity occurs on weekdays, 20 percent on Saturdays, and 5 percent on Sunday.").
Consumer Products	7	71.4%	*
Cutback Asphalt	5	100%	Assumed paving work occurs uniformly throughout summer work weekdays; see also, Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-28.
Emulsified Asphalt	5	100%	Assumed paving work occurs uniformly throughout summer work weekdays, see also, Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, p. 3-28 (January 2007).
Pesticide	6	83.3%	EIIP Vol III, Ch. 1, Table 1.4-3, p. 1.4-11 (8/9/96).

Nonpoint Source Sector	Average No. of Operational Days During Course of Week	Percentage of Activity Occurring During Summer Work Weekdays	Source
Portable Fuel Container	7	25% - 100%	Assumed that: (i) commercial emissions associated with spillage/refilling occurred during weekday, (ii) permeation and diurnal emissions occur uniformly throughout summer week, and (iii) 75% of residential PFC emissions (associated with spillage/refilling) occurred during weekend, i.e., most yard work, is performed by homeowners occurs over the weekend.
Gasoline Storage, Transport, and Distribution	7	71.4%	*
Aviation Fuel	7	71.4%	*
Open Burning	7	71.4%	Permit issuance for open burning varies from year to year. For purposes of projecting emissions, it is assumed that permit issuance is uniform throughout the week.
Wastewater Treatment	7	71.4%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, pp. 3-43, 3-47 (January 2007).
Structure Fires	7	71.4%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, pp. 3-43, 3-45 (January 2007).
Vehicle Fires	7	71.4%	Clark County Consolidated Emission Inventory Report, Clark County Point and Area Source Emissions, pp. 3-43, 3-45 (January 2007).

* EPA, Emissions Modeling Clearinghouse Temporal Allocation <http://www.epa.gov/ttnchie1/emch/temporal/index.html> (accessed May 26, 2010).

The profiles provided by EPA are based on national averages. For most nonpoint sectors, the national averages are reasonably representative. However, some nonpoint sectors within Clark County may not be adequately represented by the EPA default values due to, e.g., the elevated temperatures experienced during the summer season.

EPA default values were not used for the following nonpoint source sectors: (i) *fuel combustion*; (ii) *residential wood burning*; (iii) *architectural coating*, (iv) *portable fuel containers*; (v) *gasoline storage; transport and distribution*; and (vi) *aviation fuel*. An explanation for each exception follows:

Where available, U.S. Department of Energy's EIA data were used in lieu of EPA's monthly temporal profiles. For example, EIA's state-specific natural gas consumption data was applied to the residential, commercial, and industrial sources in the *fuel combustion* nonpoint sector.[21]

[21] EIA, Natural Gas Monthly, *Natural Gas Deliveries to Residential Consumers, by State, 2008-2010*, available at http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/natural_gas_monthly/ngm.html (accessed July 8, 2010); *Natural Gas Deliveries to Commercial Consumers, by State, 2008-2010;* and *Natural Gas Deliveries to Industrial Consumers, by State, 2008-2010*.

Compared to other regions of the country, southern Nevada experiences highly elevated temperatures during the summer season. Emissions from the *residential wood burning* nonpoint sector are inversely proportional to the temperature of a region. It was therefore assumed that insignificant amounts of pollutants are emitted in Clark County from the *residential wood burning* sector during the summer season.

The U.S. Census Bureau provides seasonal paint consumption data at the national level.[22] Paint consumption within Clark County was assumed to be proportional to consumption at the national level; therefore, summer season activity for the *architectural coating* sector within Clark County was based on U.S. Census Bureau data.

Emissions from the *portable fuel containers* sector are based on fuel consumption data. EPA's NONROAD model generates fuel consumption data at a county level.[23] Therefore, estimates of residential and commercial summer season emissions—from the *portable fuel containers* nonpoint sector—were based on the output of the NONROAD model.

Finally, in lieu of EPA's monthly temporal profiles, the estimation of summer season activity for the *gasoline storage, transport and distribution* and the *aviation fuel* sectors were based on seasonal gasoline sales compiled by the Clark County DAQEM Compliance Division, and the average seasonal Reid vapor pressure (RVP) of gasoline.

5.5 Rule Effectiveness and Rule Penetration

Because nonpoint sources typically lack control devices subject to rule requirements, rule effectiveness (RE) and rule penetration (RP) are not applicable to most nonpoint sources. There are, however, a few nonpoint SCCs for which RE and RP values have been estimated, and these are provided in the following table.

Table 5-5. Rule Effectiveness and Rule Penetration Values for Nonpoint Source Subject to Rules

SCC	SCC Description	Pollutant	RE	RP
2102002000	Stationary Source Fuel Combustion/Industrial/Bituminous and Subbituminous Coal, Total: All Boiler Types	NO_x	80%	95%
2102004000	Stationary Source Fuel Combustion/Industrial/Distillate Oil/Total: Boilers and IC Engines	NO_x	80%	8%
2102005000	Stationary Source Fuel Combustion/Industrial/Residual Oil/Total: All Boiler Types	NO_x	80%	95%
2102006000	Stationary Source Fuel Combustion/Industrial/Natural Gas/Total: Boilers and IC Engines	NO_x	80%	11%
2103006000	Stationary Source Fuel Combustion/Commercial and Institutional/Natural Gas/Total: Boilers and IC Engines	NO_x	100%	23%
2104006000	Stationary Source Fuel Combustion/Residential/Natural Gas/Total: All Combustor Types	NO_x	100%	23%

[22] U.S. Census Bureau, *Current Industrial Reports*, available at http://www.census.gov/cir/www/325/mq325f/mq325f084.xls (accessed Apr. 6, 2009).
[23] EPA, Modeling and Inventories, NONROAD Model (nonroad engines, equipment, and vehicles), available at http://www.epa.gov/OMS/nonrdmdl.htm (accessed July 8, 2010).

SCC	SCC Description	Pollutant	RE	RP
2401030000	Solvent Utilization/Surface Coating/Paper: SIC 26/Total: All Solvent Types	VOC	80%	100%
2501060050	Storage and Transport/Petroleum and Petroleum Product Storage/Gasoline Service Stations/Stage 1: Total	VOC	100%	23%
2610030000	Waste Disposal, Treatment, and Recovery/Open Burning/Residential/Household Waste	NO_x	80%	100%

The RE and RP values provided in the table were primarily based on information obtained from a 2005 Pechan AirControlNet report prepared for EPA.[24] The gasoline dispensing facility (GDF) values were based on separate EPA default values and local certification requirements.[25]

For industrial fuel combustion sources, the Pechan report provided two RP percentages based on the quantity of emissions from a combustion unit. For units emitting more than 50 tons of NO_x per year, the RP was half the value of that for units emitting less than 50 tons but more than 25 tons of NO_x per year. In each instance, the lower RP value was used for SCCs that included both "[b]oilers and IC engines," i.e., where the contribution from boiler emissions was unknown.[26]

For SCCs that included only boilers, it was assumed that RP was 95%. This assumption was made because the current Clark County Air Quality Regulations require permitting of "...any stationary source located in Clark County that has the potential to emit (PTE) of a regulated air pollutant equal to or greater than the thresholds listed in Section 12.1.1(c)...."[27] The current threshold PTE for NO_x is 5 tons per year.[28] In addition, the threshold PTE for NO_x—prior to the adoption of the Clark County updated 2009 regulations—was 2 tpy.[29] Since control device requirements do not apply to NO_x sources emitting below these thresholds, it was assumed that an RP of 95% was reasonable.

[24] AirControlNET Version 4.1 Documentation Report, September 2005, prepared for EPA by E.H. Pechan & Associates, Inc. <http://www.epa.gov/groundlevelozone/SIPToolkit/documents/DocumentationReport.pdf> (accessed Sep. 7, 2010).

[25] "Clark County staff performs annual inspections of Stage I and Stage II control equipment. Additionally, Clark County DAQEM regulations require Stage I and Stage II equipment be certified to reduce emissions by 95% or more for gasoline dispensing facilities with a throughput greater than 96,000 gallons per year. Based on inspection frequency, certification efficiency, and throughput waiver, a Stage I and Stage II control efficiency of 84% was used in emissions calculations from Stage I filling and Stage II refueling (per EPA 1991 guidance)." Clark County Consolidated Emissions Inventory Report, Environ, App. A, pp. 3-37, 3-38 (May 31, 2007).

[26] See, e.g., SCCs 2102004000 and 2102004000.

[27] Clark County Air Quality Regulations, § 12.1.0 (adopted 11-03-09).

[28] *Id*., at § 12.1.1(c).

[29] *Id*., at § 0 (revised 5-24-01).

5.6 Methodology

The methodologies used to calculate nonpoint source sector emissions are largely described in EPA's EIIP guidance documents.[30] In general, the methodology used to quantify emissions is the product of a source's activity throughput, its emissions factor, and the control efficiency (where applicable).[31]

The table below provides methodology and activity throughput information for each nonpoint source sector identified in Clark County. The table describes the document containing the methodology used to calculate emissions, and the activity throughput data associated with each sector. Source information for the activity throughput data is cited in footnotes.

Table 5-6. Methodology and Activity Throughput Information for Nonpoint Sectors

Nonpoint Source Sector	Document Describing Methodology	Activity Throughput
Fuel Combustion	EIIP, Vol. III, Area Source Method Abstracts, *Residential and Commercial/Institutional Natural Gas and Liquified Petroleum Gas (LPG) Combustion* (Apr. 6, 1999), and, EIIP, Vol. III, Area Source Method Abstracts, *Residential and Commercial/Institutional Coal Combustion* (Apr. 6, 1999), and, EIIP, Vol. III, Area Source Method Abstracts, *Residential and Commercial/Institutional Fuel Oil and Kerosene Combustion* (Apr. 6, 1999).	State of Nevada county population data; [32] fuel consumption data; [33] temperature data; [34] industrial and commercial employment data. [35]
Residential Wood Combustion	E.H. Pechan & Associates, Inc., 2008 Non-Point Emission Estimates, *Residential Wood Combustion* (Feb. 9, 2010).	County housing units;[36] county occupied units; [37] county population data; [38]

[30] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, Emission Inventory Improvement Program (EIIP), available at http://www.epa.gov/ttnchie1/eiip/ (accessed July 12, 2010).
[31] The Code of Federal Regulations defines activity throughput as: "...a measurable factor or parameter that relates directly or indirectly to the emissions of an air pollution source during the period for which emissions are reported. Depending on the type of source category, activity information may refer to the amount of fuel combusted, raw material processed, product manufactured, or material handled or processed. It may also refer to population, employment, or number of units. Activity throughput is typically the value that is multiplied against an emission factor to generate an emissions estimate." 40 CFR § 51.50 (2010).
[32] State of Nevada, Nevada County Population Projections 2008 to 2028 (August 2008), available at http://www.nsbdc.org/what/data_statistics/demographer/pubs/docs/NV_Projections_2008_Report.pdf (accessed July 12, 2010).
[33] EIA, State Energy Data System (SEDS), available at http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA (accessed Dec. 18, 2008).
[34] Weather Underground, History Data, Custom Summary, available at http://www.wunderground.com (accessed Dec. 22, 2008).
[35] U.S. Census Bureau, County Business Patterns, available at http://www.census.gov/econ/cbp/index.html (accessed July 12, 2010).
[36] U.S. Census Bureau, Population Estimates, *Housing Units*, available at http://www.census.gov/popest/housing/ (accessed July 12, 2010).
[37] U.S. Census Bureau, American Fact Finder, Fact Sheet, Clark County, Nevada, available at http://factfinder.census.gov/servlet/ACSSAFFFacts?_submenuId=factsheet_0&_sse=on (accessed July 12, 2010).
[38] Clark County Department of Comprehensive Planning, available at http://www.accessclarkcounty.com/depts/comprehensive_planning/demographics/Pages/demographics.aspx (accessed July 12, 2010).

Nonpoint Source Sector	Document Describing Methodology	Activity Throughput
Commercial Cooking	E.H. Pechan & Associates, Inc., 2008 Non-Point Emission Estimates *Commercial Cooking* (Jun. 26, 2009).	County population data. [39]
Bakeries	EIIP, Vol. III, Area Source Method Abstracts, *Bakeries* (Jun. 21, 1999).	County population data. [40]
Architectural Coating	EIIP, Vol. III, Ch. 3, *Architectural Surface Coating* (Nov. 1995).	County population data; [41] U.S. population data; [42] architectural coatings. [43]
Auto Body Refinishing	EIIP, Vol. III, Ch. 13, *Auto Body Refinishing* (Jan. 2000).	County employment data. [44]
Traffic Markings	EIIP, Vol. III, Ch. 14, *Traffic Markings* (May 1997).	County population data; [45] county paint consumption data; [46] pavement markers data; [47] NDOT paint consumption data; [48]
Industrial Surface Coating	EIIP, Vol. III, Ch. 8, *Industrial Surface Coating* (Sep. 1997).	County population data; [49] county employment data. [50]
Degreasing	EIIP, Vol. III, Ch. 6, *Solvent Cleaning* (Sep. 1997).	County employment data. [51]
Dry Cleaning	EIIP, Vol. III, Ch. 4, *Dry Cleaning* (May 1996).	County permitting data. [52]
Graphic Arts	EIIP, Vol. III, Ch. 7, *Graphic Arts* (Nov. 1996).	County population data. [53]
Consumer Products	California Air Resources Board (CARB).	County population data. [54] county tourist data. [55] military population dat. [56] visitor survey data. [57]

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[39] *Id*.
[40] *Id*.
[41] *Id*.
[42] U.S. Census Bureau, U.S. Population Projections, available at http://www.census.gov/population/www/projections/downloadablefiles.html (accessed July 12, 2010).
[43] U.S. Census Bureau, Current Industrial Reports, *MA325F – Paints and Allied Products*, available at http://www.census.gov/manufacturing/cir/historical_data/ma325f/index.html (accessed July 12, 2010).
[44] U.S Census Bureau, County Business Patterns, available at http://www.census.gov/econ/cbp/index.html (accessed July 12, 2010).
[45] *Id*.
[46] Clark County Department of Public Works, http://www.accessclarkcounty.com/depts/public_works/Pages/pworks.aspx (accessed July 12, 2010).
[47] *Id*.
[48] Correspondence with William Hoffman, NDOT Chief Maintenance & Operations Engineer.
[49] Clark County Department of Comprehensive Planning, available at http://www.accessclarkcounty.com/depts/comprehensive_planning/demographics/Pages/demographics.aspx (accessed July 12, 2010).
[50] U.S Census Bureau, County Business Patterns, available at http://www.census.gov/econ/cbp/index.html (accessed July 12, 2010).
[51] *Id*.
[52] DAQEM, Permitting Division, Dry Cleaner Permits, Potential to Emit (PTE) data (2007).
[53] *Id*.
[54] *Id*.
[55] Las Vegas Convention & Visitors Authority, http://www.lvcva.com/press/statistics-facts/index.jsp?whichDept=stats.
[56] Correspondence with Clark County Department of Comprehensive Planning.
[57] MACTEC, Clark County Consumer Products Emission Inventory Report, p. 6-1, 6-2 (2007).

Nonpoint Source Sector	Document Describing Methodology	Activity Throughput
Cutback Asphalt	EIIP, Vol. III, Ch. 17, *Asphalt Paving* (Jan. 2001).	Slow and medium-cure consumption data. [58]
Emulsified Asphalt	E.H. Pechan & Associates, Inc., 2008 Non-Point Emission Estimates, referencing, EIIP, Vol. III, Ch. 17, *Asphalt Paving* (Jan. 2001).	Asphalt usage data; [59] VMT data. [60]
Pesticide	EIIP, Vol. III, Ch. 9, *Pesticides – Agricultural and Nonagricultural* (Jun. 2001).	County weed control data; [61]
Portable Fuel Container	EPA, *Estimating Emissions Associated with Portable Fuel Containers*, EPA420-R-07-001 (Feb 2007).	Fuel consumption data; [62] RVP data. [63]
Gasoline Storage, Transport, and Distribution	EIIP, Vol. III, Ch. 11, *Gasoline Marketing (Stage I and Stage II)* (Jan. 2001).	Gasoline throughput; [64] VOC refueling loss emission factors; [65] annual VMT; [66] temperature data. [67]
Aviation Fuel	E.H. Pechan & Associates, Inc., 2008 Non-Point Emission Estimates, *Aviation Gasoline Distribution – Stage I*, and, *Aviation Gasoline Distribution – Stage II* (Dec. 18, 2009).	Aviation gasoline consumption data; [68] landing take off data. [69]
Open Burning	EIIP, Vol. III, Ch. 16, *Open Burning* (Jan. 2001).	U.S. population data; [70] average per capita waste generated; [71] local tracking of open burn permits.
Wastewater Treatment	AP-42, Ch. 4, Sect. 3; 2002 NEI.	Treatment flow volume data. [72]

[58] Correspondence with Jim Raynes, Ergon, and Brandon McDowell, KC Asphalt.
[59] Asphalt Institute, *2008 Asphalt Usage Survey for the United States and Canada*, available at http://www.asphaltinstitute.org/.
[60] U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2007*, Office of Highway Policy Information, (2008), available at http://www.fhwa.dot.gov/policyinformation/statistics/2007/.
[61] Clark County Department of Public Works, Public Works, available at http://www.accessclarkcounty.com/depts/public_works/Pages/pworks.aspx (accessed July 12, 2010).
[62] EPA, Modeling and Inventories, NONROAD Model (nonroad engines, equipment, and vehicles), available at http://www.epa.gov/otaq/nonrdmdl.htm (accessed July 12, 2010).
[63] Calnev Pipeline (facility ID 13) annual report.
[64] *Id*.
[65] Output from EPA's MOBILE 6.2 model.
[66] Nevada Department of Transportation, Annual Vehicle Miles of Travel for Year 2008, available at https://www.nevadadot.com/reports_pubs/miles_of_travel/ (accessed June 30, 2009).
[67] Weather Underground, History Data, Custom Summary, available at http://www.wunderground.com (accessed Dec. 22, 2008).
[68] EIA, Petroleum Supply Annual 2008, Volume 1, available at http://www.eia.doe.gov/oil_gas/petroleum/data_publications/petroleum_supply_annual/psa_volume1/psa_volume1.html
[69] Electronic file [LTObyCtyandSCC.mdb] from Laurel Driver, EPA OAQPS, November 12, 2009. Aircraft operations data compiled from FAA's Terminal Area Forecasts (TAF) and 5010 Forms.
[70] U.S. Census Bureau, U.S. Population Projections, available at http://www.census.gov/population/www/projections/downloadablefiles.html (accessed July 12, 2010).
[71] EPA, Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2007, EPA-530-F-08-018 (Nov. 2008) http://www.epa.gov/osw/nonhaz/municipal/pubs/msw07-fs.pdf (accessed Feb. 4, 2009).
[72] Clark County Water Reclamation District, Clark County Sewage and Wastewater Advisory Committee (SWAC) report; City of Las Vegas, Water Pollution Control Facility Brochure; City of Henderson, Southwest Water Reclamation Facility (SWRF).

Nonpoint Source Sector	Document Describing Methodology	Activity Throughput
Structure Fires	EIIP, Vol. III, Ch. 18, *Structure Fires* (Jan. 2001).	Annual number of structural; [73] county open burning incidents.[74]
Vehicle Fires	EIIP, Vol. III, Area Source Method Abstracts, *Vehicle Fires* (May 15, 2000).	Annual number of vehicle fires. [75]

Multiple layers of activity throughput exist for several nonpoint source sectors. The two most common activity throughputs in Clark County are population and employment data. The local population data is based on information obtained from the Clark County Department of Comprehensive Planning.[76]

The local employment data is based on information from the U.S. Census Bureau.[77] The data itself was obtained from the North American Industry Classification System (NAICS), rather than the older U.S. Standard Industrial Classification (SIC) system.[78]

5.7 Nonpoint Source Sector Emissions by SCC

In the following sections, summer work weekday emissions are provided for each of the 22 nonpoint source sectors. Emissions are listed by SCC for the 2008 baseline year, the 2015 midpoint year, and the 2022 horizon year. Overall sector emissions growth is identified as the difference between the 2022 and 2008 emissions totals. That figure is located at the end of each table.

5.7.1 Fuel Combustion (Sector No. 1)

The *fuel combustion* nonpoint source sector is partitioned among 18 SCCs. Each of the SCCs can be identified by use and fuel type. Six SCCs track industrial emissions; six track commercial/ institutional emissions; and six track residential emissions. Each of the six SCCs is identified by the following six fuel types: (i) coal; (ii) distillate oil; (iii) residual oil; (iv) natural gas; (v) liquefied petroleum gas; and (vi) kerosene.

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[73] Correspondence with: Pamela Hatty, Clark County Fire Department Executive Assistant; Roy Lawson, City of Las Vegas Budget Analyst; Tammy Umberger, City of Henderson Fire Administrator; Jennifer Rogers, Boulder City Fire Department; Stephen Blaich, City of North Las Vegas Fire Engineer.
[74] DAQEM, Open Burning Records.
[75] *Id*.
[76] Clark County Department of Comprehensive Planning, *2009 Clark County Population Forecast: 2009 - 2050*, available at http://www.accessclarkcounty.com/depts/comprehensive_planning/demographics/pages/demographics.aspx (accessed May 3, 2010).
[77] Clark County employment data is also provided by (1) the State of Nevada Department of Employment, Training and Rehabilitation Research and Analysis Bureau [State of Nevada, DETR, Nevada Employment and Payrolls 2008, available at, http://www.nevadaworkforce.com/admin/uploadedPublications/2758_2008_E_and_P_web.pdf (accessed May 3, 2010)]; (2) the U.S. Department of Commerce [U.S. Department of Commerce, Bureau of Economic Analysis (BEA), Regional Economic Analysis Project, Nevada, available at http://nevada.reaproject.org/ (accessed July 13, 2010)]; and (3) the U.S. Census Bureau [U.S. Census Bureau, 2007 County Business Patterns (NAICS), available at http://censtats.census.gov/cgi-bin/cbpnaic/cbpsect.pl (accessed July 13, 2010)].
[78] The North American Industry Classification System (NAICS), available at http://www.census.gov/epcd/www/naics.html (accessed July 9, 2008).

The combined CO and NO_X emissions from the *fuel combustion* sector are significantly higher than any other nonpoint source sector. The baseline VOC emissions from the *fuel combustion* sector are low and ranked 17th (0.08 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

The extent of the point and nonpoint inventories' overlap was greatest for the *fuel combustion* sector. In the following table, the parenthetical values reflect the estimated nonpoint emissions without accounting for the overlap.

Table 5-7. Fuel Combustion Sector Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2102002000	Stationary Fuel Comb/Industrial/ Bituminous/Subbituminous Coal/ Total: All Boiler Types	0.75 (0.86)	0.35 (1.08)	0.00 (0.01)	0.79	0.37	0.00	0.84 (0.97)	0.40 (1.22)	0.00 (0.01)
2102004000	Stationary Fuel Comb/Industrial/ Distillate Oil/Total: Boilers and IC Engines	0.42 (0.48)	2.16 (2.31)	0.00 (0.02)	0.43	2.23	0.00	0.45 (0.52)	2.34 (2.50)	0.00 (0.02)
2102005000	Stationary Fuel Comb/Industrial/Residual Oil/Total: All Boiler Types	0	0	0	0.00	0.00	0.00	0	0	0
2102006000	Stationary Fuel Comb/Industrial/Natural Gas/Total: Boilers and IC Engines	0.00 (0.70)	0.00 (2.32)	0.00 (0.05)	0.00	0.00	0.00	0.00 (0.69)	0.00 (2.31)	0.00 (0.05)
2102007000	Stationary Fuel Comb/Industrial/Liquefied Petroleum Gas/Total: All Boiler Types	0.06 (0.06)	0.10 (0.10)	0.00 (0.00)	0.07	0.12	0.00	0.07 (0.07)	0.13 (0.13)	0.00 (0.00)
2102011000	Stationary Fuel Comb/Industrial/ Kerosene/Total: All Boiler Types	0	0	0	0.00	0.00	0.00	0	0	0
2103002000	Stationary Fuel Comb/Commercial/ Institutional/Bituminous/Subbituminous Coal/Total: All Boiler Types	0	0	0	0.00	0.00	0.00	0	0	0
2103004000	Stationary Fuel Comb/Commercial/ Institutional/Distillate Oil/Total: Boilers and IC Engines	0.04 (0.04)	0.16 (0.16)	0.00 (0.00)	0.04	0.17	0.00	0.04 (0.04)	0.17 (0.17)	0.00 (0.00)
2103005000	Stationary Fuel Comb/Commercial/ Institutional/Residual Oil/Total: All Boiler Types	0	0	0	0.00	0.00	0.00	0	0	0
2103006000	Stationary Fuel Comb/Commercial/ Institutional/Natural Gas/Total: Boilers and IC Engines	1.28 (1.71)	1.28 (2.04)	0.00 (0.11)	1.32	1.32	0.00	1.38 (1.84)	1.38 (2.20)	0.00 (0.12)
2103007000	Stationary Fuel Comb/Commercial/ Institutional/Liquefied Petroleum Gas/Total: All Combustor Types	0.09	0.16	0	0.10	0.17	0.00	0.11	0.19	0
2103011000	Stationary Fuel Comb/Commercial/ Institutional/Kerosene/Total: All Combustor Types	0	0	0	0.00	0.00	0.00	0	0	0

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	**NO_x**	**VOC**	**CO**	**NO_x**	**VOC**	**CO**	**NO_x**	**VOC**
2104002000	Stationary Fuel Comb/Residential/ Bituminous/Subbituminous Coal/Total: All Combustor Types	0	0	0	0.00	0.00	0.00	0	0	0
2104004000	Stationary Fuel Comb/Residential/ Distillate Oil/Total: All Combustor Types	0	0	0	0.00	0.01	0.00	0	0.01	0
2104005000	Stationary Fuel Comb/Residential/Residual Oil/Total: All Combustor Types	0	0	0	0.00	0.00	0.00	0	0	0
2104006000	Stationary Fuel Comb/Residential/Natural Gas/Total: All Combustor Types	0.42	0.99	0.06	0.44	1.02	0.06	0.44	1.04	0.06
2104007000	Stationary Fuel Comb/Residential/ Liquefied Petroleum Gas/Total: All Combustor Types	0.11	0.2	0	0.12	0.22	0.00	0.14	0.24	0.01
2104011000	Stationary Fuel Comb/Residential/ Kerosene/Total: All Heater Types	0	0.01	0	0.00	0.01	0.00	0	0	0
	Totals	**3.17 (4.48)**	**5.41 (9.37)**	**0.08 (0.26)**	**3.32**	**5.63**	**0.08**	**3.48 (4.84)**	**5.90 (10.00)**	**0.08 (0.27)**
	Difference (2022 - 2008):							**0.31 (0.36)**	**0.49 (0.64)**	**0.01 (0.02)**

Note: Parenthetical values reflect emissions prior to accounting for overlap of point/nonpoint and RE/RP.

5.7.1.1 Emissions from Fuel Combustion

Fuel Combustion Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	Clark County population:[3]	**1,986,146**
5.	Carson City population:	**57,723**
6.	Churchill County population:	**27,190**
7.	Douglas County population:	**52,386**
8.	Elko County population:	**50,434**
9.	Esmeralda County population:	**1,236**
10.	Eureka County population:	**1,458**
11.	Humboldt County population:	**18,052**
12.	Lander County population:	**5,747**
13.	Lincoln County population:	**4,184**
14.	Lyon County population:	**55,903**
15.	Mineral County population:	**4,377**
16.	Nye County population:	**46,308**
17.	Pershing County population:	**7,075**
18.	Storey County population:	**4,293**
19.	Washoe County population:	**418,061**
20.	White Pine County population:	**9,590**
21.	Nevada total natural gas consumption by:	
	Residential consumers (million ft^3):	**38,665**
	Commercial consumers (million ft^3):	**28,920**
	Industrial consumers (million ft^3):	**12,888**
22.	Nevada total coal consumption by:	
	Residential consumers (1,000 short tons):	**0**
	Commercial consumers (1,000 short tons):	**0**
	Industrial consumers (1,000 short tons):	**201**
23.	Nevada total distillate consumption by:	
	Residential consumers (1,000 barrels):	**169**
	Commercial consumers (1,000 barrels):	**306**
	Industrial consumers (1,000 barrels):	**3,193**
24.	Nevada total residual oil consumption by:	
	Residential consumers (1,000 barrels):	**0**
	Commercial consumers (1,000 barrels):	**0**
	Industrial consumers (1,000 barrels):	**0**
25.	Nevada total LPG consumption by:	
	Residential consumers (1,000 barrels):	**551**
	Commercial consumers (1,000 barrels):	**279**
	Industrial consumers (1,000 barrels):	**268**

[1]Natural gas fuel consumption in this spreadsheet does not include amount used for electric power. Those emissions are calculated as point source emissions.

Fuel Combustion Emission Calculations Input Parameters (continued)

26. Nevada total kerosene consumption by:

Residential consumers (1,000 barrels):	**11**
Commercial consumers (1,000 barrels):	**4**
Industrial consumers (1,000 barrels):	**0.5**

Table 5-8. Detailed Industrial and Commercial Employment Data for 2008 (number of employees)

NAICS Code by Sector	Description	State of Nevada	Clark County
Industrial Employment			
22	Utilities	7,500	3,750
31	Manufacturing	49,624	25,268
Commercial Employment			
42	Wholesale trade	40,268	25,496
44	Retail trade	144,179	103,002
51	Information	16,900	11,360
52	Finance & insurance	41,369	31,208
53	Real estate & rental & leasing	31,144	25,139
54	Professional, scientific & technical services	60,753	46,003
55	Management of companies & enterprises	16,592	14,396
56	Admin, support, waste mgmt, remediation services	108,078	66,753
61	Educational services	8,713	6,883
62	Health care and social assistance	94,120	64,509
71	Arts, entertainment & recreation	30,728	20,954
72	Accommodation & food services	319,477	260,723
81	Other services (except public administration)	35,004	24,475
95	Auxiliaries (except corporate, subsidiary and regional management)[1]	0	0
99	Unclassified establishments	124	105

[1] NAICS 95 is not provided by the U.S. Census Bureau.

Table 5-9. Average Daily Temperatures in Las Vegas (°F)[1]

2008	Day																														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
Jan	40	46	47	53	53	53	48	43	47	48	50	48	52	51	49	38	37	43	43	44	49	48	46	47	47	48	49	48	41	42	39
Feb	44	45	49	44	43	43	47	53	55	56	57	59	60	46	51	50	53	51	55	55	52	55	52	56	55	57	58	62	63	n/a	n/a
Mar	64	54	51	56	54	51	55	63	62	60	64	65	70	63	56	50	57	60	66	68	65	65	62	64	69	70	68	67	67	61	58
Apr	63	66	67	66	68	68	66	61	61	63	64	66	71	77	71	62	61	70	71	66	64	69	71	67	67	71	72	75	81	70	n/a
May	61	64	71	76	74	76	77	75	78	77	79	74	71	75	82	81	84	89	94	92	72	67	60	59	64	66	72	73	74	77	80
Jun	85	84	85	78	75	82	84	82	83	90	80	80	85	89	94	95	97	93	92	93	95	97	94	94	92	91	90	94	98	99	n/a
Jul	98	96	97	98	97	96	96	98	97	97	88	87	87	89	91	91	92	95	97	87	89	94	95	94	98	88	96	95	96	96	95
Aug	97	99	99	93	90	91	89	94	92	94	93	94	94	97	96	98	94	94	91	90	92	92	92	94	94	86	92	95	94	90	88
Sep	84	82	85	88	89	90	91	90	85	84	83	82	83	85	86	85	84	84	85	84	82	81	80	82	86	87	88	88	85	84	n/a
Oct	84	83	80	70	68	73	76	78	80	66	55	54	59	64	68	70	72	74	75	74	74	66	64	68	69	72	76	75	74	74	75
Nov	72	66	65	64	56	54	60	62	58	56	57	62	65	67	63	64	68	66	63	61	60	57	57	59	62	56	56	57	60	60	n/a
Dec	59	57	55	51	52	51	51	49	50	49	54	52	52	42	41	43	36	39	39	39	42	49	45	40	47	40	36	39	44	47	48

[1] Weather Underground, History Data, Custom Summary <http://www.wunderground.com> (accessed Dec. 22, 2008).

Table 5-10. Fuel Combustion Emissions Summary (tpy)

Year	Summer Inventory Complete	Annual Inventory Complete	Annual CO Emissions	Annual NO_x Emissions	Summer VOC Emissions	Annual VOC Emission
2008	Yes	Yes	2147.37	4052.24	22.83	143.56

Table 5-11. 2008 Fuel Combustion Emissions Summary by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO	NO_x	VOC
2102002000	Stationary Source Fuel Combustion	Industrial	Bituminous/ Subbituminous Coal	Total: All Boiler Types	306.31	251.94	2.55
2102004000	Stationary Source Fuel Combustion	Industrial	Distillate Oil	Total: Boilers and IC Engines	170.31	817.48	6.81
2102005000	Stationary Source Fuel Combustion	Industrial	Residual Oil	Total: All Boiler Types	0.00	0.00	0.00

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO	NO_x	VOC
2102006000	Stationary Source Fuel Combustion	Industrial	Natural Gas	Total: Boilers and IC Engines	274.97	876.23	18.00
2102007000	Stationary Source Fuel Combustion	Industrial	Liquefied Petroleum Gas (LPG)	Total: All Boiler Types	21.44	37.17	0.86
2102011000	Stationary Source Fuel Combustion	Industrial	Kerosene	Total: All Boiler Types	0.03	0.13	1.07E-03
2103002000	Stationary Source Fuel Combustion	Commercial/Institutional	Bituminous/ Subbituminous Coal	Total: All Boiler Types	0.00	0.00	0.00
2103004000	Stationary Source Fuel Combustion	Commercial/Institutional	Distillate Oil	Total: Boilers and IC Engines	23.77	95.09	1.62
2103005000	Stationary Source Fuel Combustion	Commercial/Institutional	Residual Oil	Total: All Boiler Types	0.00	0.00	0.00
2103006000	Stationary Source Fuel Combustion	Commercial/Institutional	Natural Gas	Total: Boilers and IC Engines	898.70	946.84	58.84
2103007000	Stationary Source Fuel Combustion	Commercial/Institutional	LPG	Total: All Boiler Types	32.51	56.36	1.30
2103011000	Stationary Source Fuel Combustion	Commercial/Institutional	Kerosene	Total: All Boiler Types	0.31	1.24	0.02
2104002000	Stationary Source Fuel Combustion	Residential	Bituminous/ Subbituminous Coal	Total: All Boiler Types	0.00	0.00	0.00
2104004000	Stationary Source Fuel Combustion	Residential	Distillate Oil	Total: Boilers and IC Engines	8.46	30.45	1.21
2104005000	Stationary Source Fuel Combustion	Residential	Residual Oil	Total: All Boiler Types	0.00	0.00	0.00
2104006000	Stationary Source Fuel Combustion	Residential	Natural Gas	Total: Boilers and IC Engines	368.64	866.31	50.69
2104007000	Stationary Source Fuel Combustion	Residential	LPG	Total: All Boiler Types	41.37	71.71	1.65
2104011000	Stationary Source Fuel Combustion	Residential	Kerosene	Total: All Boiler Types	0.55	1.30	0.08
				Totals:	**2,147.37**	**4,052.24**	**143.64**

[1]SCC database located in EIS Code Tables (MDB 6M), TTN Clearinghouse for Inventories/Emissions Factors <http://www.epa.gov/ttn/chief/eiinformation.html>.

Table 5-12. Fuel Combustion Coal Usage

Year	State of Nevada[1]			Clark County		
	Residential Consumers (1,000 short tons[1])	Commercial Consumers (1,000 short tons)	Industrial Consumers (1,000 short tons)	Residential Consumers (1,000 short tons)	Commercial Consumers (1,000 short tons)	Industrial Consumers (1,000 short tons)
2008	0	0	201	0	0	102

[1]Source: EIA, State Energy Data System (SEDS) <http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA> (accessed Dec. 18, 2008).
[2]Short ton = 2,000 lbs.

Table 5-13. Fuel Combustion Distillate Oil Usage

Year	State of Nevada[1]			Clark County		
	Residential Consumers (1,000 barrels)	Commercial Consumers (1,000 barrels)	Industrial Consumers (1,000 short tons)	Residential Consumers (1,000 gallons)	Commercial Consumers (1,000 gallons)	Industrial Consumers (1,000 short tons)
2008	169	306	3,193	3,384	9,509	68,123

[1]Source: EIA, State Energy Data System (SEDS) <http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA> (accessed Dec. 18, 2008).

Table 5-14. Fuel Combustion Residual Oil Usage

Year	State of Nevada[1]			Clark County		
	Residential Consumers (1,000 barrels)	Commercial Consumers (1,000 barrels)	Industrial Consumers (1,000 short tons)	Residential Consumers (1,000 gallons)	Commercial Consumers (1,000 gallons)	Industrial Consumers (1,000 short tons)
2008	0	0	0	0	0	0

[1]Source: EIA, State Energy Data System (SEDS) <http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA> (accessed Dec. 18, 2008).

Table 5-15. Fuel Combustion Natural Gas Usage

Year	State of Nevada[1]			Clark County		
	Residential Consumers (million cubic feet)	Commercial Consumers (million cubic feet)	Industrial Consumers (1,000 short tons)	Residential Consumers (million cubic feet)	Commercial Consumers (million cubic feet)	Industrial Consumers (1,000 short tons)
2008	38,665	28,920	12,888	18,432	21,398	6,547

[1]Source: EIA, State Energy Data System (SEDS) <http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA> (accessed Dec. 18, 2008).

Table 5-16. Fuel Combustion LPG Usage

Year	State of Nevada[1]			Clark County		
	Residential Consumers (1,000 barrels)	Commercial Consumers (1,000 barrels)	Industrial Consumers (1,000 short tons)	Residential Consumers (1,000 gallons)	Commercial Consumers (1,000 gallons)	Industrial Consumers (1,000 short tons)
2008	551	279	268	11,032	8,670	5,718

[1] Source: EIA, State Energy Data System (SEDS) <http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA> (accessed Dec. 18, 2008).

Table 5-17. Fuel Combustion Kerosene Usage

Year	State of Nevada[1]			Clark County		
	Residential Consumers (1,000 barrels)	Commercial Consumers (1,000 barrels)	Industrial Consumers (1,000 short tons)	Residential Consumers (1,000 gallons)	Commercial Consumers (1,000 gallons)	Industrial Consumers (1,000 short tons)
2008	11	4	0.5	220	124	11

[1] Source: EIA, State Energy Data System (SEDS) <http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nv&q_state=NEVADA> (accessed Dec. 18, 2008).

Table 5-18. Heating Degree Days

Year:	2008																															
Month	Day																															Sum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Jan	25	19	18	12	12	12	17	22	18	17	15	17	13	14	16	27	28	22	22	21	16	17	19	18	18	17	16	17	24	23	26	**578**
Feb	21	20	16	21	22	22	18	12	10	9	8	6	5	19	14	15	12	14	10	10	13	10	13	9	10	8	7	3	2	n/a	n/a	**359**
Mar	1	11	14	9	11	14	10	2	3	5	1	0	0	2	9	15	8	5	0	0	0	0	3	1	0	0	0	0	0	4	7	**135**
Apr	2	0	0	0	0	0	0	4	4	2	1	0	0	0	0	3	4	0	0	0	1	0	0	0	0	0	0	0	0	0	n/a	**21**
May	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	1	0	0	0	0	0	0	**17**
Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n/a	**0**
Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	n/a	**0**
Oct	0	0	0	0	0	0	0	0	0	0	10	11	6	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**29**
Nov	0	0	0	1	9	11	5	3	7	9	8	3	0	0	2	1	0	0	2	4	5	8	8	6	3	9	9	8	5	5	n/a	**131**
Dec	6	8	10	14	13	14	14	16	15	16	11	13	13	23	24	22	29	26	26	26	23	16	20	25	18	25	29	26	21	18	17	**577**

Note: A measure of the amount of fuel required to heat a home on a particular day is obtained from the difference between 65°F and the average daily temperature. This difference is called the heating degree-day (HDD) total for the day. If the average temperature is 65°F or higher, the daily heating degree-day total is defined as zero.

Table 5-19. Heating Degree Days Population for Residential Fuel Consumption

FIPS County Code[1]	County/City	Meteorological Station	Heating Degree Days[2]	Population	HDD Population
32001	Churchill	Fallon Experiment Station[3]	5,146	27,190	139,919,740
32003	Clark	Las Vegas WSO Airport[3]	1,847	1,986,146	3,668,411,662
32005	Douglas	Minden[4]	5,968	52,386	312,639,648
32007	Elko	Elko WB Airport[3]	6,850	50,434	345,472,900
32009	Esmeralda	Goldfield[4]	5,661	1,236	6,996,996
32011	Eureka	Eureka[3]	7,267	1,458	10,595,286
32013	Humboldt	Winnemucca WSO Airport[3]	6,353	18,052	114,684,356
32015	Lander	Battle Mountain 4 SE[4]	6,338	5,747	36,424,486
32017	Lincoln	Pioche[4]	5,768	4,184	24,133,312
32019	Lyon	Yerington[4]	5,572	55,903	311,491,516
32021	Mineral	Hawthorne[4]	4,850	4,377	21,228,450
32023	Nye	Tonopah AP[3]	5,337	46,308	247,145,796
32027	Pershing	Lovelock FAA Airport[3]	5,263	7,075	37,235,725
32029	Storey	Virginia City[4]	6,098	4,293	26,178,714
32031	Washoe	Reno WSFO Airport[3]	4,756	418,061	1,988,298,116
32033	White Pine	Ely WBO[3]	7,277	9,590	69,786,430
32510	Carson City	Carson City[4]	5,796	57,723	334,562,508
				Total:	**7,695,205,641**

[1]EPA, FIPS codes <http://www.epa.gov/enviro/html/codes/nv.html> (accessed Dec. 23, 2008).
[2]It is assumed that the HDD for areas in Nevada would not change significantly from year to year. Only Clark County is specifically updated in this spreadsheet, but the HDDs for all other areas can always be updated if required.
[3]Weather Underground, History Data, Custom Summary <http://www.wunderground.com> (accessed Dec. 22, 2008).
[4]Western Regional Climate Center, General Climate Summary: average heating degree days from historical data <www.wrcc.dri.edu> (accessed Dec. 23, 2008).

Table 5-20. Commercial Spatial Allocation

NAICS Code by Sector	Commercial Employment for State of Nevada	Commercial Employment for Clark County	Ratio of Commercial Employment of Clark County to State of Nevada
42	40,268	25,496	0.74
44	144,179	103,002	0.74
51	16,900	11,360	0.74
52	41,369	31,208	0.74
53	31,144	25,139	0.74
54	60,753	46,003	0.74
55	16,592	14,396	0.74
56	108,078	66,753	0.74
61	8,713	6,883	0.74
62	94,120	64,509	0.74
71	30,728	20,954	0.74
72	319,477	260,723	0.74
81	35,004	24,475	0.74
95	0	0	0.74
99	124	105	0.74
Totals:	**947,449**	**701,006**	0.74

Table 5-21. Industrial Employment

NAICS Code by Sector	Industrial Employment for State of Nevada	Industrial Employment for Clark County	Ratio of Industrial Employment of Clark County to State of Nevada
22	7,500	3,750	**0.51**
31	49,624	25,268	
Totals:	**57,124**	**29,018**	

Table 5-22. Units and Conversions

Value	Parameter
42	gal/barrel
2,000	lb/ton
1,000,000	MM
7,763	Average Btu per lb. of West South Central Coal
1	Average sulfur content (lb/MM Btu) of West South Central Coal
13	Sulfur content (lb/ton) of West South Central Coal

Table 5-23. Emission Factors

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	Units	CO	NO_x	VOC	Source
2102002000	a	Industrial	Bituminous/Subbituminous Coal	Total: All Boiler Types	lbs/ton	6.0	7.5	0.05	b, c, d
2102004000	a	Industrial	Distillate Oil	Total: Boilers and IC Engines	lbs/10^3 gal	5.0	24.0	0.2	e, f, g, h
2102005000	a	Industrial	Residual Oil	Total: All Boiler Types	lbs/10^3 gal				i
2102006000	a	Industrial	Natural Gas	Total: Boilers and IC Engines	lbs/10^6 scf	84.0	280.0	5.5	j, k, l
2102007000	a	Industrial	LPG	Total: All Boiler Types	lbs/10^3 gal	7.5	13.0	0.3	m, n, o
2102011000	a	Industrial	Kerosene	Total: All Boiler Types	lbs/10^3 gal	5.0	24.0	0.2	p
2103002000	a	Commercial/Institutional	Bituminous/Subbituminous Coal	Total: All Boiler Types	lbs/ton	11.0	9.5	1.30	b, c, d
2103004000	a	Commercial/Institutional	Distillate Oil	Total: Boilers and IC Engines	lbs/10^3 gal	5.0	20.0	0.3	e, f, h, q
2103005000	a	Commercial/Institutional	Residual Oil	Total: All Boiler Types	lbs/10^3 gal				i
2103006000	a	Commercial/Institutional	Natural Gas	Total: Boilers and IC Engines	lbs/10^6 scf	84.0	100.0	5.5	j, k, l
2103007000	a	Commercial/Institutional	LPG	Total: All Boiler Types	lbs/10^3 gal	7.5	13.0	0.3	m, n, o
2103011000	a	Commercial/Institutional	Kerosene	Total: All Boiler Types	lbs/10^3 gal	5.0	20.0	0.3	p
2104002000	a	Residential	Bituminous/Subbituminous Coal	Total: All Boiler Types	lbs/ton	275.0	9.1	10.00	b, c, d
2104004000	a	Residential	Distillate Oil	Total: Boilers and IC Engines	lbs/10^3 gal	5.0	18.0	0.7	e, f, j, r
2104005000	a	Residential	Residual Oil	Total: All Boiler Types	lbs/10^3 gal				i
2104006000	a	Residential	Natural Gas	Total: Boilers and IC Engines	lbs/10^6 scf	40.0	94.0	5.5	j, k, l
2104007000	a	Residential	LPG	Total: All Boiler Types	lbs/10^3 gal	7.5	13.0	0.3	m, n, o, r
2104011000	a	Residential	Kerosene	Total: All Boiler Types	lbs/10^3 gal	5.0	18.0	0.7	p

[a]Stationary Source Fuel Combustion.

[b]EPA, AP-42, Bituminous and Subbituminous Coal Combustion, Tables 1.1-3, 1.1-4, 1.1-11, 1.1-19 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

[c]"Stoker-fired systems account for the vast majority of coal-fired watertube boilers for industrial, commercial, and institutional applications." *Id.*, at p. 1.1-2.

[d]DOE, EIA, Energy Policy Act Transportation Rate Study: Final Report on Coal Transportation, ch. 2 (Oct. 2000) <http://www.eia.doe.gov/cneaf/coal/coal_trans/chap2.html>.

[e]From 2005 CERR.

[f]EPA, AP-42, Fuel Oil Combustion, Table 1.3-3, p. 1.3-14 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

[g]Assumed ratio between $PM_{2.5}$ & PM_{10} is 0.25:1.00. EPA, AP-42, Fuel Oil Combustion, Table 1.3-6, p. 1.3-17 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (Dec. 16, 2008).

[h]EPA, AP-42, Fuel Oil Combustion, Table 1.3-1, p. 1.3-11, 1.3-12 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (acc. Dec. 16, 2008).

[i]Assumed no residual oil used in Clark County.

[j]EPA, TTN Clearinghouse for Inventories & Emissions Factors, WebFIRE (Dec 2005) <http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main> (accessed Dec. 16, 2008).

[k]EPA, AP-42, Natural Gas Combustion, Tables 1.4-1, 1.4-2 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

[l]Assumed all PM_{10} was $PM_{2.5}$.

[m]EPA, AP-42, Liquefied Petroleum Gas Combustion (July 2008) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

[n]Assumed sulfur content of LPG comparable to sulfur content provided in footnote 'e' of Table 1.5-1 of AP-42.

[o]No information provided about ammonia emissions --- therefore assumed emissions are negligible.

[p]"Distillate oils are used mainly in domestic and small commercial applications, and include kerosene and diesel fuels." EPA, AP-42, Fuel Oil Combustion, Table 1.3-3, p. 1.3-14 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

[q]Assumed ratio between $PM_{2.5}$ and PM_{10} is 42:55. EPA, AP-42, Fuel Oil Combustion, Table 1.3-7, p. 1.3-17 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (Dec. 16, 2008).

[r]Assumed residential boiler emissions comparable to commercial boiler emissions.

Table 5-24. Rule Effectiveness and Rule Penetration

SCC	CO RE	CO RP	NO_X RE	NO_X RP	VOC RE	VOC RP
2102002000	100%	100%	80%	95%	100%	100%
2102004000	100%	100%	80%	8%	100%	100%
2102005000	100%	100%	80%	95%	100%	100%
2102006000	100%	100%	80%	11%	100%	100%
2102007000	100%	100%	100%	100%	100%	100%
2102011000	100%	100%	100%	100%	100%	100%
2103002000	100%	100%	100%	100%	100%	100%
2103004000	100%	100%	100%	100%	100%	100%
2103005000	100%	100%	100%	100%	100%	100%
2103006000	100%	100%	100%	23%	100%	100%
2103007000	100%	100%	100%	100%	100%	100%
2103011000	100%	100%	100%	100%	100%	100%
2104002000	100%	100%	100%	100%	100%	100%
2104004000	100%	100%	100%	100%	100%	100%
2104005000	100%	100%	100%	100%	100%	100%
2104006000	100%	100%	100%	23%	100%	100%
2104007000	100%	100%	100%	100%	100%	100%
2104011000	100%	100%	100%	100%	100%	100%

Note: Rule Effectiveness (RE) and Rule Penetration (RP) values were provided by Pechan in the 2005 report prepared for EPA. AirControlNET Version 4.1 Documentation Report, September 2005, prepared for USEPA by E.H. Pechan & Associates, Inc. <http://www.epa.gov/groundlevelozone/SIPToolkit/documents/DocumentationReport.pdf> (accessed Sep. 7, 2010).

Table 5-25. Control Devices

SCC	CO Control Device (y=1, n=0)	NOx Control Device (y=1, n=0)	VOC Control Device (y=1, n=0)
2102002000	0	1	0
2102004000	0	0	0
2102005000	0	0	0
2102006000	0	1	0
2102007000	0	0	0
2102011000	0	0	0
2103002000	0	0	0
2103004000	0	0	0
2103005000	0	0	0
2103006000	0	1	0

SCC	CO Control Device (y=1, n=0)	NOx Control Device (y=1, n=0)	VOC Control Device (y=1, n=0)
2103007000	0	0	0
2103011000	0	0	0
2104002000	0	0	0
2104004000	0	0	0
2104005000	0	0	0
2104006000	0	0	0
2104007000	0	0	0
2104011000	0	0	0

Note: Based on the emission factors provided in AP-42, it was assumed there were no NOx control devices for distillate and residual oil.

Table 5-26. Capture Efficiency and Control Efficiency

SCC	CO Capture Efficiency	Control Control Efficiency	NO_X Capture Efficiency	NO_X Control Efficiency	VOC Capture Efficiency	VOC Control Efficiency
2102002000[1]	0%	0%	100%	45%	0%	0%
2102004000	0%	0%	0%	0%	0%	0%
2102005000	0%	0%	0%	0%	0%	0%
2102006000[2]	0%	0%	100%	50%	0%	0%
2102007000	0%	0%	0%	0%	0%	0%
2102011000	0%	0%	0%	0%	0%	0%
2103002000	0%	0%	0%	0%	0%	0%
2103004000	0%	0%	0%	0%	0%	0%
2103005000	0%	0%	0%	0%	0%	0%
2103006000[2]	0%	0%	100%	50%	0%	0%
2103007000	0%	0%	0%	0%	0%	0%
2103011000	0%	0%	0%	0%	0%	0%
2104002000	0%	0%	0%	0%	0%	0%
2104004000	0%	0%	0%	0%	0%	0%
2104005000	0%	0%	0%	0%	0%	0%
2104006000	0%	0%	0%	0%	0%	0%
2104007000	0%	0%	0%	0%	0%	0%
2104011000	0%	0%	0%	0%	0%	0%

[1] EPA, AP-42, Bituminous Coal Combustion, Table 1.1-2, p. 1.1-13 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

[2] EPA, AP-42, Natural Gas Combustion, Tables 1.4-1, 1.4-2 (Sep 1998) <http://www.epa.gov/ttn/chief/ap42/ch01/index.html> (accessed Dec. 16, 2008).

Table 5-27. Total Control[1]

SCC	Total CO Control	Total NO_X Control	Total VOC Control
2102002000	0	0.342	0
2102004000	0	0	0
2102005000	0	0	0
2102006000	0	0.044	0
2102007000	0	0	0
2102011000	0	0	0
2103002000	0	0	0
2103004000	0	0	0
2103005000	0	0	0
2103006000	0	0.115	0
2103007000	0	0	0
2103011000	0	0	0
2104002000	0	0	0
2104004000	0	0	0
2104005000	0	0	0
2104006000	0	0	0
2104007000	0	0	0
2104011000	0	0	0

[1] The "Total Control" value is the product of the following variables: (i) existence of a control device (if yes = 1, if no = 0), (ii) rule effectiveness, (iii) rule penetration, (iv) capture efficiency, and (v) control efficiency.

5.7.2 Residential Wood Combustion (Sector No. 2)

Compared to other regions of the country, southern Nevada experiences highly elevated temperatures during the summer season. In general, emissions from the *residential wood burning* nonpoint sector are inversely proportional to the temperature of a region. Though annual emissions for the *residential wood burning* nonpoint sector were calculated, it was assumed that because of elevated temperatures during the summer season, insignificant amounts of pollutants are emitted from the *residential wood burning* sector.

Table 5-28. Residential Wood Combustion Baseline & Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2104008100	Stationary source fuel combustion/residential/wood/ fireplace: general	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008210	Source fuel combustion/residential/wood/ woodstove: fireplace inserts; non-EPA certified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008220	Stationary source fuel combustion/residential/wood/ woodstove: fireplace inserts; EPA certified; non-catalytic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008230	Stationary source fuel combustion/residential/wood/ woodstove: fireplace inserts; EPA certified; catalytic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008310	Stationary source fuel combustion/residential/wood/ woodstove: freestanding, non-EPA certified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008320	Stationary source fuel combustion/residential/wood/ woodstove: freestanding, EPA certified, non-catalytic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008330	Stationary source fuel combustion/residential/wood/ woodstove: freestanding, EPA certified, catalytic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008400	Stationary source fuel combustion/residential/wood/ woodstove: pellet-fired, general (freestanding or FP insert)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104008610	Stationary source fuel combustion/residential/wood/ hydronic heater: outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2104009000	Stationary source fuel combustion/residential/ firelog/total: all combustor types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Difference (2022 - 2008):								**0.00**	**0.00**	**0.00**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.2.1 Emissions from Residential Wood Combustion

Residential Wood Combustion Emissions Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
8.	Clark County population during year of analysis:	**1,986,146**
4.	Estimated number of housing units within Clark County during year of analysis:	**810,602**
5.	Estimated number of housing units in Clark County during the last decennial census:	**559,799**
6.	Estimated number of total occupied units in Clark County during the last decennial census:	**512,253**
7.	Estimated number of total occupied units in Clark County during the year of analysis:	**741,754**

Table 5-29. Emissions Summary from Residential Wood Combustion

Year[1]	Summer Inventory Complete	Annual Inventory Complete	Annual CO Emissions (tpy)	Annual NO_X Emissions (tpy)	Summer VOC Emissions (tpy)[1]	Annual VOC Emissions (tpy)
2008	Yes	Yes	5,286.41	87.99	0.00	983.42

[1] Residential wood burning has not been identified during summer season.

Table 5-30. Residential Wood Combustion Activity and Emissions (tpy)

fipsst	fipscnty	stateabr	SCC	Sum of Total Tonnage of Wood Burned	CO	NO_x	VOC
32	003	NV	2104008100	17,596.38	1,310.93	22.88	166.29
32	003	NV	2104008210	14,548.34	1,678.88	20.37	385.53
32	003	NV	2104008220	4,666.08	328.49	5.32	28.00
32	003	NV	2104008230	1,555.36	81.19	1.56	11.67
32	003	NV	2104008310	12,045.38	1,390.04	16.86	319.20
32	003	NV	2104008320	3,862.45	271.92	4.40	23.17
32	003	NV	2104008330	1,287.48	67.21	1.29	9.66
32	003	NV	2104008400	3,988.46	31.71	7.58	0.08
32	003	NV	2104008610	1.56	0.14	0.00	0.01
32	003	NV	2104009000	2,013.16	125.90	7.73	39.82
				Totals (tpy):	**5,286.41**	**87.99**	**983.42**

Table 5-31. County Populations

countynm	Occupied Units	appliance_ profile	burn_ profile	Climate Zone
Clark Co.	741,754	4	5	5

Unit source: 2008 Occupied Units_US DOC

Table 5-32. Density by County

FIPS	StateFIPS	CountyFIPS	Density (lb/ft^3)	Density (tons/cord)
32003	32	003	25.69	1.03

Data source is 2005 Timber Products Output (TPO) fuel wood consumption.

Table 5-33. Other Appliance Activity

SCC	Burn Type	Number of Appliances	Annual Burn Rate	Burn Unit	Total Cords Burned	Total Tons Burned
2104008400	Main	3,482	1.15	Ton	--	3,988.46
2104008400	Pleasure	0	0.00	Ton	--	0.00
2104008400	Secondary	5,772	0.00	Ton	--	0.00
2104008610	Main	1	1.52	Cords	1.52	1.56

Table 5-34. New SCCs for Residential Wood Combustion

SCC	SCC_L1	SCC_L2	SCC_L3	SCC_L4	Comment
2104008100	Stationary Source Fuel Combustion	Residential	Wood	Fireplace: general	One of 10 of the 30 new SCCs for which there are emission factors.
2104008110				Fireplace: open	Conventional fireplace with open hearth.
2104008120				Fireplace: enclosed (or otherwise modified)	Enclosed with glass doors or other modifications to a conventional fireplace, such as devices to boost efficiency (e.g., heat exchangers).
2104008130				Fireplace: qualified for EPA voluntary program	
2104008200				Woodstove: fireplace inserts; general	Fireplace inserts are similar to freestanding woodstove but they sit inside a fireplace. Other types of inserts should use SCC = 2104008120.

SCC	SCC_L1	SCC_L2	SCC_L3	SCC_L4	Comment
2104008210				Woodstove: fireplace inserts; non-EPA certified	One of 10 of the 30 new SCCs for which there are emission factors.
2104008220				Woodstove: fireplace inserts; EPA certified; non-catalytic	One of 10 of the 30 new SCCs for which there are emission factors.
2104008230				Woodstove: fireplace inserts; EPA certified; catalytic	One of 10 of the 30 new SCCs for which there are emission factors.
2104008300				Woodstove: freestanding, general	
2104008310				Woodstove: freestanding, non-EPA certified	One of 10 of the 30 new SCCs for which there are emission factors.
2104008320				Woodstove: freestanding, EPA certified, non-catalytic	One of 10 of the 30 new SCCs for which there are emission factors.
2104008330				Woodstove: freestanding, EPA certified, catalytic	One of 10 of the 30 new SCCs for which there are emission factors.
2104008340				Woodstove: freestanding, masonry heater	
2104008400				Woodstove: pellet-fired, general	Freestanding or fireplace insert; one of 10 of the 30 new SCCs for which there are emission factors.
2104008410				Woodstove: pellet-fired, non-EPA certified	Freestanding or fireplace insert.
2104008420				Woodstove: pellet-fired, EPA certified	Freestanding or fireplace insert.
2104008500				Furnace: Indoor, general	
2104008510				Furnace: Indoor, cordwood-fired, non-EPA certified	
2104008520				Furnace: Indoor, cordwood-fired, EPA certified	
2104008530				Furnace: Indoor, pellet-fired, general	
2104008540				Furnace: Indoor, pellet-fired, non-EPA certified	
2104008550				Furnace: Indoor, pellet-fired, EPA certified	
2104008600				Hydronic heater: general, all types	
2104008610				Hydronic heater: outdoor	One of 10 of the 30 new SCCs for which there are emission factors.
2104008620				Hydronic heater: indoor	

SCC	SCC_L1	SCC_L2	SCC_L3	SCC_L4	Comment
2104008630				Hydronic heater: pellet-fired	
2104008640				Hydronic heater: meets NESCAUM phase II standards	
2104008700				Outdoor wood burning device, NEC	Fire-pits, chimeas, etc.
2104009000			Fire log	Total: All Combustor Types	One of 10 of the 30 new SCCs for which there are emission factors.
2104010000			Biomass; All Except Wood	Total: All Combustor Types	

Note: In developing the methodology for RWC, Pechan chose to only use a subset of the available SCCs. Some of the SCCs not selected are low level SCCs. For example, SCC 2104008100 includes all of the emissions of lower level SCCs. Pechan made a decision to select SCC 2104008100; and did not attempt to estimate emissions from any of the lower level SCCs 2104008110, 2104008120, and 2104008130. In other circumstances, Pechan did the reverse. There are also instances when Pechan estimated emissions for only one type of lower level SCC. For example, for hydronic heating they did not attempt to estimate emissions from indoor, pellet-fired, and hydronic heating which meets NESCAUM phase II standards. Most likely these sources were considered negligible.

Table 5-35. Appliance Profiles

SCC	SCC_L4	burn_type percentage		
		Main	Secondary	Pleasure
2104008100	Fireplace: general	6.4E-04	0.06	0.02
2104009000	Residential Firelog Total: All Combustor Types	1.0E-04	0.01	2.9E-03
2104008210	Woodstove: fireplace inserts; non-EPA certified	1.9E-03	0.04	0.0E+00
2104008220	Woodstove: fireplace inserts; EPA certified; non-catalytic	7.6E-04	0.02	0.0E+00
2104008230	Woodstove: fireplace inserts; EPA certified; catalytic	2.5E-04	5.2E-03	0.0E+00
2104008310	Woodstove: freestanding, non-EPA certified	8.2E-03	0.01	0.0E+00
2104008320	Woodstove: freestanding, EPA certified, non-catalytic	3.3E-03	5.5E-03	0.0E+00
2104008330	Woodstove: freestanding, EPA certified, catalytic	1.1E-03	1.8E-03	0.0E+00

Note: Profile = 4; profile_nm = 2007 West Census Region.

Table 5-36. Data Sources

Source table	Data Source	Long Description
Burn rates	Climate zone 5 adjustment	Adjusted the national default (N) burn rates by multiplying N by a ratio of the average heat used by homes (BTU per household) from EIA for climate zone 5 and climate zone 1. 18.9/63.2 = 0.3. Data from table CE2-1c.
Burn rates	Climate zone 4 adjustment	Adjusted the national default (N) burn rates by multiplying N by a ratio of the average heat used by homes (BTU per household) from EIA for climate zone 4 and climate zone 1. 27.5/63.2 = 0.44. Data from table CE2-1c.
Other appliance population	Indoor furnace population	Indoor furnace population derived in a variety of ways, depending on the state. For detail, see file titled "Derivation of number of indoor furnaces by county.xls."
Appliance profiles	1998 Baltimore, MD	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Birmingham, AL	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Boston, MA-NH	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Cincinnati, OH-KY-IN	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Houston, TX	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Minneapolis-St. Paul, MN-WI Adjusted with MN Report	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Norfolk-Virginia Beach-Newport News, VA	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Oakland, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Providence-Pawtucket-Warwick, RI-MA	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Rochester, NY	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Salt Lake City, UT	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 San Francisco-Oakland, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 San Jose, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Tampa-St. Petersburg, FL	American Housing Survey Metropolitan Survey.
Appliance profiles	1998 Washington, DC-MD-VA	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Anaheim-Santa Ana, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Buffalo, NY	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Charlotte, NC-SC	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Columbus, OH	American Housing Survey Metropolitan Survey.

Source table	Data Source	Long Description
Appliance profiles	2002 Dallas, TX	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Ft. Worth-Arlington, TX	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Kansas City, MO-KS	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Miami-Ft. Lauderdale, FL	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Milwaukee, WI Adjusted with MN Report	American Housing Survey Metropolitan Survey, then adjusted by results of MN Fuel wood report 2002-2003.
Appliance profiles	2002 Phoenix, AZ	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Portland, OR-WA	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 Riverside-San Bernardino-Ontario, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	2002 San Diego, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	2003 Chicago, IL	American Housing Survey Metropolitan Survey.
Appliance profiles	2003 Detroit, MI	American Housing Survey Metropolitan Survey.
Appliance profiles	2003 Los Angeles-Long Beach, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	2003 New York-Nassau-Suffolk-Orange, NY	American Housing Survey Metropolitan Survey.
Appliance profiles	2003 Northern NJ	American Housing Survey Metropolitan Survey.
Appliance profiles	2003 Philadelphia, PA-NJ	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Atlanta, GA	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Cleveland, OH-KY-IN	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Denver, CO	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Hartford, CT	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Indianapolis, IN	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Memphis, TN-AR-MS	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 New Orleans, LA	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Oklahoma City, OK	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Pittsburgh, PA	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Sacramento, CA	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 San Antonio, TX	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 Seattle-Everett, WA	American Housing Survey Metropolitan Survey.
Appliance profiles	2004 St. Louis, MO-IL	American Housing Survey Metropolitan Survey.
Appliance profiles	2005 Midwest Census Region	American Housing Survey National Survey, using Table 2-4 Midwest Region.

Source table	Data Source	Long Description
Appliance profiles	2005 Northeast Census Region	American Housing Survey National Survey, using Table 2-4 Northeast Region.
Appliance profiles	2005 Northeast Census Region CT MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for CT.
Appliance profiles	2005 Northeast Census Region DE MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for DE.
Appliance profiles	2005 Northeast Census Region MA MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for MA.
Appliance profiles	2005 Northeast Census Region MD MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for MD.
Appliance profiles	2005 Northeast Census Region ME MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for ME.
Appliance profiles	2005 Northeast Census Region NH MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for NH.
Appliance profiles	2005 Northeast Census Region NJ MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for NJ.
Appliance profiles	2005 Northeast Census Region NY MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for NY.
Appliance profiles	2005 Northeast Census Region PA MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for PA.
Appliance profiles	2005 Northeast Census Region VT MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for VT.
Appliance profiles	2005 South Census Region	American Housing Survey National Survey, using Table 2-4 South Region.
Appliance profiles	2005 West Census Region	American Housing Survey National Survey, using Table 2-4 West Region.
Appliance profiles	Aspen-Birch	MN Fuel Wood Report 2002-2003 Aspen-Birch Survey region.
Appliance profiles	Central Hardwoods	MN Fuel Wood Report 2002-2003 Central Hardwoods Survey region.

Source table	Data Source	Long Description
Appliance profiles	MN Statewide	Developed using MN Fuel Wood Report 2002-2003 Statewide totals.
Appliance profiles	Northern Pine	MN Fuel Wood Report 2002-2003 Northern Pine Survey region.
Appliance profiles	Prarie	MN Fuel Wood Report 2002-2003 Prarie Survey region.
Density by County	2005 Timber Products Output (TPO) Fuel wood consumption	Density by county computed by taking volume of wood reported by species in the TPO, then multiplying by a species density factor provided by the US Forest service. Total mass for a county is then divided by total volume for a county to get average density.
Emission Factor by SCC	2002 NEI	This emission factor used in the 2002 NEI.
Emission Factor by SCC	Content and emission characteristics of Artificial Wax Firelogs, Environment Canada	Content and emission characteristics of Artificial Wax Firelogs; Victor S. Li, Environment Canada, Ontario, Environmental Protection Operations Division, 4905 Dufferin St., Downsview, Ontario, Canada, M3H 5T4, victor.li@ec.gc.ca, Associate author, Mr. Ste.
Emission Factor by SCC	EPA report to Congress	
Emission Factor by SCC	MARAMA	Emission Factor from 2005 MARAMA Residential Wood Combustion Inventory.
Emission Factor by SCC	WebFIRE	Emission Factor from EPA's emission factor website WEBFIRE.
Burn rates	WI data	Data from Bart Sponsellar of WI indicates wood usage for OHH is 12.5 cords per year. See his spreadsheet 2005ResWoodCombust_070117.xls. Used this for OHH burn rate and applied to 5 states; IL, IN, MI, OH, WI. Also used 7.1 for indoor furnaces.
County population	2005 Occupied Units_ US DOC	Data is the number of occupied units for 2005 from the census data.
Burn rates	Historical burn rates for climate zone 2	Burn rates are an average of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
Burn rates	Historical burn rates for climate zone 1	Burn rates are an average of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
Burn rates	Historical burn rates for climate zone 3	Burn rates are an average of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
Burn rates	Historical national average burn rates for all climate zones	Burn rates are a national average for climate zones 1, 2, and 3 of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls." Report years are from 1992 to 2002.
Burn rates	National average adjusted for OHH & indoor furnaces	Adjustment was to use the higher WI burn rates for OHH and indoor furnaces.

Source table	Data Source	Long Description
Other appliance population	Sales data	Sales data by State from NESCAUM for OHH from 1990 to 2005, allocated to county by fraction of State's woodstoves in county.
Other appliance population	2007 Sales data from Pellet Fuels Institute	In a personal communication to Frank Divita, Don Johnson quoted a 2007 sales report from the pellet fuels institute which had regional sales data for pellet stoves. These were then allocated to the county level based on the number of woodstoves in a county.
Appliance profiles	WA - Eastern Forested and Urban - 2001 WSU Survey	WA - Eastern Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
Appliance profiles	WA - Eastern non-Forested and Urban - 2001 WSU Survey	WA - Eastern non-Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
Appliance profiles	WA - Western and Urban - 2001 WSU Survey	WA - Western and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA
Burn rates	WA - Eastern Forested and Urban - 2001 WSU Survey	WA - Eastern Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
Burn rates	WA - Eastern non-Forested and Urban - 2001 WSU Survey	WA - Eastern non-Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
Burn rates	WA - Western and Urban - 2001 WSU Survey	WA - Western and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
Appliance profiles	MN fuel wood report 2007-2008 Aspen-Birch Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Appliance profiles	MN fuel wood report 2007-2008 Central Hardwoods Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Appliance profiles	MN fuel wood report 2007-2008 Northern Pine Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Appliance profiles	MN fuel wood report 2007-2008 Metro Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Appliance profiles	MN fuel wood report 2007-2008 Prarie Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Burn rates	MN fuel wood report 2007-2008 Aspen-Birch Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Burn rates	MN fuel wood report 2007-2008 Central Hardwoods Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Burn rates	MN fuel wood report 2007-2008 Northern Pine Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.

Source table	Data Source	Long Description
Burn rates	MN fuel wood report 2007-2008 Metro Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Burn rates	MN fuel wood report 2007-2008 Prarie Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
Appliance profiles	2008 VT Draft Survey Data	Profiles develop by Vermont based on a 2008 survey.
Burn rates	2008 Vermont Draft Survey Data	Profiles develop by Vermont based on a 2008 survey.

Table 5-37. Burn Rates

SCC	SCC_L4	Burn Type	Cords Burned per Year	Annual Burn Rate[1]	Burn Unit	Data_Source
2104008100	Fireplace: general	Main	0.59	0.59	Cords	Climate zone 5 adjustment
		Secondary	0.33	0.33	Cords	Climate zone 5 adjustment
		Pleasure	0.07	0.07	Cords	2002 NEI Pleasure Burning Rate
2104008210	Woodstove: fireplace inserts; non-EPA certified	Main	0.99	0.99	Cords	Climate zone 5 adjustment
		Secondary	0.44	0.44	Cords	Climate zone 5 adjustment
		Pleasure	0.17	0.17	Cords	Climate zone 5 adjustment
2104008220	Woodstove: fireplace inserts; EPA certified; non-catalytic	Main	0.78	0.78	Cords	Climate zone 5 adjustment
		Secondary	0.35	0.35	Cords	Climate zone 5 adjustment
		Pleasure	0.14	0.14	Cords	Climate zone 5 adjustment
2104008230	Woodstove: fireplace inserts; EPA certified; catalytic	Main	0.78	0.78	Cords	Climate zone 5 adjustment
		Secondary	0.35	0.35	Cords	Climate zone 5 adjustment
		Pleasure	0.14	0.14	Cords	Climate zone 5 adjustment
2104008310	Woodstove: freestanding, non-EPA certified	Main	1.04	1.04	Cords	Climate zone 5 adjustment
		Secondary	0.54	0.54	Cords	Climate zone 5 adjustment
		Pleasure	0.18	0.18	Cords	Climate zone 5 adjustment
2104008320	Woodstove: freestanding, EPA certified, non-catalytic	Main	0.82	0.82	Cords	Climate zone 5 adjustment
		Secondary	0.43	0.43	Cords	Climate zone 5 adjustment
		Pleasure	0.14	0.14	Cords	Climate zone 5 adjustment
2104008330	Woodstove: freestanding, EPA certified, catalytic	Main	0.82	0.82	Cords	Climate zone 5 adjustment
		Secondary	0.43	0.43	Cords	Climate zone 5 adjustment
		Pleasure	0.14	0.14	Cords	Climate zone 5 adjustment
2104008400	Woodstove: pellet-fired, general	Main	1.15	1.15	Ton	Climate zone 5 adjustment
		Secondary	0.0E+00	0.0E+00	Ton	Climate zone 5 adjustment
		Pleasure	0.0E+00	0.0E+00	Ton	Climate zone 5 adjustment
2104008510	Furnace: Indoor, cordwood-fired, non-EPA certified	Main	1.52	1.52	Cords	Climate zone 5 adjustment
2104008610	Hydronic heater: outdoor	Main	1.52	1.52	Cords	Climate zone 5 adjustment
		Secondary	0.79	0.79	Cords	Climate zone 5 adjustment
		Pleasure	0.0E+00	0.0E+00	Cords	Climate zone 5 adjustment

2104008700	Outdoor wood burning device, NEC	Pleasure	0.16	0.16	Cords	Climate zone 5 adjustment
2104009000	Residential Firelog Total: All Combustor Types	Main	0.11	0.42	Ton	Climate zone 5 adjustment
		Secondary	0.06	0.23	Ton	Climate zone 5 adjustment
		Pleasure	0.03	0.10	Ton	Climate zone 5 adjustment

Note: burn_ profile = 5.

[1] Adjusted the national default (N) burn rates by multiplying N by a ratio of the average heat used by homes (BTU per household) from EIA for climate zone 5 and climate zone 1. 18.9/63.2 = 0.3. Data from Table CE2-1c.

Table 5-38. Other Appliance Populations

SCC	SCC_L4	burn type	Number of Appliances in 2007	Data_Source	2007 Clark County Population	Clark County Population in:	Number of Appliances in:
						2008	2008
2104008400	Woodstove: pellet-fired, general	Main	3,482	2007 Sales data from Pellet Fuels Institute	1,996,542	1,986,146	3,482
2104008400	Woodstove: pellet-fired, general	Pleasure	0	2007 Sales data from Pellet Fuels Institute			0
2104008400	Woodstove: pellet-fired, general	Secondary	5,772	2007 Sales data from Pellet Fuels Institute			5,772
2104008610	Hydronic heater: outdoor	Main	1	2005 NESCAUM Data Grown to 2007			1

Table 5-39. Emission Factors by SCC

SCC	SCC_L4	Pollutant	Code	Factor (lb/ton)	data_source
2104008100	Fireplace: general	Carbon monoxide	CO	149.00	MARAMA
		Nitrogen oxides	NO_x	2.60	2002 NEI
		Volatile organic compounds	VOC	18.90	MARAMA
2104008210	Woodstove: fireplace inserts; non-EPA certified	Carbon monoxide	CO	230.80	2002 NEI
		Nitrogen oxides	NO_x	2.80	2002 NEI
		Volatile organic compounds	VOC	53.00	2002 NEI
2104008220	Woodstove: fireplace inserts; EPA certified; non-catalytic	Carbon monoxide	CO	140.80	2002 NEI
		Nitrogen oxides	NO_x	2.28	MARAMA
		Volatile organic compounds	VOC	12.00	2002 NEI
2104008230	Woodstove: fireplace inserts; EPA certified; catalytic	Carbon monoxide	CO	104.40	2002 NEI
		Nitrogen oxides	NO_x	2.00	2002 NEI
		Volatile organic compounds	VOC	15.00	2002 NEI
2104008310	Woodstove: freestanding, non-EPA certified	Carbon monoxide	CO	230.80	2002 NEI
		Nitrogen oxides	NO_x	2.80	2002 NEI
		Volatile organic compounds	VOC	53.00	2002 NEI
2104008320	Woodstove: freestanding, EPA certified, non-catalytic	Carbon monoxide	CO	140.80	2002 NEI
		Nitrogen oxides	NO_x	2.28	MARAMA
		Volatile organic compounds	VOC	12.00	2002 NEI
2104008330	Woodstove: freestanding, EPA certified, catalytic	Carbon monoxide	CO	104.40	2002 NEI
		Nitrogen oxides	NO_x	2.00	2002 NEI
		Volatile organic compounds	VOC	15.00	2002 NEI
2104008400	Woodstove: pellet-fired, general	Carbon monoxide	CO	15.90	MARAMA
		Nitrogen oxides	NO_x	3.80	MARAMA
		Volatile organic compounds	VOC	0.04	MARAMA
2104008510	Furnace: Indoor, cordwood-fired, non-EPA certified	Carbon monoxide	CO	184.00	MARAMA
		Nitrogen oxides	NO_x	1.80	MARAMA
		Volatile organic compounds	VOC	11.70	MARAMA
2104008610	Hydronic heater: outdoor	Carbon monoxide	CO	184.00	MARAMA
		Nitrogen oxides	NO_x	1.80	MARAMA
		Volatile organic compounds	VOC	11.70	MARAMA
2104008700	Outdoor wood burning device, NEC	Carbon monoxide	CO	149.00	MARAMA
		Nitrogen oxides	NO_x	2.60	2002 NEI
		Volatile organic compounds	VOC	18.90	MARAMA

SCC	SCC_L4	Pollutant	Code	Factor (lb/ton)	data_source
2104009000	Residential Firelog Total: All Combustor Types	Carbon monoxide	CO	125.08	Content and emission characteristics of Artificial Was Firelogs, Environment Canada.
		Nitrogen oxides	NO_x	7.68	Content and emission characteristics of Artificial Was Firelogs, Environment Canada.
		Volatile organic compounds	VOC	39.56	Content and emission characteristics of Artificial Was Firelogs, Environment Canada.

Table 5-40. Calculated Activity Data

SCC	burn_type	Percentage	Appliance Population	Annual Burn Rate	Total Wood Burned	Burn Unit	Total Tons of Wood Burned
2104008100	Main	6.4E-04	473	0.59	281	Cords	289.06
	Pleasure	1.9E-02	13,865	0.07	957	Cords	983.09
	Secondary	6.5E-02	48,095	0.33	15,886	Cords	16,324.23
2104008210	Main	1.9E-03	1,403	0.99	1,384	Cords	1,422.06
	Pleasure	0.0E+00	0	0.17	0	Cords	0.00
	Secondary	3.9E-02	28,731	0.44	12,774	Cords	13,126.28
2104008220	Main	7.6E-04	567	0.78	444	Cords	456.05
	Pleasure	0.0E+00	0	0.14	0	Cords	0.00
	Secondary	1.6E-02	11,603	0.35	4,097	Cords	4,210.04
2104008230	Main	2.5E-04	189	0.78	148	Cords	152.02
	Pleasure	0.0E+00	0	0.14	0	Cords	0.00
	Secondary	5.2E-03	3,868	0.35	1,366	Cords	1,403.35
2104008310	Main	8.2E-03	6,066	1.04	6,279	Cords	6,451.88
	Pleasure	0.0E+00	0	0.18	0	Cords	0.00
	Secondary	1.4E-02	10,058	0.54	5,443	Cords	5,593.50
2104008320	Main	3.3E-03	2,450	0.82	2,014	Cords	2,069.35
	Pleasure	0.0E+00	0	0.14	0	Cords	0.00
	Secondary	5.5E-03	4,062	0.43	1,745	Cords	1,793.10
2104008330	Main	1.1E-03	817	0.82	671	Cords	689.78
	Pleasure	0.0E+00	0	0.14	0	Cords	0.00
	Secondary	1.8E-03	1,354	0.43	582	Cords	597.70
2104009000	Main	1.0E-04	74	0.42	31	Ton	31.09
	Pleasure	2.9E-03	2,164	0.10	225	Ton	224.63
	Secondary	1.0E-02	7,506	0.23	1,757	Ton	1,757.43

Occupied units = 741,754

Density of wood (cords per ton) = 1.03

Table 5-41. Source Information

Data	Data Source	Long Description
Burn Rates	Climate zone 5 adjustment	Adjusted the national default (N) burn rates by multiplying N by a ratio of the average heat used by homes (BTU per household) from EIA for climate zone 5 and climate zone 1. 18.9/63.2 = 0.3. Data from table CE2-1c.
	Climate zone 4 adjustment	Adjusted the national default (N) burn rates by multiplying N by a ratio of the average heat used by homes (BTU per household) from EIA for climate zone 4 and climate zone 1. 27.5/63.2 = 0.44. Data from table CE2-1c.
	WI data	Data from Bart Sponsellar of WI indicates wood usage for OHH is 12.5 cords per year. See his spreadsheet 2005ResWoodCombust_070117.xls. Used this for OHH burn rate and applied to 5 states; IL, IN, MI, OH, WI. Also used 7.1 for indoor furnaces.
	Historical burn rates for climate zone 2	Burn rates are an average of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
	Historical burn rates for climate zone 1	Burn rates are an average of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
	Historical burn rates for climate zone 3	Burn rates are an average of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
	Historical national average burn rates for all climate zones	Burn rates are a national average for climate zones 1, 2, and 3 of what was discovered in the literature regarding burn rates. For more detail, see file entitled "Burn rate data.xls". Report years are from 1992 to 2002.
	National average adjusted for OHH & indoor furnaces	Adjustment was to use the higher WI burn rates for OHH and indoor furnaces.
	WA - Eastern Forested and Urban - 2001 WSU Survey	WA - Eastern Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
	WA - Eastern non-Forested and Urban - 2001 WSU Survey	WA - Eastern non-Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
	WA - Western and Urban - 2001 WSU Survey	WA - Western and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
	MN fuel wood report 2007-2008 Aspen-Birch Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Central Hardwoods Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Northern Pine Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.

Data	Data Source	Long Description
	MN fuel wood report 2007-2008 Metro Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Prarie Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	2008 Vermont Draft Survey Data	Profiles develop by Vermont based on a 2008 survey.
Appliance Profiles	1998 Baltimore, MD	American Housing Survey Metropolitan Survey.
	1998 Birmingham, AL	American Housing Survey Metropolitan Survey.
	1998 Boston, MA-NH	American Housing Survey Metropolitan Survey.
	1998 Cincinnati, OH-KY-IN	American Housing Survey Metropolitan Survey.
	1998 Houston, TX	American Housing Survey Metropolitan Survey.
	1998 Minneapolis-St. Paul, MN-WI Adjusted with MN Report	American Housing Survey Metropolitan Survey.
	1998 Norfolk-Virginia Beach-Newport News, VA	American Housing Survey Metropolitan Survey.
	1998 Oakland, CA	American Housing Survey Metropolitan Survey.
	1998 Providence-Pawtucket-Warwick, RI-MA	American Housing Survey Metropolitan Survey.
	1998 Rochester, NY	American Housing Survey Metropolitan Survey.
	1998 Salt Lake City, UT	American Housing Survey Metropolitan Survey.
	1998 San Francisco-Oakland, CA	American Housing Survey Metropolitan Survey.
	1998 San Jose, CA	American Housing Survey Metropolitan Survey.
	1998 Tampa-St. Petersburg, FL	American Housing Survey Metropolitan Survey.
	1998 Washington, DC-MD-VA	American Housing Survey Metropolitan Survey.
	2002 Anaheim-Santa Ana, CA	American Housing Survey Metropolitan Survey.
	2002 Buffalo, NY	American Housing Survey Metropolitan Survey.
	2002 Charlotte, NC-SC	American Housing Survey Metropolitan Survey.
	2002 Columbus, OH	American Housing Survey Metropolitan Survey.

Data	Data Source	Long Description
	2002 Dallas, TX	American Housing Survey Metropolitan Survey.
	2002 Ft. Worth-Arlington, TX	American Housing Survey Metropolitan Survey.
	2002 Kansas City, MO-KS	American Housing Survey Metropolitan Survey.
	2002 Miami-Ft. Lauderdale, FL	American Housing Survey Metropolitan Survey.
	2002 Milwaukee, WI Adjusted with MN Report	American Housing Survey Metropolitan Survey, then adjusted by results of MN Fuel wood report 2002-2003.
	2002 Phoenix, AZ	American Housing Survey Metropolitan Survey.
	2002 Portland, OR-WA	American Housing Survey Metropolitan Survey.
	2002 Riverside-San Bernardino-Ontario, CA	American Housing Survey Metropolitan Survey.
	2002 San Diego, CA	American Housing Survey Metropolitan Survey.
	2003 Chicago, IL	American Housing Survey Metropolitan Survey.
	2003 Detroit, MI	American Housing Survey Metropolitan Survey.
	2003 Los Angeles-Long Beach, CA	American Housing Survey Metropolitan Survey.
	2003 New York-Nassau-Suffolk-Orange, NY	American Housing Survey Metropolitan Survey.
	2003 Northern NJ	American Housing Survey Metropolitan Survey.
	2003 Philadelphia, PA-NJ	American Housing Survey Metropolitan Survey.
	2004 Atlanta, GA	American Housing Survey Metropolitan Survey.
	2004 Cleveland, OH-KY-IN	American Housing Survey Metropolitan Survey.
	2004 Denver, CO	American Housing Survey Metropolitan Survey.
	2004 Hartford, CT	American Housing Survey Metropolitan Survey.
	2004 Indianapolis, IN	American Housing Survey Metropolitan Survey.
	2004 Memphis, TN-AR-MS	American Housing Survey Metropolitan Survey.
	2004 New Orleans, LA	American Housing Survey Metropolitan Survey.
	2004 Oklahoma City, OK	American Housing Survey Metropolitan Survey.

Data	Data Source	Long Description
	2004 Pittsburgh, PA	American Housing Survey Metropolitan Survey.
	2004 Sacramento, CA	American Housing Survey Metropolitan Survey.
	2004 San Antonio, TX	American Housing Survey Metropolitan Survey.
	2004 Seattle-Everett, WA	American Housing Survey Metropolitan Survey.
	2004 St. Louis, MO-IL	American Housing Survey Metropolitan Survey.
	2005 Midwest Census Region	American Housing Survey National Survey, using Table 2-4 Midwest Region.
	2005 Northeast Census Region	American Housing Survey National Survey, using Table 2-4 Northeast Region.
	2005 Northeast Census Region CT MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for CT.
	2005 Northeast Census Region DE MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for DE.
	2005 Northeast Census Region MA MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for MA.
	2005 Northeast Census Region MD MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for MD.
	2005 Northeast Census Region ME MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for ME.
	2005 Northeast Census Region NH MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for NH.
	2005 Northeast Census Region NJ MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for NJ.
	2005 Northeast Census Region NY MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for NY.
	2005 Northeast Census Region PA MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for PA.
	2005 Northeast Census Region VT MANE-VU Adjustment	American Housing Survey National Survey, using Table 2-4 Northeast Region, then adjusted by comparing appliance totals in region to 2005 MARAMA RWC report totals for VT.
	2005 South Census Region	American Housing Survey National Survey, using Table 2-4 South Region.
	2005 West Census Region	American Housing Survey National Survey, using Table 2-4 West Region.

Data	Data Source	Long Description
	Aspen-Birch	MN Fuel Wood Report 2002-2003 Aspen-Birch Survey region.
	Central Hardwoods	MN Fuel Wood Report 2002-2003 Central Hardwoods Survey region.
	MN Statewide	Developed using MN Fuel Wood Report 2002-2003 Statewide totals.
	Northern Pine	MN Fuel Wood Report 2002-2003 Northern Pine Survey region.
	Prarie	MN Fuel Wood Report 2002-2003 Prarie Survey region.
	WA - Eastern Forested and Urban - 2001 WSU Survey	WA - Eastern Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
	WA - Eastern non-Forested and Urban - 2001 WSU Survey	WA - Eastern non-Forested and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
	WA - Western and Urban - 2001 WSU Survey	WA - Western and Urban - Based on 2001 Washington State University Survey of areas in ID, OR, and WA.
	MN fuel wood report 2007-2008 Aspen-Birch Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Central Hardwoods Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Northern Pine Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Metro Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	MN fuel wood report 2007-2008 Prarie Region	Profile developed by Pechan based on data supplied by Chun-Yi Wu and Ron Piva which was used to create the 2007-2008 MN fuelwood report.
	2008 VT Draft Survey Data	Profiles develop by Vermont based on a 2008 survey.
Other appliance population	Indoor furnace population	Indoor furnace population derived in a variety of ways depending on the state. For detail, see file named "Derivation of Number of indoor furnaces by county.xls".
	Sales data	Sales data by state from NESCAUM for OHH from 1990 to 2005, allocated to county by fraction of State's woodstoves in county.
	2007 sales data from Pellet Fuels Institute	In a personal communication to Frank Divita, Don Johnson quoted a 2007 sales report from the pellet fuels institute which had regional sales data for pellet stoves. These were then allocated to the county level based on the number of woodstoves in a county.

Data	Data Source	Long Description
Density by county	2005 Timber Products Output (TPO) Fuel wood consumption	Density by county computed by taking volume of wood reported by species in the TPO, then multiplying by a species density factor provided by the US Forest service. Total mass for a county is then divided by total volume for a county to get average density.
Emission factor by SCC	2002 NEI	This emission factor used in the 2002 NEI.
	Content and emission characteristics of Artificial Wax Firelogs, Environment Canada	Content and emission characteristics of Artificial Wax Firelogs; Victor S. Li, Environment Canada, Ontario, Environmental Protection Operations Division, 4905 Dufferin St., Downsview, Ontario, Canada, M3H 5T4; victor.li@ec.gc.ca; Associate author, Mr. Ste.
	EPA report to Congress	
	MARAMA	Emission factor from 2005 MARAMA Residential Wood Combustion Inventory.
	WebFIRE	Emission factor from EPA's emission factor website WEBFIRE.
County population	2005 Occupied Units_US DOC	Data is the number of occupied units for 2005 from the census data.

5.7.3 Commercial Cooking (Sector No. 3)

Emissions from *commercial cooking* do not include emissions from fuel combustion, which are already accounted for in the *fuel combustion* sector. Emissions under *commercial cooking* occur from the heating and burning of foods and oils through the charbroiling and frying processes.

Emissions factors are assigned to seven food categories: steak, hamburger, poultry (with skin), poultry (skinless), pork, seafood, and other. Emissions depend on the type of cooking equipment utilized, and the equipment is partitioned based on restaurant type.

The baseline VOC emissions from the *commercial cooking* sector are low and ranked 14th (0.29 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-42. Commercial Cooking Sector Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2302002100	Industrial Processes/Food and Kindred Products: SIC 20/ Commercial Cooking - Charbroiling/Conveyorized Charbroiling	0.19	0.00	0.06	0.22	0.00	0.07	0.24	0.00	0.07
2302002200	Industrial Processes/Food and Kindred Products: SIC 20/ Commercial Cooking - Charbroiling/Under-fired Charbroiling	0.59	0.00	0.18	0.68	0.00	0.21	0.76	0.00	0.23
2302003000	Industrial Processes/Food and Kindred Products: SIC 20/ Commercial Cooking - Frying/Deep Fat Frying	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.04
2302003100	Industrial Processes/Food and Kindred Products: SIC 20/ Commercial Cooking - Frying/Flat Griddle Frying	0.04	0.00	0.02	0.05	0.00	0.02	0.05	0.00	0.03
2302003200	Industrial Processes/Food and Kindred Products: SIC 20/ Commercial Cooking - Frying/Clamshell Griddle Frying	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2302002100	Industrial Processes/Food and Kindred Products: SIC 20/ Commercial Cooking - Charbroiling/Conveyorized Charbroiling	**0.83**	**0.00**	**0.29**	**0.95**	**0.00**	**0.33**	**1.05**	**0.00**	**0.37**
Difference (2022 - 2008):								**0.23**	**0.00**	**0.08**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.3.1 Emissions from Commercial Cooking

Commercial Cooking Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	Clark County population:	**1,986,146**
5.	Unincorporated Las Vegas Valley population:	**861,546**
6.	City of Las Vegas population:	**599,087**
7.	City of North Las Vegas population:	**216,672**
8.	City of Henderson population:	**272,063**

Table 5-43. Commercial Cooking Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Annual CO Emissions (tpy)	Annual NO_X Emissions (tpy)	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	301.87	0.00	26.53	106.12

Table 5-44. Commercial Cooking Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	VOC	NO_x
2302002100	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Charbroiling	Conveyorized Charbroiling	69.03	20.67	0.00
2302002200	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Charbroiling	Under-Fired Charbroiling	216.64	66.23	0.00
2302003000	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Frying	Deep Fat Frying	0.00	10.84	0.00
2302003100	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Frying	Flat Griddle Frying	15.12	7.39	0.00
2302003200	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Frying	Clamshell Griddle Frying	1.08	0.99	0.00
2302002000	Industrial Processes	Food and Kindred Products: SIC 20	Commercial Cooking - Charbroiling	Total Charbroiling	0.00	0.00	0.00

[1] SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-45. Commercial Cooking Emission Factors (lb/ton)[1]

Equipment Type	Fuel Used	Meat/Food[2]	CO	NO_x[3]	VOC
Chain-driven charbroilers	Natural gas	Hamburger	16.58	0	4.54
Underfired charbroilers	Charcoal	Hamburger	327	4.8	9.4
" "	" "	Hamburger	335.2	7.2	11.6
" "	" "	Chicken	315.8	8.4	9
" "	Natural gas	Hamburger	27.44	0	7.88
" "	" "	Steak	9.94	0	1.72
" "	" "	Chicken (whole)	9.68	0	3.64
" "	" "	Seafood	0	0	0.76
Deep-fat fryers	Natural gas	Potatoes	0	0	0.42
" "	" "	Breaded Chicken	0	0	0.24
" "	" "	Breaded Fish	0	0	0.28
Flat griddles	Electric	Hamburger	0.76	0	0.14
" "	" "	Chicken (boneless)	0.9	0	0.8
" "	" "	Seafood	0	0	0.22
Clamshell griddles	Electric	Hamburger	0	0	0.02

[1] Data based on Pechan 2003 emission factors.
[2] See assumptions made about emission factors. E.H. Pechan & Associates, Methods for Developing a National Emission Inventory for Commercial Cooking Processes: Technical Memorandum, Table 10, p. 20 (Dec. 2003) <http://www.epa.gov/ttn/chief/eiip/techreport/volume03/charbroilingtechmemo_122303.pdf> (accessed Jan. 4, 2009).
[3] Other than for charcoal-fueled charbroilers, emission factors not available and assumed to be insignificant.

Table 5-46. Commercial Cooking Emissions[1]

SCC	Equipment	Food Type[2]	CO (tpy)	NO_x (tpy)	VOC (tpy)
2302002100	Chain-driven charbroilers	Steak	12.4	0.0	3.4
		Hamburger	42.1	0.0	11.5
		Poultry (with skin)	4.5	0.0	1.7
		Poultry (skinless)	8.2	0.0	3.1
		Pork	1.8	0.0	0.7
		Seafood	0.0	0.0	0.3
		Other	0.0	0.0	0.0
2302002200	Underfired charbroilers[3]	Steak	27.4	0.0	4.7
		Hamburger	113.3	0.0	32.5
		Poultry (with skin)	21.3	0.0	8.0
		Poultry (skinless)	26.5	0.0	10.0
		Pork	21.9	0.0	8.2
		Seafood	0.0	0.0	1.7
		Other	6.3	0.0	1.1
2302003000	Deep-fat fryers	Steak	0.0	0.0	0.0
		Hamburger	0.0	0.0	0.0
		Poultry (with skin)	0.0	0.0	4.8

SCC	Equipment	Food Type[2]	CO (tpy)	NO_x (tpy)	VOC (tpy)
		Poultry (skinless)	0.0	0.0	2.8
		Pork	0.0	0.0	0.8
		Seafood	0.0	0.0	2.5
		Other	0.0	0.0	0.0
2302003100	Flat griddles	Steak	3.1	0.0	0.6
		Hamburger	3.1	0.0	0.6
		Poultry (with skin)	1.9	0.0	1.7
		Poultry (skinless)	1.9	0.0	1.7
		Pork	1.9	0.0	1.7
		Seafood	0.0	0.0	0.5
		Other	3.1	0.0	0.6
2302003200	Clamshell griddles	Steak	0.0	0.0	7.9E-03
		Hamburger	0.0	0.0	7.9E-03
		Poultry (with skin)	0.4	0.0	0.3
		Poultry (skinless)	0.4	0.0	0.3
		Pork	0.4	0.0	0.3
		Seafood	0.0	0.0	3.8E-02
		Other	0.0	0.0	0.0
		Totals:	**301.9**	**0.0**	**106.1**

[1] Data based on Penchan 2003 emission factors.
[2] See assumptions made about emission factors. E.H. Pechan & Associates, Methods for Developing a National Emission Inventory for Commercial Cooking Processes: Technical Memorandum, Table 10, p. 20 (Dec. 2003) <http://www.epa.gov/ttn/chief/eiip/techreport/volume03/charbroilingtechmemo_122303.pdf> (accessed Jan. 4, 2009).
[3] Most underfired charbroilers burn natural gas, and therefore, only natural gas emission factors were used for this category. *Id.*

Table 5-47. U.S. Eating Establishment Census[1]

Main SIC	SIC Code	SIC Description	Number of Businesses	Number of Businesses Nationally[2]	Number of Businesses in Las Vegas Valley	Number of Businesses in Clark County
SIC 5812-00	5812-0000	Eating places	138,380	n/a	n/a	n/a
SIC 5812-01 (Ethnic food)	5812-0100	Ethnic food restaurants	5,694	105,755	626	638
	5812-0101	American restaurant	13,305			
	5812-0102	Cajun restaurant	576			
	5812-0103	Chinese restaurant	28,557			
	5812-0104	French restaurant	1,123			
	5812-0105	German restaurant	336			
	5812-0106	Greek restaurant	1,031			
	5812-0107	Indian/Pakistan restaurant	1,819			
	5812-0108	Italian restaurant	13,028			
	5812-0109	Japanese restaurant	5,723			
	5812-0110	Korean restaurant	779			

Main SIC	SIC Code	SIC Description	Number of Businesses	Number of Businesses Nationally[2]	Number of Businesses in Las Vegas Valley	Number of Businesses in Clark County
	5812-0111	Lebanese restaurant	113			
	5812-0112	Mexican restaurant	25,569			
	5812-0113	Spanish restaurant	672			
	5812-0114	Sushi bar	2,316			
	5812-0115	Thai restaurant	3,930			
	5812-0116	Vietnamese restaurant	1,125			
	5812-0117	Pakistani restaurant	59			
SIC 5812-02	5812-0200	Ice cream, soft drink and soda fountain stands	1,720	n/a	n/a	n/a
	5812-0201	Concessionaire	1,673			
	5812-0202	Frozen yogurt stand	852			
	5812-0203	Ice cream stands or dairy bars	13,975			
	5812-0204	Snow cone stand	338			
	5812-0205	Soda fountain	162			
	5812-0206	Soft drink stand	437			
SIC 5812-03 (Fast food)	5812-0300	Fast food restaurants and stands	4,531	145,042	859	875
	5812-0301	Box lunch stand	98			
	5812-0302	Carry-out only (except pizza) restaurant	4,791			
	5812-0303	Chili stand	130			
	5812-0304	Coffee shop	18,782			
	5812-0305	Delicatessen (eating places)	10,931			
	5812-0306	Drive-in restaurant	5,857			
	5812-0307	Fast-food restaurant, chain	51,685			
	5812-0308	Fast-food restaurant, independent	3,586			
	5812-0309	Food bars	333			
	5812-0310	Grills (eating places)	14,523			
	5812-0311	Hamburger stand	1,385			
	5812-0312	Hot dog stand	1,834			
	5812-0313	Sandwiches and submarines shop	24,963			
	5812-0314	Snack bar	1,248			
	5812-0315	Snack shop	365			
SIC 5812-04	5812-0400	Lunchrooms and cafeterias	2,405	n/a	n/a	n/a
	5812-0401	Automat (eating places)	28			
	5812-0402	Cafeteria	2,266			
	5812-0403	Luncheonette	2,139			
	5812-0404	Lunchroom	41			
	5812-0405	Restaurant, lunch counter	544			

Main SIC	SIC Code	SIC Description	Number of Businesses	Number of Businesses Nationally[2]	Number of Businesses in Las Vegas Valley	Number of Businesses in Clark County
SIC 5812-05 (Family)	5812-0500	Family restaurants	10,479	33,074	196	199
	5812-0501	Restaurant, family: chain	15,760			
	5812-0502	Restaurant, family: independent	6,835			
SIC 5812-06	5812-0600	Pizza restaurants	37,654	n/a	n/a	n/a
	5812-0601	Pizzeria, chain	20,370			
	5812-0602	Pizzeria, independent	3,035			
SIC 5812-07 (Seafood)	5812-0700	Seafood restaurants	8,259	9,064	54	55
	5812-0701	Oyster bar	221			
	5812-0702	Seafood shack	584			
SIC 5812-08 (Steak & Barbecue)	5812-0800	Steak and barbecue restaurants	777	17,590	104	106
	5812-0801	Barbecue restaurant	9,158			
	5812-0802	Steak restaurant	7,655			
SIC 5812-99	5812-9901	Buffet (eating places)	3,137	n/a	n/a	n/a
	5812-9902	Cafe	24,859			
	5812-9903	Caterers	25,723			
	5812-9904	Chicken restaurant	4,020			
	5812-9905	Commissary restaurant	83			
	5812-9906	Contract food services	1,432			
	5812-9907	Diner	5,475			
	5812-9908	Dinner theater	193			
	5812-9909	Health food restaurant	267			
		Total:	**601,733**	**310,525**	**1,909**	**1,945**

[1] 2006 data (latest available from U.S. Census).
[2] Totals not same as "Number of Businesses" since 5812-02, 04, and 06 were not counted.

Table 5-48. Clark County Population

Year	Clark County Population[1]	Las Vegas Valley Population			
		Unincorporated Valley Clark County Population[2]	City of Las Vegas Population	City of North Las Vegas Population	City of Henderson Population
2006	1,912,654				
2008	1,986,146	861,546	599,087	216,672	272,063
	Total:	1,949,368			

[1] Population estimates from information available on Clark County Comprehensive Planning Department's demographic Web site.
[2] Unincorporated portions of the Las Vegas Valley only.

Table 5-49. Number of Commercial Restaurants

Number of Charbroilers in Commercial Restaurants in Las Vegas Valley[1]	Number of Charbroilers in Commercial Restaurants in Clark County[2]
1,460	1,488

[1] Kennedy/Jenks, Charbroiler Inventory of Las Vegas Valley (~ 1998), citing, 2005 CERR spreadsheet (unable to locate actual document).
[2] Correlation based on populations.

Table 5-50. Regional Eating Establishment Census

State/Metro Area[1]	Number of Eating Establishments[2]	Percent of Total
Las Vegas, NV-AZ	3,589	0.6%
Clark County, NV	3,562	0.6%
Reno, NV	761	0.1%
Nevada	4,554	0.8%
Total U.S./Average	601,733	100.0%

[1] U.S. Cenus Bureau, 2006 County Business Patterns (NAICS), Accomodation and Food Services Year 2006 data http://censtats.census.gov/cgi-bin/cbpnaic/cbpdetl.pl (accessed Jan. 7, 2010). (Clark County: Yr 2006 (3,562), Yr 2007 (3,816); Washoe County: Yr 2006 (934), Yr 2007 (1,009)).
[2]Dun & Bradstreet Industry Reports <http://iso.zapdata.com/marketingintelligence/SICcodes.jsp> (accessed January 7, 2009).

Table 5-51. Average Weekly Pounds of Meat Cooked by Equipment Type

Equipment Type	Steak	Hamburger	Poultry (with skin)	Poultry (skinless)	Pork	Seafood	Other
Chain-driven charbroilers	236	798	147	266	57.6	119	0
Underfired charbroilers	180	270	144	179	148	143	41.5
Deep-fat fryers	181	274	365	208	58.6	159	274
Flat griddles	166	362	88	111	112	92.1	57.5
Clamshell griddles	94	1314	113	108	118	632	0

Note: Data based on Penchan 2003 emission factors. E.H. Pechan & Associates, *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*, App. A, p. A-16, Table 1 <ftp://ftp.epa.gov/EmisInventory/2002finalnei/documentation/nonpoint/2002nei_final_nonpoint_documentation0206version.pdf> (accessed January 6, 2009).

Table 5-52. Average Annual Tons of Meat Cooked by Equipment Type

Equipment Type	Steak	Hamburger	Poultry (with skin)	Poultry (skinless)	Pork	Seafood	Other
Chain-driven charbroilers	6.1	20.7	3.8	6.9	1.5	3.1	0.0
Underfired charbroilers	4.7	7.0	3.7	4.7	3.8	3.7	1.1
Deep-fat fryers	4.7	7.1	9.5	5.4	1.5	4.1	7.1
Flat griddles	4.3	9.4	2.3	2.9	2.9	2.4	1.5
Clamshell griddles	2.4	34.2	2.9	2.8	3.1	16.4	0.0

Note: Data based on Penchan 2003 emission factors. E.H. Pechan & Associates, *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*, App. A, p. A-16, Table 1 <ftp://ftp.epa.gov/EmisInventory/2002finalnei/documentation/nonpoint/2002nei_final_nonpoint_documentation0206version.pdf> (accessed January 6, 2009).

Table 5-53. Percent of Restaurants with Cooking Equipment Type

Equipment Type	Ethnic	Family	Fast Food	Seafood	Steak & Barbeque
Chain-driven charbroilers	3.5	10.1	18.6	0	6.9
Underfired charbroilers	47.5	60.9	30.8	52.6	55.2
Deep-fat fryers	81.9	91.4	96.8	100	82.8
Flat griddles	62.7	82.9	51.9	36.8	89.7
Clamshell griddles	4	1.4	14.7	10.5	0

Note: Data based on Penchan 2003 emission factors. E.H. Pechan & Associates, *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants*, App. A, p. A-16, Table 2 <ftp://ftp.epa.gov/EmisInventory/2002finalnei/documentation/nonpoint/2002nei_final_nonpoint_documentation0206version.pdf> (accessed Jan. 6, 2009).

5.7.4 Bakeries (Sector No. 4)

Emissions from bakeries are the result of yeast leavening of baked products, including breads, pretzels, bagels, and doughnuts. The primary VOC emitted is ethanol.

There are two basic types of yeast dough mixing processes: (i) sponge dough; and (ii) straight dough. Emissions are higher when sponge dough process is utilized. Lacking specific survey information, it was assumed that the sponge dough process was used throughout Clark County.

The baseline VOC emissions from the *bakeries* sector are relatively low and ranked eighth (1.33 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-54. Bakeries Sector Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2302050000	Industrial Processes/Food and Kindred Products: SIC 20/Bakery Products/Total	0.00	0.00	1.33	0.00	0.00	1.53	0.00	0.00	1.70
	Totals:	**0.00**	**0.00**	**1.33**	**0.00**	**0.00**	**1.53**	**0.00**	**0.00**	**1.70**
	Difference (2022 - 2008):							**0.00**	**0.00**	**0.37**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.4.1 Emissions from Bakeries

Bakery Emission Calculations Input Parameters:

1.	Year of emissions analysis[1]:	**2008**
2.	Summer inventory complete (yes or no)[1]:	**Yes**
3.	Annual inventory complete (yes or no)[1]:	**Yes**
4.	Clark County population[2]:	**1,986,146**

[1]Not required for calculations.

[2]Parameter also used for:

- Architectural Coatings Emissions Template
- Auto Body Refinishing Emissions Template
- Commercial Cooking Emissions Template
- Consumer Products Emissions Template
- Dry Cleaning Emissions Template
- Fuel Combustion Emissions Template
- Graphic Arts Emissions Template
- Industrial Surface Coating Emissions Template
- Residential Wood Combustion Template

Table 5-55. Emissions Summary from Bakeries

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	86.89	347.58

Any HAP emissions from bakery operations are expected to be negligible.

Table 5-56. Bakery Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2302050000	Industrial Processes	Food and Kindred Products: SIC 20	Bakery Products	Total	0	0	347.576

[1] SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-57. VOC Emission Factors from Bakery Process

Type of Bakery[1, 2]	NAICS [3]	SCC	Yeast Dough Mixing Process [3]	Emission Factor (lbs VOC/1,000 lbs baked)[4]
Commercial	311812	30203201	Primarily sponge dough	5
Retail	311811	30203202	Primarily straight dough	0.5

[1] Baked goods leavened with yeast produce ethanol (VOC) and carbon dioxide: $C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$.
[2] Baked goods leavened with baking powder do not emit VOCs.
[3] EPA, Area Source Method Abstracts, Baked Goods at Commercial/Retail Bakeries, p. 1 (Jun. 1999).
[4] Sponge dough leavening emits greater amounts of ethanol (VOC) because the fermentation time is much longer. EPA recommends using 5 lbs VOC/1,000 lbs baked EF. *Id*., at p. 1-3.

Table 5-58. VOC Emission Calculations from Bakery Process

Year	Clark County Population[1]	Bread Consumption (lbs/person/yr)/[2]	VOC (tpy)/[3]
2008	1,986,146	70	347.58

[1] Population estimates from demographic information available on Clark County Department of Comprehensive Planning Web site.
[2] EPA, Area Source Method Abstracts, Baked Goods at Commercial/Retail Bakeries, p. 2 (Jun. 1999).
[3] Conservatively assumed that: (i) all bread products consumed in Clark County were baked in Clark County, and (ii) all emissions are from sponge dough baking process (higher EF).

5.7.5 Architectural Coating (Sector No. 5)

Architectural coating shipment data was obtained from the U.S. Census Bureau. It was assumed that these national figures were proportional to the amount of architectural coating used within Clark County. The type of products included in these figures includes: exterior solvent-type, exterior water-type, interior solvent-type, interior water-type, architectural lacquers, and architectural coatings not specified.

In 2008, a total of 596,968,000 gallons of water-type coatings (interior and exterior) were shipped. In comparison, a total of 117,862,000 gallons of solvent-type coatings (interior and exterior) were shipped. Even though this represents a five-to-one ratio, the VOC emissions are nearly the same because the emissions factor for water-based paints is approximately five times lower.

The baseline VOC emissions from the *architectural coating* sector are relatively high and ranked fourth (6.07 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-59. Architectural Coating Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2401002000	Solvent Utilization/Surface Coating/Architectural Coatings - Solvent-Based/Total: All Solvent Types	0.00	0.00	1.33	0.00	0.00	1.53	0.00	0.00	1.70
2401003000	Solvent Utilization/Surface Coating/Architectural Coatings - Water-Based/Total: All Solvent Types	**0.00**	**0.00**	**1.33**	**0.00**	**0.00**	**1.53**	**0.00**	**0.00**	**1.70**
	Totals:	**0.00**	**0.00**	**6.07**	**0.00**	**0.00**	**7.48**	**0.00**	**0.00**	**8.58**
	Difference (2022 - 2008):							**0.00**	**0.00**	**2.51**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.5.1 Emissions from Architectural Coatings

Architectural Coatings Emission Calculations Input Parameters:

1. Year of emissions analysis:[1] **2008**
2. Summer inventory complete (yes or no):[1] **Yes**
3. Annual inventory complete (yes or no):[1] **Yes**
4. Clark County population:[2] **1,986,146**
5. U.S. population:[3] **304,228,257**

[1]Not required for calculations.

[2]Parameter also used for: Auto Body Refinishing Emissions Template
Bakery Emissions Template
Commercial Cooking Emissions Template
Consumer Products Emissions Template
Dry Cleaning Emissions Template
Fuel Combustion Emissions Template
Graphic Arts Emissions Template
Industrial Surface Coating Emissions Template
Residential Wood Combustion Template

[3]Parameter also used for: Open Burning Emissions Template

Architectural Coatings Shipped (1,000 gallons):

6. **Exterior solvent-type total shipments (1,000 gallons)**
Product code: 3255101111 Solvent thinned paints and tinting bases, including **16,454**

	barn and roof paints:	
	Product code: 3255101115 Solvent thinned enamels and tinting bases, including exterior-interior floor enamels:	**13,922**
	Product code: 3255101119 Solvent thinned undercoaters and primers:	**7,017**
	Product code: 3255101121 Solvent thinned clear finishes and sealers:	**4,562**
	Product code: 3255101125 Solvent thinned stains, including shingle and shake:	**10,182**
	Product code: 3255101129 Other exterior solvent thinned coatings, including bituminous paints:	**5,674**
7.	**Exterior water-type total shipments (1,000 gallons)**	
	Product code: 3255101131 Water thinned paints and tinting bases, including barn and roof paints:	**96,136**
	Product code: 3255101135 Water thinned exterior-interior deck and floor enamels:	**5,926**
	Product code: 3255101139 Water thinned undercoaters and primers:	**12,840**
	Product code: 3255101141 Water thinned stains and sealers:	**19,512**
	Product code: 3255101145 Other exterior water thinned coatings:	**21,641**
8.	**Interior solvent-type total shipments (1,000 gallons)**	
	Product code: 3255101211 Flat solvent thinned wall paint and tinting bases, including mill wt. paints:	**2,411**
	Product code: 3255101215 Gloss and quick drying enamels and other gloss solvent thinned paints and enamels:	**3,163**
	Product code: 3255101219 Semigloss, eggshell, satin solvent thinned paints, and tinting bases:	**11,206**
	Product code: 3255101221 Solvent thinned undercoaters and primers:	**21,702**
	Product code: 3255101225 Solvent thinned clear finishes and sealers:	**0**
	Product code: 3255101229 Solvent thinned stains:	**0**
	Product code: 3255101231 Other interior solvent thinned coatings:	**0**
9.	**Interior water-type total shipments (1,000 gallons)**	
	Product code: 3255101235 Flat water thinned paints and tinting bases:	**145,497**
	Product code: 3255101239 Semigloss, eggshell, satin, & other water thinned paints and tinting bases:	**166,405**
	Product code: 3255101241 Water thinned undercoaters and primers:	**48,479**
	Product code: 3255101245 Other interior water thinned coatings, stains, and sealers:	**0**
10.	**Product code: 3255101249 Architectural lacquers total shipments:**	**0**
11.	**Product code: 3255101YWV Architectural coatings not specified total shipments:**	**0**

Table 5-60. Annual Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	539.30	1,971.12

Table 5-61. Architectural Coatings Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_X	VOC
2401002000	Solvent Utilization	Surface Coating	Architectural Coatings - Solvent-Based	Total: all solvent types.	0	0	973.14
2401003000	Solvent Utilization	Surface Coating	Architectural Coatings - Water-Based	Total: all solvent types.	0	0	997.98

[1] SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-62. VOC Emission Factors from Architectural Coatings

Description	SCC	Pre-1998 VOC EF (lbs/gal)[1]	Percent Reduction[2]	Post-1998 VOC EF (lbs/gal)
Architectural Coatings (Solvent-based)	2401002000	3.87	20%	3.10
Architectural Coatings (Water-based)	2401003000	0.74	20%	0.59

[1] EIIP, Architectural Surface Coating, Vol. III, Ch. 3, p. 5-7, Table 5-2 (Nov. 1995).
[2] In 1998, EPA issued VOC emissions standards for architectural coatings pursuant to section 183(e) of the CAA. The impact of the rule resulted in a 20% VOC emission reduction compared to emissions that would have been occurred without the standard. As a result, the VOC emission factors provided in the EIIP were reduced by 20%. 63 Fed. Reg. 48848, 48855 (Sep. 11, 1998).

Table 5-63. VOC Emissions Summary from Architectural Coatings

Description	U.S. per Capita Annual Usage (gal/person)	Clark County Annual Usage (gal)	VOC Annual Emissions (tpy)	VOC Summer Emissions (tpy)
Architectural Coatings (Solvent-based)	0.32	628,646	973.14	266.25
Architectural Coatings (Water-based)	1.70	3,371,539	997.98	273.04
		Totals:	**1,971.12**	**539.30**

Table 5-64. Population Data

Year	U.S. Population[1]	Clark County Population[2]
2008	304,228,257	1,986,146

[1] Population estimates from U.S. Census Bureau.
[2] Population estimates are from Clark County Comprehensive Planning Demographic information.

Table 5-65. Quantity of Shipments of Paint and Allied Products[1]

Product Code	Product description	Solvent-based Coatings (1,000 gallons)	Water-based Coatings (1,000 gallons)
325510	Paint and allied products		
3255101	Architectural coatings		
--	Exterior solvent-type	57,811	
--	Exterior water-type		156,055
--	Interior solvent-type	38,482	
--	Interior water-type		360,381
3255101249	Architectural lacquers	0	
3255101YWV	Architectural coatings, n.s.k.[2]	0	
		Solvent-based Coatings (gallons)	**Water-based Coatings (gallons)**
	Sum:	**96,293,000**	**516,436,000**

[1] U.S. Census Bureau (issued June 2008) <http://www.census.gov/cir/www/325/ma325f.html> (accessed October 20, 2008). Represents total shipments for those establishments producing paint and allied products that have 20 or more employees, which account for approximately 95 percent of the total value of shipments for North American Industry Classification System (NAICS) #325510 (paint, varnishes, lacquers, enamels, and allied products) based on relationships observed in the 2002 Economic Census, Manufacturing Sector's final report.
2 Not specified by kind.

Table 5-66. Paint and Allied Products Seasonal Usage

Year/Quarter	Total U.S. Apparent Consumption	Quarterly Activity	Season	Seasonal Activity	Summer Season Average
	2005				27.4%
4th Quarter	$4,262,439,000	23%	**Winter:**	22%	
3rd Quarter	$4,977,851,000	27%	**Spring:**	26%	
2nd Quarter	$5,258,927,000	28%	**Summer:**	27%	
1st Quarter	$4,015,035,000	22%	**Fall:**	24%	
	2006				
4th Quarter	$4,036,594,000	22%	**Winter:**	24%	
3rd Quarter	$4,734,679,000	26%	**Spring:**	27%	
2nd Quarter	$5,116,225,000	28%	**Summer:**	26%	
1st Quarter	$4,461,784,000	24%	**Fall:**	23%	
	2007				
4th Quarter	$4,018,961,000	22%	**Winter:**	22%	
3rd Quarter	$4,933,821,000	27%	**Spring:**	27%	
2nd Quarter	$5,209,002,000	28%	**Summer:**	27%	
1st Quarter	$4,125,492,000	23%	**Fall:**	24%	
	2008				
4th Quarter	$3,625,431,000	21%	**Winter:**	22%	
3rd Quarter	$4,823,415,000	28%	**Spring:**	26%	
2nd Quarter	$4,793,432,000	28%	**Summer:**	28%	
1st Quarter	$3,905,999,000	23%	**Fall:**	23%	

Note: These calculations are based on U.S. Census Bureau consumptive use data.

5.7.6 Auto Body Refinishing (Sector No. 6)

Emissions from the *auto body refinishing* sector can be based on either population data or employment data. Annual emissions for both activity throughputs were calculated and compared. Emissions that are based on employment were assumed to be more representative since the total more closely matched the permitted point source total VOC emissions of spray booths located in Clark County.

The baseline VOC emissions from the *auto body refinishing* sector are low and ranked 15th (0.11 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-67. Auto Body Refinishing Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2401005000	Solvent Utilization/Surface Coating/Auto Refinishing: SIC 7532/Total: All Solvent Types	0.00	0.00	0.11	0.00	0.00	0.13	0.00	0.00	0.14
	Totals:	**0.00**	**0.00**	**0.11**	**0.00**	**0.00**	**0.13**	**0.00**	**0.00**	**0.14**
							Difference (2022 - 2008):	**0.00**	**0.00**	**0.04**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.6.1 Emissions from Auto Body Refinishing

Auto Body Refinishing Emission Calculations Input Parameters:

1. Year of emissions analysis:[1] **2008**
2. Summer inventory complete (yes or no):[1] **Yes**
3. Annual inventory complete (yes or no):[1] **Yes**
4. Clark County population:[1, 2] **1,986,146**
5. Clark County auto body refinishing employment: **108**

[1]Not required for calculations.
[2]Parameter also used for:
Architectural Coatings Emissions Template
Bakery Emissions Template
Commercial Cooking Emissions Template
Consumer Products Emissions Template
Dry Cleaning Emissions Template
Fuel Combustion Emissions Template
Graphic Arts Emissions Template
Industrial Surface Coating Emissions Template
Residential Wood Combustion Template

Table 5-68. Auto Body Refinishing Emissions Summary

Year	Summer Emissions Inventory Complete	Annual Emissions Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	6.89	27.57

Note: Table uses per-capita emission factor.

Table 5-69. Auto Body Refinishing Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2401005000	Solvent Utilization	Surface Coating	Auto Refinishing: SIC 7532	Total: All Solvent Types	0	0	27.57

[1] SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-70. Auto Body Refinishing VOC Emission Factors

Parameter	Value	Units	Source/Description
National per capita emission factor	1.9	lbs/person	EPA, AP-42 5th Ed., Ch. 4, Section 4.2.1 (1995).
National employment emission factor	762.08	lbs/employee/yr	Based on U.S. Census Bureau & EPA data (See "Auto Body Refinishing Emissions Calculations" spreadsheet for derivation).
SCC	2401005000	n/a	
NAICS	811121	n/a	Automotive body paint & interior repair and maintenance.
Control efficiency	0.33	n/a	In 1998, EPA adopted implemented VOC emission standards for automobile refinish coatings (63 FR 48807). The "...reductions represent a 33% reduction from the 1995 baseline emissions estimates" (63 FR 48811). Since the per capita VOC emission factor was established in 1995, a 33% control efficiency is appropriately applied.

Table 5-71. Auto Body Refinishing VOC Emissions

Year	Clark County Employment	VOC Based on Employment (tpy)	Clark County Population	VOC Based on per Capita (tpy)
2008	108	27.57	1,986,146	1,264.18

VOC emissions based on the per capita emission factor are for comparison purposes only. While the per capita emission factor is referenced in webFIRE, the employment-based emission factor is considered more representative.

5.7.7 Traffic Markings (Sector No. 7)

Emissions from the *traffic markings* sector are primarily based on the amount of annual paint used to mark new roads and maintain older roads and highways. A small amount of VOC emissions are also emitted by the epoxy used to attach road markers to highways.

The baseline VOC emissions from the *traffic markings* sector are low and ranked 16th (0.10 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-72. Traffic Markings Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2401008000	Solvent Utilization/Surface Coating/Traffic Markings/Total: All Solvent Types	0.00	0.00	0.10	0.00	0.00	0.10	0.00	0.00	0.10
	Totals:	**0.00**	**0.00**	**0.10**	**0.00**	**0.00**	**0.10**	**0.00**	**0.00**	**0.10**
	Difference (2022 - 2008):							**0.00**	**0.00**	**0.00**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.7.1 Emissions from Traffic Marking

Traffic Marking Emission Calculations Input Parameters:

1.	Year of emissions analysis:[1]	**2008**
2.	Summer inventory complete (yes or no):[1]	**Yes**
3.	Annual inventory complete (yes or no):[1]	**Yes**
4.	Unincorporated Las Vegas Valley population:[2]	**861,546**
5.	Unincorporated outlying Clark County population:	**32,930**
6.	City of Las Vegas population:[2]	**599,087**
7.	City of North Las Vegas population:[2]	**216,672**
8.	City of Henderson population:[2]	**272,063**
9.	City of Mesquite population:	**19,939**
10.	Boulder City population:	**16,840**
11.	Clark County Public Works yellow paint usage in analysis year (gallons):	**2,400**
12.	Clark County Public Works white paint usage in analysis year (gallons):	**1,614**
13.	Clark County Public Works raised pavement markers (number):	**61,267**
14.	City of Las Vegas public roads constructed during analysis year (centerline miles):	**17**
15.	Clark County Public Works public roads constructed during year (centerline miles):	**37.3**
16.	NDOT total approximate paint used annually in the County (gallons):	**31,752**
17.	Clark County Public Works total roads paved to date (centerline miles):	**2,513.7**
18.	NDOT total roads paved to date in the County (centerline miles):	**739**

Traffic Marking Emission Calculations Input Parameters:

19.	City of Las Vegas total roads paved to date (centerline miles):	**1,305**
20.	City of North Las Vegas total roads paved to date (centerline miles):	**602**
21	City of Henderson total roads paved to date (centerline miles):	**804**

[1]Not required for calculations.

[2]Parameter also used for: Commercial Cooking Emissions Template

Note: Miles of paved new roads in Boulder City and Mesquite are estimated within the spreadsheet.

Table 5-73. Traffic Marking Emissions Summary[1,2,3]

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	6.24	24.97

[1] The 2005 CERR included solvent paint usage, which is disallowed under EPA regulations (see text footnote #2).
[2] In 1998, the EPA published a final rule limiting VOC emissions for traffic marking material. The limit was established at 150 g/L (1.25 lbs/gal) (63 FFR 48848, 48852; 40 CFR 59, Subpart D, Table 1; 40 CFR 29, Subpart D (accessed Apr. 28, 2009)).
[3] Architectural coating source category emissions are distinct from traffic marking emissions. The former category's emissions arise only from "architectural coatings" paints (U.S. Census Bureau Current Industrial Report for paints and allied products).

Table 5-74. Traffic Marking Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2401008000	Solvent Utilization	Surface Coating	Traffic Markings	Total: All Solvent Types	0	0	24.97

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-75. Local Traffic Marking Data

Entity	Material	Quantity	Units	VOC Content (lbs/gal)	VOC Emissions (tpy)	MSDS Information
Clark County Public Works[1]	Yellow paint[2]	2,400	gallons	1.25	1.50	See 3, 4, 5, 6, 7, 8, and 9
Clark County Public Works	White paint[2]	1,614	gallons	1.25	1.01	See 3, 4, 5, 6, 7, 8, and 9
NDOT	Approx. total paint used annually (county)[10]	31,752	gallons	1.25	19.85	See 11
Clark County (approx. total)	Approx. total paint used annually (county)[10]	39,897	gallons			
Clark County Public Works	Raised pavement markers[12]	61,267	number			
Clark County Public Works	Epoxy	456	gallons	0.07	0.02	See 13
City of Las Vegas	Public roads constructed during[14]	17	centerline miles[15]		1.15	
Clark County Public Works	Public roads constructed during[16]	37	centerline miles[15]			
City of North Las Vegas	Public roads constructed during (approx.)	9	centerline miles[15]		0.58	
City of Henderson	Public roads constructed during (approx.)	11	centerline miles[15]		0.77	
NDOT	Public roads constructed during (approx.)	11	centerline miles[15]			
City of Mesquite	Public roads constructed during (approx.)	1	centerline miles[15]		0.05	
Boulder City	Public roads constructed during (approx.)	1	centerline miles[15]		0.04	
Clark County (approx. total)	Public roads constructed during (approx.)	86	centerline miles[15]			
Clark County Public Works	Total roads paved to date[17]	2,514	centerline miles[15]			
City of Las Vegas	Total roads paved to date[18]	1,305	centerline miles[15]			
City of North Las Vegas	Total roads paved to date[18]	602	centerline miles[15]			
City of Henderson	Total roads paved to date[18]	804	centerline miles[15]			
NDOT	Total roads paved to date (county)[18]	739	centerline miles[15]			
Total (based on VOC content of typical latex-based striping paint) (tpy):					**24.97**	
Total (based on lane miles paved) (tpy)/19:					**1.98**	

[1] Clark County Public Works, 2008 Road and Infrastructure Guide, p. 25 <http://www.accessclarkcounty.com/depts/public_works/Documents/2008PWRoadReport.pdf>.

[2] Clark County Public Works, 2008 Road and Infrastructure Guide, p. 25 <http://www.accessclarkcounty.com/depts/public_works/Documents/2008PWRoadReport.pdf> (acc. April 23, 2009).

[3] In 1998, the EPA published a final rule limiting VOC emissions for traffic marking material. The limit was established at 150 g/L (1.25 lbs/gal) (63 FR 48848, 48852; 40 CFR 59, Subpart D–National Volatile Organic Compound Emission Standards for Architectural Coatings, Table 1 to Subpart D of Part 29—Volatile Organic Compound (VOC), Content Limits for Architectural Coatings (accessed Apr. 28, 2009)). See footnotes 4, 5, 6, and 7 for MSDS of traffic marking paints.

[4] MSDS for "Stripers Choice" Latex Traffic Safety Marking Paint, TT-P-1952D, White, Quick Dry <http://www.somay.com/manufact/traffic/MSDS-1952-Q1.pdf> (accessed Mar. 18, 2009). VOC not expressed in units of weight/volume.

[5] MSDS for "Stripers Choice" Traffic Safety Marking Paint, TT-P-1952D, Lead Free Yellow, Quick Dry <http://www.somay.com/manufact/traffic/MSDS-1952-Q5.pdf> (accessed Mar. 18, 2009). VOC not expressed in units of weight/volume.

[6] MSDS, White Fast Dry Waterborne traffic paint MSDS, Franklin Paint Company <http://www.hardwarestore.com/media/msds/161521.pdf> (accessed Apr. 28, 2009). VOC coating content: 0.763 pounds per gallon.

[7] MSDS, High Solids Waterborne Lead Free Fast Dry Traffic Paint (white or yellow), Ennis Paint, Inc., <http://www.fltranscor.com/pdfs/MSDS%20waterbase%20paint.pdf> (accessed Apr. 28, 2009). VOC coating content: 1.3 pounds per gallon.

[8] "Over the past 10 years, transportation agencies in the United States have gradually replaced conventional solvent paints with waterborne (low VOC) paints and other newer pavement marking materials. Waterborne traffic paints are the most widely used and least expensive pavement marking material available." Jiang, Yi, Joint Transportation Research Program FHWA/IN/JTRP-2007/11, Durability and Retro-Reflectivity of Pavement Markings, p. 10 (Jan. 2008) http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1704&context=jtrp (accessed Apr. 28, 2009).

[9] Note that the 2005 CERR included solvent-based traffic marking paint, which is not allowed by EPA regulations (see footnote 19).

[10] E-mail from Randy Cotter, NDOT Maintenance Management Coordinator I (cc'ed: to William Hoffman, Chief Maintenance & Operations Engineer, NDOT) (Jan. 8, 2010).

[11] All paint used by Clark County Department of Public Works and NDOT (and presumably all city entity PWs) is latex-based paint per EPA regulations.

[12] Pavement markers are attached to road surface with "Butyl pads, Epoxy or Bitumen." <http://www.hyviz.com/hyvis/street.htm> (accessed Mar. 17, 2009). Size is 4" x 4" x 3/4". Id. Epoxy is sold with traffic markings. <http://www.timestriping.com/cat-page_5.htm> (accessed Mar. 17, 2009).

[13] MSDS for "G/flex 650 Epoxy Hardener" (selected as representative epoxy hardener) <http://www.westsystem.com/ss/assets/MSDS/MSDS650B.pdf> (accessed Mar. 18, 2009).

[14] City of Las Vegas, Public Works, Outlook 2008 <http://www.lasvegasnevada.gov/Publications/brochures.asp#> (accessed Mar. 17, 2009).

[15] "Lane miles refers to the total length of all lanes [on a road]. Centerline miles refers to the number of miles along the "center line" of a road regardless of the number of lanes it contains. It is used to estimate the total amount of roadway in a jurisdiction. Thus a four-lane road of two "centerline" miles would amount to eight lane miles." Metropolitan King County, Transportation Indicators, p. 90 <http://www.metrokc.gov/budget/benchmrk/bench01/01-bm-ch5.pdf> (accessed Apr. 23, 2009).

[16] Email from Richard Maroske, Principal Civil Engineer, Clark County Department of Public Works (Mar. 23, 2009), forwarded by, Wendy Fenner, Principal Civil Engineer, Clark County Public Works (Mar. 23, 2009).

[17] Email from Steve Jackson, Federal Programs Manager, Roadway Systems Division, NDOT (Apr. 1, 2009).

[18] Attachment in email from Steve Jackson, Federal Programs Manager, Roadway Systems Division, NDOT (Apr. 1, 2009).

[19] Note that number of centerline miles paved based on paint usage is almost 7x greater than that based on reported data. For this reason, EIIP's 16 gallon/lane-mile emission factor (see tab labeled "EFs") was not used.

Table 5-76. Population Data

Year	Unincorporated Clark County		City of Las Vegas	City of North Las Vegas	City of Henderson	City of Mesquite	City of Boulder City	Clark County (total)
	Valley	Outlying Areas						
2008	894,476	32,930	599,087	216,672	272,063	19,939	16,840	2,052,007

Note: Population estimates from demographic information available on Clark County Comprehensive Planning Department Web site.

Table 5-77. Traffic Marking Activity

Entity	Centerline Miles	Population	Ratio of Centerline Miles to Population
Clark County Public Works Dept.	37	894,476	4.17E-05
City of Las Vegas	17	599,087	2.84E-05
City of Henderson	11	272,063	4.20E-05
City of North Las Vegas	9	216,672	3.95E-05
Mesquite	0.76	19,939	
Boulder City	0.64	16,840	
		Average ratio:	3.79E-05

5.7.8 Industrial Surface Coating (Sector No. 8)

Baseline VOC emissions from the *industrial surface coating* sector are higher than for any other nonpoint sector, ranking first at 14.73 tpd. The use of solvent for surface coating is ubiquitous within the manufacturing industry. Emissions from the manufacture of 16 types of products used for surface coating are based on employment or population data.

Emissions from three of the manufactured products were based on EPA default values, obtained from an emissions inventory developed by EPA, in conjunction with E.H. Pechan & Associates, for the 2008 national emissions inventory (NEI) effort.[79] Default emissions applied to the manufacture of paper [SCC 2401030000], metal coils [SCC 2401045000], and aircraft [SCC 2401075000].

In some instances, the nonpoint emissions overlapped with permitted stationary source emissions. To account for this overlap, the nonpoint source emissions inventory was adjusted.

Table 5-78. Industrial Surface Coating Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2401015000	Solvent Utilization/Surface Coating/Factory Finished Wood: SIC 2426 Through 242/Total: All Solvent Types	0.00	0.00	1.09	0.00	0.00	1.30	0.00	0.00	1.48
2401020000	Solvent Utilization/Surface Coating/Wood Furniture: SIC 25/Total: All Solvent Types	0.00	0.00	1.42	0.00	0.00	1.54	0.00	0.00	2.05
2401030000	Solvent Utilization/Surface Coating/Paper: SIC 26/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2401040000	Solvent Utilization/Surface Coating/Metal Cans: SIC 341/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[79] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, *2008 National Emissions Inventory Data & Documentation*, available at http://www.epa.gov/ttn/chief/net/2008inventory.html#inventorydata (accessed July 8, 2010).

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2401045000	Solvent Utilization/Surface Coating/Metal Coils: SIC 3498/Total: All Solvent Types	0.00	0.00	0.46	0.00	0.00	0.56	0.00	0.00	0.67
2401050000	Solvent Utilization/Surface Coating/Miscellaneous Finished Metals: SIC 34 - (341 + 3498)/Total: All Solvent Types	0.00	0.00	0.68	0.00	0.00	0.82	0.00	0.00	0.99
2401055000	Solvent Utilization/Surface Coating/Machinery And Equipment: SIC 35/Total: All Solvent Types	0.00	0.00	0.33	0.00	0.00	0.38	0.00	0.00	0.51
2401060000	Solvent Utilization/Surface Coating/Large Appliances: SIC 363/Total: All Solvent Types	0.00	0.00	1.54	0.00	0.00	1.73	0.00	0.00	2.23
2401065000	Solvent Utilization/Surface Coating/Electronic And Other Electrical: SIC 36 - 363/Total: All Solvent Types	0.00	0.00	0.42	0.00	0.00	0.47	0.00	0.00	0.61
2401070000	Solvent Utilization/Surface Coating/Motor Vehicles: SIC 371/Total: All Solvent Types	0.00	0.00	0.13	0.00	0.00	0.15	0.00	0.00	0.19
2401075000	Solvent Utilization/Surface Coating/Aircraft: SIC 372/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2401080000	Solvent Utilization/Surface Coating/Marine: Sic 373/Total: All Solvent Types	0.00	0.00	0.06	0.00	0.00	0.07	0.00	0.00	0.08
2401085000	Solvent Utilization/Surface Coating/Railroad: SIC 374/Total: All Solvent Types	0.00	0.00	0.10	0.00	0.00	0.12	0.00	0.00	0.14
2401090000	Solvent Utilization/Surface Coating/Miscellaneous Manufacturing/Total: All Solvent Types	0.00	0.00	2.32	0.00	0.00	2.69	0.00	0.00	3.29
2401100000	Solvent Utilization/Surface Coating/Industrial Maintenance Coatings/Total: All Solvent Types	0.00	0.00	3.09	0.00	0.00	3.71	0.00	0.00	4.21
2401200000	Solvent Utilization/Surface Coating/Other Special Purpose Coatings/Total: All Solvent Types	0.00	0.00	3.09	0.00	0.00	3.75	0.00	0.00	4.49
Totals:		**0.00**	**0.00**	**14.73**	**0.00**	**0.00**	**17.30**	**0.00**	**0.00**	**20.95**
Difference (2022 - 2008):								**0.00**	**0.00**	**6.22**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.8.1 Emissions from Industrial Surface Coatings

Industrial Surface Coatings Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	Clark County population:	**1,986,146**

Table 5-79. Number of Industrial Surface Coating Employees in Clark County in 2008

NAICS	Estimated Employees
314999	121.0
321113	9.5
321114	0.0
321211	0.0
321212	0.0
321213	59.5
321214	487.0
321219	0.0
321911	251.0
321912	59.5
321918	110.0
32192	55.0
321991	0.0
321992	59.5
321999	9.5
331319	0.0
331422	0.0
331491	749.5
332212	26.0
332323	298.0
33241	0.0
332431	0.0
332439	0.0
33271	213.0
332812	67.0
332813	141.0
332912	9.5
332991	0.0
332997	0.0

NAICS	Estimated Employees
332999	151.0
333111	0.0
333112	0.0
33312	9.5
333131	0.0
333132	0.0
33321	59.5
33322	0.0
333291	0.0
333292	0.0
333293	9.5
333294	0.0
333295	0.0
333298	62.0
333311	9.5
333312	0.0
333313	0.0
333319	31.0
333411	0.0
333412	59.5
333414	59.5
333415	9.5
333511	0.0
333512	0.0
333513	59.5
333514	59.5
333515	9.5
333516	0.0
333518	0.0
333611	0.0
333612	0.0
333613	0.0
333618	0.0
333911	9.5
333912	0.0
333913	9.5
333921	0.0
333922	0.0
333923	9.5
333924	125.0
333991	0.0
333992	0.0

NAICS	Estimated Employees
333993	9.5
333994	0.0
333995	59.5
333996	0.0
333997	0.0
333999	174.5
334111	59.5
334112	59.5
334113	0.0
334119	0.0
334418	103.0
334518	0.0
334519	9.5
334613	59.5
335211	0.0
335212	0.0
335221	59.5
335222	0.0
335224	0.0
335228	0.0
335311	0.0
335921	0.0
335929	0.0
336111	9.5
336112	0.0
33612	0.0
336211	70.0
336212	0.0
336213	9.5
336214	0.0
336311	52.0
336312	59.5
336322	9.5
33633	9.5
33634	0.0
33635	0.0
33636	9.5
336391	0.0
336399	59.5
336411	9.5
336412	0.0
336413	59.5

NAICS	Estimated Employees
336414	0.0
336415	0.0
336419	0.0
33651	0.0
336611	0.0
336612	0.0
336991	25.0
336992	0.0
336999	24.0
33711	1,206.0
337121	59.5
337122	216.0
337124	9.5
337125	0.0
337127	9.5
337129	9.5
337211	9.5
337212	231.0
337214	0.0
337215	134.0
33791	9.5
33792	84.0
339111	0.0
339113	45.0
339612	0.0
339911	45.0
339912	9.5
339914	0.0
339942	0.0
339999	1,547.0
488390	0.0
54171	1,060.0
811490	105.0

Table 5-80. Emissions for Industrial Surface Coating

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	931.18	3,673.57

Table 5-81. Industrial Surface Coating Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2401015000	Solvent Utilization	Surface Coating	Factory Finished Wood: SIC 2426 Thru 242	Total: All Solvent Types	0	0	275.43
2401020000	Solvent Utilization	Surface Coating	Wood Furniture: SIC 25	Total: All Solvent Types	0	0	370.52
2401040000	Solvent Utilization	Surface Coating	Metal Cans: SIC 341	Total: All Solvent Types	0	0	0.00
2401050000	Solvent Utilization	Surface Coating	Miscellaneous Finished Metals: Sic 34 - (341 + 3498)	Total: All Solvent Types	0	0	175.50
2401055000	Solvent Utilization	Surface Coating	Machinery And Equipment: SIC 35	Total: All Solvent Types	0	0	84.62
2401060000	Solvent Utilization	Surface Coating	Large Appliances: Sic 363	Total: All Solvent Types	0	0	400.26
2401065000	Solvent Utilization	Surface Coating	Electronic And Other Electrical: SIC 36 - 363	Total: All Solvent Types	0	0	108.75
2401070000	Solvent Utilization	Surface Coating	Motor Vehicles: Sic 371	Total: All Solvent Types	0	0	31.76
2401080000	Solvent Utilization	Surface Coating	Marine: SIC 373	Total: All Solvent Types	0	0	16.17
2401085000	Solvent Utilization	Surface Coating	Railroad: SIC 374	Total: All Solvent Types	0	0	25.80
2401090000	Solvent Utilization	Surface Coating	Miscellaneous Manufacturing	Total: All Solvent Types	0	0	595.84
2401100000	Solvent Utilization	Surface Coating	Industrial Maintenance Coatings	Total: All Solvent Types	0	0	794.46
2401200000	Solvent Utilization	Surface Coating	Other Special Purpose Coatings	Total: All Solvent Types	0	0	794.46

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-82. Clark County Population

Year	Population[1]
2008	1,986,146

[1]Population Rebased Forecast <http://www.accessclarkcounty.com/depts/comprehensive_planning/demographics/Documents/FinalPopforecast.pdf> accessed May 14, 2008.

Table 5-83. Number of Clark County Employees

SCC	Description	2008
		Employees in Clark County
2401015000	Factory Finished Wood	4,205
2401020000	Furniture	785
2401040000	Metal Cans	0
2401050000	Misc. Finished Metals	122
2401055000	Machinery and Equipment	2,198
2401060000	Appliances	1,729
2401065000	Electronic/Electrical	750
2401070000	Motor Vehicles	80
2401080000	Marine	105
2401850000	Railroad/Other	1,474
2401090000	Other Product Coatings (Misc. Manufacturing)[1]	See Table 3
2401100000	High Performance Industrial Maintenance Coating[1]	See Table 3
2401200000	Other Special Purpose Coatings[1]	See Table 3

[1]Population- rather than employee-based.

Table 5-84. VOC Emission Factors from Industrial Coating

SCC	Description	VOC Emission Factors	Units
2401015000	Factory Finished Wood	131	lb/employee/yr
2401020000	Furniture	944	lb/employee/yr
2401040000	Metal Cans	6,029	lb/employee/yr
2401050000	Misc. Finished Metals	2,877	lb/employee/yr
2401055000	Machinery and Equipment	77	lb/employee/yr
2401060000	Appliances	463	lb/employee/yr
2401065000	Electronic/Electrical	290	lb/employee/yr
2401070000	Motor Vehicles	794	lb/employee/yr
2401080000	Marine	308	lb/employee/yr
2401850000	Railroad/Other	35	lb/employee/yr
2401090000	Other Product Coatings (Misc. Manufacturing)	1	lb/person/yr
2401100000	High Performance Industrial Maintenance Coatings	1	lb/person/yr
2401200000	Other Special Purpose Coatings	1	lb/person/yr

Table 5-85. VOC Emissions Summary for Industrial Surface Coating Operations

SCC	Description	2008 VOC Emissions (tpy)
2401015000	Factory Finished Wood	275.43
2401020000	Furniture	370.52
2401040000	Metal Cans	0.00
2401050000	Misc. Finished Metals	175.50
2401055000	Machinery and Equipment	84.62
2401060000	Appliances	400.26
2401065000	Electronic/Electrical	108.75
2401070000	Motor Vehicles	31.76
2401080000	Marine	16.17
2401850000	Railroad/Other	25.80
2401090000	Other Product Coatings (Misc. Manufacturing)	595.84
2401100000	High Performance Industrial Maintenance Coatings	794.46
2401200000	Other Special Purpose Coatings	794.46
	Total:	**3,673.57**

Table 5-86. Number of Clark County Industrial Surface Coating Employees[1]

SCC	SIC	2007 NAICS	2008 Estimated Employees in Clark County
Factory Finished Wood Employees			
2401015000 Factory Finished Wood	2426-2429	32192	55
2401015000 Factory Finished Wood	2426-2429	321113	10
2401015000 Factory Finished Wood	2426-2429	321912	60
2401015000 Factory Finished Wood	2426-2429	321918	110
2401015000 Factory Finished Wood	2426-2429	321999	10
2401015000 Factory Finished Wood	2426-2429	337215	134
2401015000 Factory Finished Wood	243 to 245	33711	1,206
2401015000 Factory Finished Wood	243 to 245	321211	0
2401015000 Factory Finished Wood	243 to 245	321212	0
2401015000 Factory Finished Wood	243 to 245	321213	60
2401015000 Factory Finished Wood	243 to 245	321214	487
2401015000 Factory Finished Wood	243 to 245	321911	251
2401015000 Factory Finished Wood	243 to 245	321918	110
2401015000 Factory Finished Wood	243 to 245	321991	0
2401015000 Factory Finished Wood	243 to 245	321992	60
2401015000 Factory Finished Wood	2493	321219	0
2401015000 Factory Finished Wood	2499	333414	60
2401015000 Factory Finished Wood	2499	339999	1,547
2401015000 Factory Finished Wood	2491	321114	0
2401015000 Factory Finished Wood	2499	339113	45

SCC	SIC	2007 NAICS	2008
			Estimated Employees in Clark County
Total Factory Finished Wood Employees:			**4,205**
Furniture Employees			
2401020000 Furniture	25	33636	10
2401020000 Furniture	25	33791	10
2401020000 Furniture	25	33792	84
2401020000 Furniture	25	337121	60
2401020000 Furniture	25	337122	216
2401020000 Furniture	25	337124	10
2401020000 Furniture	25	337125	0
2401020000 Furniture	25	337127	10
2401020000 Furniture	25	337129	10
2401020000 Furniture	25	337211	10
2401020000 Furniture	25	337212	231
2401020000 Furniture	25	337214	0
2401020000 Furniture	25	337215	134
2401020000 Furniture	25	339111	0
2401020000 Furniture	25	339942	0
Total Furniture Employees:			**785**
Metal Cans Employees			
2401040000 Metal Cans	341	332431	0
2401040000 Metal Cans	341	332439	0
Total Metal Cans Employees:			**0**
Miscellaneous Finished Metals Employees			
2401050000 Misc. Finished Metals	3479	332812	67
2401050000 Misc. Finished Metals	3479	339911	45
2401050000 Misc. Finished Metals	3479	339912	10
2401050000 Misc. Finished Metals	3479	339914	0
Total Miscellaneous Finished Metal Employees:			**122**
Machinery and Equipment Employees			
2401055000 Machinery and Equipment	35	33241	0
2401055000 Machinery and Equipment	35	33271	213
2401055000 Machinery and Equipment	35	33312	10
2401055000 Machinery and Equipment	35	33321	60
2401055000 Machinery and Equipment	35	33322	0
2401055000 Machinery and Equipment	35	33651	0
2401055000 Machinery and Equipment	35	314999	121
2401055000 Machinery and Equipment	35	332212	26
2401055000 Machinery and Equipment	35	332323	298
2401055000 Machinery and Equipment	35	332439	0
2401055000 Machinery and Equipment	35	332991	0
2401055000 Machinery and Equipment	35	332997	0

SCC	SIC	2007 NAICS	2008 Estimated Employees in Clark County
2401055000 Machinery and Equipment	35	332999	151
2401055000 Machinery and Equipment	35	333111	0
2401055000 Machinery and Equipment	35	333112	0
2401055000 Machinery and Equipment	35	333131	0
2401055000 Machinery and Equipment	35	333132	0
2401055000 Machinery and Equipment	35	333291	0
2401055000 Machinery and Equipment	35	333292	0
2401055000 Machinery and Equipment	35	333293	10
2401055000 Machinery and Equipment	35	333294	0
2401055000 Machinery and Equipment	35	333295	0
2401055000 Machinery and Equipment	35	333298	62
2401055000 Machinery and Equipment	35	333311	10
2401055000 Machinery and Equipment	35	333312	0
2401055000 Machinery and Equipment	35	333313	0
2401055000 Machinery and Equipment	35	333319	31
2401055000 Machinery and Equipment	35	333411	0
2401055000 Machinery and Equipment	35	333412	60
2401055000 Machinery and Equipment	35	333414	60
2401055000 Machinery and Equipment	35	333415	10
2401055000 Machinery and Equipment	35	333511	0
2401055000 Machinery and Equipment	35	333512	0
2401055000 Machinery and Equipment	35	333513	60
2401055000 Machinery and Equipment	35	333514	60
2401055000 Machinery and Equipment	35	333515	10
2401055000 Machinery and Equipment	35	333516	0
2401055000 Machinery and Equipment	35	333518	0
2401055000 Machinery and Equipment	35	333611	0
2401055000 Machinery and Equipment	35	333612	0
2401055000 Machinery and Equipment	35	333613	0
2401055000 Machinery and Equipment	35	333618	0
2401055000 Machinery and Equipment	35	333911	10
2401055000 Machinery and Equipment	35	333912	0
2401055000 Machinery and Equipment	35	333913	10
2401055000 Machinery and Equipment	35	333921	0
2401055000 Machinery and Equipment	35	333922	0
2401055000 Machinery and Equipment	35	333923	10
2401055000 Machinery and Equipment	35	333924	125
2401055000 Machinery and Equipment	35	333991	0
2401055000 Machinery and Equipment	35	333992	0
2401055000 Machinery and Equipment	35	333993	10
2401055000 Machinery and Equipment	35	333994	0
2401055000 Machinery and Equipment	35	333995	60

SCC	SIC	2007 NAICS	2008 Estimated Employees in Clark County
2401055000 Machinery and Equipment	35	333999	175
2401055000 Machinery and Equipment	35	333996	0
2401055000 Machinery and Equipment	35	333997	0
2401055000 Machinery and Equipment	35	334111	60
2401055000 Machinery and Equipment	35	334112	60
2401055000 Machinery and Equipment	35	334113	0
2401055000 Machinery and Equipment	35	334119	0
2401055000 Machinery and Equipment	35	334418	103
2401055000 Machinery and Equipment	35	334518	0
2401055000 Machinery and Equipment	35	334613	60
2401055000 Machinery and Equipment	35	335311	0
2401055000 Machinery and Equipment	35	336311	52
2401055000 Machinery and Equipment	35	336391	0
2401055000 Machinery and Equipment	35	336399	60
2401055000 Machinery and Equipment	35	339942	0
2401055000 Machinery and Equipment	35	332813	141
2401055000 Machinery and Equipment	35	334519	10
Total Machinery and Equipment Employees:			**2,198**
Appliance Employees			
2401060000 Appliances	363	333298	62
2401060000 Appliances	363	333414	60
2401060000 Appliances	363	335211	0
2401060000 Appliances	363	335212	0
2401060000 Appliances	363	335221	60
2401060000 Appliances	363	335222	0
2401060000 Appliances	363	335224	0
2401060000 Appliances	363	335228	0
2401060000 Appliances	363	339999	1,547
Total Appliance Employees:			**1,729**
Electronic/Electrical Employees			
2401065000 Electronic/Electric	3357	331319	0
2401065000 Electronic/Electric	3357	331422	0
2401065000 Electronic/Electric	3357	331491	750
2401065000 Electronic/Electric	3357	335921	0
2401065000 Electronic/Electric	3357	335929	0
2401065000 Electronic/Electric	3612	335311	0
Total Electronic/Electrical Employees:			**750**
Motor Vehicles Employees			
2401070000 Motor Vehicles	3711	33612	0
2401070000 Motor Vehicles	3711	336111	10
2401070000 Motor Vehicles	3711	336112	0

SCC	SIC	2007 NAICS	2008 Estimated Employees in Clark County
2401070000 Motor Vehicles	3711	336211	70
2401070000 Motor Vehicles	3711	336992	0
Total Motor Vehicles Employees:			**80**
Marine Employees			
SCC: 2401080000 Marine	373	488390	0
SCC: 2401080000 Marine	3711	811490	105
SCC: 2401080000 Marine	3711	336611	0
SCC: 2401080000 Marine	3711	336612	0
Total Marine Employees:			**105**
Railroad/Other Employees			
SCC: 2401085000 Railroad/Other	37	33633	10
SCC: 2401085000 Railroad/Other	37	33634	0
SCC: 2401085000 Railroad/Other	37	33635	0
SCC: 2401085000 Railroad/Other	37	33651	0
SCC: 2401085000 Railroad/Other	37	54171	1,060
SCC: 2401085000 Railroad/Other	37	332912	10
SCC: 2401085000 Railroad/Other	37	333911	10
SCC: 2401085000 Railroad/Other	37	333924	125
SCC: 2401085000 Railroad/Other	37	336212	0
SCC: 2401085000 Railroad/Other	37	336213	10
SCC: 2401085000 Railroad/Other	37	336214	0
SCC: 2401085000 Railroad/Other	37	336312	60
SCC: 2401085000 Railroad/Other	37	336322	10
SCC: 2401085000 Railroad/Other	37	336399	60
SCC: 2401085000 Railroad/Other	37	336411	10
SCC: 2401085000 Railroad/Other	37	336412	0
SCC: 2401085000 Railroad/Other	37	336413	60
SCC: 2401085000 Railroad/Other	37	336414	0
SCC: 2401085000 Railroad/Other	37	336415	0
SCC: 2401085000 Railroad/Other	37	336419	0
SCC: 2401085000 Railroad/Other	37	336991	25
SCC: 2401085000 Railroad/Other	37	336992	0
SCC: 2401085000 Railroad/Other	37	336999	24
SCC: 2401085000 Railroad/Other	37	339612	0
Total Railroad/Other Employees:			**1,474**

[1]Required to either input by individual NAICS codes or by SCC totals..

5.7.9 Degreasing (Sector No. 9)

Emissions from the *degreasing* sector were based on employment activity data. A total of 12 SCC subsectors were identified. Emissions from the auto repair SCC were significantly higher than the other 11 SCCs. The auto repair degreasing emissions represented approximately 74% of the total *degreasing* sector emissions.

The baseline VOC emissions from the *degreasing* sector are relatively high and ranked second (13.02 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-87. Degreasing Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2415005000	Solvent Utilization/Degreasing/Furniture and Fixtures (SIC 25): All Processes/Total: All Solvent Types	0.00	0.00	0.92	0.00	0.00	1.00	0.00	0.00	1.33
2415020000	Solvent Utilization/Degreasing/Fabricated Metal Products (SIC 34): All Processes/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2415025000	Solvent Utilization/Degreasing/Industrial Machinery and Equipment (SIC 35): All Processes/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2415030000	Solvent Utilization/Degreasing/Electronic and Other Elec. (SIC 36): All Processes/Total: All Solvent Types	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.02
2415035000	Solvent Utilization/Degreasing/Transportation Equipment (SIC 37): All Processes/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2415040000	Solvent Utilization/Degreasing/Instruments and Related Products (SIC 38): All Processes/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
2415045000	Solvent Utilization/Degreasing/Miscellaneous Manufacturing (SIC 39): All Processes/Total: All Solvent Types	0.00	0.00	0.11	0.00	0.00	0.13	0.00	0.00	0.16
2415050000	Solvent Utilization/Degreasing/Transportation Maintenance Facilities (SIC 40-45): All Processes/Total: All Solvent Types	0.00	0.00	0.38	0.00	0.00	0.49	0.00	0.00	0.58
2415230000	Solvent Utilization/Degreasing/Electronic and Other Elec. (SIC 36): Conveyerized Degreasing/Total: All Solvent Types	0.00	0.00	0.05	0.00	0.00	0.06	0.00	0.00	0.08
	Totals:	**0.00**	**0.00**	**10.85**	**0.00**	**0.00**	**12.97**	**0.00**	**0.00**	**14.81**
	Difference (2022 - 2008):							**0.00**	**0.00**	**3.96**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.9.1 Emissions from Degreasing

Degreasing Emission Calculations Input Parameters:

1. Year of emissions analysis:[1] **2008**

2.	Summer inventory complete (yes or no):[1]	**Yes**
3.	Annual inventory complete (yes or no):[1]	**Yes**

[1]Not required for calculations.

Table 5-88. Clark County Employment for Solvent Cleanup Equipment and Activities

NAICS	Employees in Clark County[1]
314999	2,008.0
316110	0.0
316211	0.0
321999	0.0
322221	9.5
322225	0.0
322291	374.5
323113	388.0
324199	0.0
325520	0.0
325991	59.5
325992	0.0
325998	9.5
326112	0.0
326113	174.5
326150	59.5
326192	59.5
326199	1,161.0
326212	9.5
326220	9.5
331111	59.5
331112	0.0
331210	0.0
331221	0.0
331222	0.0
331312	0.0
331314	0.0
331315	0.0
331316	0.0
331319	59.5
331411	0.0
331419	0.0
331421	0.0
331423	0.0
331491	0.0
331492	0.0
331511	9.5
331512	0.0
331513	0.0

NAICS	Employees in Clark County[1]
331521	0.0
331522	0.0
331524	9.5
331525	0.0
331528	9.5
332111	0.0
332112	0.0
332114	0.0
332115	0.0
332116	9.0
332117	0.0
332211	0.0
332212	0.0
332213	9.5
332214	0.0
332311	59.5
332312	121.0
332313	9.5
332321	139.0
332322	402.0
332323	749.5
332410	0.0
332420	0.0
332431	298.0
332439	0.0
332510	174.5
332611	9.5
332612	0.0
332618	59.5
332710	213.0
332721	21.0
332722	174.5
332811	9.5
332812	0.0
332813	213.0
332911	0.0
332912	67.0
332913	0.0
332919	9.5
332992	0.0
332993	0.0
332994	9.5
332995	9.5
332996	59.5
332997	9.5
332998	0.0
332999	151.0

NAICS	Employees in Clark County[1]
333111	0.0
333112	151.0
333120	9.5
333131	0.0
333132	9.5
333210	59.5
333220	59.5
333291	59.5
333292	0.0
333293	0.0
333294	0.0
333295	9.5
333298	0.0
333311	0.0
333312	62.0
333313	9.5
333314	9.5
333315	0.0
333319	0.0
333411	0.0
333412	31.0
333414	59.5
333415	59.5
333511	59.5
333512	9.5
333513	0.0
333514	0.0
333515	59.5
333516	59.5
333518	9.5
333611	0.0
333612	0.0
333613	0.0
333618	0.0
333911	0.0
333912	0.0
333921	0.0
333922	9.5
333923	0.0
333924	0.0
333991	9.5
333992	125.0
333993	0.0
333994	0.0
333995	9.5
333996	0.0
333997	59.5

NAICS	Employees in Clark County[1]
333999	0.0
334111	0.0
334112	174.5
334113	59.5
334119	59.5
334210	59.5
334220	9.5
334290	9.5
334310	9.5
334322	0.0
334411	0.0
334412	174.5
334413	0.0
334414	0.0
334415	0.0
334416	9.5
334417	174.5
334418	0.0
334419	9.5
334510	59.5
334511	0.0
334512	9.5
334513	174.5
334514	9.5
334515	59.5
334516	59.5
334517	9.5
334518	0.0
334519	103.0
334612	9.5
334613	0.0
335110	59.5
335121	59.5
335122	59.5
335129	9.5
335211	9.5
335212	59.5
335221	0.0
335222	0.0
335224	59.5
335228	0.0
335311	0.0
335312	0.0
335313	38.0
335314	9.5
335911	9.5
335912	59.5

NAICS	Employees in Clark County[1]
335921	0.0
335929	0.0
335931	0.0
335932	0.0
335991	0.0
335999	9.5
336111	0.0
336112	0.0
336113	0.0
336120	0.0
336121	0.0
336122	0.0
336130	0.0
336140	0.0
336150	0.0
336160	0.0
336191	0.0
336199	0.0
336211	0.0
336212	0.0
336213	70.0
336214	0.0
336311	9.5
336312	0.0
336321	0.0
336322	52.0
336330	9.5
336340	0.0
336350	0.0
336360	9.5
336370	0.0
336399	9.5
336411	0.0
336412	59.5
336413	9.5
336414	0.0
336415	59.5
336419	0.0
336510	0.0
336611	0.0
336612	0.0
336991	0.0
336992	0.0
336999	25.0
337110	1,206.0
337121	24.0
337122	1,206.0

NAICS	Employees in Clark County[1]
337124	59.5
337125	216.0
337127	9.5
337129	0.0
337211	9.5
337214	9.5
337215	231.0
337910	9.5
337920	84.0
339111	9.5
339112	174.5
339113	84.0
339114	24.0
339115	9.5
339911	45.0
339912	0.0
339913	0.0
339914	45.0
339920	9.5
339931	9.5
339932	249.0
339941	59.5
339942	9.5
339943	9.5
339944	59.5
339950	1,382.0
339991	9.5
339992	9.5
339993	0.0
339994	9.5
339995	0.0
339999	0.0
441110	8,483.0
441120	1,024.0
441210	447.0
441222	147.0
447110	4,495.0
447190	462.0
488390	0.0
488490	91.0
512220	0.0
541710	1,060.0
561920	7,688.0
811111	1,616.0
811112	59.5
811113	108.0
811118	265.0

NAICS	Employees in Clark County[1]
811121	1,390.0
811122	167.0
811198	210.0
811490	0.0

Table 5-89. Degreasing Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	840.96	847.69

Table 5-90. Degreasing Emissions Summary by SCC (tons)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2415005000	Solvent Utilization	Degreasing	Furniture and Fixtures (SIC 25): All Processes	Total: All Solvent Types	0	0	284.80
2415020000	Solvent Utilization	Degreasing	Fabricated Metal Products (SIC 34): All Processes	Total: All Solvent Types	0	0	0.00
2415025000	Solvent Utilization	Degreasing	Industrial Machinery and Equipment (SIC 35): All Processes	Total: All Solvent Types	0	0	0.00
2415030000	Solvent Utilization	Degreasing	Electronic and Other Elec. (SIC 36): All Processes	Total: All Solvent Types	0	0	1.76
2415035000	Solvent Utilization	Degreasing	Transportation Equipment (SIC 37): All Processes	Total: All Solvent Types	0	0	0.40
2415040000	Solvent Utilization	Degreasing	Instruments and Related Products (SIC 38): All Processes	Total: All Solvent Types	0	0	1.05
2415045000	Solvent Utilization	Degreasing	Miscellaneous Manufacturing (SIC 39): All Processes	Total: All Solvent Types	0	0	35.26
2415050000	Solvent Utilization	Degreasing	Transportation Maintenance Facilities (SIC 40-45): All Processes	Total: All Solvent Types	0	0	117.76
2415230000	Solvent Utilization	Degreasing	Electronic and Other Elec. (SIC 36): Conveyerized Degreasing	Total: All Solvent Types	0	0	16.22
2415245000	Solvent Utilization	Degreasing	Miscellaneous Manufacturing (SIC 39): Conveyerized Degreasing	Total: All Solvent Types	0	0	181.71
2415345000	Solvent Utilization	Degreasing	Miscellaneous Manufacturing (SIC 39): Cold Cleaning	Total: All Solvent Types	0	0	222.57

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2415360000	Solvent Utilization	Degreasing	Auto Repair Services (SIC 75): Cold Cleaning	Total: All Solvent Types	0	0	2,502.32

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-91. VOC Emissions Summary from Degreasing

SCC	Industry	Emissions (tpy per employee)	Employees	Emissions (tpy)	Comments
Solvent Cleanup Activities					
2415045000	Adhesives	8.5214	0	0.00	
	Autobody Refinishing	0.3905			Emissions not estimated since already included as **autobody refinishing** nonpoint source.
2415035000	Automotive-Manufacturing	0.1418	0	0.00	
2415035000	Automotive-Parts/Accessories	0.0057	71	0.40	
2415020000	Automotive-Stamping	0.0030	0	0.00	
2415035000	Automotive-Trucks and Buses	0.4039	0	0.00	
2415030000	Electrical Equipment	0.0015	1,145	1.76	
	FRP Boats				Emissions not estimated since no FRP boat manufacturing within Clark County.
2415005000	Furniture	0.0921	3,093	284.80	
	Lithographic Printing	0.0089			Emissions not estimated since already included as **graphic arts** nonpoint source.
2415025000	Magnetic Tape	0.0141	0	0.00	
2415050000	Packaging	0.0130	9,079	117.76	
2415040000	Photographic Supplies	0.0057	184	1.05	
2415045000	Plastics	0.0895	394	35.26	
	Rotogravure Printing	0.8467			Emissions not estimated since already included as **graphic arts** nonpoint source.
			Subtotal:	**441.04**	
Solvent Cleanup Equipment					
2415360000	Auto Repair Services: Cold Cleaning	0.1319	18,974	2,502.32	The VOC emission factors (EFs) for the industry categories were obtained from EPA, *Emission Inventory*

SCC	Industry	Emissions (tpy per employee)	Employees	Emissions (tpy)	Comments
					Improvement Program (EIIP), Vol. III, Ch. 6, Solvent Cleaning, p. 6.5-5 (Sep 1997). The EFs were developed prior to the date when EPA required PERC removal in 1995 (see explanation in EIIP). Therefore the EFs were reduced by the amount of PERC included in the EF (i.e., 2.31%). These comments apply to all four industry categories.
2415345000	Miscellaneous Manufacturing (SIC 39): Cold Cleaning – Total: All Solvent Types	0.0117	18,986	222.57	
2415230000	Electronic and Other Electrical: Conveyerized Degreasing *(i.e., vapor and in-line cleaning)*	0.0142	1,145	16.22	
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing *(i.e., vapor and in-line cleaning)*	0.0048	37,960	181.71	
				Subtotal:	**2,922.81**	Note: '07 & '08 emissions identical because both based on latest available employment data (2006).
				Total:	**3,363.85**	

Table 5-92. Clark County Employment for Solvent Cleanup and Equipment Activities

SCC	Industry	NAICS	Clark County Employees[1]
Employment for Solvent Cleanup Activities			
2415045000	Adhesives	325520	0
	Total:		**0**
2415035000	Automotive-Manufacturing	336111	0
2415035000	Automotive-Manufacturing	336112	0
2415035000	Automotive-Manufacturing	336120	0
2415035000	Automotive-Manufacturing	336211	0
2415035000	Automotive-Manufacturing	336992	0
	Total:		**0**
2415035000	Automotive-Parts/ Accessories	336211	0
2415035000	Automotive-Parts/Accessories	336312	0
2415035000	Automotive-Parts/ Accessories	336322	52
2415035000	Automotive-Parts/ Accessories	336330	10
2415035000	Automotive-Parts/ Accessories	336340	0
2415035000	Automotive-Parts/ Accessories	336350	0
2415035000	Automotive-Parts/ Accessories	336399	10
	Total:		**71**
2415020000	Automotive-Stamping	336370	0
	Total:		**0**
2415035000	Automotive-Trucks and Buses	336211	0
	Total:		**0**
2415030000	Electrical Equipment	332212	0
2415030000	Electrical Equipment	512220	0
2415030000	Electrical Equipment	339999	0
2415030000	Electrical Equipment	333298	0
2415030000	Electrical Equipment	333319	0
2415030000	Electrical Equipment	333414	60
2415030000	Electrical Equipment	333618	0
2415030000	Electrical Equipment	333992	125
2415030000	Electrical Equipment	336321	0
2415030000	Electrical Equipment	336322	52
2415030000	Electrical Equipment	335110	60
2415030000	Electrical Equipment	335121	60
2415030000	Electrical Equipment	335122	60
2415030000	Electrical Equipment	335129	10
2415030000	Electrical Equipment	335211	10
2415030000	Electrical Equipment	335212	60
2415030000	Electrical Equipment	335221	0

SCC	Industry	NAICS	Clark County Employees[1]
2415030000	Electrical Equipment	335222	0
2415030000	Electrical Equipment	335224	60
2415030000	Electrical Equipment	335228	0
2415030000	Electrical Equipment	335311	0
2415030000	Electrical Equipment	335312	0
2415030000	Electrical Equipment	335313	38
2415030000	Electrical Equipment	335314	10
2415030000	Electrical Equipment	335911	10
2415030000	Electrical Equipment	335912	60
2415030000	Electrical Equipment	335931	0
2415030000	Electrical Equipment	335932	0
2415030000	Electrical Equipment	335991	0
2415030000	Electrical Equipment	335999	10
2415030000	Electrical Equipment	334210	60
2415030000	Electrical Equipment	334220	10
2415030000	Electrical Equipment	334290	10
2415030000	Electrical Equipment	334310	10
2415030000	Electrical Equipment	334322	0
2415030000	Electrical Equipment	334411	0
2415030000	Electrical Equipment	334412	175
2415030000	Electrical Equipment	334413	0
2415030000	Electrical Equipment	334414	0
2415030000	Electrical Equipment	334415	0
2415030000	Electrical Equipment	334416	10
2415030000	Electrical Equipment	334417	175
2415030000	Electrical Equipment	334418	0
2415030000	Electrical Equipment	334419	10
2415030000	Electrical Equipment	334612	10
2415030000	Electrical Equipment	334613	0
	Total:		**1,145**
2415005000	Furniture	336360	10
2415005000	Furniture	339111	10
2415005000	Furniture	339942	10
2415005000	Furniture	337110	1,206
2415005000	Furniture	337121	24
2415005000	Furniture	337122	1,206
2415005000	Furniture	337124	60
2415005000	Furniture	337125	216
2415005000	Furniture	337127	10
2415005000	Furniture	337129	0
2415005000	Furniture	337211	10

SCC	Industry	NAICS	Clark County Employees[1]
2415005000	Furniture	337214	10
2415005000	Furniture	337215	231
2415005000	Furniture	337910	10
2415005000	Furniture	337920	84
	Total:		**3,093**
2415025000	Magnetic Tape	334613	0
	Total:		**0**
2415050000	Packaging	322221	10
2415050000	Packaging	326112	0
2415050000	Packaging	322225	0
2415050000	Packaging	332999	151
2415050000	Packaging	333993	0
2415050000	Packaging	325998	10
2415050000	Packaging	561920	7,688
2415050000	Packaging	326150	60
2415050000	Packaging	326199	1,161
	Total:		**9,079**
2415040000	Photographic Supplies	325992	0
2415040000	Photographic Supplies	326113	175
2415040000	Photographic Supplies	333314	10
2415040000	Photographic Supplies	333315	0
	Total:		**184**
2415045000	Plastics	316211	0
2415045000	Plastics	325991	60
2415045000	Plastics	326220	10
2415045000	Plastics	337215	231
2415045000	Plastics	339113	84
2415045000	Plastics	339991	10
2415045000	Plastics	336113	0
2415045000	Plastics	336121	0
2415045000	Plastics	336122	0
2415045000	Plastics	336130	0
2415045000	Plastics	336140	0
2415045000	Plastics	336150	0
2415045000	Plastics	336160	0
2415045000	Plastics	336191	0
2415045000	Plastics	336199	0
	Total:		**394**
Employment for Solvent Cleanup Equipment			
2415360000	Auto Repair Services: Cold Cleaning Equipment	488490	91
2415360000	Auto Repair Services: Cold Cleaning Equipment	441110	8,483

SCC	Industry	NAICS	Clark County Employees[1]
2415360000	Auto Repair Services: Cold Cleaning Equipment	441120	1,024
2415360000	Auto Repair Services: Cold Cleaning Equipment	447110	4,495
2415360000	Auto Repair Services: Cold Cleaning Equipment	447190	462
2415360000	Auto Repair Services: Cold Cleaning Equipment	441222	147
2415360000	Auto Repair Services: Cold Cleaning Equipment	441210	447
2415360000	Auto Repair Services: Cold Cleaning Equipment	326212	10
2415360000	Auto Repair Services: Cold Cleaning Equipment	811111	1,616
2415360000	Auto Repair Services: Cold Cleaning Equipment	811112	60
2415360000	Auto Repair Services: Cold Cleaning Equipment	811113	108
2415360000	Auto Repair Services: Cold Cleaning Equipment	811118	265
2415360000	Auto Repair Services: Cold Cleaning Equipment	811121	1,390
2415360000	Auto Repair Services: Cold Cleaning Equipment	811122	167
2415360000	Auto Repair Services: Cold Cleaning Equipment	811198	210
	Total:		**18,974**
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336360	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339111	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339942	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337110	1,206
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337121	24
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337122	1,206
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337124	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337125	216
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337127	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337129	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337211	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337214	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337215	231
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337910	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337920	84
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	324199	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332618	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332811	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332813	213
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335921	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335929	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331111	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331112	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331210	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331221	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331222	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331312	0

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331314	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331315	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331316	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331319	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331411	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331419	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331421	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331423	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331491	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331492	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331511	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331512	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331513	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331521	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331522	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331524	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331525	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	331528	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	322225	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333414	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333415	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333923	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333924	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334518	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336360	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336399	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336370	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337215	231
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339911	45
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339912	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339914	45
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332111	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332112	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332114	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332115	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332116	9
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332117	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332211	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332212	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332213	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332214	0

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332311	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332312	121
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332313	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332321	139
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332322	402
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332323	750
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332410	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332420	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332431	298
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332439	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332510	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332611	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332612	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332618	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332721	21
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332722	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332812	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332813	213
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332911	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332912	67
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332913	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332919	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332992	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332993	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332994	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332995	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332996	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332998	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332999	151
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	314999	2,008
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332212	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332323	750
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332410	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332439	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332710	213
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332813	213
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332997	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332999	151
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333111	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333112	151
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333120	10

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333131	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333132	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333210	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333220	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333291	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333292	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333293	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333294	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333295	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333298	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333311	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333312	62
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333313	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333319	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333411	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333412	31
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333414	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333415	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333511	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333512	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333513	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333514	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333515	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333516	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333518	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333611	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333612	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333613	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333618	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333911	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333912	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333921	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333922	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333923	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333991	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333992	125
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333993	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333994	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333995	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333996	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333997	60

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333999	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334111	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334112	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334113	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334119	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334418	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334518	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334519	103
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334613	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335311	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336311	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336399	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336510	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339942	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332212	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	512220	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339999	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333298	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333319	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333414	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333618	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333992	125
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336321	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336322	52
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335110	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335121	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335122	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335129	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335211	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335212	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335221	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335222	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335224	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335228	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335311	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335312	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335313	38
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335314	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335911	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335912	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335931	0

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335932	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335991	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335999	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334210	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334220	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334290	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334310	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334322	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334411	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334412	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334413	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334414	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334415	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334416	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334417	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334418	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334419	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334612	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334613	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332912	67
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333911	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333924	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336111	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336112	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336120	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336211	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336212	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336213	70
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336214	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336312	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336322	52
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336330	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336340	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336350	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336399	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336411	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336412	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336413	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336414	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336415	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336419	0

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336510	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336611	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336612	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336991	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336992	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336999	25
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	488390	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	541710	1,060
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	811490	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	322291	375
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	325992	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333314	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333315	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334510	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334511	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334512	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334513	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334514	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334515	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334516	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334517	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334518	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334519	103
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339111	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339112	175
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339113	84
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339114	24
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339115	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339999	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	316110	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	321999	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	323113	388
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	325998	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	326192	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	326199	1,161
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332211	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332212	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332812	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	332999	151
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	333319	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	334518	0

SCC	Industry	NAICS	Clark County Employees[1]
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335121	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	335211	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	336991	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	337127	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339911	45
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339912	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339913	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339914	45
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339920	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339931	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339932	249
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339941	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339942	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339943	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339944	60
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339950	1,382
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339991	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339992	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339993	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339994	10
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339995	0
2415345000	Miscellaneous Manufacturing: Cold Cleaning Equipment	339999	0
	Total:		**18,986**
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	332212	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	512220	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	339999	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	333298	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	333319	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	333414	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	333618	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	333992	125
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	336321	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	336322	52
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335110	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335121	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335122	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335129	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335211	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335212	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335221	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335222	0

SCC	Industry	NAICS	Clark County Employees[1]
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335224	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335228	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335311	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335312	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335313	38
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335314	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335911	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335912	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335931	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335932	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335991	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	335999	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334210	60
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334220	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334290	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334310	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334322	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334411	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334412	175
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334413	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334414	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334415	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334416	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334417	175
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334418	0
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334419	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334612	10
2415230000	Electronic and Other Electrical: Conveyerized Degreasing Equipment	334613	0
	Total:		**1,145**
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336360	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339111	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339942	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337110	1,206
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337121	24
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337122	1,206
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337124	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337125	216
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337127	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337129	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337211	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337214	10

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337215	231
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337910	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337920	84
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	324199	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332618	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332811	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332813	213
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335921	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335929	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331111	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331112	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331210	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331221	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331222	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331312	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331314	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331315	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331316	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331319	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331411	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331419	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331421	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331423	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331491	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331492	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331511	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331512	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331513	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331521	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331522	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331524	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331525	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	331528	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	322225	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333414	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333415	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333923	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333924	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334518	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336360	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336399	10

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336370	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337215	231
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339911	45
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339912	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339914	45
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332111	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332112	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332114	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332115	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332116	9
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332117	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332211	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332212	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332213	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332214	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332311	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332312	121
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332313	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332321	139
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332322	402
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332323	750
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332410	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332420	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332431	298
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332439	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332510	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332611	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332612	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332618	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332721	21
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332722	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332812	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332813	213
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332911	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332912	67
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332913	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332919	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332992	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332993	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332994	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332995	10

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332996	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332998	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332999	151
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	314999	2,008
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332212	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332323	750
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332410	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332439	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332710	213
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332813	213
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332997	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332999	151
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333111	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333112	151
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333120	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333131	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333132	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333210	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333220	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333291	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333292	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333293	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333294	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333295	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333298	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333311	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333312	62
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333313	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333319	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333411	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333412	31
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333414	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333415	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333511	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333512	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333513	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333514	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333515	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333516	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333518	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333611	0

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333612	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333613	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333618	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333911	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333912	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333921	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333922	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333923	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333991	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333992	125
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333993	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333994	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333995	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333996	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333997	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333999	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334111	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334112	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334113	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334119	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334418	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334518	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334519	103
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334613	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335311	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336311	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336399	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336510	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339942	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332212	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	512220	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339999	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333298	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333319	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333414	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333618	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333992	125
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336321	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336322	52
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335110	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335121	60

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335122	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335129	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335211	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335212	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335221	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335222	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335224	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335228	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335311	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335312	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335313	38
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335314	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335911	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335912	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335931	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335932	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335991	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335999	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334210	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334220	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334290	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334310	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334322	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334411	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334412	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334413	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334414	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334415	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334416	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334417	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334418	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334419	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334612	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334613	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332912	67
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333911	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333924	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336111	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336112	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336120	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336211	0

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336212	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336213	70
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336214	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336312	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336322	52
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336330	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336340	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336350	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336399	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336411	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336412	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336413	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336414	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336415	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336419	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336510	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336611	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336612	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336991	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336992	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336999	25
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	488390	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	541710	1,060
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811490	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	322291	375
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	325992	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333314	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333315	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334510	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334511	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334512	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334513	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334514	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334515	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334516	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334517	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334518	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334519	103
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339111	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339112	175
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339113	84

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339114	24
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339115	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339999	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	316110	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	321999	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	323113	388
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	325998	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	326192	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	326199	1,161
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332211	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332212	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332812	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	332999	151
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	333319	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	334518	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335121	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	335211	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	336991	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	337127	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339911	45
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339912	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339913	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339914	45
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339920	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339931	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339932	249
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339941	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339942	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339943	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339944	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339950	1,382
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339991	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339992	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339993	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339994	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339995	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	339999	0
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	488490	91
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	441110	8,483
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	441120	1,024
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	447110	4,495

SCC	Industry	NAICS	Clark County Employees[1]
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	447190	462
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	441222	147
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	441210	447
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	326212	10
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811111	1,616
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811112	60
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811113	108
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811118	265
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811121	1,390
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811122	167
2415245000	Miscellaneous Manufacturing: Conveyerized Degreasing Equipment	811198	210
	Total:		**37,960**

[1]Data from U.S. Census Bureau 2006 County Business Patterns <http://censtats.census.gov/cgi-bin/cbpnaic/cbpsel.pl>.

Table 5-93. 1990 U.S. VOC Emissions Data for Solvent Cleanup Activities

SCC	Industry	Value from EIIP	Source	Total U.S. VOC Emissions 1990 (tpy)[1]
2415045000	Adhesives	(46+330)/2*1,000	See 2, 3	188,000
See 4	Autobody Refinishing	(7.8+120)/2*1,000	See 2, 3	63,900
2415035000	Automotive-Manufacturing	34,000	See 5, 6	34,000
2415035000	Automotive-Parts/Accessories	2,200	See 5, 6	2,200
2415020000	Automotive-Stamping	330	See 5, 6	330
2415035000	Automotive-Trucks and Buses	16,000	See 5, 6	16,000
2415030000	Electrical Equipment	2,400	See 5, 6	2,400
See 7	FRP Boats	8.3*1,000	See 2, 3	8,300
2415005000	Furniture	47,000	See 5, 6	47,000
See 8	Lithographic Printing	(1.1+6.6)/2*1,000	See 2, 3	3,850
2415025000	Magnetic Tape	1,100	See 5, 6	1,100
2415050000	Packaging	7,000	See 5, 6	7,000
2415040000	Photographic Supplies	480	See 5, 6	480
2415045000	Plastics	(28+130)/2*1,000	See 2, 3	79,000
See 8	Rotogravure Printing	(14+62)/2*1,000	See 2, 3	38,000

[1]Total U.S. VOC emissions circa 1990 (tpy) are not the sum of individual process emissions.
[2]Total U.S. VOC emissions circa 1990 (tpy) are provided indirectly by the EIIP by averaging low and high values.
[3]Source: EPA, *Emission Inventory Improvement Program (EIIP)*, Vol. III, Ch. 6, Solvent Cleaning, Table 6.5-3 (September 1997).
[4]Included as part of "Auto Body Refinishing" nonpoint source category.
[5]Total U.S. VOC emissions circa 1990 (tpy) are provided directly by the EIIP.
[6]Source: EPA, *Emission Inventory Improvement Program (EIIP)*, Vol. III, Ch. 6, Solvent Cleaning, Table 6.5-4 (September 1997).
[7]FRP Boats = Fiber-Reinforced Plastic Boats. None in Clark County.
[8]Included as part of "Graphic Arts" nonpoint source category.

Table 5-94. 1990 U.S. Employment Data for Solvent Cleanup Activities

Industry	SIC	SCC	U.S. Employment within Industry (for year 1990)	Comments[1]
Automotive-Manufacturing	3711	2415035000	239,756	--
Automotive-Trucks and Buses	3713	2415035000	39,614	
Automotive-Parts/Acess.	3714	2415035000	385,958	--
Automotive-Stamping	3465	2415020000	111,548	
Adhesives	2891	2415045000	22,062	--
Packaging	2671	2415050000	539,686	Sum of values for SIC 2671 (15,983), SIC 3497 (10,313), SIC 3565 (23,812), and SIC 7389 (489,578).
	3497			
	3565			
	7389			
Plastics	3000	2415045000	882,821	--
Furniture	2500	2415005000	510,423	--
Rotogravure Printing[2]	2754	--	44,878	Used SIC 2770 because no data was available for 2771.
	2770			
FRP Boats	n/a	--	n/a	--
Autobody Refinishing[3]	7532		163,625	--
Electrical Equipment	3600	2415030000	1,556,961	--
Magnetic Tape	3577	2415025000	78,141	--
Photographic Supplies	3860	2415040000	84,425	Used SIC 3860 because no data was available for 3861.
Lithographic Printing[2]	2752	--	430,753	Used SIC 2770 because no data was available for 2771.
	2770			

[1] Data obtained from Environ spreadsheets.
[2] Included as part of "Graphic Arts" nonpoint source category.
[3] Included as part of "Auto Body Refinishing" nonpoint source category.

5.7.10 Dry Cleaning (Sector No. 10)

The methodology for estimating dry cleaning emissions is generally based on population data; however, when the calculated emissions were compared to the permitted potential to emit (PTE) of dry cleaners in Clark County, the population-based estimate was more than a magnitude greater. Because this seemed unreasonably high, emissions were instead based on permitted PTEs.

The baseline VOC emissions from the *dry cleaning* sector are low and ranked 12th (0.44 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-95. Dry Cleaning Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2420010000	Solvent Utilization/Dry Cleaning/ Commercial/Industrial Cleaners/Total: All Solvent Types	0.00	0.00	0.44	0.00	0.00	0.52	0.00	0.00	0.58
2420020000	Solvent Utilization/Dry Cleaning/Coin-operated Cleaners/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Totals:	**0.00**	**0.00**	**0.44**	**0.00**	**0.00**	**0.52**	**0.00**	**0.00**	**0.58**
	Difference (2022 - 2008):							**0.00**	**0.00**	**0.14**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.10.1 Emissions from Dry Cleaning

Dry Cleaning Emission Calculations Input Parameters:

1. Year of emissions analysis:[1] **2008**
2. Summer inventory complete (yes or no):[1] **Yes**
3. Annual inventory complete (yes or no):[1] **Yes**
4. Clark County population:[2] **1,986,146**

Table 5-96. Emissions Summary from Dry Cleaning

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	28.58	112.06

Table 5-97. Dry Cleaner Ton-per-year Emissions Summary by SCC (tons per year)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2420010000	Solvent Utilization	Dry Cleaning	Commercial/ Industrial Cleaners	Total: All Solvent Types	0	0	112.06
2420020000	Solvent Utilization	Dry Cleaning	Coin-operated Cleaners[2]	Total: All Solvent Types	0	0	0

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.
[2]Coin-operated cleaners use exclusively PERC.

Table 5-98. Designations for Dry Cleaner Type

Type of Dry Cleaning Operation	SCC	SIC	NAICS
Coin-operated	2420020000	7215	81231
Commercial/Industrial	2420010000	7216	81232

Table 5-99. Clark County Data

Parameter	Value
2007 Clark County population	1,996,542
2007 Clark County dry cleaning VOC PTE (tpy)[1]	112.65

[1]Obtained from DAQEM's database by query. Since only 20 percent of sources reported actual emissions, the PTE was used to be conservative. No other methodology investigated, including EIIP, resulted in more accurate information.

Table 5-100. Emission Calculations

Parameter	Value
Clark County population for year of analysis	1,986,146
Clark County dry cleaning VOCs for year of analysis (tpy)	112.06

5.7.11 Graphics Arts (Sector No. 11)

Emissions from the *graphic arts* sector are population-based. Emissions are emitted by various types of printing methods, including: lithography, flexographic, gravure, letterpress, screen, and other commercial printing.

The baseline VOC emissions from the *graphic arts* sector are relatively low and ranked sixth (3.75 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-101. Graphic Arts Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2425000000	Solvent Utilization/Graphic Arts/All Processes/Total: All Solvent Types	0.00	0.00	3.75	0.00	0.00	4.16	0.00	0.00	4.95
	Totals:	**0.00**	**0.00**	**3.75**	**0.00**	**0.00**	**4.16**	**0.00**	**0.00**	**4.95**
							Difference (2022 - 2008):	**0.00**	**0.00**	**1.20**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.11.1 Emissions from Graphic Arts

Graphic Arts Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	Clark County population:	**1,986,146**

Table 5-102. Graphic Arts Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	325.33	1,290.99

Table 5-103. Graphic Arts Emissions by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_X	VOC
2425000000	Solvent Utilization	Graphic Arts	All Processes	All Solvent Types	0	0	1,290.99

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

5.7.12 Consumer Products (Sector No. 12)

Emissions from the *consumer products* sector are based on information contained in a MACTEC study published in 2005.[80] The study was funded by Clark County for the purpose of establishing VOC emissions from the *consumer products* sector. The study incorporated survey information collected in the 2004-05 timeframe.

Based on survey results, local emissions factors were established for each of the SCCs listed below. To estimate emissions, these emissions factors were then multiplied by population activity throughputs which included residential, tourist, and military populations.

The baseline VOC emissions from the *consumer products* sector are relatively high and ranked third (8.54 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

[80] MACTEC, *Final Clark County Consumer and Commercial Products Emissions Inventory* (Nov. 18, 2005).

Table 5-104. Consumer Products Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2460110000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Personal Care Products: Hair Care Products/Total: All Solvent Types	0.00	0.00	1.46	0.00	0.00	1.73	0.00	0.00	1.95
2460130000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Personal Care Products: Fragrance Products/Total: All Solvent Types	0.00	0.00	0.62	0.00	0.00	0.74	0.00	0.00	0.83
2460150000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Personal Care Products: Nail Care Products/Total: All Solvent Types	0.00	0.00	0.04	0.00	0.00	0.05	0.00	0.00	0.06
2460190000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Personal Care Products: Miscellaneous Personal Care Products/Total: All Solvent Types	0.00	0.00	0.23	0.00	0.00	0.27	0.00	0.00	0.31
2460230000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Household Products: Fabric and Carpet Care Products/Total: All Solvent Types	0.00	0.00	0.12	0.00	0.00	0.14	0.00	0.00	0.16
2460250000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Household Products: Waxes and Polishes/Total: All Solvent Types	0.00	0.00	0.24	0.00	0.00	0.29	0.00	0.00	0.32
2460270000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Household Products: Shoe and Leather Care Products/Total: All Solvent Types	0.00	0.00	0.04	0.00	0.00	0.04	0.00	0.00	0.05
2460290000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Household Products: Miscellaneous Household Products/Total: All Solvent Types	0.00	0.00	0.23	0.00	0.00	0.28	0.00	0.00	0.31
2460410000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Automotive Aftermarket Products: Detailing Products/Total: All Solvent Types	0.00	0.00	0.29	0.00	0.00	0.34	0.00	0.00	0.39
2460420000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Automotive Aftermarket Products: Maintenance and Repair Products/Total: All Solvent Types	0.00	0.00	0.97	0.00	0.00	1.14	0.00	0.00	1.29

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2460510000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Coatings and Related Products: Aerosol Spray Paints/Total: All Solvent Types	0.00	0.00	0.96	0.00	0.00	1.14	0.00	0.00	1.28
2460520000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Coatings and Related Products: Coating Related Products/Total: All Solvent Types	0.00	0.00	0.07	0.00	0.00	0.09	0.00	0.00	0.10
2460610000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Adhesives and Sealants: Adhesives/Total: All Solvent Types	0.00	0.00	0.08	0.00	0.00	0.10	0.00	0.00	0.11
2460810000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/FIFRA Related Products: Insecticides/Total: All Solvent Types	0.00	0.00	0.95	0.00	0.00	1.12	0.00	0.00	1.27
2460820000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/FIFRA Related Products: Fungicides and Nematicides/Total: All Solvent Types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
2460900000	Solvent Utilization/Miscellaneous Non-industrial: Consumer and Commercial/ Miscellaneous Products (Not Otherwise Covered)/Total: All Solvent Types	0.00	0.00	2.22	0.00	0.00	2.63	0.00	0.00	2.97
	Totals:	**0.00**	**0.00**	**8.54**	**0.00**	**0.00**	**10.10**	**0.00**	**0.00**	**11.40**
							Difference (2022 - 2008):	**0.00**	**0.00**	**2.86**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.12.1 Emissions from Consumer Products

Consumer Products Emissions Input Parameters:

1. Year of emissions analysis:[1] **2008**
2. Summer inventory complete (yes or no):[1] **Yes**
3. Annual inventory complete (yes or no):[1] **Yes**
4. Clark County population:[2] **1,986,146**
5. Las Vegas annual visitors: **37,481,552**
6. Laughlin annual visitors: **2,862,086**
7. Mesquite annual visitors: **1,450,314**
8. Mean nights per visitor stay: **3.5**

Table 5-105. Emissions Summary from Consumer Products

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	778.99	3,115.94

Table 5-106. Consumer Products Summary by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2460110000	See 2	See 3	Personal Care Products: Hair Care Products	See 4	0	0	532.68
2460130000	See 2	See 3	Personal Care Products: Fragrance Products	See 4	0	0	226.75
2460150000	See 2	See 3	Personal Care Products: Nail Care Products	See 4	0	0	15.35
2460190000	See 2	See 3	Personal Care Products: Miscellaneous Personal Care Products	See 4	0	0	84.63
2460230000	See 2	See 3	Household Products: Fabric and Carpet Care Products	See 4	0	0	43.77
2460250000	See 2	See 3	Household Products: Waxes and Polishes	See 4	0	0	88.59
2460270000	See 2	See 3	Household Products: Shoe and Leather Care Products	See 4	0	0	13.64
2460290000	See 2	See 3	Household Products: Miscellaneous Household Products	See 4	0	0	85.22
2460410000	See 2	See 3	Automotive Aftermarket Products: Detailing Products	See 4	0	0	105.40
2460420000	See 2	See 3	Automotive Aftermarket Products: Maintenance and Repair Products	See 4	0	0	352.48
2460510000	See 2	See 3	Coatings and Related Products: Aerosol Spray Paints	See 4	0	0	350.67
2460520000	See 2	See 3	Coatings and Related Products: Coating Related Products	See 4	0	0	26.95
2460610000	See 2	See 3	Adhesives and Sealants: Adhesives	See 4	0	0	30.70
2460810000	See 2	See 3	FIFRA Related Products: Insecticides	See 4	0	0	346.66
2460820000	See 2	See 3	FIFRA Related Products: Fungicides and Nematicides	See 4	0	0	1.40

2460900000	See 2	See 3	Miscellaneous Products (not otherwise covered)	See 4	0	0	811.04

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.
[2]Solvent Utilization.
[3]Miscellaneous Non-industrial: Consumer and Commercial.
[4]Total: All Solvent Types.

Table 5-107. Clark County VOC Emissions Summary from Consumer Products

SCC	Category	California EFs (lb/day/person)	Bump-up Factor[1]	2008 Permanent Residents (lb/day)	2008 Military Population (lb/day)	2008 Visitors Population (lb/day)	2008 Additional Emissions [bump-up factor] (lb/day)[1]	2008 Total (lb/day)	2008 Total (ton/yr)
2460110000	Hair styling product: spray	8.73E-04	1.25	1,733.07	5.86	349.70	437.12	2,525.75	**460.95**
	Shampoo	3.99E-05	1.00	79.30	0.27	16.00	16.00	111.56	**20.36**
	Hair styling product: mousse	3.07E-05	1.00	61.01	0.21	12.31	12.31	85.83	**15.66**
	Conditioner	2.37E-05	1.00	47.00	0.16	9.48	9.48	66.12	**12.07**
	Hair color product: permanent	2.07E-05	0	41.10	0.14	8.29	0.00	49.53	**9.04**
	Hair shine	1.04E-05	1.00	20.59	0.07	4.15	4.15	28.97	**5.29**
	Hair styling product: liquid	6.68E-06	1.00	13.28	0.04	2.68	2.68	18.68	**3.41**
	Hair styling product: semisolid	4.99E-06	1.00	9.91	0.03	2.00	2.00	13.94	**2.54**
	Hair color product: temporary	5.06E-06	0	10.05	0.03	2.03	0.00	12.11	**2.21**
	Hair color product: semipermanent	9.57E-07	0	1.90	0.01	0.38	0.00	2.29	**0.42**
	Hair color product: demipermanent	8.73E-07	0	1.73	0.01	0.35	0.00	2.09	**0.38**
	Hair tonic/Hair restorer	6.62E-07	0	1.31	0.00	0.27	0.00	1.58	**0.29**
	Hair styling product: solid	9.83E-08	1.00	0.20	0.00	0.04	0.04	0.27	**0.05**
	Other hair care products	1.73E-08	1.00	0.03	0.00	0.01	0.01	0.05	**0.01**
2460130000	Personal fragrance	5.19E-04	0	1,030.95	3.48	208.02	0.00	1,242.45	**226.75**
2460150000	Nail polish	2.53E-05	1.00	50.28	0.17	10.15	10.15	70.75	**12.91**
	Nail treatment product	2.92E-06	0	5.80	0.02	1.17	0.00	6.99	**1.28**
	Nail product: drying enhancer	2.21E-06	0	4.40	0.01	0.89	0.00	5.30	**0.97**
	Nail polish thinner	3.73E-07	0	0.74	0.00	0.15	0.00	0.89	**0.16**
	Artificial nail, wrap, or nail glue remover	6.94E-08	0	0.14	0.00	0.03	0.00	0.17	**0.03**

SCC	Category	California EFs (lb/day/person)	Bump-up Factor[1]	2008					
				Permanent Residents (lb/day)	Military Population (lb/day)	Visitors Population (lb/day)	Additional Emissions [bump-up factor] (lb/day)[1]	Total (lb/day)	Total (ton/yr)
2460190000	Shaving gel	6.78E-05	1.00	134.64	0.46	27.17	27.17	189.43	**34.57**
	Personal hygiene product	5.14E-05	1.00	102.16	0.35	20.61	20.61	143.73	**26.23**
	Body wipes	9.66E-06	0	19.18	0.06	3.87	0.00	23.11	**4.22**
	Personal foaming product	3.30E-06	1.00	6.56	0.02	1.32	1.32	9.22	**1.68**
	Insect Repellent: Non-aerosol	4.93E-05	0	97.91	0.33			98.24	**17.93**
2460230000	Fabric refresher	6.59E-05	0	130.81	0.44			131.25	**23.95**
	Multi-purpose remover	5.45E-05	0	108.20	0.37			108.56	**19.81**
2460250000	Waxes and Polishes	2.44E-04	0	483.68	1.63			485.31	**88.57**
	Jewelry cleaner	5.49E-08	0	0.11	0.00	0.02	0.00	0.13	**0.02**
2460270000	Footwear care product	1.43E-05	0	28.31	0.10	5.71	0.00	34.11	**6.23**
	Fabric or leather waterproofer	1.18E-05	0	23.41	0.08			23.49	**4.29**
	Leather care product	8.60E-06	0	17.08	0.06			17.14	**3.13**
2460290000	Toilet/Urinal Deodorizer	1.30E-04	0	257.43	0.87	51.94	0.00	310.24	**56.62**
	Electronic cleaner	2.05E-05	0	40.81	0.14			40.95	**7.47**
	Wood cleaner	1.87E-05	0	37.14	0.13			37.26	**6.80**
	Toilet/Urinal Cleaner & Deodorizer	1.40E-05	0	27.79	0.09	5.61	0.00	33.50	**6.11**
	Anti-static product	1.31E-05	0	26.04	0.09	5.25	0.00	31.38	**5.73**
	Toilet or urinal cleaner	2.93E-06	0	5.83	0.02	1.18	0.00	7.02	**1.28**
	Bleach/lightener	2.75E-06	0	5.47	0.02	1.10	0.00	6.59	**1.20**
2460410000	Automotive detailing products	2.90E-04	0	575.60	1.95			577.54	**105.40**
2460420000	Automotive maintenance & repair	9.69E-04	0	1,924.87	6.50			1,931.37	**352.48**
2460510000	Aerosol spray paints	9.64E-04	0	1,915.02	6.47			1,921.49	**350.67**

SCC	Category	California EFs (lb/day/person)	Bump-up Factor[1]	2008					
				Permanent Residents (lb/day)	Military Population (lb/day)	Visitors Population (lb/day)	Additional Emissions [bump-up factor] (lb/day)[1]	Total (lb/day)	Total (ton/yr)
2460520000	Aerosol coating related products	6.01E-05	0	119.28	0.40			119.68	**21.84**
	Graffiti remover	9.81E-06	0	19.48	0.07			19.54	**3.57**
	Top coat	1.80E-06	0	3.58	0.01	0.72	0.00	4.31	**0.79**
	Base coat/undercoat	1.74E-06	0	3.46	0.01	0.70	0.00	4.16	**0.76**
2460610000	Adhesive remover	7.62E-05	0	151.29	0.51			151.80	**27.70**
	Contact adhesive	8.25E-06	0	16.39	0.06			16.44	**3.00**
2460810000	Insecticides	9.53E-04	0	1,893.13	6.40			1,899.53	**346.66**
2460820000	Fungicides & Nematicides	3.86E-06	0	7.66	0.03			7.69	**1.40**
2460900000	Packaged solvent	4.23E-04	0	839.96	2.84			842.79	**153.81**
	General purpose degreaser	2.46E-04	0	489.53	1.65			491.19	**89.64**
	Solvent parts cleaner: non-aerosol	1.74E-05	0	34.49	0.12			34.61	**6.32**
	Miscellaneous[2]	1.54E-03	0	3,065.12	10.36			3,075.48	**561.28**
			Totals:	**15,724.16**	**53.14**	**753.31**	**543.05**	**17,073.65**	**3,115.94**

[1]In their report, MACTEC assumed that certain consumer products were used at a higher rate by visitors than permanent residents. The category "Hair styling product: spray" was bumped up by a factor of 1.25. The following consumer product categories were bumped up by a factor of 1.00: shaving gel; personal hygiene products; shampoo; hair styling product: mousse; nail polish; conditioner; hair shine; hair styling product: liquid; hair styling product: semisolid; personal foaming products; hair styling product: solid; and other hair care products. Environ report, Appendix B, (2007), citing, MACTEC, Clark County Consumer Products Emission Inventory Report, p. 6-1, 6-2 (2007).

[2]Includes, but is not limited to, glass cleaner, paint remover, multipurpose, solvents, sealants, and caulking.

Table 5-108. VOC Emissions by SCC

SCC	Tons per Year
2460110000	532.68
2460130000	226.75
2460150000	15.35
2460190000	84.63
2460230000	43.77
2460250000	88.59
2460270000	13.64
2460290000	85.22
2460410000	105.40
2460420000	352.48
2460510000	350.67
2460520000	26.95
2460610000	30.70
2460810000	346.66
2460820000	1.40
2460900000	811.04
Total:	**3,115.94**

Table 5-109. Clark County Total Population

Year	Clark County Permanent Population (per day)[1]	Las Vegas Visitors per Year[2]	Laughlin Visitors per Year[2]	Mesquite Visitors per Year[2]	Mean Nights Stayed[3]	Visitor Population (per day)	Military Training Population (per day)[4]	Clark County Total Population (per day)[5]
2008	1,986,146	37,481,552	2,862,086	1,450,314	3.5	400,764	6,712	2,393,622

[1]Clark County Department of Comprehensive Planning.
[2]Room night occupancy does not describe number of occupants. UNLV, Center for Business and Economic Research (CBER), Metropolitan Las Vegas Tourism Statistics <http://cber.unlv.edu/tour.html> (accessed Oct. 22, 2008), citing, Las Vegas Convention & Visitors Authority, Visitor Statistics <http://www.lvcva.com/press/statistics-facts/index.jsp?whichDept=stats> (accessed Oct. 28, 2008).
[3]Source for years 2001-02 is the MACTEC consumer products report (2005). Source for years 2003-07 is the Las Vegas Convention & Visitors Authority, Visitor Statistics, p. 43, Fig. 31-32 <http://www.lvcva.com/press/statistics-facts/index.jsp?whichDept=stats> (accessed Oct. 28, 2008).
[4]MACTEC report (2005) assumed 350,000 persons trained per year; and average training period is 7 days/person. This number was not expected to increase significantly in the future, but this information should be updated if necessary.
[5]Only military training population is included here because permanent military population has already been included within Clark County population count (per Comprehensive Planning).

5.7.13 Cutback Asphalt (Sector No. 13)

Cutback asphalts are mixtures of solvents and asphalt. The solvent can be of a low, medium, or high viscosity depending on construction use. Within Clark County, the use of cutback asphalt is prohibited with three exceptions: (i) when temperatures are not expected to exceed 50ºF; (ii) for long periods of storage or stockpiling of patching mixes used for paving maintenance (slow or medium curing is permitted); or (iii) when slow or medium curing cutback asphalt is used as a penetrating prime coat on lightly traveled gravel surfaces or surfaces for temporary traffic.

The annual usage is based on information obtained from suppliers. The baseline VOC emissions from the *cutback asphalt* sector are relatively low and ranked 11th (0.69 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-110. Cutback Asphalt Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2461021000	Solvent Utilization/Miscellaneous Non-industrial: Commercial/Cutback Asphalt/Total: All Solvent Types	0.00	0.00	0.69	0.00	0.00	0.88	0.00	0.00	1.08
	Totals:	**0.00**	**0.00**	**0.69**	**0.00**	**0.00**	**0.88**	**0.00**	**0.00**	**1.08**
							Difference (2022 - 2008):	**0.00**	**0.00**	**0.40**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.13.1 Emissions from Cutback Asphalt

Cutback Asphalt Emission Calculations Input Parameters:

1. Year of emissions analysis: **2008**
2. Summer inventory complete (yes or no): **Yes**
3. Annual inventory complete (yes or no): **Yes**
4. Slow-cure cutback asphalt usage (tons): **0**
5. Medium-cure cutback asphalt usage (tons): **888.97**

Note: Cutback asphalt (liquefied asphalt) is formed by mixing liquefied paving asphalt (asphaltic cement) with petroleum distillates. Cutback asphalt contains a significant amount of light petroleum solvents such as kerosene, diesel, or naphtha. These solvents or diluents are added to the asphalt either at the refinery or the asphalt plant. As a result, cutback asphalt can be a significant source of VOCs.

Table 5-111. Emissions Summary from Cutback Asphalt

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	44.63	177.79

Table 5-112. Cutback Asphalt Emissions by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2461021000	Solvent Utilization	Miscellaneous Non-industrial: Commercial	Cutback Asphalt	Total: All Solvent Types	0	0	177.794

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-113. Properties of Curing Types

Type of Curing	VOC Evaporation	Density of Diluent (kg/L)	VOC Emissions (% by weight)[1,2]		
			25% by Volume of Diluent	35% by Volume of Diluent	45% by Volume of Diluent
Rapid[3]	95%	0.7	17%	24%	32%
Medium[4]	70%	0.8	14%	20%	26%
Slow	25%	0.9	5%	8%	10%

[1]A diluent is a diluting agent. Certain fluids are too viscous to be pumped easily or too dense to flow from one particular point to the other. This can be problematic, because it might not be economically feasible to transport such fluids in this state. To ease this restricted movement, diluents are added. This decreases the viscosity of the fluids, thereby also decreasing the pumping/transportation costs.
[2]Diluent typically ranges between 25 - 45% by volume. EPA, EIIP, Asphalt Paving, Ch. 17, p. 17.5-3 (Jan. 2001).
[3]Rapid curing generally uses gasoline or naphtha as solvent.
[4]Medium curing generally uses kerosene as solvent.

Table 5-114. VOC Emissions from Cutback Asphalt[1]

Year	Cutback Asphalt Usage (tons)[2,3,4]			VOC (tpy)
	Slow Cure	Medium Cure	Rapid Cure	
2008	0.00	889	See 5	177.79

[1]DAQEM definition of cutback asphalt: Cutback asphalts are mixtures of VOCs and a base asphalt of selected viscosity. Solvent is of low, medium, or high volatility depending upon construction use. Clark County Air Quality Regulations, Evaporation and Leakage, Sect. 60.4 (July 2004).
[2]No data provided concerning diluent, therefore assumed midrange value (i.e., 35% by volume, of diluent in cutback).
[3]Year 2005 usage based on information provided by Las Vegas Paving, Dave Breault, (702) 353-4355 (see Excel file "Data Query 2005 CERR.xls"). Other contact information: Nevada Department of Transportation (NDOT), Casey Connors, (775) 888-7535; and local paving companies, e.g., Wells Cargo and Southern Nevada Paving.
[4]Year 2007 information based on MC70 production totals by Ergon and KC Asphalt, i.e., the only plants apparently producing MC70 in Clark County. The Ergon contact is Jim Raynes or Crystal Walker (837-9995, or 379-7625 (cell)) (see email dated 12/4/08 which provides CY 2007 throughput); the KC Asphalt contact is Brandon McDowell ((303) 793-0980, bmcdowell@semgrouplp.com) (see email dated 12/8/08 which provides CY 2007 throughput)).
[5]DAQEM rule and relatively elevated temperatures during the year suggest that rapid cure is not used in Las Vegas Valley. In accordance with DAQEM regulations, cutback asphalt curing (slow, medium, or rapid) is prohibited in the Las Vegas Valley, subject to the following three exceptions: Slow or medium curing cutback asphalt allowed as a penetrating prime coat on lightly-traveled gravel surfaces or surfaces for temporary traffic (AQR Section 60.4.3.1); Slow or medium curing cutback asphalt allowed in long period storage or for the stockpiling of patching mixes used for paving maintenance (AQR Section 60.4.3.2); Cutback asphalt when forecast ambient temperature for 24-hr period following application is not expected to exceed 50 degrees Fahrenheit (AQR Section 60.4.3.3).

5.7.14 Emulsified Asphalt (Sector No. 14)

Asphalt consists of a binder (i.e., asphalt cement) and a mineral aggregate. When the asphalt cement is thinned with water/emulsifying agents, it is known as emulsified asphalt. This type of asphalt may contain up to 12 percent organic solvents by volume.[81]

In conjunction with E.H. Pechan & Associates, EPA developed a default *emulsified asphalt* emissions inventory for the 2008 national emissions inventory (NEI) effort.[82] In its inventory, EPA

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[81] EPA, *APSHALT PAVING – Emulsified*, p. 1 <asphalt_paving-emulsified_2461022000_documentation.doc>, citing Emissions Inventory Improvement Program, *Technical Report Series*, Volume III – Area Sources, Chapter 17, "Asphalt Paving," prepared by Eastern Research Group, Inc. for EPA, Research Triangle Park, NC, 2001 http://www.epa.gov/ttn/chief/eiip/techreport/volume03/index.html.

estimated emissions by multiplying the amount of emulsified asphalt used at the county level by a VOC emissions factor. The amount of emulsified asphalt used at the county level was based on state-level data compiled by the Asphalt Institute.[83] According to the survey conducted by the Institute, 15,971 tons of emulsified asphalt were used in Nevada in 2008.[84]

County-level usage was allocated by the fraction of paved road vehicle miles traveled (VMT) in the state and county. In 2008, the VMT for the State of Nevada was 18,381 million miles, and for Clark County it was 10,701 million miles. Using these values, the amount of emulsified asphalt used in Clark County during 2008 was approximately 9,298 tons.

The baseline VOC emissions from the *emulsified asphalt* sector are relatively low and ranked ninth (0.94 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-115. Emulsified Asphalt Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2461022000	Solvent Utilization/Miscellaneous Non-industrial: Commercial/ Emulsified Asphalt/Total: All Solvent Types	0.00	0.00	0.94	0.00	0.00	1.21	0.00	0.00	1.49
	Totals:	**0.00**	**0.00**	**0.94**	**0.00**	**0.00**	**1.21**	**0.00**	**0.00**	**1.49**
	Difference (2022 - 2008):							**0.00**	**0.00**	**0.54**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.15 Pesticide (Sector No. 15)

Emissions from the *pesticide* sector are based on pesticide use on (i) irrigated agricultural land within Clark County; and (ii) flood control channels, guardrail areas, roadside ditches, medians, and other miscellaneous areas associated with road and highways. Estimates of these areas are multiplied by an average pesticide VOC content.

The baseline VOC emissions from the *pesticide* sector are relatively low and ranked 18th (0.04 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

[82] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, *2008 National Emissions Inventory Data & Documentation*, available at http://www.epa.gov/ttn/chief/net/2008inventory.html#inventorydata (accessed July 8, 2010).
[83] EPA, *APSHALT PAVING – Emulsified*, p. 1 <asphalt_paving-emulsified_2461022000_documentation.doc>, citing Asphalt Institute, *2008 Asphalt Usage Survey for the United States and Canada*, http://www.asphaltinstitute.org/.
[84] *Id*.

Table 5-116. Pesticide Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2461800001	Solvent Utilization/Miscellaneous Non-industrial: Commercial/ Pesticide Application: All Processes/Surface Application	0.00	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.04
	Totals:	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.04**
							Difference (2022 - 2008):	**0.00**	**0.00**	**0.01**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.15.1 Emissions from Pesticides

Pesticides Emission Calculations Input Parameters:

1.	Year of emissions analysis:[1]	**2008**
2.	Summer inventory complete (yes or no):[1]	**Yes**
3.	Annual inventory complete (yes or no):[1]	**Yes**
4.	Clark County Public Works weed control activity in flood control channels (acres):	**245**
5.	Clark County Public Works weed control activity in guardrail areas, roadside ditches, medians, and miscellaneous areas (acres):	**55**

[1]Not required for calculations.

Table 5-117. Pesticides Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	2.37	9.44

Table 5-118. Pesticides Emissions Summary by SCC

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO (tpy)	NO_X (tpy)	VOC (tpy)
2461800001	Solvent Utilization	Miscellaneous Non-industrial: Commercial	Pesticide Application: All Processes	Surface Application	0	0	9.44

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-119. Pesticides VOC Emissions Summary

Year	VOC (tpy)
2008	9.44

Table 5-120. Clark County Public Works Weed Control Activity[1]

Treated Area Type	Acres Sprayed in 2008
Flood control channels	245
Guardrail areas, roadside ditches, medians, and miscellaneous areas	55
Total:	300

[1]Clark County Public Works, 2008 Road & Infrastructure Guide, p. 22 (prepared Jan. 2008) <http://www.accessclarkcounty.com/depts/public_works/Documents/2008PWRoadReport.pdf> (acc. Apr. 23, 2009).

Table 5-121. Pesticide Constituents

Pesticide	Pesticide Active Ingredient	Source
DuPont, Asana XL Insecticide	8.4%	DuPont, Asana XL Insecticide (rev. Mar. 5, 2008) <http://www.cdms.net/LDat/mp184021.pdf> (accessed May 11, 2009).
Valent, Arena 50 WDG Insecticide	50%	Valent, Arena 50 WDG Insecticide (rev. Oct. 5, 2007) <http://www.cdms.net/LDat/mp8N9000.pdf> (accessed May 11, 2009).
Valent, Overture 35 WP Insecticide	35%	Valent, Overture 35 WP Insecticide (rev. Jul. 6, 2008) <http://www.cdms.net/LDat/mp8M1002.pdf> (accessed May 11, 2009).

Table 5-122. Pesticide Data

Parameter	Value	Units	Source
Clark County irrigated agricultural land in 2005	7,566	projected acres	See 1
Approximate decrease of irrigated agricultural land per year	2.60	estimated acres	See 1
Clark County irrigated agricultural land during year of analysis	7,558	estimated acres	
Average application of pesticide	3.5	lbs pesticide/yr/harvested acre	See 2
Approximate fraction of active ingredient in pesticide	0.3	lbs of active ingredient/lbs pesticide	
Average evaporation rate of pesticide	0.9		See 3
Average VOC content of pesticide	2.45	lbs VOC/lbs active ingredient	See 3
Conversion factor	2,000	lbs/ton	
VOC emissions from agricultural pesticide use	9.08	tons/yr	

Parameter	Value	Units	Source
VOC emissions from public works weed control efforts (2008)	0.36	tons/yr	See/4

[1]Clark County, Comprehensive Planning, Water Quality Management Program, Northeast Clark County 208 Water Quality Management Plan Amendment, *Historical and Projected Agricultural Water Use for Clark County*, Table 7-2 (June 2000) <http://www.accessclarkcounty.com/depts/comprehensive_planning/compplanelements/Pages/208water_chapter_7.aspx#anchor1291947> (accessed May 11, 2009).
[2]Total VOC emissions = A (i.e., total harvested acres) x R (i.e., lbs pesticide applied/yr/harvested acre) x I (i.e., lbs of active ingredient/lbs pesticide) x ER (i.e., evaporation rate, typically 0.9) x 2.45 (i.e., lbs VOC/lbs active ingredient). EPA, EIIP, Vol. III, Ch. 9, Pesticides - Agricultural and Nonagricultural, p. 9.5-5 (June 2001).
[3]Id. at p. 9.5-4.
[4]Emissions derived using equation described in footnote #2..

5.7.16 Portable Fuel Container (Sector No. 16)

Emissions from the *portable fuel container* sector are from containers storing gasoline. Emissions occur by a variety of means: (i) permeation of gasoline through the container walls; (ii) diurnal breathing losses (i.e., losses caused by changes in temperature and barometric pressure); (iii) spillage of gasoline that occurs during transport; (iv) vapor displacement losses that occur when filling the container with gasoline at a gasoline dispensing facility (GDF); and (v) spillage that occurs when the container is filled with gasoline at a GDF.

The amount of fuel stored by portable fuel containers is proportional to the fuel consumption values determined by the NONROAD model. The NONROAD model generates values for both residential and commercial sources. The baseline VOC emissions from the *portable fuel container* sector are relatively low and ranked seventh (2.77 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-123. Portable Fuel Containers Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2501011011	Storage and Transport/Petroleum and Petroleum Product Storage/ Residential Portable Gas Cans/ Permeation	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.02
2501011012	Storage and Transport/Petroleum and Petroleum Product Storage/ Residential Portable Gas Cans/ Evaporation (includes Diurnal losses)	0.00	0.00	0.13	0.00	0.00	0.15	0.00	0.00	0.16
2501011013	Storage and Transport/Petroleum and Petroleum Product Storage/ Residential Portable Gas Cans/ Spillage During Transport	0.00	0.00	0.10	0.00	0.00	0.12	0.00	0.00	0.13
2501011014	Storage and Transport/Petroleum and Petroleum Product Storage/ Residential Portable Gas Cans/ Refilling at the Pump - Vapor Displacement	0.00	0.00	0.05	0.00	0.00	0.06	0.00	0.00	0.06

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2501011015	Storage and Transport/Petroleum and Petroleum Product Storage/ Residential Portable Gas Cans/ Refilling at the Pump - Spillage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2501012011	Storage and Transport/Petroleum and Petroleum Product Storage/ Commercial Portable Gas Cans/ Permeation	0.00	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.04
2501012012	Storage and Transport/Petroleum and Petroleum Product Storage/ Commercial Portable Gas Cans/ Evaporation (includes Diurnal losses)	0.00	0.00	0.48	0.00	0.00	0.53	0.00	0.00	0.58
2501012013	Storage and Transport/Petroleum and Petroleum Product Storage/ Commercial Portable Gas Cans/ Spillage During Transport	0.00	0.00	1.14	0.00	0.00	1.28	0.00	0.00	1.40
2501012014	Storage and Transport/Petroleum and Petroleum Product Storage/ Commercial Portable Gas Cans/ Refilling at the Pump - Vapor Displacement	0.00	0.00	0.77	0.00	0.00	0.87	0.00	0.00	0.95
2501012015	Storage and Transport/Petroleum and Petroleum Product Storage/ Commercial Portable Gas Cans/ Refilling at the Pump - Spillage	0.00	0.00	0.04	0.00	0.00	0.05	0.00	0.00	0.05
	Totals:	**0.00**	**0.00**	**2.77**	**0.00**	**0.00**	**3.11**	**0.00**	**0.00**	**3.41**
							Difference (2022 - 2008):	**0.00**	**0.00**	**0.63**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.16.1 Emissions from Portable Fuel Containers

The following input parameters were used for portable fuel container emission calculations:

1. Year of emissions analysis (not required).
2. Summer inventory complete, yes or no (not required).
3. Annual inventory complete, yes or no (not required).
4. Estimated annual average RVP (psi) in Clark County.
5. Estimated annual average RVP in California.
6. Estimated summertime RVP in Clark County.
7. Estimated summertime RVP in California.

Table 5-124. Obtain Annual Fuel Consumption Values from NONROAD Report (Gasoline Only)

SCC Code	Equipment Description	Fuel Consumption (gal/yr)
Agricultural Equipment		
2260005035	Sprayers (2 Stroke)	20
2265005010	2-Wheel Tractors (4 Stroke)	45
2265005015	Agricultural Tractors (4 Stroke)	184
2265005020	Combines (4 Stroke)	0
2265005025	Balers (4 Stroke)	123
2265005030	Agricultural Mowers (4 Stroke)	38
2265005035	Sprayers (4 Stroke)	419
2265005040	Tillers > 6 hp (4 Stroke)	909
2265005045	Swathers (4 Stroke)	195
2265005055	Other Agricultural Equipment (4 Stroke)	282
2265005060	Irrigation Sets (4 Stroke)	313
Airport Equipment		
2265008005	Airport Ground Support Equipment (4 Stroke)	42,618
Commercial Equipment		
2260006005	Generator Sets (2 Stroke)	8,832
2260006010	Pumps (2 Stroke)	59,910
2260006015	Air Compressors (2 Stroke)	20
2260006035	Hydro Power Units (2 Stroke)	362
2265006005	Generator Sets (4 Stroke)	1,684,105
2265006010	Pumps (4 Stroke)	415,115
2265006015	Air Compressors (4 Stroke)	221,911
2265006025	Welders (4 Stroke)	472,314
2265006030	Pressure Washers (4 Stroke)	744,062
2265006035	Hydro Power Units (4 Stroke)	34,723
Construction and Mining Equipment		
2260002006	Tampers/Rammers (2 Stroke)	76,526
2260002009	Plate Compactors (2 Stroke)	4,271
2260002021	Paving Equipment (2 Stroke)	5,114
2260002027	Signal Boards/Light Plants (2 Stroke)	38
2260002039	Concrete/Industrial Saws (2 Stroke)	189,553
2260002054	Crushing/Proc. Equipment (2 Stroke)	1,005
2265002003	Pavers (4 Stroke)	53,517
2265002006	Tampers/Rammers (4 Stroke)	396
2265002009	Plate Compactors (4 Stroke)	100,018
2265002015	Rollers (4 Stroke)	93,644

SCC Code	Equipment Description	Fuel Consumption (gal/yr)
2265002021	Paving Equipment (4 Stroke)	188,298
2265002024	Surfacing Equipment (4 Stroke)	78,331
2265002027	Signal Boards/Light Plants (4 Stroke)	4,054
2265002030	Trenchers (4 Stroke)	165,908
2265002033	Bore/Drill Rigs (4 Stroke)	57,733
2265002039	Concrete/Industrial Saws (4 Stroke)	342,097
2265002042	Cement & Mortar Mixers (4 Stroke)	170,576
2265002045	Cranes (4 Stroke)	13,634
2265002054	Crushing/Proc. Equipment (4 Stroke)	22,245
2265002057	Rough Terrain Forklifts (4 Stroke)	21,387
2265002060	Rubber Tire Loaders (4 Stroke)	50,899
2265002066	Tractors/Loaders/Backhoes (4 Stroke)	112,371
2265002072	Skid Steer Loaders (4 Stroke)	79,786
2265002078	Dumpers/Tenders (4 Stroke)	26,529
2265002081	Other Construction Equipment (4 Stroke)	18,797
Industrial Equipment		
2260003030	Sweepers/Scrubbers (2 Stroke)	153
2260003040	Other General Industrial Equipment (2 Stroke)	11
2265003010	Aerial Lifts (4 Stroke)	16,386
2265003020	Forklifts (4 Stroke)	53,319
2265003030	Sweepers/Scrubbers (4 Stroke)	12,638
2265003040	Other General Industrial Equipment (4 Stroke)	23,058
2265003050	Other Material Handling Equipment (4 Stroke)	1,171
2265003060	AC\Refrigeration (4 Stroke)	1,989
2265003070	Terminal Tractors (4 Stroke)	4,948
2265010010	Other Oil Field Equipment (4 Stroke)	4,184
Lawn and Garden Equipment (Commercial)		
2260004016	Rotary Tillers < 6 hp (2 Stroke)	74,589
2260004021	Chain Saws < 6 hp (2 Stroke)	886,447
2260004026	Trimmers/Edgers/Brush Cutter (2 Stroke)	710,733
2260004031	Leafblowers/Vacuums (2 Stroke)	692,939
2260004036	Snowblowers (2 Stroke)	0
2260004071	Commercial Turf Equipment (2 Stroke)	303
2265004011	Lawn mowers (4 Stroke)	1,866,703
2265004016	Rotary Tillers < 6 hp (4 Stroke)	969,463
2265004026	Trimmers/Edgers/Brush Cutter (4 Stroke)	43,141
2265004031	Leafblowers/Vacuums (4 Stroke)	1,785,311
2265004036	Snowblowers (4 Stroke)	0

SCC Code	Equipment Description	Fuel Consumption (gal/yr)
2265004041	Rear Engine Riding Mowers (4 Stroke)	203,220
2265004046	Front Mowers (4 Stroke)	241,696
2265004051	Shredders < 6 hp (4 Stroke)	111,814
2265004056	Lawn & Garden Tractors (4 Stroke)	2,762,687
2265004066	Chippers/Stump Grinders (4 Stroke)	474,559
2265004071	Commercial Turf Equipment (4 Stroke)	8,905,888
2265004076	Other Lawn & Garden Equipment. (4 Stroke)	287,026
Lawn and Garden Equipment (Residential)		
2260004015	Rotary Tillers < 6 hp (2 Stroke)	6,993
2260004020	Chain Saws < 6 hp (2 Stroke)	91,996
2260004025	Trimmers/Edgers/Brush Cutter (2 Stroke)	127,609
2260004030	Leafblowers/Vacuums (2 Stroke)	82,178
2260004035	Snowblowers (2 Stroke)	0
2265004010	Lawn mowers (4 Stroke)	1,049,294
2265004015	Rotary Tillers < 6 hp (4 Stroke)	88,821
2265004025	Trimmers/Edgers/Brush Cutter (4 Stroke)	5,813
2265004030	Leafblowers/Vacuums (4 Stroke)	11,143
2265004035	Snowblowers (4 Stroke)	0
2265004040	Rear Engine Riding Mowers (4 Stroke)	204,123
2265004055	Lawn & Garden Tractors (4 Stroke)	2,744,577
2265004075	Other Lawn & Garden Equipment. (4 Stroke)	100,233
Logging Equipment		
2260007005	Chain Saws > 6 hp (2 Stroke)	0
2265007010	Shredders > 6 hp (4 Stroke)	0
2265007015	Forest Equip. - Feller/Bunch/Skidder (4 Stroke)	0
Pleasure Craft		
2282005010	Outboard (2 Stroke)	894,793
2282005015	Personal Water Craft (2 Stroke)	374,326
2282010005	Inboard/Sterndrive (4 Stroke)	560,460
Railroad Equipment		
2285004015	Railway Maintenance (4 Stroke)	2,014
Recreational Equipment		
2260001010	Motorcycles: Off-Road (2 Stroke)	376,863
2260001020	Snowmobiles (2 Stroke)	0
2260001030	All-Terrain Vehicles (ATVs) (2 Stroke)	406,731
2260001060	Specialty Vehicles/Carts (2 Stroke)	46,045
2265001010	Motorcycles: Off-Road (4 Stroke)	112,966
2265001030	ATVs (4 Stroke)	1,167,562

SCC Code	Equipment Description	Fuel Consumption (gal/yr)
2265001050	Golf Carts (4 Stroke)	379,770
2265001060	Specialty Vehicles/Carts (4 Stroke)	47,036

Table 5-125. Obtain Summer Season Fuel Consumption Values from NONROAD (Gasoline Only)

SCC Code	Equipment Description	Fuel Consumption (gal/season)
Agricultural Equipment		
2260005035	Sprayers (2 Stroke)	8
2265005010	2-Wheel Tractors (4 Stroke)	18
2265005015	Agricultural Tractors (4 Stroke)	74
2265005020	Combines (4 Stroke)	0
2265005025	Balers (4 Stroke)	49
2265005030	Agricultural Mowers (4 Stroke)	15
2265005035	Sprayers (4 Stroke)	167
2265005040	Tillers > 6 hp (4 Stroke)	363
2265005045	Swathers (4 Stroke)	78
2265005055	Other Agricultural Equipment (4 Stroke)	113
2265005060	Irrigation Sets (4 Stroke)	125
Airport Equipment		
2265008005	Airport Ground Support Equipment (4 stroke)	10,654
Commercial Equipment		
2260006005	Generator Sets (2 Stroke)	2,208
2260006010	Pumps (2 Stroke)	14,978
2260006015	Air Compressors (2 Stroke)	5
2260006035	Hydro Power Units (2 Stroke)	90
2265006005	Generator Sets (4 Stroke)	421,026
2265006010	Pumps (4 Stroke)	103,779
2265006015	Air Compressors (4 Stroke)	55,478
2265006025	Welders (4 Stroke)	118,078
2265006030	Pressure Washers (4 Stroke)	186,015
2265006035	Hydro Power Units (4 Stroke)	8,681
Construction and Mining Equipment		
2260002006	Tampers/Rammers (2 Stroke)	21,602
2260002009	Plate Compactors (2 Stroke)	1,206
2260002021	Paving Equipment (2 Stroke)	1,444
2260002027	Signal Boards/Light Plants (2 Stroke)	11
2260002039	Concrete/Industrial Saws (2 Stroke)	53,507

SCC Code	Equipment Description	Fuel Consumption (gal/season)
2260002054	Crushing/Proc. Equipment (2 Stroke)	284
2265002003	Pavers (4 Stroke)	15,107
2265002006	Tampers/Rammers (4 Stroke)	112
2265002009	Plate Compactors (4 Stroke)	28,233
2265002015	Rollers (4 Stroke)	26,434
2265002021	Paving Equipment (4 Stroke)	53,153
2265002024	Surfacing Equipment (4 Stroke)	22,111
2265002027	Signal Boards/Light Plants (4 Stroke)	1,144
2265002030	Trenchers (4 Stroke)	46,833
2265002033	Bore/Drill Rigs (4 Stroke)	16,297
2265002039	Concrete/Industrial Saws (4 Stroke)	96,568
2265002042	Cement & Mortar Mixers (4 Stroke)	48,151
2265002045	Cranes (4 Stroke)	3,849
2265002054	Crushing/Proc. Equipment (4 Stroke)	6,279
2265002057	Rough Terrain Forklifts (4 Stroke)	6,037
2265002060	Rubber Tire Loaders (4 Stroke)	14,368
2265002066	Tractors/Loaders/Backhoes (4 Stroke)	31,720
2265002072	Skid Steer Loaders (4 Stroke)	22,522
2265002078	Dumpers/Tenders (4 Stroke)	7,489
2265002081	Other Construction Equipment (4 Stroke)	5,306
Industrial Equipment		
2260003030	Sweepers/Scrubbers (2 Stroke)	38
2260003040	Other General Industrial Equipment (2 Stroke)	3
2265003010	Aerial Lifts (4 Stroke)	4,096
2265003020	Forklifts (4 Stroke)	13,330
2265003030	Sweepers/Scrubbers (4 Stroke)	3,160
2265003040	Other General Industrial Equipment (4 Stroke)	5,765
2265003050	Other Material Handling Equipment (4 Stroke)	293
2265003060	AC/Refrigeration (4 Stroke)	497
2265003070	Terminal Tractors (4 Stroke)	1,237
2265010010	Other Oil Field Equipment (4 Stroke)	1,273
Lawn and Garden Equipment (Commercial)		
2260004016	Rotary Tillers < 6 hp (2 Stroke)	29,791
2260004021	Chain Saws < 6 hp (2 Stroke)	221,612
2260004026	Trimmers/Edgers/Brush Cutter (2 Stroke)	283,866
2260004031	Leafblowers/Vacuums (2 Stroke)	276,759
2260004036	Snowblowers (2 Stroke)	0
2260004071	Commercial Turf Equipment (2 Stroke)	121

SCC Code	Equipment Description	Fuel Consumption (gal/season)
2265004011	Lawn mowers (4 Stroke)	745,560
2265004016	Rotary Tillers < 6 hp (4 Stroke)	387,203
2265004026	Trimmers/Edgers/Brush Cutter (4 Stroke)	17,230
2265004031	Leafblowers/Vacuums (4 Stroke)	713,052
2265004036	Snowblowers (4 Stroke)	0
2265004041	Rear Engine Riding Mowers (4 Stroke)	81,166
2265004046	Front Mowers (4 Stroke)	96,533
2265004051	Shredders < 6 hp (4 Stroke)	44,659
2265004056	Lawn & Garden Tractors (4 Stroke)	1,103,416
2265004066	Chippers/Stump Grinders (4 Stroke)	189,539
2265004071	Commercial Turf Equipment (4 Stroke)	3,557,007
2265004076	Other Lawn & Garden Equipment (4 Stroke)	114,638
Lawn and Garden Equipment (Residential)		
2260004015	Rotary Tillers < 6 hp (2 Stroke)	2,793
2260004020	Chain Saws < 6 hp (2 Stroke)	22,999
2260004025	Trimmers/Edgers/Brush Cutter (2 Stroke)	50,967
2260004030	Leafblowers/Vacuums (2 Stroke)	32,822
2260004035	Snowblowers (2 Stroke)	0
2265004010	Lawn mowers (4 Stroke)	419,088
2265004015	Rotary Tillers < 6 hp (4 Stroke)	35,475
2265004025	Trimmers/Edgers/Brush Cutter (4 Stroke)	2,322
2265004030	Leafblowers/Vacuums (4 Stroke)	4,451
2265004035	Snowblowers (4 Stroke)	0
2265004040	Rear Engine Riding Mowers (4 Stroke)	81,526
2265004055	Lawn & Garden Tractors (4 Stroke)	1,096,183
2265004075	Other Lawn & Garden Equipment (4 Stroke)	40,033
Logging Equipment		
2260007005	Chain Saws > 6 hp (2 Stroke)	0
2265007010	Shredders > 6 hp (4 Stroke)	0
2265007015	Forest Equip - Feller/Bunch/Skidder (4 Stroke)	0
Pleasure Craft		
2282005010	Outboard (2 Stroke)	429,930
2282005015	Personal Water Craft (2 Stroke)	179,856
2282010005	Inboard/Sterndrive (4 Stroke)	269,290
Railroad Equipment		
2285004015	Railway Maintenance (4 Stroke)	504
Recreational Equipment		
2260001010	Motorcycles: Off-Road (2 Stroke)	165,865

SCC Code	Equipment Description	Fuel Consumption (gal/season)
2260001020	Snowmobiles (2 Stroke)	0
2260001030	ATVs (2 Stroke)	179,011
2260001060	Specialty Vehicles/Carts (2 Stroke)	20,265
2265001010	Motorcycles: Off-Road (4 Stroke)	49,719
2265001030	ATVs (4 Stroke)	513,867
2265001050	Golf Carts (4 Stroke)	167,145
2265001060	Specialty Vehicles/Carts (4 Stroke)	20,701

Table 5-126. Portable Fuel Container Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	228.65	494.87

Table 5-127. Portable Fuel Container Emissions Summary by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO	NO_x	VOC	Summer VOC
2501011011	See 2	See 3	Residential PFC; Permeation	See 4	0	0	1.74	3.02
2501011012	See 2	See 3	Residential PFC; Diurnal Evaporation	See 4	0	0	20.63	27.96
2501011013	See 2	See 3	Residential PFC; Spillage During Transport	See 4	0	0	67.33	27.22
2501011014	See 2	See 3	Residential PFC; Refilling at Pump - Vapor Displacement	See 4	0	0	22.94	13.29
2501011015	See 2	See 3	Residential PFC; Refilling at Pump - Spillage	See 4	0	0	1.88	0.76
2501012011	See 2	See 3	Commercial PFC; Permeation	See 4	0	0	4.41	10.47
2501012012	See 2	See 3	Commercial PFC; Diurnal Evaporation	See 4	0	0	79.76	147.52

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO	NO_x	VOC	Summer VOC
2501012013	See 2	See 3	Commercial PFC; Spillage During Transport	See 4	0	0	195.81	74.33
2501012014	See 2	See 3	Commercial PFC; Refilling at Pump - Vapor Displacement	See 4	0	0	92.76	50.46
2501012015	See 2	See 3	Commercial PFC; Refilling at Pump - Spillage	See 4	0	0	7.60	2.88

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.
[2]Storage and Transport.
[3]Organic Chemical Storage
[4]Total: All Products.

Table 5-128. Summertime Portable Fuel Container VOC Emissions (tons per summer season)

Emission Type		Residential Summer Emissions by PFC Type					Commercial Summer Emissions by PFC Type				
		Plastic Closed	Plastic Open	Metal Closed	Metal Open	Sum	Plastic Closed	Plastic Open	Metal Closed	Metal Open	Sum
Emissions associated with filling PFC at gas pump[1]	Vapor displacement	7.04	3.06	1.73	1.46	13.29	16.65	19.68	9.08	5.05	50.46
	Spillage	0.40	0.17	0.10	0.08	0.76	0.95	1.12	0.52	0.29	2.88
Emissions associated with transporting PFC to nonroad equipment[2]	Spillage	12.65	7.76	3.10	3.71	27.22	20.40	34.07	11.13	8.74	74.33
Emissions associated with refueling nonroad equipment[3]	Vapor displacement[4]										
	Spillage[4]										
Emissions associated with storage of gasoline in PFC	Permeation[6]	3.02	See #5	0.00	0.00	3.02	10.47	See #5	0.00	0.00	10.47
	Diurnal (i.e., evaporative) emissions[7]	2.84	16.82	0.26	8.04	27.96	9.66	108.26	1.83	27.76	147.52
					Total:	**72.26**				**Total:**	**285.67**

[1]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.2, p.5, EPA420-R-07-001 (Feb 2007).
[2]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.3, p.5, EPA420-R-07-001 (Feb 2007).
[3]EPA, Estimating Emissions Associated with Portable Fuel Containers, bottom of p.4, EPA420-R-07-001 (Feb 2007). Note that spillage rate increases inversely to size of nonroad equipment's fuel container (App. A-1 and A-2).
[4]These emissions are already included under the NONROAD model.
[5]"For open PFCs, the quantity of evaporative emissions far exceeds the permeation...." Therefore, EPA provided a combined emission factor that includes both diurnal and permeation emissions for open PFCs; the permeation emissions are included as diurnal emissions. EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.5, p.6, EPA420-R-07-001 (Feb 2007).
[6]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.5, p.6, EPA420-R-07-001 (Feb 2007).
[7]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.6, p.7, EPA420-R-07-001 (Feb 2007).

Table 5-129. Summertime Portable Fuel Container VOC Emissions

Time Frame	Value	Units
Summertime emissions using PFCs for EPA-specified equipment	**357.92**	tons/summer
Daily summertime emissions using PFCs for EPA-specified equipment	**3.89**	tons/day

Table 5-130. Annual Portable Fuel Container VOC Emissions (tpy)

Emission Type		Residential Annual Emissions by PFC Type					Commercial Annual Emissions by PFC Type				
		Plastic Closed	Plastic Open	Metal Closed	Metal Open	Sum	Plastic Closed	Plastic Open	Metal Closed	Metal Open	Sum
Emissions associated with filling PFC at gas pump	Vapor displacement	12.16	5.28	2.98	2.52	22.94	30.61	36.18	16.70	9.28	92.76
	Spillage[1]	1.00	0.43	0.24	0.21	1.88	2.51	2.96	1.37	0.76	7.60
Emissions associated with transporting PFC to nonroad equipment[2]	Spillage	31.29	19.19	7.68	9.18	67.33	53.74	89.74	29.31	23.01	195.81
Emissions associated with refueling nonroad equipment[1,4]	Vapor displacement	See #3	See #3	See #3	See #3	See #3	See #3	See #3	See #3	See #3	See #4
	Spillage	See #3	See #3	See #3	See #3	See #3	See #3	See #3	See #3	See #3	See #4
Emissions associated with storage of gasoline in PFC	Permeation[6]	1.74	See #5	0.00	0.00	1.74	4.41	See #5	0.00	0.00	4.41
	Diurnal (i.e., evaporative) emissions[7]	2.10	12.41	0.19	5.93	20.63	5.23	58.54	0.99	15.01	79.76
					Total:	**114.52**				**Total:**	**380.35**

[1]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.2, p.5, EPA420-R-07-001 (Feb 2007).
[2]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.3, p.5, EPA420-R-07-001 (Feb 2007).
[3]These emissions are already included under the NONROAD model.
[4]EPA, Estimating Emissions Associated with Portable Fuel Containers, bottom of p.4, EPA420-R-07-001 (Feb 2007). Note that spillage rate increases inversely to size of nonroad equipment's fuel container (App. A-1 and A-2).
[5]"For open PFCs, the quantity of evaporative emissions far exceeds the permeation...." Therefore EPA provided a combined emission factor that includes both diurnal and permeation emissions for open PFCs. The permeation emissions are included as diurnal emissions. EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.5, p.6, EPA420-R-07-001 (Feb 2007).
[6]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.5, p.6, EPA420-R-07-001 (Feb 2007).
[7]EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.6, p.7, EPA420-R-07-001 (Feb 2007).

Table 5-131. Annual Portable Fuel Container VOC Emissions

Time Frame	Value	Units
Annual emissions using PFCs for EPA-specified equipment	**494.87**	tons/year
Daily annualized emissions using PFCs for EPA-specified equipment	**1.36**	tons/day

Table 5-132. Residential Annual Fuel Usage

SCC	Equipment Description	Engine Type	Annual Gasoline Consumption (gal/yr)[1]	Annualized Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
Lawn and Garden Equipment (Residential)						
2260004015	Rotary tillers < 6 hp	2-stroke	6,993.50	19.16	100%	19.16
2260004020	Chain saws < 6 hp	2-stroke	91,995.61	252.04	100%	252.04
2260004025	Trimmer/edger/brush cutter	2-stroke	127,609.25	349.61	100%	349.61
2260004030	Leafblowers & vacuums	2-stroke	82,178.37	225.15	100%	225.15
2260004035	Snowblowers[5]	4-stroke	0.00	0.00		
2265004010	Lawn mowers	4-stroke	1,049,294.34	2,874.78	100%	2,874.78
2265004015	Rotary tillers < 6 hp	4-stroke	88,820.66	243.34	100%	243.34
2265004025	Trimmer/edger/brush cutter	4-stroke	5,812.65	15.93	100%	15.93
2265004030	Leafblowers & vacuums	4-stroke	11,143.47	30.53	100%	30.53
2265004035	Snowblowers	4-stroke	0.00	0.00	100%	0.00
2265004040	Rear engine riding mowers	4-stroke	204,122.60	559.24	100%	559.24
2265004055	Lawn & garden tractors	4-stroke	2,744,577.35	7,519.39	100%	7,519.39
2265004075	Other lawn & garden equipment	4-stroke	100,232.53	274.61	100%	274.61
Pleasure Craft						
2282005010	Outboard	2-stroke	894,792.72	2,451.49	5%	122.60
2282005015	Personal water craft[5]	2-stroke	374,326.31	1,025.55		
2282010005	Inboard/sterndrive	4-stroke	560,459.61	1,535.51	0.003%	0.05
Recreational Equipment						
2260001010	Motorcycles: off-road	2-stroke	376,862.72	1,032.50	100%	1,032.50
2260001020	Snowmobiles[5]	2-stroke	0.00	0.00		
2260001030	ATVs	2-stroke	406,731.38	1,114.33	100%	1,114.33
2260001060	Specialty vehicles/carts[5]	2-stroke	46,044.51	126.15		
2265001010	Motorcycles: off-road	4-stroke	112,966.35	309.50	100%	309.50
2265001030	ATVs[5]	4-stroke	1,167,561.50	3,198.80		
2265001050	Golf carts[5]	4-stroke	379,770.47	1,040.47		
2265001060	Specialty vehicles/carts	4-stroke	47,035.62	128.86	0.021%	0.03
			Totals:	**24,327**		**14,943**

[1]Data obtained from report generated by NONROAD model, "Equipment Population and Fuel Consumption by SCC for Clark County."
[2]Fuel use from NONROAD model is provided in units of gallons/year in annual report and gallons/season in summertime report.
[3]EPA, Estimating Emissions Associated with Portable Fuel Containers, App. A-2, EPA420-R-07-001 (Feb 2007).
[4]The percentage of fuel poured into equipment from PFCs varies from 0% to 100%. Obtained from EPA, id. at App. A-1, p. 14, or App. A-2, p. 15.
[5]Since EPA excluded this equipment from the list of types fueled by PFCs (App. A-2, p. 15), it is assumed that EPA determined this equipment is not fueled using PFCs.

Table 5-133. Commercial Annual Fuel Usage

SCC	Equipment Description	Engine Type	Annual Gasoline Consumption (gal/yr)[1]	Annualized Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs [3,4]	PFC Gasoline Consumption (gal/day)
Agricultural Equipment						
2260005035	Sprayers[5]	2-stroke	20.33	0.06		
2265005010	2-wheel tractors[5]	4-stroke	44.59	0.12		
2265005015	Agricultural tractors[5]	4-stroke	184.40	0.51		
2265005020	Combines[5]	4-stroke	0.00	0.00		
2265005025	Balers[5]	4-stroke	122.94	0.34		
2265005030	Agricultural mowers[5]	4-stroke	37.93	0.10		
2265005035	Sprayers[5]	4-stroke	419.04	1.15		
2265005040	Tillers > 6 hp[5]	4-stroke	909.10	2.49		
2265005045	Swathers[5]	4-stroke	194.61	0.53		
2265005055	Other agricultural equipment[5]	4-stroke	281.70	0.77		
2265005060	Irrigation sets[5]	4-stroke	313.32	0.86		
Airport Equipment						
2265008005	Airport ground support equipment[5]	4-stroke	42,617.84	116.76		
Commercial Equipment						
2260006005	Generator sets	2-stroke	8,831.61	24.20	100%	24.20
2260006010	Pumps	2-stroke	59,910.04	164.14	98%	161.61
2260006015	Air compressors	2-stroke	20.10	0.06	100%	0.06
2260006035	Hydro power units[5]	2-stroke	361.51	0.99		
2265006005	Generator sets	4-stroke	1,684,104.67	4,613.99	52%	2,412.98
2265006010	Pumps	4-stroke	415,114.59	1,137.30	77%	872.73
2265006015	Air compressors	4-stroke	221,911.16	607.98	57%	347.81
2265006025	Welders	4-stroke	472,313.60	1,294.01	10%	133.15
2265006030	Pressure washers	4-stroke	744,061.87	2,038.53	77%	1,574.82
2265006035	Hydro power units[5]	4-stroke	34,723.26	95.13		
Construction and Mining Equipment						
2260002006	Tampers/rammers[5]		76,525.55	209.66		
2260002009	Plate compactors[5]		4,270.58	11.70		
2260002021	Paving equipment[5]		5,113.84	14.01		
2260002027	Signal boards/light plants[5]		37.69	0.10		
2260002039	Concrete/industrial saws[5]		189,552.52	519.32		
2260002054	Crushing/process equipment[5]		1,004.95	2.75		
2265002003	Pavers[5]		53,516.95	146.62		
2265002006	Tampers/rammers[5]		396.45	1.09		
2265002009	Plate compactors[5]		100,017.92	274.02		
2265002015	Rollers[5]		93,643.94	256.56		
2265002021	Paving equipment[5]		188,298.15	515.89		
2265002024	Surfacing equipment[5]		78,330.72	214.60		
2265002027	Signal boards/light plants[5]		4,054.44	11.11		
2265002030	Trenchers[5]		165,908.36	454.54		

SCC	Equipment Description	Engine Type	Annual Gasoline Consumption (gal/yr)[1]	Annualized Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs [3,4]	PFC Gasoline Consumption (gal/day)
2265002033	Bore/drill rigs[5]		57,732.98	158.17		
2265002039	Concrete/industrial saws[5]		342,096.52	937.25		
2265002042	Cement & mortar mixers[5]		170,576.39	467.33		
2265002045	Cranes[5]		13,634.03	37.35		
2265002054	Crushing/process equipment[5]		22,245.42	60.95		
2265002057	Rough terrain forklifts[5]		21,387.49	58.60		
2265002060	Rubber tire loaders[5]		50,899.22	139.45		
2265002066	Tractors/loaders/backhoes[5]		112,371.46	307.87		
2265002072	Skid steer loaders[5]		79,785.58	218.59		
2265002078	Dumpers/tenders[5]		26,529.22	72.68		
2265002081	Other construction equipment[5]		18,796.64	51.50		
Industrial Equipment						
2260003030	Sweepers/scrubbers		152.72	0.42	100%	0.42
2260003040	Other general industrial equipment		11.06	0.03	100%	0.03
2265003010	Aerial lifts		16,385.67	44.89	2%	0.71
2265003020	Fork lifts[5]		53,318.99	146.08		
2265003030	Sweepers/scrubbers		12,638.02	34.62	19%	6.51
2265003040	Other general industrial equipment		23,058.19	63.17	63%	39.84
2265003050	Other material handling equipment		1,171.33	3.21	0.156%	0.01
2265003060	AC/refrigeration[5]		1,988.55	5.45		
2265003070	Terminal tractors[5]		4,947.72	13.56		
2265010010	Other oil field equipment[5]		4,184.20	11.46		
Lawn and Garden Equipment (Commercial)						
2260004016	Rotary tillers < 6 hp		74,589.15	204.35	100%	204.35
2260004021	Chain saws < 6 hp		886,447.37	2,428.62	100%	2,428.62
2260004026	Trimmer/edger/brush cutter		710,733.00	1,947.21	100%	1,947.21
2260004031	Leafblowers & vacuums		692,938.72	1,898.46	100%	1,898.46
2260004036	Snowblowers		0.00	0.00	100%	0.00
2260004071	Commercial turf equipment		303.14	0.83	100%	0.83
2265004011	Lawn mowers		1,866,702.67	5,114.25	100%	5,114.25
2265004016	Rotary tillers < 6 hp		969,462.50	2,656.06	100%	2,656.06
2265004026	Trimmer/edger/brush cutter		43,140.87	118.19	100%	118.19
2265004031	Leafblowers & vacuums		1,785,310.82	4,891.26	100%	4,891.26
2265004036	Snowblowers		0.00	0.00	100%	0.00
2265004041	Rear engine riding mowers		203,219.89	556.77	100%	556.77
2265004046	Front mowers		241,695.90	662.18	100%	662.18
2265004051	Shredders < 6 hp		111,814.33	306.34	100%	306.34
2265004056	Lawn & garden tractors		2,762,687.16	7,569.01	100%	7,569.01

SCC	Equipment Description	Engine Type	Annual Gasoline Consumption (gal/yr)[1]	Annualized Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs [3,4]	PFC Gasoline Consumption (gal/day)
2265004066	Chippers/stump grinders		474,558.96	1,300.16	100%	1,300.16
2265004071	Commercial turf equipment		8,905,888.18	24,399.69	100%	24,399.69
2265004076	Other lawn & garden equipment		287,025.55	786.37	100%	786.37
Logging Equipment						
2260007005	Chain saws > 6 hp		0.00	0.00	100%	0.00
2265007010	Shredders > 6 hp[5]		0.00	0.00		
2265007015	Forest equipment - feller/bunch/skidder[5]		0.00	0.00		
Railroad Equipment						
2285004015	Railway maintenance[5]		2,014.12	5.52		
			Totals:	**70,410**		**60,415**

[1]Data obtained from report generated by NONROAD model, "Equipment Population and Fuel Consumption by SCC for Clark County."
[2]Fuel use from NONROAD model is provided in units of gallons/year in annual report and gallons/season in summertime report.
[3]EPA, Estimating Emissions Associated with Portable Fuel Containers, App. A-1, EPA420-R-07-001 (Feb 2007).
[4]The percentage of fuel poured into equipment from PFCs varies from 0% to 100%. Obtained from EPA, id. at App. A-1, p. 14 or App. A-2, p. 15.
[5]This is not among the SCC Codes fueled using PFCs (see id. at App. A-1, p. 14).

Table 5-134. Annualized PFC Fuel Usage Summary (gal/day)

Description	Value
Residential PFC gasoline consumption	**14,943**
Commercial PFC gasoline consumption	**60,415**

Table 5-135. Residential Summertime Fuel Usage

SCC	Equipment Description	Engine Type	Summer Gasoline Consumption (gal/season)[1]	Summer Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
Lawn and Garden Equipment (Residential)						
2260004015	Rotary tillers < 6 hp	2-stroke	2,793.20	30.36	100%	30.36
2260004020	Chain saws < 6 hp	2-stroke	22,998.91	249.99	100%	249.99
2260004025	Trimmer/edger/brush cutter	2-stroke	50,967.06	553.99	100%	553.99
2260004030	Leafblowers & vacuums	2-stroke	32,821.99	356.76	100%	356.76
2260004035	Snowblowers[5]	4-stroke	0.00	0.00		
2265004010	Lawn mowers	4-stroke	419,087.55	4,555.30	100%	4,555.30
2265004015	Rotary tillers < 6 hp	4-stroke	35,474.92	385.60	100%	385.60
2265004025	Trimmer/edger/brush cutter	4-stroke	2,321.57	25.23	100%	25.23
2265004030	Leafblowers & vacuums	4-stroke	4,450.70	48.38	100%	48.38
2265004035	Snowblowers	4-stroke	0.00	0.00	100%	0.00
2265004040	Rear engine riding mowers	4-stroke	81,526.45	886.16	100%	886.16
2265004055	Lawn & garden tractors	4-stroke	1,096,182.65	11,915.03	100%	11,915.03

SCC	Equipment Description	Engine Type	Summer Gasoline Consumption (gal/season)[1]	Summer Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
2265004075	Other lawn & garden equipment	4-stroke	40,032.81	435.14	100%	435.14
Pleasure Craft						
2282005010	Outboard	2-stroke	429,930.32	4,673.16	5%	233.70
2282005015	Personal water craft[5]	2-stroke	179,856.48	1,954.96		
2282010005	Inboard/sterndrive	4-stroke	269,289.85	2,927.06	0.003%	0.09
Recreational Equipment						
2260001010	Motorcycles: off-road	2-stroke	165,864.75	1,802.88	100%	1,802.88
2260001020	Snowmobiles[5]	2-stroke	0.00	0.00		
2260001030	ATVs	2-stroke	179,010.59	1,945.77	100%	1,945.77
2260001060	Specialty vehicles/carts[5]	2-stroke	20,265.10	220.27		
2265001010	Motorcycles: off-road	4-stroke	49,718.73	540.42	100%	540.42
2265001030	ATVs[5]	4-stroke	513,866.97	5,585.51		
2265001050	Golf carts[5]	4-stroke	167,144.53	1,816.79		
2265001060	Specialty vehicles/carts	4-stroke	20,701.31	225.01	0.02%	0.05
			Total:	**41,134**		**23,965**

[1]Data obtained from report generated by NONROAD model, "Equipment Population and Fuel Consumption by SCC for Clark County."
[2]Fuel use from NONROAD model is provided in units of gallons/year in annual report and gallons/season in summertime report.
[3]EPA, Estimating Emissions Associated with Portable Fuel Containers, App. A-2, EPA420-R-07-001 (Feb 2007).
[4]The percentage of fuel poured into equipment from PFCs varies from 0% to 100%. Obtained from EPA, id. at App. A-1, p. 14, or App. A-2, p. 15.
[5]Since EPA excluded this equipment from the list of types fueled by PFCs (App. A-2, p. 15), it is assumed that EPA determined this equipment is not fueled using PFCs.

Table 5-136. Commercial Summertime Fuel Usage

SCC	Equipment Description	Engine Type	Summer Gasoline Consumption (gal/season)[1]	Summer Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
Agricultural Equipment						
2260005035	Sprayers[5]	2-stroke	8.12	0.09		
2265005010	2-wheel tractors[5]	4-stroke	17.81	0.19		
2265005015	Agricultural tractors[5]	4-stroke	73.65	0.80		
2265005020	Combines[5]	4-stroke	0.00	0.00		
2265005025	Balers[5]	4-stroke	49.10	0.53		
2265005030	Agricultural mowers[5]	4-stroke	15.15	0.16		
2265005035	Sprayers[5]	4-stroke	167.36	1.82		
2265005040	Tillers > 6 hp[5]	4-stroke	363.10	3.95		
2265005045	Swathers[5]	4-stroke	77.73	0.84		
2265005055	Other agricultural equipment[5]	4-stroke	112.51	1.22		
2265005060	Irrigation sets[5]	4-stroke	125.14	1.36		
Airport Equipment						

SCC	Equipment Description	Engine Type	Summer Gasoline Consumption (gal/season)[1]	Summer Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
2265008005	Airport ground support equipment[5]	4-stroke	10,654.46	115.81		
Commercial Equipment						
2260006005	Generator sets	2-stroke	2,207.90	24.00	100%	24.00
2260006010	Pumps	2-stroke	14,977.51	162.80	98%	160.29
2260006015	Air compressors	2-stroke	5.03	0.05	100%	0.05
2260006035	Hydro power units[5]	2-stroke	90.38	0.98		
2265006005	Generator sets	4-stroke	421,026.26	4,576.37	52%	2,393.31
2265006010	Pumps	4-stroke	103,778.66	1,128.03	77%	865.62
2265006015	Air compressors	4-stroke	55,477.79	603.02	57%	344.98
2265006025	Welders	4-stroke	118,078.42	1,283.46	10%	132.07
2265006030	Pressure washers	4-stroke	186,015.49	2,021.91	77%	1,561.98
2265006035	Hydro power units[5]	4-stroke	8,680.82	94.36		
Construction and Mining Equipment						
2260002006	Tampers/rammers[5]		21,601.80	234.80		
2260002009	Plate compactors[5]		1,205.51	13.10		
2260002021	Paving equipment[5]		1,443.55	15.69		
2260002027	Signal boards/light plants[5]		10.64	0.12		
2260002039	Concrete/industrial saws[5]		53,507.31	581.60		
2260002054	Crushing/process equipment[5]		283.68	3.08		
2265002003	Pavers[5]		15,106.89	164.21		
2265002006	Tampers/rammers[5]		111.91	1.22		
2265002009	Plate compactors[5]		28,233.29	306.88		
2265002015	Rollers[5]		26,434.02	287.33		
2265002021	Paving equipment[5]		53,153.23	577.75		
2265002024	Surfacing equipment[5]		22,111.37	240.34		
2265002027	Signal boards/light plants[5]		1,144.50	12.44		
2265002030	Trenchers[5]		46,832.99	509.05		
2265002033	Bore/drill rigs[5]		16,297.00	177.14		
2265002039	Concrete/industrial saws[5]		96,567.78	1,049.65		
2265002042	Cement & mortar mixers[5]		48,150.69	523.38		
2265002045	Cranes[5]		3,848.64	41.83		
2265002054	Crushing/process equipment[5]		6,279.49	68.26		
2265002057	Rough terrain forklifts[5]		6,037.31	65.62		
2265002060	Rubber tire loaders[5]		14,367.95	156.17		

SCC	Equipment Description	Engine Type	Summer Gasoline Consumption (gal/season)[1]	Summer Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
2265002066	Tractors/loaders/backhoes[5]		31,720.47	344.79		
2265002072	Skid steer loaders[5]		22,522.06	244.80		
2265002078	Dumpers/tenders[5]		7,488.73	81.40		
2265002081	Other construction equipment[5]		5,305.96	57.67		
Industrial Equipment						
2260003030	Sweepers/scrubbers		38.18	0.42	100%	0.42
2260003040	Other general industrial equipment		2.76	0.03	100%	0.03
2265003010	Aerial lifts		4,096.42	44.53	2%	0.71
2265003020	Fork lifts[5]		13,329.75	144.89		
2265003030	Sweepers/scrubbers		3,159.50	34.34	19%	6.46
2265003040	Other general industrial equipment		5,764.55	62.66	63%	39.51
2265003050	Other material handling equipment		292.83	3.18	0.156%	0.00
2265003060	AC/refrigeration[5]		497.14	5.40		
2265003070	Terminal tractors[5]		1,236.93	13.44		
2265010010	Other oil field equipment[5]		1,272.90	13.84		
Lawn and Garden Equipment (Commercial)						
2260004016	Rotary tillers < 6 hp		29,790.86	323.81	100%	323.81
2260004021	Chain saws < 6 hp		221,611.86	2,408.82	100%	2,408.82
2260004026	Trimmer/edger/brush cutter		283,866.38	3,085.50	100%	3,085.50
2260004031	Leafblowers & vacuums		276,759.32	3,008.25	100%	3,008.25
2260004036	Snowblowers		0.00	0.00	100%	0.00
2260004071	Commercial turf equipment		121.07	1.32	100%	1.32
2265004011	Lawn mowers		745,560.03	8,103.91	100%	8,103.91
2265004016	Rotary tillers < 6 hp		387,202.75	4,208.73	100%	4,208.73
2265004026	Trimmer/edger/brush cutter		17,230.44	187.29	100%	187.29
2265004031	Leafblowers & vacuums		713,052.09	7,750.57	100%	7,750.57
2265004036	Snowblowers		0.00	0.00	100%	0.00
2265004041	Rear engine riding mowers		81,165.91	882.24	100%	882.24
2265004046	Front mowers		96,533.20	1,049.27	100%	1,049.27
2265004051	Shredders < 6 hp		44,658.58	485.42	100%	485.42
2265004056	Lawn & garden tractors		1,103,415.68	11,993.65	100%	11,993.65
2265004066	Chippers/stump grinders		189,538.57	2,060.20	100%	2,060.20
2265004071	Commercial turf equipment		3,557,006.71	38,663.12	100%	38,663.12

SCC	Equipment Description	Engine Type	Summer Gasoline Consumption (gal/season)[1]	Summer Gasoline Consumption (gal/day)[1,2]	Percent of Fuel from PFCs[3,4]	PFC Gasoline Consumption (gal/day)
2265004076	Other lawn & garden equipment		114,637.83	1,246.06	100%	1,246.06
Logging Equipment						
2260007005	Chain saws > 6 hp		0.00	0.00	100%	0.00
2265007010	Shredders > 6 hp[5]		0.00	0.00		
2265007015	Forest equipment - feller/bunch/skidder[5]		0.00	0.00		
Railroad Equipment						
2285004015	Railway maintenance[5]		503.53	5.47		
			Total:	**101,566**		**90,988**

[1]Data obtained from report generated by NONROAD model, "Equipment Population and Fuel Consumption by SCC for Clark County."
[2]Fuel use from NONROAD model is provided in units of gallons/year in annual report and gallons/season in summertime report.
[3]EPA, Estimating Emissions Associated with Portable Fuel Containers, App. A-1, EPA420-R-07-001 (Feb 2007).
[4]The percentage of fuel poured into equipment from PFCs varies from 0% to 100%. Obtained from EPA, id. at App. A-1, p. 14 or App. A-2, p. 15.
[5]This is not among the SCC Codes fueled using PFCs (see id. at App. A-1, p. 14).

Table 5-137. Summertime PFC Fuel Usage Summary (gal/day)

Description	Value
Residential PFC gasoline consumption	**23,965**
Commercial PFC gasoline consumption	**90,988**

Table 5-138. Average Annual Temperatures

Year	Average Temperature (°F)
2000	69.62
2001	69.58
2002	68.88
2003	69.93
2004	69.42
2005	69.98
2006	69.77
2007	70.97
2008	72.19

Source: Western Regional Climate Center, Desert Research Institute
<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nv4436> (accessed Jan. 28, 2009).

Table 5-139. Distribution of PFCs by Usage Type (based on CARB survey)

Type	Plastic Closed	Plastic Open	Metal Closed	Metal Open
Residential usage	53%	23%	13%	11%
Commercial usage	33%	39%	18%	10%

Source: EPA, Estimating Emissions Associated with Portable Fuel Containers (PFCs) EPA420-R-07-001, p. 2 (Feb 2007).

Table 5-140. Transport Spillage (g/gal)

Type	Closed PFCs	Open PFCs
Residential usage	9.8	13.9
Commercial usage	6.7	9.5

Source: EPA, Estimating Emissions Associated with Portable Fuel Containers (PFCs) EPA420-R-07-001, p. 5 (Feb 2007).

Table 5-141. Permeation (g/container)

Type	Closed Plastic PFCs	Metal PFCs[1]
Residential usage	1.8	0.0
Commercial usage	2.6	0.0

Source: EPA, Estimating Emissions Associated with Portable Fuel Containers (PFCs) EPA420-R-07-001, p. 6 (Feb 2007).
[1]Applies to either open or closed metal portable fuel containers.

Table 5-142. Diurnal (i.e., evaporative) Emissions (g/container/day)

Type	Closed Plastic PFCs	Closed Metal PFCs
Residential usage	1.6	0.6
Commercial usage	2.3	0.8

Source: EPA, Estimating Emissions Associated with Portable Fuel Containers (PFCs) EPA420-R-07-001, p. 7 (Feb 2007).

Table 5-143. Emission and Conversion Factors

Parameter	Value	Units	Source
EPA estimate of spillage at pump	0.3128	grams/gallon	EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.2, p. 5, EPA420-R-07-001 (Feb 2007).
Diurnal emissions for any open container (metal, plastic, etc.)	21.8	grams/container/day	EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.6, p. 7, EPA420-R-07-001 (Feb 2007).
Conversion factor	454	grams/lbs	
Conversion factor	2,000	lbs/ton	
Annual days	365	days	
Summer days per year	92	days	Days in June, July, and August.

Parameter	Value	Units	Source
Default temperature	85.53	deg F	EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.5, p. 6, EPA420-R-07-001 (Feb 2007).
Average temperature increase due to storage	5	deg F	EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.3, p. 8, EPA420-R-07-001 (Feb 2007).
Annual average temperature + storage temperature	75.0378	deg F	Because trend in Las Vegas has been toward warmer temperatures, used 2000-08 data to establish average temperatures (Table 14).
Summertime average temperature + storage temperature	94	deg F	Based on average high & low temperatures (June, July, and August) at www.weather.com
Ratio between California and Clark County annual vapor displacement	0.96		Equation in EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.1, p.5, EPA420-R-07-001 (Feb 2007).
Ratio between California and Clark County summertime vapor displacement	1.38		Equation in EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.1, p.5, EPA420-R-07-001 (Feb 2007).

Table 5-144. Average Size of PFC Container

Type	Gallons/container
Residential usage	2.34
Commercial usage	3.40

Source: EPA, Estimating Emissions Associated with Portable Fuel Containers (PFCs) EPA420-R-07-001, p. 2 (Feb 2007).

5.7.17 Gasoline Storage, Transport, and Distribution (Sector No. 17)

Emissions from the *gasoline storage, transport, and distribution* sector are divided into four emissions sources. First, emissions are produced when tank trucks transfer gasoline from the tank truck to storage tanks at GDFs. During this transfer, gasoline vapor in the storage tanks—primarily underground storage tanks (USTs)—is forced into the tank trucks. A portion of the vapor escapes to the atmosphere and these account for Stage 1 emissions.

Second, emissions are released to the atmosphere when gasoline is transferred from USTs to the gasoline tank of a vehicle. These represent Stage 2 emissions and vary depending on whether the vehicle is equipped with onboard refueling vapor recovery (ORVR) systems and the type of Stage 2 controls installed at the GDF.

Third, emissions are released continually by USTs due to diurnal changes in temperature and barometric pressure (i.e., tank breathing). Finally, there are tank breathing emission losses associated with tank truck transit.

The baseline VOC emissions from the *gasoline storage, transport, and distribution* sector are relatively high and ranked fifth (5.11 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-145. Gasoline Fueling Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2501060050	Storage and Transport/Petroleum and Petroleum Product Storage/Gasoline Service Stations/Stage 1: Total	0.00	0.00	1.89	0.00	0.00	1.88	0.00	0.00	1.88
2501060100	Storage and Transport/Petroleum and Petroleum Product Storage/Gasoline Service Stations/Stage 2: Total	0.00	0.00	1.47	0.00	0.00	1.14	0.00	0.00	1.14
2501060201	Storage and Transport/Petroleum and Petroleum Product Storage/Gasoline Service Stations/Underground Tank: Breathing and Emptying	0.00	0.00	1.62	0.00	0.00	1.61	0.00	0.00	1.61
2505030120	Storage and Transport/Petroleum and Petroleum Product Transport/ Truck/Gasoline	0.00	0.00	0.12	0.00	0.00	0.12	0.00	0.00	0.12
	Totals:	**0.00**	**0.00**	**5.11**	**0.00**	**0.00**	**4.75**	**0.00**	**0.00**	**4.75**
							Difference (2022 - 2008):	**0.00**	**0.00**	**-0.35**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.17.1 Emissions from Gasoline Storage, Transport, and Distribution

Gasoline Storage, Transport, and Distribution Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
5.	Gasoline dispensed in Clark County in January (gallons):	**63,644,970**
6.	Gasoline dispensed in Clark County in February (gallons):	**64,287,508**
7.	Gasoline dispensed in Clark County in March (gallons):	**67,905,204**
8.	Gasoline dispensed in Clark County in April (gallons):	**65,990,719**
9.	Gasoline dispensed in Clark County in May (gallons):	**66,194,403**
10.	Gasoline dispensed in Clark County in June (gallons):	**64,605,275**
11.	Gasoline dispensed in Clark County in July (gallons):	**69,378,157**
12.	Gasoline dispensed in Clark County in August (gallons):	**67,652,574**
13	Gasoline dispensed in Clark County in September (gallons):	**62,240,079**
14.	Gasoline dispensed in Clark County in October (gallons):	**64,833,856**
15.	Gasoline dispensed in Clark County in November (gallons):	**59,565,269**
16.	Gasoline dispensed in Clark County in December (gallons):	**63,620,174**
17.	Approximate sales of regular gasoline (gallons/year):	**655,702,010**
18.	Approximate sales of premium gasoline (gallons/year):	**92,165,640**
19.	Summer Stage II VOC refueling loss emission factors (uncontrolled g/mile):	**0.073**
20.	Summer Stage II VOC refueling loss emission factors (controlled g/mile):	**0.022**
21.	Winter Stage II VOC refueling loss emission factors (uncontrolled g/mile):	**0.049**
22.	Winter Stage II VOC refueling loss emission factors (controlled g/mile):	**0.017**
23.	Clark County Principal Arterial - Interstate - Rural AVMT (miles/year):	**796,616,880**
24.	Clark County Principal Arterial - Other - Rural AVMT (miles/year):	**423,300,428**
25.	Clark County Minor Arterial - Rural AVMT (miles/year):	**48,055,973**
26.	Clark County Major Collector - Rural AVMT (miles/year):	**148,261,931**
27.	Clark County Minor Collector - Rural AVMT (miles/year):	**25,362,029**
28.	Clark County Local - Rural AVMT (miles/year):	**124,341,031**
29.	Clark County Principal Arterial - Interstate - Urban AVMT (miles/year):	**2,697,390,150**
30.	Clark County Principal Arterial - OFE - Urban AVMT (miles/year):	**1,287,237,835**
31.	Clark County Principal Arterial - Other - Urban AVMT (miles/year):	**1,603,634,946**
32.	Clark County Minor Arterial - Urban AVMT (miles/year):	**3,471,731,518**
33.	Clark County Collector - Urban AVMT (miles/year):	**986,200,023**
34.	Clark County Local - Urban AVMT (miles/year):	**2,185,935,090**
35.	Las Vegas average winter temperature (degrees F):	**48**
36.	Las Vegas average spring temperature (degrees F):	**68**
37.	Las Vegas average summer temperature (degrees F):	**92**
38.	Las Vegas average fall temperature (degrees F):	**72**

Notes: The monthly gallons dispensed is from the Nevada Department of Motor Vehicles, but its sales tax records do not differentiate between regular and premium grade gasoline. The approximate sales of regular and premium gasoline is from the CalNev annual emissions report, and is used only as a ratio to calculate annual RVP values in Clark County. It is not expected nor required that the sum of regular and premium gasoline equals the sum of monthly gallons dispensed (sold) in Clark County.

The monthly gallons dispensed is from the Nevada Department of Motor Vehicles, but its sales tax records do not differentiate between regular and premium grade gasoline. The approximate sales of regular and premium gasoline is from the CalNev annual emissions report, and is used only as a ratio to calculate annual RVP values in Clark County. It is not expected nor required that the sum of regular and premium gasoline equals the sum of monthly gallons dispensed (sold) in Clark County.

Monthly and quarterly RVP averages (presented in Tables 14 and 15) were obtained from CalNev 2008 Emission Inventory Report. Historical data can also be obtained when necessary, and data can be updated as more current data becomes available.

Approximate sales of regular grade and premium grade gasoline (presented in Table 21) were obtained from the 2008 CalNev Emission Inventory Report. This data can be updated when necessary.

Clark County VMT distribution by road type (presented in Table 23) was obtained from a local study conducted in Clark County. This data can be updated when necessary or when more representative information becomes available.

Table 5-146. Emissions Summary from Gasoline Storage, Transport, and Distribution

Year	Summer Emissions Inventory Complete	Annual Emissions Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	466.02	1,229.28

Table 5-147. Emissions from Gasoline Storage, Transport, and Distribution by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO	NO_x	VOC
2501060050	Storage and Transport	Petroleum and Petroleum Storage	Gasoline Service Stations	Stage 1: Total	0	0	455.47
2501060100	Storage and Transport	Petroleum and Petroleum Storage	Gasoline Service Stations	Stage 2: Total	0	0	354.60
2501060201	Storage and Transport	Petroleum and Petroleum Storage	Gasoline Service Stations	Underground Tank: Breathing and Emptying	0	0	389.96
2505030120	Storage and Transport	Petroleum and Petroleum Storage	Truck	Gasoline	0	0	29.25

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-148. Variables, Constants, and Equations

Subcategory	Parameters		Description	Value and Units
Stage I	Variables	**TGD**	*Total Gasoline Dispensed* in Clark County	gal/year
	Constants	**SF**	*Submerged Filling* emission factor	0.0073 lbs/gal throughput[1]
		CE	*Control Efficiency* with rule effectiveness	84%
	Equation	Emissions = **SF** x **TGD** x (1-**CE**)/2,000		tpy

[1]STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing, U.S. EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.), Table 5.2-7, p. 5.2-15 (1995).

The basis for the historical Stage I control efficiency estimate in Table 5-148 may be arrived at in two different ways. The first is by multiplying CE x RE, where CE—the minimum control efficiency of Stage I vapor balance systems (see Table I-3 of the Gasoline Storage, Transport, and Distribution Inventory Preparation Protocol (GDF IPP))—is equal to 93 percent, and where RE—the presumed rule effectiveness—is equal to 90 percent. 93 percent multiplied by 90 percent yields approximately 84 percent.

The second way to derive the control efficiency estimate in Table 5-148 comes from Environ Inc.'s "Clark County Point and Area Source Emissions" report (Jan. 2007, p. 3-37), which states: "[b]ased on inspection frequency, certification efficiency, and throughput waiver, a Stage I and Stage II control efficiency of 84% was used in emissions calculations from Stage I filling and Stage II refueling (per EPA, 1991 guidance)." The 1991 EPA guidance document, however, addresses only Stage II emissions. The report estimates that when there are annual inspections, average control efficiency increases to 86 percent.

The report also states that Clark County staff performs annual inspection of Stage I and Stage II control equipment. Multiplying this value by a rule penetration value of 98 percent gives a result of 84 percent.

Table 5-149. VOC Emissions from Gasoline Dispensing

Year	TGD (gal/year)	VOC Emissions (tpy)
2008	779,918,188	455.47

Table 5-150. Variables, Constants, Equations, and Conversions

Subcategory	Parameters		Description	Units
Stage II[1]	Variables	**GVF**	Gasoline Vehicle VMT Fraction[2]	See Table 5-157
		VMTCC	Vehicular Miles Traveled in Clark County[3]	VMT/day
		VMTLV	Vehicular Miles Traveled in Las Vegas and Boulder City[3]	VMT/day
		USRL	Uncontrolled Summer Refueling Loss emission factor[4,5]	g/mile
		CSRL	Controlled Summer Refueling Loss emission factor/4,/5	g/mile
		UWRL	Uncontrolled Winter Refueling Loss emission factor[5,6]	g/mile
		CWRL	Controlled Winter Refueling Loss emission factor[5,6]	g/mile
	Equations	Total Emissions = (Uncontrolled summer day emissions + Controlled summer day emissions + Uncontrolled winter day emissions + Controlled winter day emissions) x (365/2)/907,185[7]		ton/yr
		Uncontrolled summer day emissions = **GVF** x (**VMTCC – VMTLV**) x **USRL**		ton/day
		Controlled summer day emissions = **GVF** x **VMTLV** x **CSRL**		ton/day
		Uncontrolled winter day emissions = **GVF** x (**VMTCC – VMTLV**) x **UWRL**		ton/day
		Controlled winter day emissions = **GVF** x **VMTLV** x **CWRL**		ton/day
	Conversions	453.592		g/lb
		2,000		lb/ton

[1]For explanation of Stage II spillage, see notes below Table III-1 of the Gasoline Storage, Transport, and Distribution Inventory Preparation Protocol (GDF IPP).
[2]Output from MOBILE6.2 software.
[3]From an annual Nevada Department of Transportation (NDOT) Annual Vehicle Miles of Travel (AVMT) report. Note that the 2005 report was issued in December 2006. The 2005 NDOT AVMT report is available at: https://www.nevadadot.com/reports_pubs/miles_of_travel/pdfs/2005/2005_AVMT.pdf.
[4]Output from MOBILE6.2 software (see M6.in filename: “LVxy_zs2.in” where xy = last 2 digits of year; z = n (i.e., no controls), or w (i.e., with controls)).
[5]See Excel spreadsheet found on DAQEM P: drive, <GDF StageII 2005 CERR.xls>, worksheet: “M6_rf_loss_EFs” (accessed Feb. 19, 2008).
[6]Output from MOBILE6.2 software (see M6.in filename: “LVxywzs2.in” where xy = last 2 digits of year; z = n (i.e., no controls), or w (i.e., with controls)).
[7]In the equations there are two conversion factors: (i) 365/2 days/year (i.e., splitting the 365 days equally among summer and winter days), and (ii) 907,185 g/ton.

Table 5-151. Stage II VOC Parameters

Parameter	2008	Units
GVF	0.963	See Table 18
VMTCC	37,802,926	VMT/day
VMTLV	33,512,684	VMT/day
USRL	0.073	grams/mile
CSRL	0.022	grams/mile
UWRL	0.049	grams/mile
CWRL	0.017	grams/mile
Uncontrolled summer day emissions	0.332	tons/day
Controlled summer day emissions	0.783	tons/day
Uncontrolled winter day emissions	0.223	tons/day
Controlled winter day emissions	0.605	tons/day

Table 5-152. VOC Stage II Emissions

Year	VOC Emissions (tpy)
2008	354.60

Table 5-153. Variables, Constants, and Equations

<table>
<tr><th>Subcategory</th><th colspan="2">Parameters</th><th>Description</th><th>Value and Units</th></tr>
<tr><td rowspan="3">Tank Breathing</td><td>Variables</td><td>TGD</td><td>Total gasoline dispensed in Clark County</td><td>gallons/year</td></tr>
<tr><td>Constants</td><td>TB</td><td>Tank breathing emission factor</td><td>1.0 lbs/1,000 gallons throughput[1]</td></tr>
<tr><td>Equation</td><td colspan="2">Emissions = TB x TGD/2,000</td><td>tons/year</td></tr>
</table>

[1]STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing, U.S. EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.), Table 5.2-7, p. 5.2-15 (1995).

Table 5-154. VOC Breathing Emissions

Year	TGD (gallons/yr)	VOC Emissions (tons/yr)
2008	779,918,188	389.96

Table 5-155. Variables, Constants, and Equations

Subcategory	Parameters		Description	Value and Units
Trucks	Variables	**TGD**	Total gasoline dispensed in Clark County	gal./year
	Constants	**GTA**	Gasoline transformation adjustment factor	1.25 lbs/gal.[1]
		UEF	Unloaded tank truck in transit emission factor	0.005 lbs/1,000 gal. throughput[2]
		LEF	Loaded tank truck in transit emission factor	0.005 lbs/1,000 gal. throughput[3]
	Equation	Emissions = **GTA** (**UEF** + **LEF**) x **TGD**/2,000		tpy

[1]STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.)

[2]STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.), Table 5.2-7, p. 5.2-15 (1995).

[3]STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.), Table 5.2-7, p. 5.2-15 (1995).

Table 5-156. Truck Transit VOC Emissions

Year	TGD (gal/yr)	VOC Emissions (tpy)
2008	779,918,188	29.25

Table 5-157. Monthly Average RVP (psi)[1]

Month	Regular	Premium	Transmix
January	8.52	7.66	5.27
February	8.45	7.81	4.85
March	8.05	7.87	5.93
April	8.21	7.89	7.04
May[2]	n/a	n/a	n/a
June	8.33	8.41	5.76
July	8.15	8.53	6.63
August	8.03	8.28	4
September	7.62	7.04	4.67
October	8.45	7.66	3.44
November[2]	n/a	n/a	n/a
December	11	7.68	3.35

[1]Data obtained from CalNev 2008 Emission Inventory Report, p. 4 //.
[2]No product samples were collected for analysis during May and November 2008.

Table 5-158. Quarterly Average RVP (psi)

Fuel Type	Winter	Spring	Summer	Fall
Regular	9.32	8.13	8.17	8.04
Premium	7.72	7.88	8.41	7.35
Transmix	4.49	6.49	5.46	4.06
Overall	9.13	8.10	8.20	7.95
Annual RVP	**8.08**			

Note: No product samples were collected for analysis during May and November 2008.

Table 5-159. Average Clark County Temperature (°F)

Winter	Spring	Summer	Fall
48	68	92	72

Source: http://www.wunderground.com.

Table 5-160. Vapor Displacement (grams)

Winter	Spring	Summer	Fall
2.45	3.21	5.29	3.41

Source: EPA, Estimating Emissions Associated with Portable Fuel Containers, Section 2.2.1, p.5, EPA420-R-07-001 (Feb 2007). <http://www.epa.gov/otaq/regs/toxics/420r07001.pdf> (accessed Aug. 4, 2009). Quarterly vapor displacement is estimated based on quarterly RVP and temperature data.

Table 5-161. 2002 VMT Distribution

Type of Vehicle	VMT Distribution
Light-duty gasoline vehicles (LDGV)	0.5059
Light-duty gasoline trucks (LDGT1 and LDGT2)[1]	0.333
Light-duty gasoline trucks (LDGT3 and LDGT4)[2]	0.1136
Heavy-duty gasoline vehicles (HDGV)	0.0105
Light-duty diesel vehicles (LDDV)	0.0008
Light-duty diesel trucks (LDDT)	0.0019
Heavy-duty diesel trucks (HDDT)	0.0271
Motorcycles (MC)	0.0072

Note: Data obtained from a local study conducted in Clark County. Subsequent studies have not been performed.
[1]Trucks weighing up to 6,000 lbs.
[2]Trucks weighing more than 6,000 lbs.

Table 5-162. Vehicle Miles Traveled

Roadway Class	Annual Vehicle Miles Traveled (AVMT)	VMT/day
Principal arterial - interstate - rural	796,616,880	2,182,512
Principal arterial - other - rural	423,300,428	1,159,727
Minor arterial - rural	48,055,973	131,660
Major collector - rural	148,261,931	406,197
Minor collector - rural	25,362,029	69,485
Local - rural	124,341,031	340,660
Principal arterial - interstate - urban	2,697,390,150	7,390,110
Principal arterial - ofe - urban	1,287,237,835	3,526,679
Principal arterial - other - urban	1,603,634,946	4,393,520
Minor arterial - urban	3,471,731,518	9,511,593
Collector - urban	986,200,023	2,701,918
Local - urban	2,185,935,090	5,988,863
Subtotal - rural	1,565,938,272	4,290,242
Subtotal - urban	12,232,129,562	33,512,684
Total	**13,798,067,834**	**37,802,926**

Source: Nevada Department of Transportation (NDOT), Annual Vehicle Miles of Travel [for years 2005, 2006, and 2007] <https:// www.nevadadot.com/reports_pubs/miles_of_travel/> (accessed June 30, 2009).

Table 5-163. Gasoline Dispensed/Sold in Clark County

Month	2008 (bbl)
January	63,644,970
February	64,287,508
March	67,905,204
April	65,990,719
May	66,194,403
June	64,605,275
July	69,378,157
August	67,652,574
September	62,240,079
October	64,833,856
November	59,565,269
December	63,620,174
Annual Total:	**779,918,188**

Table 5-164. 2008 Quarterly Gasoline Sale Percentages

Winter	Spring	Summer	Fall
24.6%	25.7%	25.9%	23.9%

Table 5-165. 2008 Gasoline Sales by Type

Regular Gasoline (gal)	Premium Gasoline (gal)
683,802,707	96,115,481

Source: CalNev 2008 Emission Inventory Report, p. 4 //

Table 5-166. Data Requirements

Subcategory	Data	Source of Data	Notes
Stage I	Annual gasoline sales in Clark County	DAQEM Compliance GDF Section annually conducts an inventory of gasoline sales from all GDFs in Clark County. Final figures are usually available by the beginning of March for the previous year's inventory.	Identified as **TGD** in Table 5-167.
Stage II	VMT distribution (i.e., pro rata distribution of gasoline vehicles)[1]	Output from MOBILE6.2 software.[2]	Identified as **GVF** in Table 5-167.
	Clark County HPMS VMT[3]	From an annual NDOT AVMT report. The 2005 report was issued in December 2006.[4]	Identified as **VMTCC** in Table 5-167.
	Las Vegas/Boulder City HPMS VMT[5]	From study funded by the RTC.	Identified as **VMTLV** in Table 5-167.
	Summer Refueling loss EF	Output from MOBILE6.2 software (see M6.in filename: “LVxy_zs2.in” where xy = last 2 digits of year; z = n (i.e., no controls), or w (i.e., with controls)).[6]	Identified as **USRL** and **CSRL** in Table 5-167.
	Winter Refueling loss EF	Output from MOBILE6.2 software (see M6.in filename: “LVxywzs2.in” where xy = last 2 digits of year; z = n (i.e., no controls), or w (i.e., with controls)).[7]	Identified as **UWRL** and **CWRL** in Table 5-167.
Tank breathing	Annual gasoline sales in Clark County	Described previously in this table.	
Trucks	Annual gasoline sales in Clark County	Described previously in this table.	

[1]See Table 5-157.
/[3]The Highway Performance Monitoring System (HPMS) consists of the traffic counters which gather data used to develop the AVMT report.
[4]The 2005 NDOT AVMT report is available at: https:// www.nevadadot.com/reports_pubs/miles_of_travel/pdfs/2005/2005_AVMT.pdf.
[5]Id.
//

Table 5-167. Variables, Constants, and Equations

Subcategory	Parameters		Description	Value and Units
Stage I	Variables	**TGD**	Total gasoline dispensed in Clark County	gal/year
	Constants	**SF**	Submerged Filling emission factor	7.3 lbs/1,000 gallons throughput[1]
		CE	Control efficiency with rule effectiveness	0.84[2]
	Equation	Emissions = **SF** x **TGD** x (1-**CE)**/2,000		tpy
Stage II[3]	Variables	**GVF**	Gasoline Vehicle VMT Fraction[4]	See Table 18
		VMTCC	VMT in Clark County[4]	VMT/day
		VMTLV	VMT in Las Vegas and Boulder City[4]	VMT/day
		USRL	Uncontrolled Summer Refueling Loss emission factor[4]	grams/mile
		CSRL	Controlled Summer Refueling Loss emission factor[4]	grams/mile
		UWRL	Uncontrolled Winter Refueling Loss emission factor[4]	grams/mile
		CWRL	Controlled Winter Refueling Loss emission factor[4]	grams/mile
	Equations	Total Emissions = (Uncontrolled summer day emissions + controlled summer day emissions + uncontrolled winter day emissions + controlled winter day emissions) x (365/2)/907,185[5]		tpy
		Uncontrolled summer day emissions = **GVF** x (**VMTCC-VMTLV**) x **USRL**		tpd
		Controlled summer day emissions = **GVF** x **VMTLV** x **CSRL**		tpd
		Uncontrolled winter day emissions = **GVF** x (**VMTCC-VMTLV**) x **UWRL**		tpd
		Controlled winter day emissions = **GVF** x **VMTLV** x **CWRL**		tpd
Tank Breathing	Variables	**TGD**	Total gasoline dispensed in Clark County	gal/yr
	Constants	**TB**	Tank Breathing emission factor	1.0 lbs/1,000 gal throughput[6]
	Equation	Emissions = **TB** x **TGD**/2,000		tpy
Trucks	Variables	**TGD**	Total gasoline dispensed in Clark County	gal/yr
	Constants	**GTA**	Gasoline Transformation adjustment factor	1.25[7]
		UEF	Unloaded Tank Truck in Transit emission factor	0.055 lbs/1,000 gal throughput[8]
		LEF	Loaded Tank Truck in Transit emission factor	0.005 lbs/1,000 gal throughput[8]
	Equation	Emissions = **GTA** (**UEF** + **LEF**) x **TGD**/2,000		tpy

[1] STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing, U.S. EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.)
[2] For explanation of Stage I control efficiency, see notes below Table III-1 of the Gasoline, Storage, Transport, and Distribution Inventory Preparation Protocol (IPP).
[3] For explanation of Stage II spillage, see notes below Table III-1 of the Gasoline, Storage, Transport, and Distribution (IPP).
[4] See Table 22.
[5] In the equations there are two conversion factors: (i) 365/2 days/year (i.e., splitting the 365 days equally among summer and winter days), and (ii) 907,185 grams/ton.
[6] STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.
[7] STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.
[8] STAPPA, ALAPCO, EPA Emission Inventory Improvement Program (EIIP), Volume III, Chap. 11, Table 11.3-1, p. 11.3-2 (Jan. 2001), citing EPA, Compilation of Air Pollution Emission Factors–Volume 1: Stationary Point and Area Sources (AP-42 5th ed.

5.7.18 Aviation Fuel (Sector No. 18)

In conjunction with E.H. Pechan & Associates, EPA developed default *aviation fuel* emissions inventories for the 2008 national emissions inventory (NEI) effort.[85] Aviation Gasoline emissions are allocated by Landing-Take Off (LTO) data compiled by the FAA. According to this data, there were 217,336 LTOs in Clark County during 2008.

Two *aviation fuel* inventories were provided: one estimated Stage 1 emissions, and the other estimated Stage 2 emissions. Emissions attributed to Clark County from the "Aviation Gasoline Distribution Stage 1" inventory were 69.36 tons. Emissions from valves and seals located at bulk terminal facilities represent 90.6% of the Stage 1 VOCs. Emissions attributed to Clark County from the "Aviation Gasoline Distribution Stage 2" inventory were 3.60 tons.

The baseline VOC emissions from the *aviation fuel* sector are low and ranked 13th (0.30 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-168. Aviation Fueling Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2501080050	Storage and Transport/Petroleum and Petroleum Product Storage/Airports: Aviation Gasoline/Stage 1: Total	0.00	0.00	0.29	0.00	0.00	0.37	0.00	0.00	0.44
2501080100	Storage and Transport/Petroleum and Petroleum Product Storage/Airports: Aviation Gasoline/Stage 2: Total	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.02
	Totals:	**0.00**	**0.00**	**0.30**	**0.00**	**0.00**	**0.39**	**0.00**	**0.00**	**0.46**
							Difference (2022 - 2008):	**0.00**	**0.00**	**0.16**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.19 Open Burning (Sector No. 19)

Emissions from the *open burning* sector include burning to dispose of yard or agricultural waste, burning debris for fire/military training purposes, and ceremonial burning. Emissions are based on these activity throughputs. Both the number and type of burns are tracked in Clark County, and open burning permits are issued by the Clark County Fire Department.

[85] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, *2008 National Emissions Inventory Data & Documentation*, available at http://www.epa.gov/ttn/chief/net/2008inventory.html#inventorydata (accessed July 8, 2010).

In conjunction with E.H. Pechan & Associates, EPA developed default *land clearing* emissions inventories for the 2008 national emissions inventory (NEI) effort.[86] *Land clearing* sector emissions are the consequence of purposeful burning of debris for construction of new buildings and highways. Burning in this manner is not permitted in Clark County, and therefore it is estimated that no emissions are produced. Similar restrictions apply to the burning of household waste.

The baseline VOC emissions from the *open burning* sector are low and ranked 21st (0.00 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-169. Open Burning Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_X	VOC	CO	NO_X	VOC	CO	NO_X	VOC
2610000100	Waste Disposal, Treatment, and Recovery/Open Burning/All Categories/Yard Waste-Leaf Species Unspecified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2610000300	Waste Disposal, Treatment, and Recovery/Open Burning/All Categories/Yard Waste - Weed Species Unspecified (including Grass)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2610000400	Waste Disposal, Treatment, and Recovery/Open Burning/All Categories/Yard Waste - Brush Species Unspecified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2610000500	Waste Disposal, Treatment, and Recovery/Open Burning/All Categories/Land Clearing Debris (use 28-10-005-000 for Logging Debris Burning)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2610030000	Waste Disposal, Treatment, and Recovery/Open Burning/ Residential/Household Waste (use 26-10-000-xxx for Yard Wastes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2810035000	Miscellaneous Area Sources/Other Combustion/Firefighting Training/ Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2810090000	Miscellaneous Area Sources/Other Combustion/Open Fire/Not Categorized	0.01	0.01	0.00	0.01	0.01	0.00	0.02	0.01	0.00
	Totals:	**0.01**	**0.01**	**0.00**	**0.02**	**0.01**	**0.00**	**0.02**	**0.01**	**0.00**
	Difference (2022 - 2008):							**0.00**	**0.00**	**0.00**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

[86] EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, *2008 National Emissions Inventory Data & Documentation*, available at http://www.epa.gov/ttn/chief/net/2008inventory.html#inventorydata (accessed July 8, 2010).

5.7.19.1 Emissions from Open Burning

Open Burning Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	U.S. population:	**304,228,257**
5.	Yard trimmings in U.S. municipal waste stream during year of analysis (thousands of tons):	**32,900**
6.	Average per capita waste generated in U.S. for year of analysis (lbs/day/person):	**4.50**
7.	Average per capita waste recycled or composted in U.S. for year of analysis (lbs/day/person):	**1.50**
8.	Number of calls to DAQEM for general open burning:	**16**
9.	Number of calls to DAQEM for fire training open burning:	**22**
10.	Number of calls to DAQEM for military open burning:	**29**
11.	Number of calls to DAQEM for ceremonial open burning:	**1**
12.	Open burning incidents for SCC 2610000100 (Yard Waste - Leaf Species Unspecified - All Categories):	**5**
13.	Open burning incidents for SCC 2610000300 (Yard Waste - Weed Species Unspecified (including Grass) - All Categories:	**2**
14.	Open burning incidents for SCC 261000400 (Yard Waste - Brush Species Unspecified - All Categories):	**10**
15.	Average net explosive weight (NEW) detonated (pounds) for military incidents:	**4,434.5**

Table 5-170. Open Burning Emissions Summary

Year	Summer Inventory Complete	Annual Inventory Complete	Annual CO Emissions (tpy)	Annual NO_X Emissions (tpy)	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	4.80	2.68	0.03	0.10

Table 5-171. Open Burning Emissions Summary by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2610000100	See #2	See #3	All categories	Yard Waste - Leaf Species Unspecified	0.02	0.00	5.E-03
2610000300	See #2	See #3	All categories	Yard Waste - Weed Species Unspecified (including grass)	0.01	0.00	6.E-04
2610000400	See #2	See #3	All categories	Yard Waste - Brush Species Unspecified	0.05	0.00	0.01
2610000500	See #2	See #3	All categories	Land Clearing Debris	0	0	0
2810035000	See #5	See #6	Firefighting training	Total	0.39	0.00	0.05
2810090000	See #5	See #6	Open fire[4]	Not categorized	4.34	2.68	0.04

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.
[2]Waste Disposal, Treatment, and Recovery.
[3]Open Burning.
[4]Because no other SCC seemed appropriate, emissions from military-related and ceremonial open burnings are included in this SCC.
[5]Miscellaneous Area Sources.
[6]Other Combustion.

Table 5-172. Emission Factors for Open Burning of Yard Waste

Type of Waste	CO	NO_x	VOC	EF Source
Leaves	112.00	0.00	28.00	EPA, AP-42, Open Burning, Table 2.5-6 (Oct. 1992)
Weeds	85.00	0.00	9.00	EPA, AP-42, Open Burning, Table 2.5-5 (Oct. 1992)
Brush/forest residues	140.00	0.00	19.00	EPA, AP-42, Open Burning, Table 2.5-5 (Oct. 1992)

Units in lbs/ton of entire refuse weight, both burned and unburned portions.

Table 5-173. Emission Factors for Explosives (lbs per ton burned)

Type of Waste	CO	NO_x	VOC	EF Source
TNT	56.00	150.00	1.10	EPA, AP-42, Organic Chemical Process Industry, Ch. 6, Explosives, Table 6.3-1 (Apr. 1983)
Ammonium nitrate w/fuel oil	67.00	17.00	no data	EPA, AP-42, Miscellaneous Sources, Explosives Detonation, Ch. 13, Table 13.3-1 (Feb. 1980)
Dynamite	281.00	no data	no data	EPA, AP-42, Miscellaneous Sources, Explosives Detonation, Ch. 13, Table 13.3-1 (Feb. 1980)
Average:	**134.67**	**83.50**	**1.10**	

Table 5-174. U.S. Municipal Waste Stream Parameters, 2008

Parameter	Value	Units
U.S. population[1]	304,228,257	
Yard trimmings in U.S. municipal waste stream[2]	32,900	thousands of tons
Average per capita waste generated in U.S.[3]	4.5	lbs/day/person
Average per capita waste recycled or composted in U.S.[3]	1.5	lbs/day/person
Average per capita weight of yard trimmings generated in U.S.	0.59	lbs/day/person
Net Average per capita weight of yard trimmings generated in U.S.[4]	0.4	lbs/day/person
Net Average per capita weight of yard trimmings generated in U.S.[5]	144	lbs/year/person

[1]U.S. Census Bureau <http://quickfacts.census.gov/qfd/states/00000.html> (accessed Feb. 4, 2009).
[2]EPA, Municipal Solid Waste Generation, Table 1 <http://www.epa.gov/osw/nonhaz/municipal/pubs/06data.pdf> (acc. Feb. 4, 2009).
[3]On average, each American generated 4.6 lbs waste per day, and recycled/composted 1.5 lbs of that total. So net waste produced is 3.1 lbs/day. EPA, Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2007, EPA-530-F-08-018 (Nov. 2008) <http://www.epa.gov/osw/nonhaz/municipal/pubs/msw07-fs.pdf> (accessed Feb. 4, 2009).
[4]Assumed same national rate of recycling/composting (see #2).
[5]Despite substantially higher per capita waste generation in Clark County (compare 10 lbs/day/person to 4.6 lbs/day/person), assumed that Clark County per capita yard trimmings generation is roughly the same as national average because of (i) Clark County's desert environment, and (ii) likelihood that a disproportionate amount of Clark County waste in 2005 was generated by construction activities.

Table 5-175. DAQEM 2008 Open Burning Data

Type of Open Burn	Number of Calls	Approximate Weight per Burning (lbs)[1]
General Burn[2]	16	144
Fire Training	22	500
Military	29	4,435
Ceremonial	1	250

[1]Assumed approximate weight of 50 lbs/pallet and a total of 10 pallets burned during fire training exercise. Note that average pallet weight when manufactured is approximately 59 lbs. Pallet weight decreases as moisture content (MC) of wood diminishes, so that at 25% MC = 41 lbs, and at 12% MC = 37 lbs. <http://www.palletcentral.com/PDS/PDS_AnalysisResults.pdf> (accessed Feb. 3, 2009).
[2]The number of calls for General Burn is not used in the current emissions calculations, but the Approximate Weight per Burning for General Burn is. Without other information to go on, it was assumed that each general burn consumed an entire year's worth of yard trimmings for an individual.

Table 5-176. DAQEM Records of Open Burning Incidents by SCC

Description	SCC	Number of Incidents, 2008
Yard Waste - Leaf Species Unspecified -- All Categories	2610000100	5
Yard Waste - Weed Species Unspecified (incl. Grass) -- All Categories	2610000300	2
Yard Waste - Brush Species Unspecified -- All Categories	2610000400	10

Table 5-177. Open Burning Data by SCC

Description	SCC	Value	Parameter
Land Clearing Debris -- All Categories	2610000500	50	Average weight (pounds per pallet)
Industrial -- Total	2610010000	10	Average number of pallets used during fire training exercise (or corresponding amount of wood fuel burned)
Commercial/Institutional -- Total[1]	2610020000	5	Average number of pallets used during bonfires (or corresponding amount of wood fuel burned)

[1]As no other SCC seemed appropriate, emissions from fire-training and military-related open burnings are included in this SCC.

5.7.20 Wastewater Treatment (Sector No. 20)

Emissions from Publicly Owned Treatment Work (POTW) facilities are primarily based on the flow rate through the facility and applicable emissions factors. The estimated flow rate through all Clark County treatment facilities is approximately 209.5 million gallons per day.

The City of Las Vegas POTW is currently permitted as a synthetic minor and included within the point source inventory. To account for this overlap, the nonpoint source emissions inventory was adjusted down. In the following table, the parenthetical values are the emissions without accounting for the overlap.

The baseline VOC emissions from the *wastewater treatment* sector are relatively low and ranked 10th (0.90 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-178. Wastewater Treatment Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2630000000	Waste Disposal, Treatment, and Recovery/Wastewater Treatment/All Categories/Total Processed	0.00	0.00	0.90	0.00	0.00	1.07	0.00	0.00	1.19
	Totals:	**0.00**	**0.00**	**0.90**	**0.00**	**0.00**	**1.07**	**0.00**	**0.00**	**1.19**
							Difference (2022 - 2008):	**0.00**	**0.00**	**0.29**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.20.1 Emissions from Wastewater Treatment

Wastewater Treatment Emission Calculations Input Parameters:

1. Year of emissions analysis:[1] **2008**
2. Summer inventory complete (yes or no):[1] **Yes**
3. Annual inventory complete (yes or no):[1] **Yes**
4. Clark County wastewater treatment volume flow (MMG/day):[2] **0.0**
   Flamingo Wastewater Treatment Main Facility volume flow (MMG/day): **96**

Desert Breeze Water Resource Center volume flow (MMG/day):	**0.0**
Indian Springs volume flow (MMG/day):	**0.0**
Laughlin Wastewater Treatment volume flow (MMG/day):	**3.5**
Moapa Valley volume flow (MMG/day):	**0.0**
Searchlight volume flow (MMG/day):	**0.0**
Blue Diamond volume flow (MMG/day):	**0.0**
5. City of Las Vegas wastewater treatment volume flow (MMG/day):[3, 4, 5]	**63**
Water Pollution Control Facility (Main) volume flow (MMG/day):	**0.0**
Bonanza Mojave Water Resource Center volume flow (MMG/day):	**0.0**
Durango Hills Water Resource Center volume flow (MMG/day):	**0.0**
6. City of North Las Vegas wastewater treatment volume flow (MMG/day):[4]	**0.0**
7. City of Henderson wastewater treatment volume flow (MMG/day):[6]	**47**
Kurt R. Segler Water Reclamation Facility (MMG/day):	**0.0**
Southwest Water Reclamation Facility (MMG/day):	**0.0**

[1]Not required for calculations.
[2]Depending on the availability of data, Clark County Wastewater Treatment flow can be input as a total, or as a combination of each of the seven individual flows. It is important not to double-count flows. For 2007, data from the Flamingo Plant and the Laughlin Plant were the only volumes input.
[3]Depending on the availability of data, the City of Las Vegas Wastewater Treatment flow can be input as a total, or as a combination of the three individual flows. It is important not to double-count flows. For 2007, the flow from the entire system was the only volume input.
[4]As of October 2009, the Las Vegas Public Works Department is responsible for managing wastewater treatment for the cities of Las Vegas and North Las Vegas. Until the City of North Las Vegas completes construction of its own wastewater treatment facility, this input will be zero.
[5]Emissions from the City of Las Vegas wastewater treatment plant are considered one of the point sources for emissions inventory purposes. Emissions from the point source inventory must be subtracted out of the total wastewater treatment emissions by SCC.
[6]As of October 2009, the Southwest Water Reclamation Facility is still under construction. Depending on the availability of data after it is operational, the City of Henderson Wastewater Treatment flow can be input as a total, or as a combination of the two individual flows. It is important not to double-count flows.

Table 5-179. Wastewater Treatment Emissions Summary

Year	Summer Emissions Inventory Complete	Annual Emissions Inventory Complete	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	85.07	340.28

Table 5-180. Wastewater Treatment Emissions Summary by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2630000000	Waste Disposal, Treatment, and Recovery	Wastewater Treatment	All Categories	Total Processed	0.00	0.00	340.28

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-181. Wastewater Treatment Volumes of Flow

Government Agency	2008 Flow (MMG/day)[1]
Clark County Facility	0.00
Flamingo (main facility)	96.00
Desert Breeze (reclamation)	0.00
Indian Springs	0.00
Laughlin	3.50
Moapa Valley	0.00
Searchlight	0.00
Blue Diamond	0.00
City of Las Vegas[2]	63.00
Water Pollution Control (main facility)	0.00
Bonanza Mojave (reclamation)	0.00
Durango Hills (reclamation)	0.00
City of North Las Vegas	0.00
City of Henderson	47.00
Total Flow Rate (MMG/day):	**209.50**
Total Annual Flow (MMG):	**76,467.50**

[1]MMGD = millions of gallons per day.
[2]All three City of Las Vegas facilities are area sources. The synthetic minor source (Campbell) is a pumping station only.

Table 5-182. Wastewater Treatment VOC Emission Factors

Pollutant	Value	Units	Source[1]	SCC	Tons per Year
VOC	8.9	lbs/MMG	EPA, Technology Transfer Network Clearinghouse for Inventories & Emissions Factors, WebFIRE (Dec. 2005)	50100701	340.28

[1]<http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main> (accessed Dec. 2, 2008). Prepared by E.H. Pechan & Associates, Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants (July 2006) <ftp://ftp.epa.gov/EmisInventory/2002finalnei/documentation/nonpoint/2002nei_final_nonpoint_documentation0206version.pdf> (accessed Dec. 2, 2008): "VOC emission factor based on information provided from a 1985 wastewater treatment plant study conducted by U.S. EPA Region I. VOC emissions are dependent on the treatment method and the content of the VOCs in the wastewater influent; therefore, this estimate should be used only in the absence of site-specific data."

5.7.21 Structure Fires (Sector No. 21)

Emissions from the *structure fires* sector are based on information obtained from the fire departments of Clark County, the City of Las Vegas, the City of Henderson, the City of North Las Vegas, and Boulder City. Information is tracked for the following types of structures: private dwellings, apartments, hotels, other residential structures, public assembly buildings (e.g., churches, clubs), schools and colleges, health care and penal institutions, stores and offices, industry utility, labs, storage units, and other structures.

The baseline VOC emissions from the *structure fires* sector are low and ranked 19th (0.04 tpd) among nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-183. Structural Fires Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2810030000	Miscellaneous Area Sources/Other Combustion/Structure Fires/Unspecified	0.20	0.00	0.04	0.24	0.01	0.04	0.27	0.01	0.05
	Totals:	**0.20**	**0.00**	**0.04**	**0.24**	**0.01**	**0.04**	**0.27**	**0.01**	**0.05**
							Difference (2022-2008):	**0.07**	**0.00**	**0.01**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

See Vehicle Fires (Sector No. 22) for specifics on structural fires.

5.7.22 Vehicle Fires (Sector No. 22)

Emissions from the *vehicle fires* sector are based on information obtained from the fire departments of Clark County, the City of Las Vegas, the City of Henderson, the City of North Las Vegas, and Boulder City. Information is tracked for highway and other types of vehicle fires.

The baseline VOC emissions from the *vehicle fires* sector are low and ranked 20th (0.02 tpd) among the nonpoint source sectors. The *industrial surface coating* sector had the highest emissions (14.73 tpd).

Table 5-184. Vehicle Fires Baseline and Projected Summer Work Weekday Emissions

SCC	Description	Tons per Day								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2810050000	Miscellaneous Area Sources/Other Combustion/Motor Vehicle Fires/Unspecified	0.06	0.00	0.02	0.07	0.00	0.02	0.08	0.00	0.02
	Totals:	**0.06**	**0.00**	**0.02**	**0.07**	**0.00**	**0.02**	**0.08**	**0.00**	**0.02**
							Difference (2022 - 2008):	**0.02**	**0.00**	**0.01**

Note: Emissions totals account for point/nonpoint overlap & RE/RP adjustment.

5.7.22.1 Emissions from Structural & Vehicular Fires

Structural and Vehicular Fires Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	City of Las Vegas data:	
	Annual number of structural fires:	**539**
	Annual number of highway vehicle fires:	**309**
	Annual number of other vehicle fires:	**40**

Structural and Vehicular Fires Emission Calculations Input Parameters (continued):

5.	City of Henderson data:	
	Annual number of structural fires:	**153**
	Annual number of highway vehicle fires:	**61**
	Annual number of other vehicle fires:	**79**
6.	City of North Las Vegas data:	
	Annual number of structural fires:	**434**
	Annual number of highway vehicle fires:	**156**
	Annual number of other vehicle fires:	**20**
7.	Boulder City data:	
	Annual number of structural fires:	**15**
	Annual number of highway vehicle fires:	**9**
	Annual number of other vehicle fires:	**0**
8.	Nonmunicipal Clark County data:	
	Annual number of structural fires:	**937**
	Annual number of highway vehicle fires:	**681**
	Annual number of other vehicle fires:	**74**

Notes: "Structural fires" can include and of the following types of fires: "private dwellings," "apartments," "hotels," "all other residential," "public assembly (e.g., church, clubs)," "schools and colleges," "health care/penal institution," "stores and offices," "industry utility, lab," "storage in structure," "other structure," " building," "mobile property used as a fixed structure," "mobile home used as fixed residence," "motor home, camper, recreational vehicle," "portable building, fixed location," and "mobile property."

"Highway vehicle fires" synonymous with "passenger fires." "Other vehicle fires" include "road freight or transport vehicle fires," "rail vehicle fires," "Camper or recreational vehicle (RV) fires," and "off-road vehicle or heavy equipment fires."

Table 5-185. Structural and Vehicular Fires Emissions Summary

Year	Summer Emissions Inventory Complete	Annual Emissions Inventory Complete	Annual CO Emissions (tpy)	Annual NO_X Emissions (tpy)	Summer VOC Emissions (tpy)	Annual VOC Emissions (tpy)
2008	Yes	Yes	71.69	1.67	4.71	18.86

Table 5-186. Structural and Vehicular Fires Emissions Summary by SCC (tpy)

SCC[1]	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CO	NO_x	VOC
2810030000	Miscellaneous Area Sources	Other Combustion	Structure Fires	Unspecified	71.69	1.67	13.14
2810050000	Miscellaneous Area Sources	Other Combustion	Motor Vehicle Fires	Unspecified	22.33	0.71	5.72

[1]SCC database located at EPA, TTN Clearinghouse for Inventories & Emissions Facts <http://www.epa.gov/ttn/chief/codes/index.html#scc>.

Table 5-187. Structural Fire Incidents

Jurisdiction	Number of Structural Fires	Number of Highway Vehicle Fires	Number of Other Vehicle Fires
City of Las Vegas	539	309	40
City of Henderson	153	61	79
City of North Las Vegas	434	156	20
Boulder City	15	9	0
Nonmunicipal Clark County	937	681	74
Totals:	**2,078**	**1,429**	

Table 5-188. Structural Fire Emission Factors and Calculations

Pollutant	NEI Code	Structural Fire Emission Factors (lb/ton burned)[1]	Structural Fire Fuel Loading Factor (tons burned)[2]	Conversion Factor (lbs/ton)	Emissions (tpy)
VOC	VOC	11	1.15	2,000	13.14
NO_X	NO_x	1.4			1.67
CO	CO	60			71.69

[1]EPA, EIIP, *Structure Fires*, Ch. 18, p. 18.4-5 (Jan. 2001).
[2]"The average total material burned (fuel loading) in a residential fire is estimated to be 1.15 tons." Id. at p. 18.2-1.

Table 5-189. Vehicle Fire Emission Factors and Calculations

Pollutant	NEI Code	Vehicle Fire Emission Factors (lb/ton burned)[1]	Vehicle Fire Fuel Loading Factor (tons burned)[2]	Conversion Factor (lbs/ton)	Emissions (tpy)
VOC	VOC	32			5.72
NO_x	NO_x	4	0.25	2,000	0.71
CO	CO	125			22.33

[1]EPA, EIIP, *Area Source Category Method Abstract - Vehicle Fires*, p. 2 (May 2000). No HAP factors provided in document.
[2]"A conservative assumption is that an average vehicle has 500 pounds of components that can burn in a fire, based on a 3,700 pound average vehicle weight [citing CARB (1995)]." *Id*. at p. 1.

Table 5-190. Fire Emissions Summary (tpy)

Pollutant	NEI Code	Emissions
VOC	VOC	18.86
NO_x	NO_x	2.39
CO	CO	94.02

6.0 LOCOMOTIVE EMISSIONS

Overview

Along with aircraft and marine vessels, the SCCs for locomotive emissions are included among nonpoint sources. Locomotives are a nonroad mobile emissions source, so a point-source overlap does not exist. Therefore, locomotive emissions have been categorized separately from the nonpoint source inventory.

Within Clark County, the sole proprietor of railroad track is the Union Pacific Railroad (UPRR). In 2008, UPRR operated on approximately 148 miles of track located within Clark County. During its operation, UPRR locomotives consumed approximately 3,869,158 gallons of diesel, and hauled approximately 3.2 billion gross tons.

The 148 miles of track within Clark County is partitioned to the following four line-haul subdivisions:

1. BMI route, which runs from Boulder Junction, Nevada, to Henderson, Nevada
2. Caliente route, which runs from Milford, Utah, to Las Vegas, Nevada
3. Cima route, which runs from Las Vegas, Nevada, to Yermo, California
4. Lake Mead route, which runs from Moapa, Nevada, to Lake Mead, Nevada.

Assumptions

The emissions from locomotives are assumed to be uniform throughout the year. These emissions are based on several variables, significant of which include activity throughput data—in the form of gross tonnage hauled—and emissions factors based on the tiered emissions standards enforced by EPA.[87] In order to project emissions, an average annual growth rate of 1.5% was applied to baseline 2008 data. The source of information for the annual growth rate is the average domestic freight demand forecasts published by the U.S. Department of Transportation's Federal Highway Administration.[88]

Emissions from Future Passenger Train Service

Currently, there are five proposals for passenger train service between Las Vegas and southern California.[89] Two of the proposals involve low-speed train systems. The other three involve construction of track to support high-speed train systems.[90] Based on media information reporting

[87] 73 FR 37096 (June 30, 2008).
[88] U.S. Department of Transportation, Federal Highway Administration, Table 2-5: Comparison of Domestic Freight Demand Forecasts <http://www.fhwa.dot.gov/environment/freightaq/chapter2.htm> (accessed June 29, 2010).
[89] *Las Vegas Sun*: "Another train enters fray for L.A. to LV route" (June 6, 2010).
[90] The low-speed trains, which depend on access to track owned by Union Pacific Railroad, are referred to as the "X-train" (Las Vegas Railway Express Inc.) or the "Z-train" (D2 Entertainment LLC). The high-speed trains are the "Desert Xpress," "Desert Lightning," and "maglev train."

on NEPA status and funding availability, it appears that a train proposal known as the *Desert Xpress* has advanced further than the others. [91]

To estimate future emissions associated with a passenger train service, the projected emissions of the Desert Xpress train proposal were incorporated into the locomotive emissions inventory. The estimated emissions within Clark County are outlined in the train proposal's draft environmental impact statement (DEIS).[92]

Table 6-1. Locomotive 2008, 2015, and 2022 Summer Work Weekday

SCC	Description	Summer Work Weekday Emissions (tpd)								
		2008			2015			2022		
		CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
2285002006	Mobile Source/Railroad Equipment/Diesel/Line Haul Locomotives: Class I	0.31	1.97	0.11	0.75	2.11	0.10	0.89	1.82	0.08
2285002007	Mobile Source/Railroad Equipment/Diesel/Line Haul Locomotives: Class II/III	0	0	0	0	0	0	0	0	0
2285002008	Mobile Source/Railroad Equipment/Diesel/Line Haul Locomotives: Passenger	0	0	0	0	0	0	0	0	0
2285002009	Mobile Source/Railroad Equipment/Diesel/Line Haul Locomotives: Commuter Lines	0	0	0	0	0	0	0	0	0
2285002010	Mobile Source/Railroad Equipment/Diesel/Yard Locomotives: Railway	0	0	0	0	0	0	0	0	0
Totals:		**0.31**	**1.97**	**0.11**	**0.75**	**2.11**	**0.10**	**0.89**	**1.82**	**0.08**
Emissions Difference Between 2008 and 2022:								**0.58**	**-0.15**	**-0.03**

The EPA has established a set of CO, NO_x, and VOC emissions standards for newly manufac-tured and remanufactured locomotives.[93] Based on these regulatory standards (40 CFR 1033), EPA published projected emissions factors reflecting the penetration of these standards over time.[94]

The summer season and work weekday temporal profiles for the SCCs listed in Table 1 were 25.0% and 14.3%, respectively.

The EGAS factor for locomotive emissions is 1.28. However, UPRR data tracking railroad hauling within Clark County suggests a downward trend for the last decade. In 1998, a total of

[91] Federal Railroad Administration DEIS (February 29, 2008). <http://www.fra.dot.gov/Pages/1703.shtml> (accessed June 16, 2010).

[92] Appendix J, "Air Quality Calculations."

[93] EPA, Technical Highlights, *Emission Factors for Locomotives*, EPA420-F-09-025 (April 2009).

[94] *Id*., p. 5-9.

4,726,400,000 gross tons were hauled. In 2003, a total of 4,601,097,800 gross tons were hauled. In 2008, a total of 3,213,586,100 gross tons were hauled.

To account for the downward trend, future emissions estimates were primarily based on the 1.5% annual growth rate in the average domestic freight demand forecasts published by the U.S. Department of Transportation's Federal Highway Administration and EPA's projected emissions factors.[95]

6.1.1.1 Emissions from LOCOMOTIVES

Locomotive Emission Calculations Input Parameters:

1.	Year of emissions analysis:	**2008**
2.	Summer inventory complete (yes or no):	**Yes**
3.	Annual inventory complete (yes or no):	**Yes**
4.	C factor (gal/1,000 GTM):[1]	**1.204**
5.	BMI: 6044-0 SIMN:	
	County Beginning Milepost:[1]	**0**
	County End Milepost:[1]	**10.86**
	Tonnage Increasing Milepost:[1]	**0.62**
	Tonnage Decreasing Milepost:[1]	**0.72**
6.	Caliente: 6055-0 No. 1:	
	County Beginning Milepost:[1]	**332.5**
	County End Milepost:[1]	**335.29**
	Tonnage Increasing Milepost:[1]	**0**
	Tonnage Decreasing Milepost:[1]	**18.41**
7.	Caliente: 6055-0 No. 2:	
	County Beginning Milepost:[1]	**332.5**
	County End Milepost:[1]	**335.29**
	Tonnage Increasing Milepost:[1]	**10.78**
	Tonnage Decreasing Milepost:[1]	**0**
8.	Caliente: 6055-0 SIMN:	
	County Beginning Milepost:[1]	**335.29**
	County End Milepost:[1]	**336.1**
	Tonnage Increasing Milepost:[1]	**10.78**
	Tonnage Decreasing Milepost:[1]	**18.41**
9.	Caliente: 6065-0 SIMN:	
	County Beginning Milepost:[1]	**336.1**
	County End Milepost:[1]	**384.39**
	Tonnage Increasing Milepost:[1]	**10.29**

[95] *Id*.

Locomotive Emission Calculations Input Parameters:

	Tonnage Decreasing Milepost:[1]	**18.53**
10.	Caliente: 6069-0 SIMN:	
	County Beginning Milepost:[1]	**384.39**
	County End Milepost:[1]	**395.18**
	Tonnage Increasing Milepost:[1]	**11.04**
	Tonnage Decreasing Milepost:[1]	**20.98**
11.	Cima: 6050-0 SIMN:	
	County Beginning Milepost:[1]	**287.95**
	County End Milepost:[1]	**326.38**
	Tonnage Increasing Milepost:[1]	**10.78**
	Tonnage Decreasing Milepost:[1]	**18.41**
12.	Cima: 6050-0 No. 1:	
	County Beginning Milepost:[1]	**326.38**
	County End Milepost:[1]	**327.1**
	Tonnage Increasing Milepost:[1]	**0**
	Tonnage Decreasing Milepost:[1]	**18.41**
13.	Cima: 6050-0 No. 2:	
	County Beginning Milepost:[1]	**326.38**
	County End Milepost:[1]	**327.1**
	Tonnage Increasing Milepost:[1]	**10.78**
	Tonnage Decreasing Milepost:[1]	**0**
14.	Cima: 6051-0 No. 1:	
	County Beginning Milepost:[1]	**327.1**
	County End Milepost:[1]	**332.5**
	Tonnage Increasing Milepost:[1]	**0**
	Tonnage Decreasing Milepost:[1]	**18.41**
15.	Cima: 6051-0 No. 2:	
	County Beginning Milepost:[1]	**327.1**
	County End Milepost:[1]	**332.5**
	Tonnage Increasing Milepost:[1]	**10.78**
	Tonnage Decreasing Milepost:[1]	**0**
16.	Cima: 6055-0 No. 1:	
	County Beginning Milepost:[1]	**332.5**
	County End Milepost:[1]	**334.3**
	Tonnage Increasing Milepost:[1]	**0**
	Tonnage Decreasing Milepost:[1]	**18.41**
17.	Cima: 6055-0 No. 2:	
	County Beginning Milepost:[1]	**332.5**
	County End Milepost:[1]	**334.3**

Locomotive Emission Calculations Input Parameters:

	Tonnage Increasing Milepost:[1]	**10.78**
	Tonnage Decreasing Milepost:[1]	**0**
18.	Lake Mead: 6061-0 SIMN:	
	County Beginning Milepost:[1]	**0**
	County End Milepost:[1]	**17.18**
	Tonnage Increasing Milepost:[1]	**0.07**
	Tonnage Decreasing Milepost :[1]	**0.15**

[1]Union Pacific Railroad (see "Contacts" worksheet).

Table 6-2. Actual 2008 Emissions (tpy)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2008 (tons)		
					CO	NO_X	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	113.45	720.14	40.38
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-3. Calendar Year 2015 Emissions (tpy)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2015 (tons)		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	274.45	769.52	37.56
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-4. Calendar Year 2022 Emissions (tpy)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2022 (tons)		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	323.23	663.95	29.04
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-5. Summer Season 2008 Emissions (tons)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	28.36	180.04	10.10
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-6. Summer Season 2015 Emissions (tons)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2015 (tons)		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	68.61	192.38	9.39
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-7. Summer Season 2022 Emissions (tons)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2022 (tons)		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	80.81	165.99	7.26
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-8. Summer Work Weekday 2008 Emissions (tpd)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	2008		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	0.31	1.97	0.11
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-9. Summer Work Weekday 2015 Emissions (tpd)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2015 (tons)		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	0.75	2.11	0.10
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-10. Summer Work Weekday 2022 Emissions (tpd)

SCC	SCC Level: 1	SCC Level: 2	SCC Level: 3	SCC Level: 4	CY 2022 (tons)		
					CO	NO_x	VOC
2285002006	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class I Operations	0.89	1.82	0.08
2285002007	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Class II/III Operations	0.00	0.00	0.00
2285002008	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Passenger Trains (Amtrak)	0.00	0.00	0.00
2285002009	Mobile Source	Railroad Equipment	Diesel	Line Haul Locomotives: Commuter Lines	0.00	0.00	0.00
2285002010	Mobile Source	Railroad Equipment	Diesel	Yard Locomotives Railway Maintenance	0.00	0.00	0.00

Table 6-11. Union Pacific Railroad 2008 Line-Haul Data for Clark County

Subdivision and Segment	Track Type	County Begin MP[2]	County End MP[2]	Track Miles[3]	Tonnage Increase MP[4]	Tonnage Decrease MP[4]	Annual Average (MGT/mi)[5]	Total Gross Tons	Estimated Total Diesel Consumed (gal.)	Train Counts
BMI: 6044-0	SIMN	0	10.86	10.86	0.62	0.72	1.34	14,552,400	17,521	1
Caliente: 6055-0		332.5	335.29	2.79	0	18.41	18.41	51,363,900	61,842	4
Caliente: 6055-0[1]		332.5	335.29	2.79	10.78	0	10.78	30,076,200	36,212	5
Caliente: 6055-0	SIMN	335.29	336.1	0.81	10.78	18.41	29.19	23,643,900	28,467	13
Caliente: 6065-0	SIMN	336.1	384.39	48.29	10.29	18.53	28.82	1,391,717,800	1,675,628	13
Caliente: 6069-0	SIMN	384.39	395.18	10.79	11.04	20.98	32.02	345,495,800	415,977	15
Cima: 6050-0	SIMN	287.95	326.38	38.43	10.78	18.41	29.19	1,121,771,700	1,350,613	13
Cima: 6050-0		326.38	327.1	0.72	0	18.41	18.41	13,255,200	15,959	7
Cima: 6050-0[1]		326.38	327.1	0.72	10.78	0	10.78	7,761,600	9,345	6
Cima: 6051-0[1]		327.1	332.5	5.4	10.78	0	10.78	58,212,000	70,087	6
Cima: 6051-0		327.1	332.5	5.4	0	18.41	18.41	99,414,000	119,694	7
Cima: 6055-0[1]		332.5	334.3	1.8	10.78	0	10.78	19,404,000	23,362	5
Cima: 6055-0		332.5	334.3	1.8	0	18.41	18.41	33,138,000	39,898	4
Lake Mead: 6061-0[6]	SIMN	0	17.18	17.18	0.07	0.15	0.22	3,779,600	4,551	1
			Totals:	**147.78**			**237.54**	**3,213,586,100**	**3,869,158**	

[1]Gross tons/mile (GT/mile) "...Represent a daily average gross tons of through and local freight (including locomotives) that traveled the segment multiplied by 365 days/yr." Id.
[2]Reflects total mileage of track within Clark County; MP = milepost.
[3]Note that the total mileage of track located in Clark County has been reported differently by UPRR, i.e., 141 miles (reported in 2007) v. 148 miles (reported in 2010).
[4]Reflects average tonnage ingressing and egressing from Clark County.
[5]MGT = million gross tons.
[6]Line runs from Moapa to Lake Mead.

Table 6-12. Comparison of Annual Railway Freight Growth Projections[1]

Data Source	Annual Growth
Historic Data	3.6%
BTS (Bureau of Transportation Statistics)	0.2%
AASHTO (American Association of State Highway and Transportation Officials)	1.9%
ATA (American Trucking Association)	1.7%
ICF (consulting firm)	2.0%
Average annual growth:	**1.5%**

[1]U.S. Department of Transportation, Federal Highway Administration, Table 2-5: Comparison of Domestic Freight Demand Forecasts <http://www.fhwa.dot.gov/environment/freightaq/chapter2.htm> (accessed June 29, 2010).

Table 6-13. Comparing Annual Growth Projections of Railway Freight with Other Growth Variables

Year	Clark County Railroad Hauling (actual gross tons)	Clark County Railroad Hauling (projected gross tons): Baseline Year 2008	Clark County Railroad Hauling (projected gross tons): Baseline Year 2000[6]	Population: Clark County[1]	Population: United States[2,3]	U.S. Gross Domestic Product ($B)[4]	U.S. Railroad Exports[5] (net thousands short tons)	U.S. Railroad Imports[5] (net thousands short tons)	U.S. Railroad Total Trade[5] (net thousands short tons)
1997				1,170,113	272,912,000	8,304.3	22,104	62,224	84,328
1998	4,726,400,000			1,246,193	276,115,000	8,747.0			
1999									
2000			4,676,279,120		282,125,000				94,198
2001			4,744,085,167						92,617
2002			4,812,874,402				24,858	78,036	102,894
2003	4,601,097,800		4,882,661,081	1,641,529	290,326,000	10,960.8	26,176	80,867	107,043
2004			4,953,459,667				29,531	90,445	119,976
2005			5,025,284,832						
2006			5,098,151,462						
2007			5,172,074,658				42,465	93,050	135,515
2008	3,213,586,100	3,213,586,100	5,247,069,741	1,986,146	304,375,000	14,264.6	62,454	85,049	147,503
2009		3,260,183,098	5,323,152,252	2,006,347					
2010		3,307,455,753	5,400,337,960	2,039,000					
2011		3,355,413,862	5,478,642,860	2,071,000					
2012		3,404,067,363	5,558,083,181	2,105,000					
2013		3,453,426,340	5,638,675,388	2,139,000	319,330,000				
2014		3,503,501,021	5,720,436,181	2,176,000					
2015		3,554,301,786	5,803,382,505	2,214,000	325,540,000				
2016		3,605,839,162	5,887,531,552	2,253,000					
2017		3,658,123,830	5,972,900,759	2,293,000					
2018		3,711,166,626	6,059,507,820	2,334,000	335,005,000				
2019		3,764,978,542	6,147,370,684	2,375,000					
2020		3,819,570,731	6,236,507,558	2,418,000					
2021		3,874,954,506	6,326,936,918	2,461,000					
2022		3,931,141,346	6,418,677,503	2,504,000	347,803,000				

Year	Clark County Railroad Hauling (actual gross tons)	Clark County Railroad Hauling (projected gross tons)		Population		U.S. Gross Domestic Product ($B)[4]	(net thousands short tons)		
		Baseline Year 2008	Baseline Year 2000[6]	Clark County[1]	United States[2,3]		U.S. Railroad Exports[5]	U.S. Railroad Imports[5]	U.S. Railroad Total Trade[5]

[1]Center for Business and Economic Research (CBER), University of Nevada, Las Vegas, Population Forecasts: Long-Term Projections for Clark County, Nevada 2010–2050, Table 1, p.3 (June 7, 2009) [see email dated June 8, 2010].
[2]U.S. Census Bureau, Population 1900 to 2002 <http://www.census.gov/statab/hist/HS-01.pdf/> (accessed June 28, 2010).
[3]U.S. Census Bureau, U.S. Population Projections <http://www.census.gov/population/www/projections/summarytables.html> (accessed June 28, 2010).
[4]U.S. Department of Energy, Energy Information Administration, Population, U.S. Gross Domestic Product, and Implicit Price Deflator, 1949-2008 <http://www.eia.doe.gov/aer/txt/ptb1601.html> (accessed June 28, 2010).
[5]U.S. Department of Transportation, Research and Innovative Technology Administration (RITA), Bureau of Transportation Statistics (BTS), Pocket Guide to Transportation [yr], Weight of U.S. International Merchandise Trade by Mode of Transportation, [yr], <http://www.bts.gov/publications/pocket_guide_to_transportation/[year]/> (acc. June 28, 2010).
[6]The projected hauling tonnage is dependent on the baseline year chosen. An assumption was made that the recent economic downturn was a readjustment, rather than an outlier, and therefore 2008 was selected as the baseline year.

Table 6-14. Comparing Annual Growth Projections of Railway Freight with Other Growth Variables

Parameter	Railroad Hauling in Clark County	Railroad Hauling in Clark County[1]	Railroad Hauling in Clark County[2]	Clark County Population	U.S. Population	U.S. Gross Domestic Product	U.S. Railroad Total Trade
Percentage Growth (1998–2008)	-32%			59%	10%	63%	68%
Percentage Growth (2008–2015)		11%	81%	11%	7%		
Percentage Growth (2008–2022)		22%	100%	26%	14%		

[1]Though the amount of gross tonnage hauled during 2008 (i.e., 3,213,586,100) was likely impacted by the recession, several economists have indicated that rather than being an outlier, the economic downturn is a readjustment. Based on that view, the average forecasted annual growth in domestic railway freight demand (i.e., 1.5%) uses the unadjusted actual 2008 gross tonnage hauled data as a baseline.
[2]The 100% growth value assumes that the 2008 data was an outlier and not a readjustment.

Table 6-135. Calendar Year 2013 DEMU[1] Criteria Pollutant Emissions (tpy)

Portion	CO	NO_x	VOC
California	573	621	34
Nevada	139	150	8

Source: Federal Railroad Administration (FRA) Draft Environmental Impact Statement, Air Quality Calculations, App. J, p. 22 (February 29, 2008).
[1]DEMU = Diesel-Electric Multiple Unit.

Table 6-16. Fuel Consumption

Year	Gallons per Year
2013	14,371,733

Table 6-17. Calendar Year 2030 DEMU Criteria Pollutant Emissions

Portion	CO (tpy)	NO_x (tpy)	VOC (tpy)
California	928	1,007	56
Nevada	225	244	14

Source: Federal Railroad Administration Draft Environmental Impact Statement, Air Quality Calculations, App. J, p. 22 <http://www.fra.dot.gov/Pages/1703.shtml> (accessed June 16, 2010).

Table 6-18. Fuel Consumption

Year	Gallons per Year
2030	23,292,200

Table 6-19. Fuel Consumption for 2015 & 2022 by Interpolation

Year	Slope (m)	Y-intercept (b)	Fuel Consumption (gal/yr)
2015	524,733	-1,041,916,467	15,421,200
2022	524,733	-1,041,916,467	19,094,333

Table 6-20. Calendar Year 2015 & 2022 DEMU Criteria Pollutant Emissions[1]

Portion	CO (tpy)	NO_x (tpy)	VOC (tpy)
California 2015	614	667	37
Nevada 2015	149	162	9
California 2022	761	826	46
Nevada 2022	184	200	11

[1]Results based on air quality information provided in FRA Draft Environmental Impact Statement and an assumption that fuel consumption increases approximately linearly from CY 2013 to CY 2030.

Table 6-21. Emission Factors for Line-Haul Locomotives

Year	CO	NO_x	HC	CO	NO_X	VOC
	(g/gal)			(lb/1,000 gal)		
2006	26.6	180.0	9.5	58.6	396.5	22.0
2007	26.6	175.0	9.3	58.6	385.5	21.6
2008	26.6	169.0	9.0	58.6	372.2	20.9
2009	26.6	165.0	8.7	58.6	363.4	20.2
2010	26.6	157.0	8.3	58.6	345.8	19.3
2011	26.6	149.0	7.7	58.6	328.2	17.9
2012	26.6	144.0	7.1	58.6	317.2	16.5
2013	26.6	139.0	6.5	58.6	306.2	15.1
2014	26.6	135.0	6.1	58.6	297.4	14.1
2015	26.6	129.0	5.7	58.6	284.1	13.2
2016	26.6	121.0	5.1	58.6	266.5	11.8
2017	26.6	114.0	4.6	58.6	251.1	10.7
2018	26.6	108.0	4.2	58.6	237.9	9.7
2019	26.6	103.0	3.9	58.6	226.9	9.0
2020	26.6	99.0	3.6	58.6	218.1	8.3
2021	26.6	94.0	3.4	58.6	207.0	7.9
2022	26.6	89.0	3.2	58.6	196.0	7.4

Source: EPA, Technical Highlights, Emission Factors for Locomotives, EPA420-F-09-025 (April 2009).
Note: Emission factors for locomotives decrease over time due to tiered emission standards promulgated by EPA (73 FR 37096).

Table 6-14. Miscellaneous Factors

Units	Value
grams/pound	454
gallons/1,000 gallons	1,000
lb/ton	2,000
bhp-hr/gal (for large line-haul and passenger)[1]	20.8
bhp-hr/gal (for small line-haul)[1]	18.2
bhp-hr/gal (for switching)[1]	15.2
lb VOC/lb HC[2]	1.053
lb PM_{10}/lb PM[2]	1
lb $PM_{2.5}$/lb PM_{10}[2]	0.97
Average distance one ton of freight moved for every gallon of diesel fuel (miles)[3]	457
C factor (gallons/1,000 GTM)[4,5]	1.204
CO emission factor (g/bhp-hr) for line-haul locomotives[6]	1.28
CO emission factor (g/bhp-hr) for switch locomotives[6]	1.83
Density of diesel fuel (g/gal)[7]	3,200
Fraction of sulfur in fuel converted to SO_2[7]	0.978
g SO_2/mole[7]	64
g S/mole[7]	32

Units	Value
Average sulfur content of diesel fuel (ppm)[7]	0.0003
Summer season temporal activity[8]	0.25
Work weekday temporal activity[8]	0.0027

[1]EPA, Technical Highlights, Emission Factors for Locomotives, p. 3, EPA420-F-09-025 (April 2009). Bhp-hr = brake horsepower-hour.

[2]EPA, Technical Highlights, *Emission Factors for Locomotives*, p. 4, EPA420-F-09-025 (April 2009).

[3]Association of American Railroads (AAR) Web site, Freight Railroads in Nevada 2008 <http://www.aar.org/~/media/AAR/InCongress_RailroadsStates/Nevada.ashx> (accessed June 7, 2020).

[4]Spreadsheet attached to email from Michael Jon Germer (Union Pacific Railroad), date June 14, 2010. Note that this factor "...[i]s the system-wide (UPRR operates in 23 states) average fuel consumption rate for the calendar year [2008]..." *Id*.

[5]GTM = gross ton-miles.

[6]EPA, Technical Highlights, *Emission Factors for Locomotives*, p. 2, EPA420-F-09-025 (April 2009).

[7]*Id*., at p. 5.

[8]EPA only provides an emissions modeling temporal allocation for SCC 2285002010. The allocation indicated uniform activity throughout the week, and for each month of the calendar year. It was assumed that all railroad activities had a similar allocation. EPA, Emissions Modeling Clearinghouse Temporal Allocation <http://www.epa.gov/ttnchie1/emch/temporal/index.html> (accessed June 30, 2010).

The data following provide information concerning potential emissions reduction associated with implementation of a potential new passenger train. The emissions reductions are based on the assumption that passengers would have otherwise have traveled by car, bus, or airline. These reductions were not subtracted from the emissions total because they are not enforceable.

Table 6-23. Calendar Year 2013 Net DEMU Emissions (tpy), Including California and Nevada

Source	CO	NO_x	VOC
Railway emissions	86	482	27
Mobile source emissions	-1,853	-132	-91
Net emissions	-1,767	350	-64

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-30 (March 2009). It is not clear why these railway emissions values differ from those in Appendix J of the DEIS.

Table 6-24. Calendar Year 2013 Net DEMU Emissions from Clark County (tpy)

Source	CO	NO_x	VOC
Railway emissions	17	94	5
Mobile source emissions	-361	-26	-18
Net EMISSIONS	-345	68	-12

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-30 (March 2009).

Table 6-25. Calendar Year 2030 Net DEMU Emissions (tpy), Including California and Nevada

Source	CO	NO_x	VOC
Railway emissions	137	612	35
Mobile source emissions	-2,231	-58	-67
Net emissions	-2,094	554	-32

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-30 (March 2009). It is not clear why these railway emissions values differ from those in Appendix J of the DEIS.

Table 6-26. Calendar Year 2030 Net DEMU Emissions from Clark County (tpy)

Source	CO	NO_X	VOC
Railway emissions	27	119	7
Mobile source emissions	-435	-11	-13
Net emissions	-408	108	-6

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-30 (March 2009).
Note: Assumed linear emissions increases/reductions from CY 2013 to CY 2030.

Table 6-27. Timeline Information

Parameter	Year
DEMU slated to begin operation	2013
Maintenance plan horizon year	2022
Designated horizon year in DEIS	2030

Table 6-28. Calendar Year 2022 Net DEMU Emissions from Clark County (tpy)

Source	CO	NO_x	VOC
Railway emissions	22	107	6
Mobile source emissions	-400	-18	-15
Net emissions	-378	89	-9

Note: It is not clear why these railway emissions values differ from those found in Appendix J of the DEIS.

Table 6-29. Distribution of Mobile Source Emissions from Travel along I-15 between Victorville and Las Vegas

Area	Distribution
Mojave Desert Air Basin	80.5%
Clark County, Nevada	19.5%

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-27 (March 2009). "Emissions related to passenger rail propulsion, whether under the DEMU or EMU technology options, would represent an increase in both criteria pollutant and GHG emissions. However, passenger vehicles that would be diverted along I-15 between the southern California region and Las Vegas, and related VMT, would represent a decrease in criteria pollutant and GHG emissions."

Table 6-30. Calendar Year 2013 Mobile Source Emissions Projected from Travel along I-15 between Victorville and Las Vegas (tpy)

Area	CO	NO_x	VOC
Mojave Desert Air Basin	7,611	2,486	353
Clark County, Nevada	18,990	1,348	930
Total annual emissions	26,601	3,834	1,283

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-26 (March 2009).

Table 6-31. Calendar Year 2030 Mobile Source Emissions Projected Travel along I-15 between Victorville and Las Vegas (tpy)

Area	CO	NO_X	VOC
Mojave Desert Air Basin	4,021	971	203
Clark County Nevada	29,504	769	882
Total Annual Emissions	33,525	1,740	1,085

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-26 (March 2009).

Table 6-32. VMT along I-15 Between Victorville and Las Vegas

VMT Parameter	Miles per Year
CY 2013 VMT along I-15 Corridor between Victorville and Las Vegas	12,750,000
CY 2030 VMT along I-15 Corridor between Victorville and Las Vegas	20,380,000

Source: FRA Draft Environmental Impact Statement, Air Quality and Global Climate Change, Chapter 3.11, p. 3.11-26 (March 2009).

Table 6-33. Potential Annual Trips from New Potential Passenger Train

Year	Diverted from Air	Diverted from Auto	Diverted from Bus	Total Rail
2012	263,097	1,578,869	105,512	1,947,478
2013	364,827	2,189,365	146,310	2,700,503
2014	474,275	2,846,175	190,204	3,510,654
2015	493,246	2,960,022	197,812	3,651,080
2016	512,976	3,078,423	205,724	3,797,123
2017	533,495	3,201,559	213,953	3,949,008
2018	554,835	3,329,622	222,511	4,106,968
2019	577,029	3,462,807	231,412	4,271,247
2020	590,300	3,542,451	236,734	4,369,486
2021	603,877	3,623,928	242,179	4,469,984
2022	617,766	3,707,278	247,749	4,572,793

Table 6-34. Definitions

Term	Definition	Source
Line-haul locomotive	"...a locomotive that does not meet the definition of switch locomotive. Note that this includes both freight and passenger locomotives."	40 CFR 1033.901
Sulfur-sensitive technology	"...an emission-control technology that would experience a significant drop in emission control performance or emission-system durability when a locomotive is operated on low-sulfur fuel with a sulfur concentration of 300 to 500 ppm as compared to when it is operated on ultra low-sulfur fuel (i.e., fuel with a sulfur concentration less than 15 ppm). Exhaust-gas recirculation is not a sulfur-sensitive technology."	40 CFR 1033.901
Switch locomotive	"...a locomotive that is powered by an engine with a maximum rated power (or a combination of engines having a total rated power) of 2300 hp or less. Include auxiliary engines in your calculation of total power if the engines are permanently installed on the locomotive and can be operated while the main propulsion engine is operating. Do not count the power of auxiliary engines that operate only to reduce idling time of the propulsion engine."	40 CFR 1033.901
Tier 0 or Tier 0+	Relating to Tier 0 emission standards, as shown in 40 CFR § 1033.101	40 CFR 1033.901
Tier 1 or Tier 1+	Relating to Tier 1 emission standards, as shown in 40 CFR § 1033.101	40 CFR 1033.901
Tier 2 or Tier 2+	Relating to Tier 2 emission standards, as shown in 40 CFR § 1033.101	40 CFR 1033.901
Tier 3	Relating to Tier 3 emission standards, as shown in 40 CFR § 1033.101	40 CFR 1033.901
Tier 4	Relating to Tier 4 emission standards, as shown in 40 CFR § 1033.101	40 CFR 1033.901

Table 6-35. Regulatory Effectiveness and Rule Penetration

Type	Standard	Year Locomotive Type Was Originally Manufactured[1,2]	RE	RP[3,4]
Long-Haul	Tier 0	1973–1992	100%	100%
Long-Haul	Tier 1	1993–2004	100%	100%
Long-Haul	Tier 2	2005–2011	100%	100%
Long-Haul	Tier 3	2012–2014	100%	100%
Long-Haul	Tier 4	2015 or later	100%	100%
Overall RE and RP values for Long-Haul Locomotives:			**100%**	**100%**
Switch	Tier 0	1973–2001	100%	100%
Switch	Tier 1	2002–2004	100%	100%
Switch	Tier 2	2005–2010	100%	100%
Switch	Tier 3	2011–2014	100%	100%
Switch	Tier 4	2015 or later	100%	100%
Overall RE and RP values for Switch Locomotives:			**100%**	**100%**

[1]See 40 CFR 1033.101.
[2]Locomotives manufactured prior to 1973 are exempt from tier requirements; however, UPRR has upgraded all its locomotives to at least that standard (per verbal communication with UPRR on 9/22/10).
[3]In 1998 there was an agreement between UPRR and EPA to upgrade certain locomotives to tier 2 standards which has a residual beneficial effect on emissions in the southwest, including Nevada (per verbal communication with UPRR on 9/22/10).
[4]By the end of 2010, all locomotives will achieve tier 2 standards or better (per verbal communication with UPRR on 9/22/10).

7.0 ON-ROAD MOBILE EMISSIONS

7.1 Introduction

Clark County on-road mobile source emissions were estimated using the CONCEPT MV model, th MOBILE6 emissions factor model, the RTC's transportation demand modeling (TDM), and HPMS data from NDOT. On-road emissions were estimated for the 2008 base year and for projection years 2015 and 2022. For each year, emissions were estimated for every hour of the day for a summer modeling episode. The CONCEPT MV model was run for DAQEM's 4-km modeling grids (Figure 7-1), which cover all of Clark County.

Figure 7-1. Clark County 4-km Modeling Domain.

The emissions factors are derived from EPA's MOBILE6 motor vehicle emissions factor model. MOBILE6 estimates emissions by vehicle class, and provides emissions factors for exhaust emissions; evaporative emissions; and brake and tire wear emissions. There are a total of 28 vehicle classes used in MOBILE6. For the practical purpose of emissions development, DAQEM aggregated the emissions factors calculated from MOBILE6 into eight vehicle classes, which are the same as used in MOBILE5. The MOBILE6 model was used to generate emissions factors for base year 2008 and future years 2015 and 2022.

On-road emissions in the Las Vegas Valley and Boulder City were estimated using detailed data on the RTC transportation network to derive emissions for each link in the network for each hour of the day. Emissions in Clark County outside the Las Vegas Valley and Boulder City were estimated using County-level VMT data based on HPMS. These two development approaches are described below.

7.2 On-Road Emissions within the RTC Transportation Network

Link-level emissions were estimated within RTC transportation network using CONCEPT MV model; MOBILE6 emissions factors; transportation demand modeling; and related data provided by the Regional Transportation Commission of Southern Nevada (RTC).

7.3 CONCEPT Model

Developing a link-based and trip-based on-road mobile source emissions inventory has significant advantage over a County-based inventory for emissions spatial allocation as well as accuracy of predicted pollutant spatial patterns. DAQEM decided to estimate on-road emissions in a very detailed manner for the Las Vegas Valley portion of the modeling domain. The Sparse Matrix Operator Kernel Emissions (SMOKE) is most the commonly used emissions processing modeling system; however, SMOKE has certain limitations on processing link-based on-road mobile sources emissions. After extensive evaluation, DAQEM chose the CONCEPT model because of its capabilities in estimating on-road emissions in a more sophisticated and detailed manner than any other emissions processing systems commonly used. DAQEM chose CONCEPT partly due to its motor vehicle module (CONCEPT MV); this software had been developed to interface transportation demand models and CONCEPT. In addition, CONCEPT allows highly resolved inputs (e.g., VMT mix varying by hour of day, day of week, and month of year); CONCEPT includes vehicle trip-based emissions processing; and CONCEPT performs speed adjustments to account for congestion.

CONCEPT is an open source emissions model, written primarily in PostgreSQL. It includes modules for processing area, point, on-road mobile, nonroad mobile, and biogenic sources; it also has a number of supporting modules, including special allocation factor development; speciation profile development; growth and control for point and area sources; and Continuous Emission Monitoring System (CEMS) point source emissions handling. Most important for Clark County, CONCEPT includes a program to interface travel demand models (TDMs) for estimating on-road mobile emissions. The interface program—the TDM Transformation Tool (T3)—takes TDM planning results from metropolitan planning organizations and creates appropriate RPO Data Exchange Protocol files for use in the CONCEPT model.

The on-road portion of CONCEPT combines vehicle activity data from TDM with motor vehicle emissions factors from EPA's MOBILE6.2 model to estimate and grid link-level hourly emissions. The TDMs typically provide VMT or volume for multi-hour periods. CONCEPT reads temporal profiles to allocate VMT to hourly values, and it reads vehicle classification profiles that split the total VMT into VMT by vehicle class. Using the speed adjustment information provided by T3, CONCEPT adjusts vehicle speeds on each link. Using hourly gridded temperature and humidity values from MM5 or WRF, VMT by vehicle class, and accounting for MOBILE6 facility class, CONCEPT runs MOBILE6 to generate specific gram-per-mile emissions factors for that hour and link. CONCEPT then estimates emissions for each emissions mode by multiplying the activity data (VMT) by the appropriate MOBILE6 emissions factors. CONCEPT then speciates emissions as required for input to an air quality model. The result is an hourly, gridded, speciated inventory ready for input to CMAQ or CAMx air quality modeling.

7.4 RTC Transportation Demand Modeling

The transportation demand model used by RTC is TransCAD. The RTC modeling area includes the Las Vegas Valley and Boulder City. RTC provided TransCAD output data including link-level volumes (number of vehicles on each link); link lengths; roadway type for each link; trip starts (origin) and ends (destination) by Traffic Analysis Zone (TAZ); and intrazonal trips. VMT for each link was calculated as the product of the link length and volume.

The RTC TransCAD modeling is for an average weekday. (Weekend days are not modeled.) The TransCAD model output provided included link-level volumes, and trip origins and destinations for seven periods: midnight-7 am; 7 am-9 am; 9 am-2 pm; 2 pm-4 pm; 4 pm-6 pm; 6 pm–8 pm; and 8 pm-midnight. Link volumes were provided as a total for all vehicle classes. CONCEPT MV model was used to allocate the volumes for the seven periods into the 24 hours for each day modeled and also to disaggregate the total VMT into VMT by vehicle class.

The TransCAD output includes a roadway type designation for each link. The roadway types in the modeling are: interstate; other expressway/freeway; ramp; major arterial; minor arterial; collector; local; centroid connector; and external connector. The external connectors are links with traffic far outside the RTC network.

TransCAD output data were provided for 2008, 2015, and 2022. Figure 7-2 is a map of the RTC TransCAD network for the Las Vegas Valley and Boulder City for 2022; the changes in the network map from year to year are mostly in the outskirts, with additional roadways in the future years. The TransCAD network included about 23,000 links in 2008, growing to about 25,000 links in 2022.

Figure 7-3 shows a map of the RTC network with the most congested roadways highlighted. The most congested segments are found along Interstate 15 (I-15) and Las Vegas Boulevard through the urban core, and U.S. 95 from the curve at Rainbow Boulevard through its interchange with I-15. When these roadways are congested, there are more vehicles per mile traveling at low speeds, resulting in higher emissions.

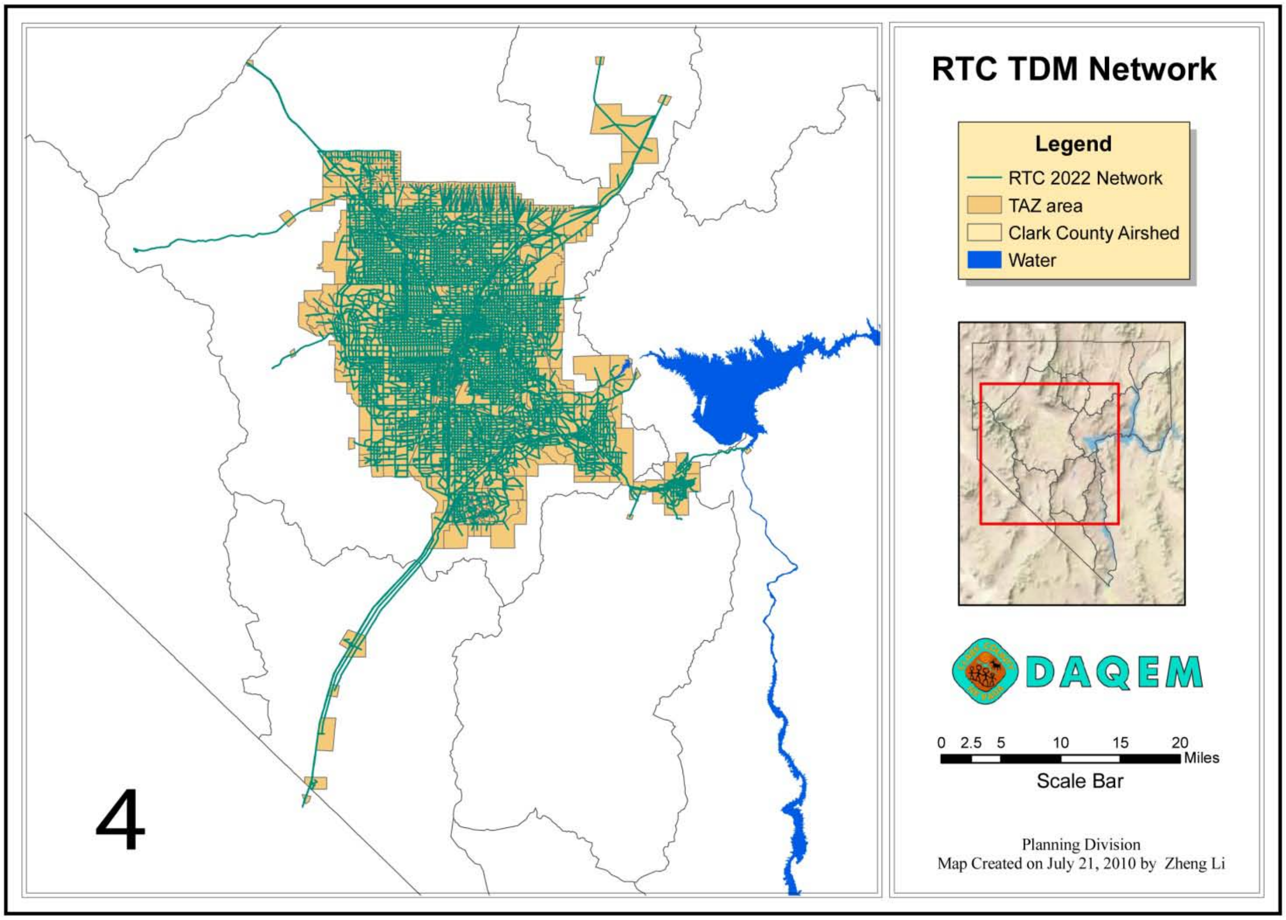
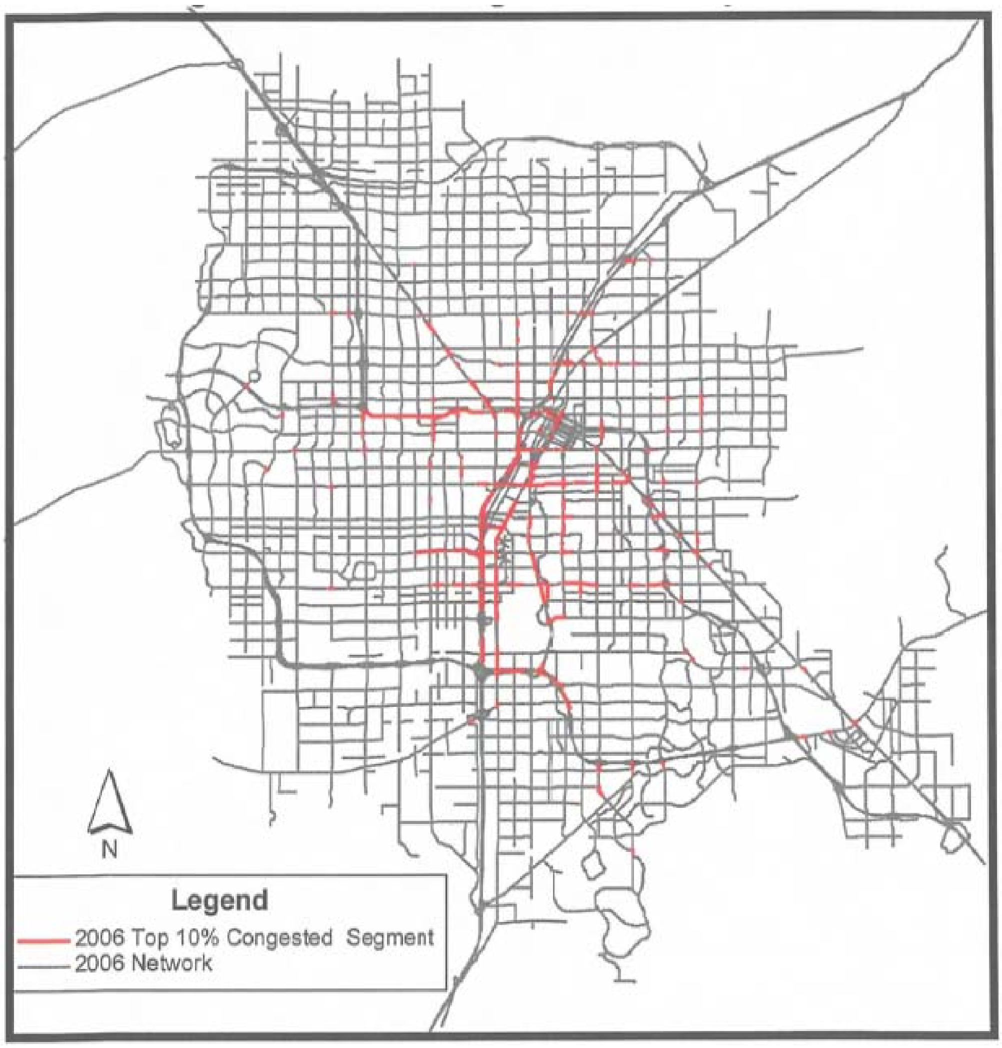


Figure 7-2. RTC Transportation Network.



Source: RTC.

Figure 7-3. Las Vegas Valley Transportation Network's Most Congested Roadways.

Three types of VMT adjustments were provided by the RTC and applied. The first adjustment was matching link volumes to observed traffic counts by facility type. These adjustment vary by facility type, as shown in Table 7-1, and the same adjustments per facility type were used for all years modeled. The second adjustment was bringing the total volume into agreement with the VMT reported through the Federal Highway Administration (FHWA) Highway Performance Monitoring System (HPMS). The HPMS adjustment was an increase of 9.9% applied to all roadways types for all years modeled.

Table 7-1. Adjustment Factors to Observed Traffic Counts by Facility Type

RTC Facility Type	Count Adjustment
External links	0.9891
System to system ramp	1.0250
Minor arterial	1.0862
Major arterial	0.9134
Service ramps	0.9869
Interstates	0.9091
Freeways	1.0524
Beltways and expressways	1.5628
Collectors	1.1053
Centroid	1.1053
Other local	1.1053

The last adjustment was a transit adjustment, a small increase in VMT to account for public transit activity not included in the RTC TransCAD network modeling. This adjustment varies by year, from about 0.10% to 0.14%.

Table 7-2 shows the final VMT, after all adjustments, by roadway type and modeling year for the Las Vegas Valley. Even with the current economic slowdown, Las Vegas will continue to be one of the fastest growing urban areas in the country. (The estimated average increase from 2008 to 2022 is 4.3% per year, as compared to typical growth rates of about 2% per year in most urban areas.)

Table 7-2. Las Vegas Valley Adjusted VMT by RTC Roadway Type for 2008, 2015, and 2022

RTC Road Type	2008	2015	2022
External links	253,698	306,143	343,556
System to system ramp	343,379	461,326	573,243
Minor arterial	5,159,056	7,288,808	9,996,912
Major arterial	13,845,515	16,443,631	19,581,551
Service ramps	1,193,157	1,440,894	1,711,643
Interstates	9,429,669	11,359,704	13,956,428
Freeways	3,757,121	5,673,571	7,969,454
Beltways and expressways	712,208	629	1,968,621
Collectors	3,366,626	3,779,359	4,819,086
Centroid	3,472,574	4,329,119	5,622,590
Other local	63,251	61,742	76,157
HOV lanes	197,851	870,641	917,279
Intrazonal	142,176	146,614	191,114
Transit bus	56,686	56,686	68,023
Total:	**41,992,968**	**52,218,868**	**67,795,656**

7.5 CONCEPT Modeling to Estimate Link-based Emissions

The methods that CONCEPT MV uses to estimate link-based emissions were described earlier. Here, information is provided on how the CONCEPT MV model was used to estimate link-based emissions for the RTC transportation network. Data and assumptions used for all of the inputs required by CONCEPT are described below. In addition, the links on I-15 from Spring Mountain Road to the California/Nevada border were treated as a separate network in CONCEPT due to different temporal profiles. The development of the temporal profiles for traffic on I-15 is described as well.

7.5.1 MOBILE6 Inputs

CONCEPT MV uses EPA's MOBILE6 model to estimate gram-per-mile emissions factors. DAQEM developed MOBILE6 input files used in the modeling. In 2008 and beyond, both gasoline and diesel fuel sulfur levels are required to meet EPA requirements for low sulfur content. For diesel fuel, 15 ppm sulfur content was used for modeling years 2008, 2015, and 2022. For the I/M programs, the Las Vegas Valley portion of Clark County has an annual two-speed idle test for 1995 and older vehicles, and on-board diagnostics (OBD) checks (both exhaust and evaporative) for 1996 and newer vehicles. Vehicle registration data for 2008 by model year and vehicle type were obtained from the Nevada Department of Motor Vehicles (DMV) and used to generate vehicle age distributions.

The market share of ethanol blend in summertime is assumed to be 62.6% for 2008 and 100% for 2015 and 2022. The RVP in Clark County is capped at 9.0 psi in the summer with 1.0 psi waiver for ethanol-blended fuels. The CONCEPT MOBILE6 input file for 2008 in XML format is provided in Table 3. The inputs for 2015 and 2022 differ only with regard to the OXYGENATED FUELS command, for which the ethanol blend market share was increased to 100%.

One of the supporting files for MOBILE6 is the hourly distribution of vehicle trip starts. DAQEM has developed local-specific trip starts distributions from RTC modeling for weekdays. The start distribution for weekends is based on MOBILE6 defaults. These start distributions, shown in Figure 7-5, were used in the CONCEPT modeling to derive hourly trip starts and ends.

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          <run>
           VMT BY HOUR       : HVMT_LV.WEK
           START DIST        : SDIST.LV
           REG DIST          : lv_reg08.prn
           OXYGENATED FUELS   : .001 .626 0.027 0.035 2
           NO REFUELING      :
           ANTI-TAMP PROG    :
           83 81 50 22222 22222222 2 11 90.0 22212112
           > Exhaust I/M program #1
           I/M PROGRAM       : 1 1983 2050 1 TRC 2500/IDLE
           I/M MODEL YEARS    : 1 1968 1995
           I/M VEHICLES      : 1 22222 22222222 2
           I/M COMPLIANCE     : 1 90.0
           I/M WAIVER RATES   : 1 0.1 0.1
           I/M STRINGENCY     : 1 22.0
           I/M EFFECTIVENESS  : 1.00 1.00 1.00
           I/M GRACE PERIOD   : 1 2
           I/M CREDIT FILE    : tech12.d

           > Exhaust I/M  program #2
           I/M PROGRAM       : 2 1983 2050 1 TRC OBD I/M
           I/M MODEL YEARS    : 2 1996 2050
           I/M VEHICLES      : 2 22222 22222222 2
           I/M STRINGENCY     : 2 22
           I/M COMPLIANCE     : 2 90
```

```
            I/M WAIVER RATES   : 2 0.1 0.1

            I/M GRACE PERIOD   : 2 2


            > Evap I/M  program #3

            I/M PROGRAM        : 3 1983 2050 1 TRC EVAP OBD

            I/M MODEL YEARS    : 3 1996 2050

            I/M VEHICLES       : 3 22222 11111111 1

            I/M COMPLIANCE     : 3 90

            I/M WAIVER RATES   : 3 0.1 0.1

            I/M GRACE PERIOD   : 3 2

           </run>

      <scenario>

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                 FUEL PROGRAM      : 1


                 DIESEL SULFUR     : 15.00

      </scenario>

   </repcounty>

</mobile6>
```

Figure 7-4. CONCEPT MOBILE6 Input File for 2008.

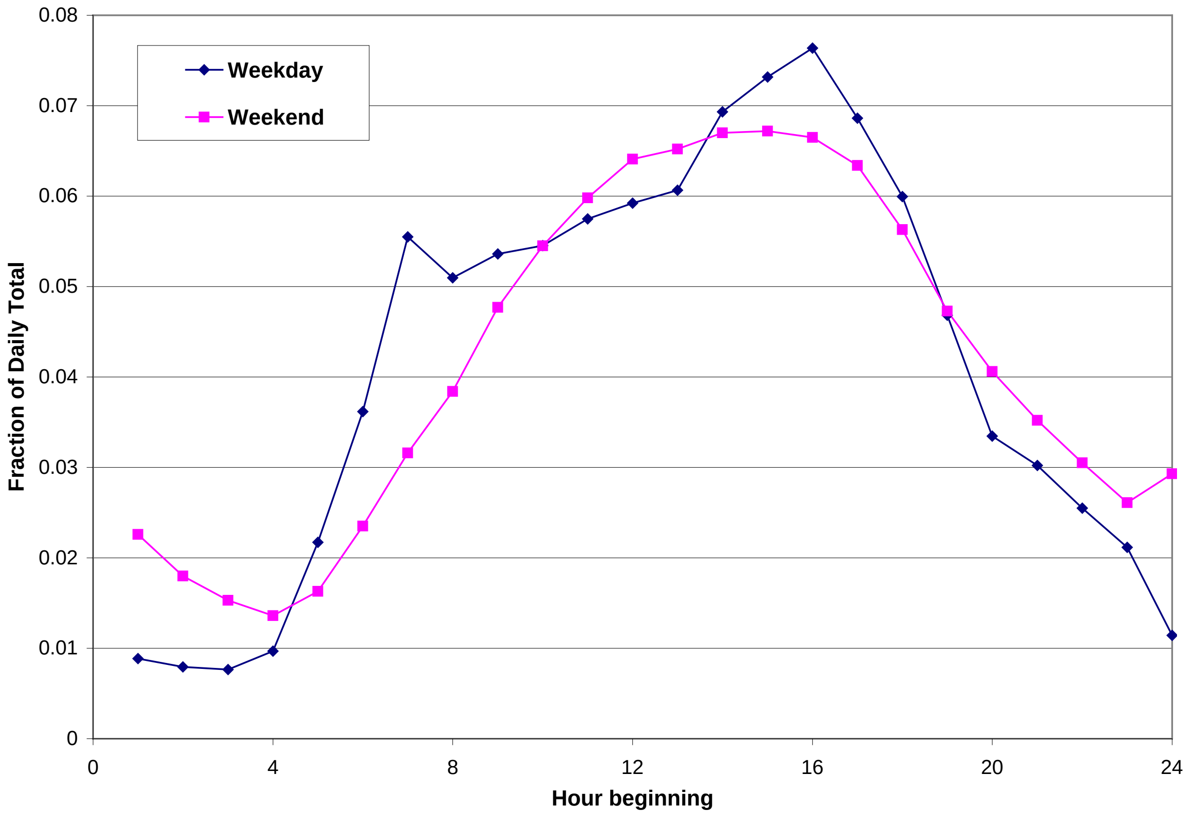


Figure 7-5. Hourly Weekday and Weekend Starts Distributions.

7.5.2 CONCEPT Temperature and Speed Bins

CONCEPT runs MOBILE6 for each combination of roadway type, speed, and minimum/maximum daily temperature after the link VMTs have been gridded. MOBILE6 emissions factors are temperature-dependent, especially for VOC emissions. In running CONCEPT, the user specifies temperature bins. Minimum/maximum temperature combinations within the same bin are considered equivalent. One MOBILE6 run is made to represent all combinations in that bin. For example, if the user defines 5ºF as the tolerance level, a 52ºF-74ºF range would be considered equal to a 54ºF-71ºF range and one MOBILE6 run would be used to estimate the emissions for both. Smaller bin sizes more accurately reflect the MOBILE6 dependence of emissions on temperature, but the tradeoff is a computing penalty: with the number of MOBILE6 runs increased, CONCEPT processing time increases. Sensitivity runs were performed to determine temperature bins that were small enough to capture temperature effects on emissions. For the Clark County CONCEPT modeling, the temperature bins used were every 5 Fahrenheit degrees up to 90°F, 2 Fahrenheit degrees from 90°F to 110°F, and every 5 Fahrenheit degrees above 110°F.

MOBILE6 emissions factors are also very sensitive to speeds, especially at very low speeds (below 20 mph) and very high speeds (above 60 mph). The speeds for which the model is run are also defined with speed bins in the user input. Smaller speed bins more accurately reflect MOBILE6 emissions factor variation with speed, but with a penalty of increased computing time. Sensitivity runs performed with different speed bins were used to determine speed bins for the RTC network modeling (every 5 mph).

7.5.3 CONCEPT Speed Adjustments

The free-flow speeds in the RTC TransCAD modeling are used as input to the CONCEPT model. An adjustment within CONCEPT is made to take into account congestion and to reduce speeds accordingly. For each link for each time period, the RTC TransCAD model provides the link capacity and volume. CONCEPT uses temporal profiles (described below) to take period capacities and volumes and allocate them to the hours in each period; it then performs a speed adjustment using the volume-to-capacity (V/C) ratio for each hour. The volume-to-capacity ratio was capped at 1.25.

The speed adjustment is performed using the standard Bureau of Public Roads (BPR) curve:

(Equation 1)

$$S_a = \frac{S_{ff}}{1 + \left[A * \left(V / C \right)^B \right]}$$

where:

S_a = adjusted link speed (mph)

S_{ff} = reported link free flow speed (mph)

V = total link volume (vehicles OR vehicles per hour)

C = total link capacity (vehicles OR vehicles per hour)

For freeways, interstates, system ramps, and expressways, A = 0.66 and B = 7.2; for major arterials, minor arterials, collectors, ramps, and other, A = 0.76 and B = 5.9.

The BPR adjustment, however, does not capture queuing on all road types or the resulting changes in speeds from this kind of congestion. Recently, a speed post-processor was developed for the TransCAD model and incorporated into CONCEPT version 0.8. The speed post-processor is based on a queuing algorithm from DTIM4 (Direct Travel Impact Model 4) to calculate congested speeds on links where volume exceeds capacity. DAQEM used this queuing algorithm in additional to the BPR adjustment when running CONCEPT.

7.5.4 Total Volume Temporal Profiles

CONCEPT uses traffic volume temporal profiles to disaggregate volumes for the seven multi-hour time periods in the RTC TDM modeling to an hourly basis. These temporal profiles were derived from analyses of Clark County traffic counter data. The volume profiles are the hourly fraction of the total vehicle volume by HPMS roadway type, month, and day of week. There are 12 HPMS roadway types (not including ramps) * 12 months * 7 days of the week, for a total of 1,008 hourly profiles. In each profile, 24 hourly fractions sum to 1, where each fraction corresponds to the fraction of the total volume occurring during that hour.

NDOT traffic counter data for Clark County were used to generate temporal profiles. NDOT provided 2003 and 2004 data from 90 continuous observation monitoring sites. The temporal profiles developed from this database were used for all modeling years. The temporal profiles were developed using only monitoring days with a full 24 hours of data; incomplete days were ignored.

The NDOT data included both urban and rural monitoring sites. The temporal profiles developed from the urban monitors were used for all roads within the RTC network, and the profiles developed from rural monitors were used in the emissions modeling for the portion of Clark County outside the RTC network.

Sufficient data were available to calculate total volume profiles for each day of the week and month of the year for all roadway types for which there were monitors. There was no traffic monitoring data for Urban Collector and Urban Local roadways, so the profiles developed for Urban Minor Arterials were used for these lesser roads. Likewise, the temporal profiles developed for Rural Major Collectors were applied to the two lower classes of Rural Minor Collector and Rural Local.

Figure 7-6 shows an example hourly total volume profile, for urban freeways and expressways. Diurnal profiles are shown for the seven days of the week, for each of the twelve months. The typical urban traffic profile of a morning and afternoon peak can be seen on each of the weekdays, and a single peak on both weekend days. Figure 7-7 shows an example of the daily total volume profile for the same roadway classification. The plot shows, as expected, lower traffic volumes on Saturdays, and even lower volumes on Sundays. Figure 7-8 shows the monthly total volume profiles for all roadways and for the I-15 monitor at the California/Nevada border (discussed below). These monthly profiles show some irregularities in the non-summer months. If annual modeling were to be performed, these irregularities would be smoothed out by combining monitoring data across non-summer months; but these changes were not made since the profiles were to be used for summer modeling only.

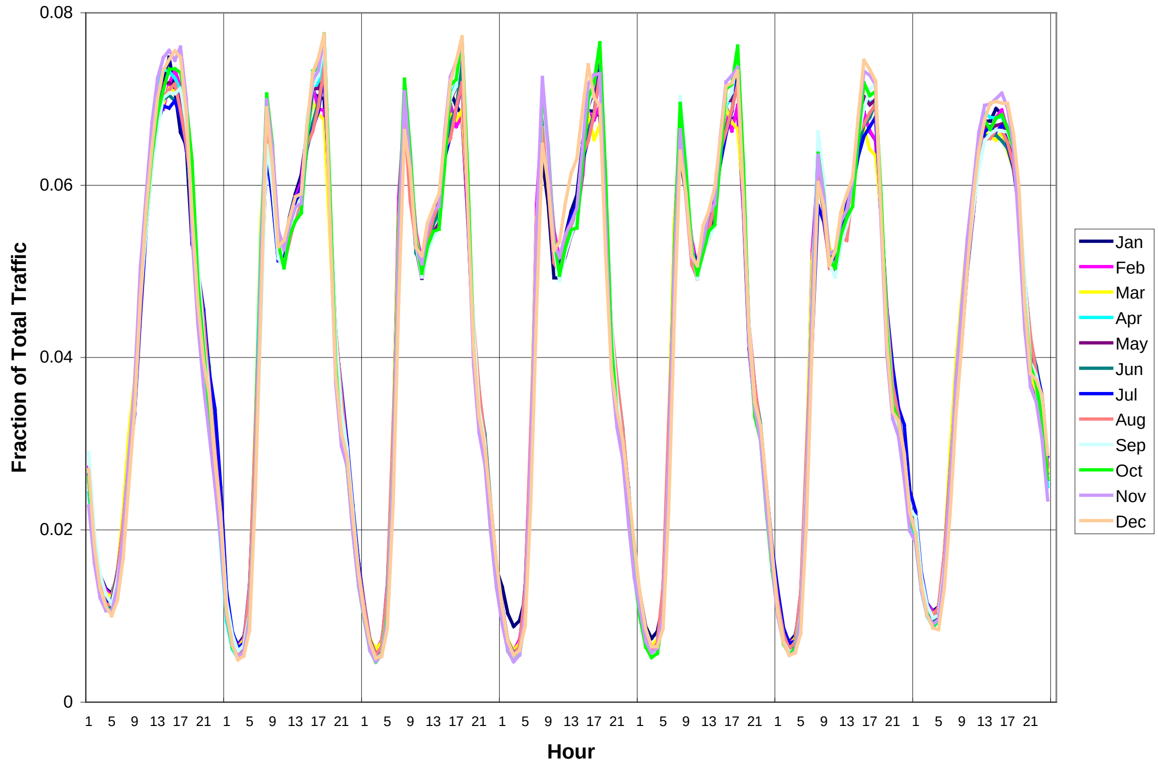


Figure 7-6. Example Hourly Total Volume Profile: Clark County Urban Freeways and Expressways, Sunday Through Saturday.

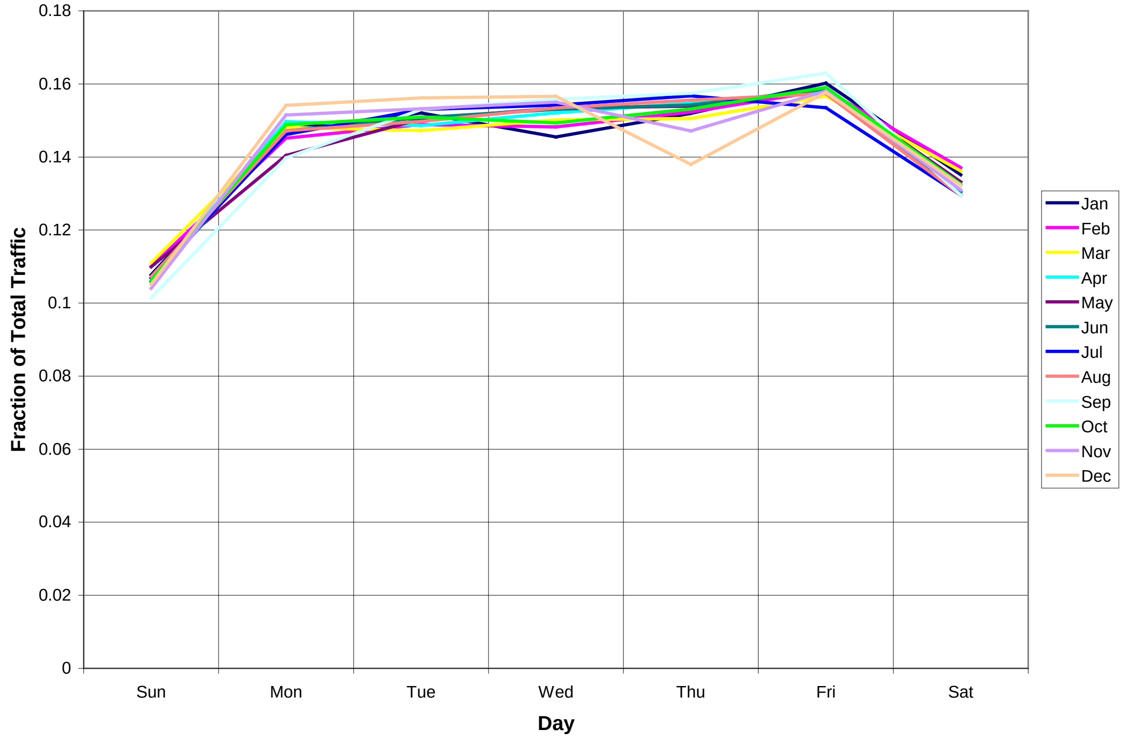


Figure 7-7. Example Daily Total Volume Profile: Clark County Urban Freeways and Expressways.

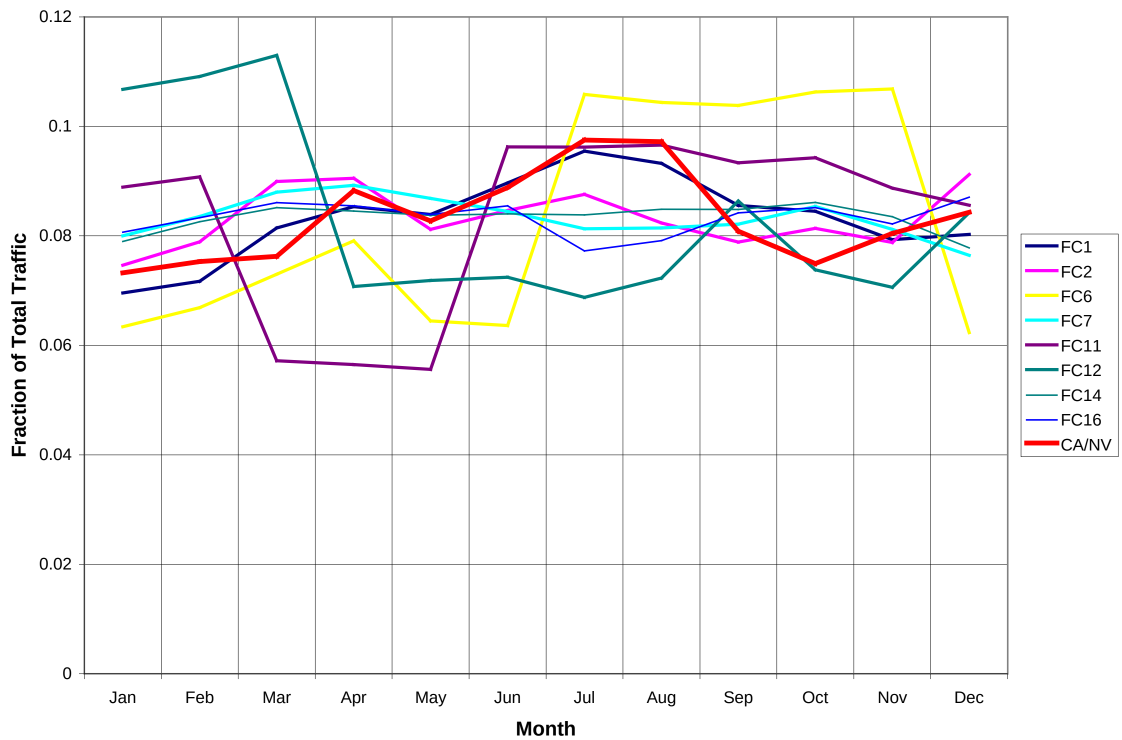


Figure 7-8. Monthly Total Volume Profiles: Clark County Urban Freeways and Expressways.

7.5.5 Vehicle Mix Profiles

After traffic volumes have been disaggregated into hourly volumes, CONCEPT then disaggregates the total VMT into VMT by vehicle class (for the eight MOBILE5 vehicle classes). This is done using vehicle mix profiles by HPMS facility class, month, day of week, and hour of day. CONCEPT disaggregates the total VMT into the eight MOBILE5 classes using the relative fraction of each MOBILE5 class from the appropriate VMT mix profile.

The VMT mix profiles were developed from analyses of two databases: NDOT provided data from 46 vehicle classification monitoring sites with data for years 2002-2004; data were also obtained from a special Las Vegas traffic monitoring study, which included 68 vehicle classification monitors with data for years 1999 through 2002. Ultimately, only 2002 data from the Las Vegas study were used.

There were not sufficient vehicle classification monitoring data to derive VMT mix profiles for all roadway types, months, and days of the week. For urban roadway types, VMT mix profiles were derived for two seasons: summer (defined as May through August) and winter (defined as September through April). For each season, VMT mix profiles were calculated by roadway type and day of week. For rural roadway types, there were only sufficient data to calculate profiles by roadway type and day of week, but not by month.

Figure 7-9 shows an example set of hourly VMT mix profiles for urban freeways and expressways; this profile is used for the summer months of May through August. The plot shows that the light-duty vehicle fractions are highest during daytime hours. Conversely, on weekdays, the heavy-duty diesel fractions are lowest in late afternoons and highest in overnight hours. Figures 7-10 and 7-11 show an example of VMT mix profiles by day of week and month of year, respectively—again for urban freeways and expressways. The day of week and month of year VMT mix profiles are the same for all summer months, with a different set for all non-summer months; these plots show a higher fraction of light-duty VMT and a lower fraction of heavy-duty diesel VMT in summer months.

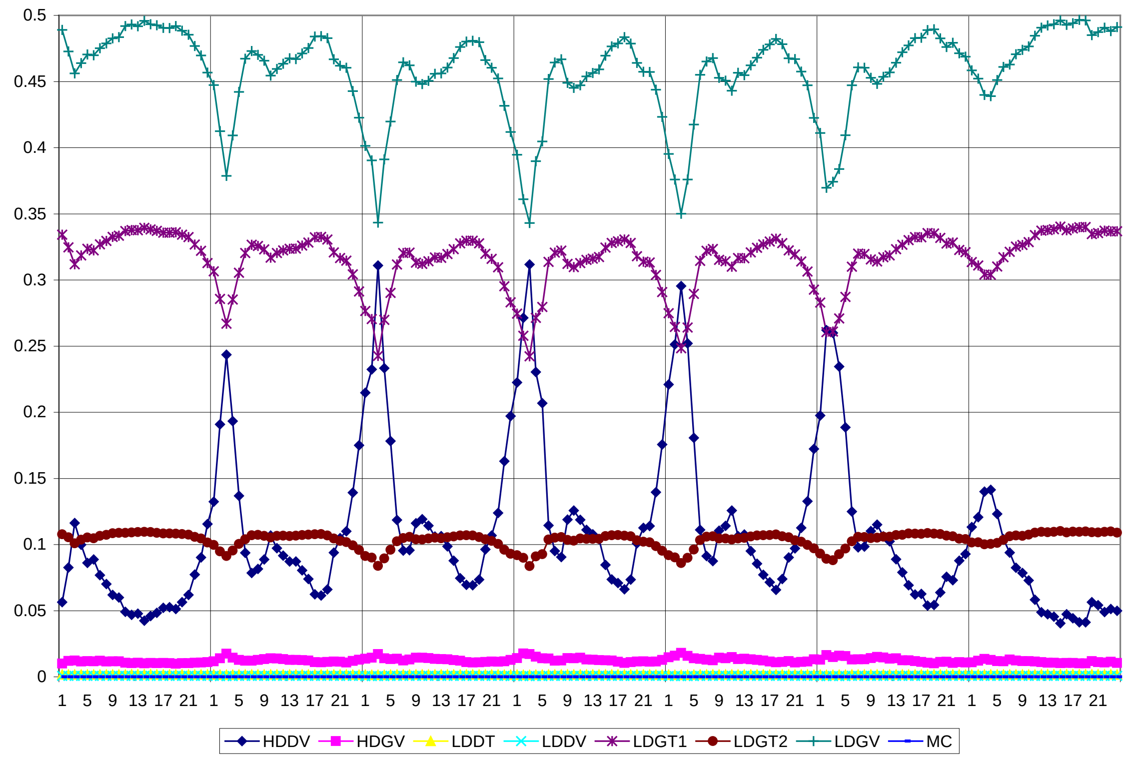


Figure 7-9. Example Hourly VMT Mix Temporal Profile: Urban Freeways and Expressways, Sunday Through Saturday, during the Summer Months.

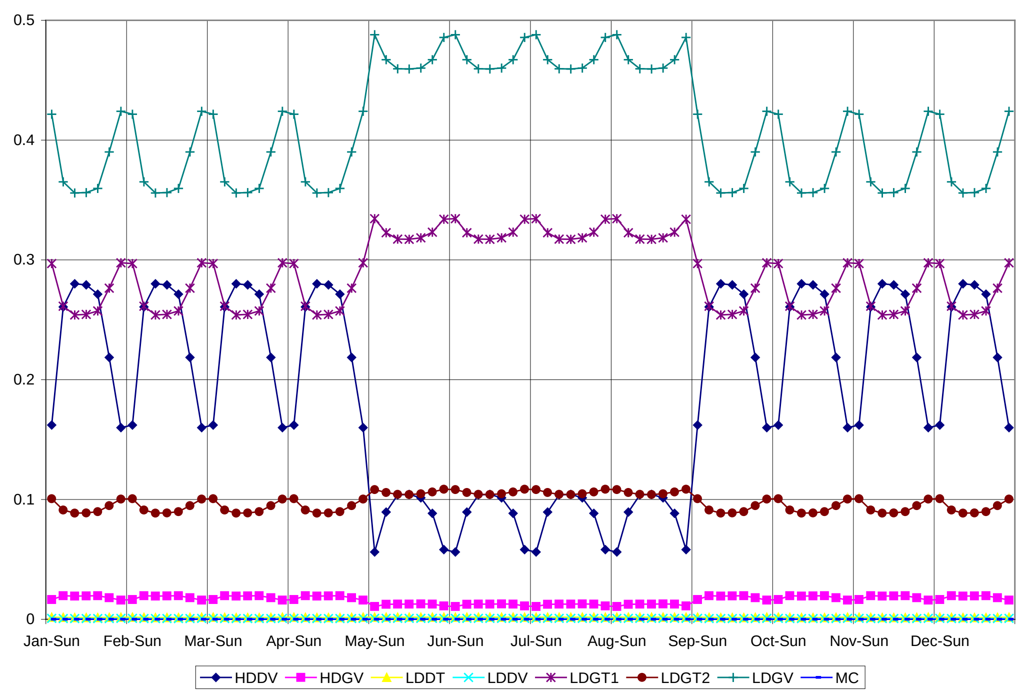


Figure 7-10. Example Daily VMT Mix Temporal Profile: Urban Freeways and Expressways.

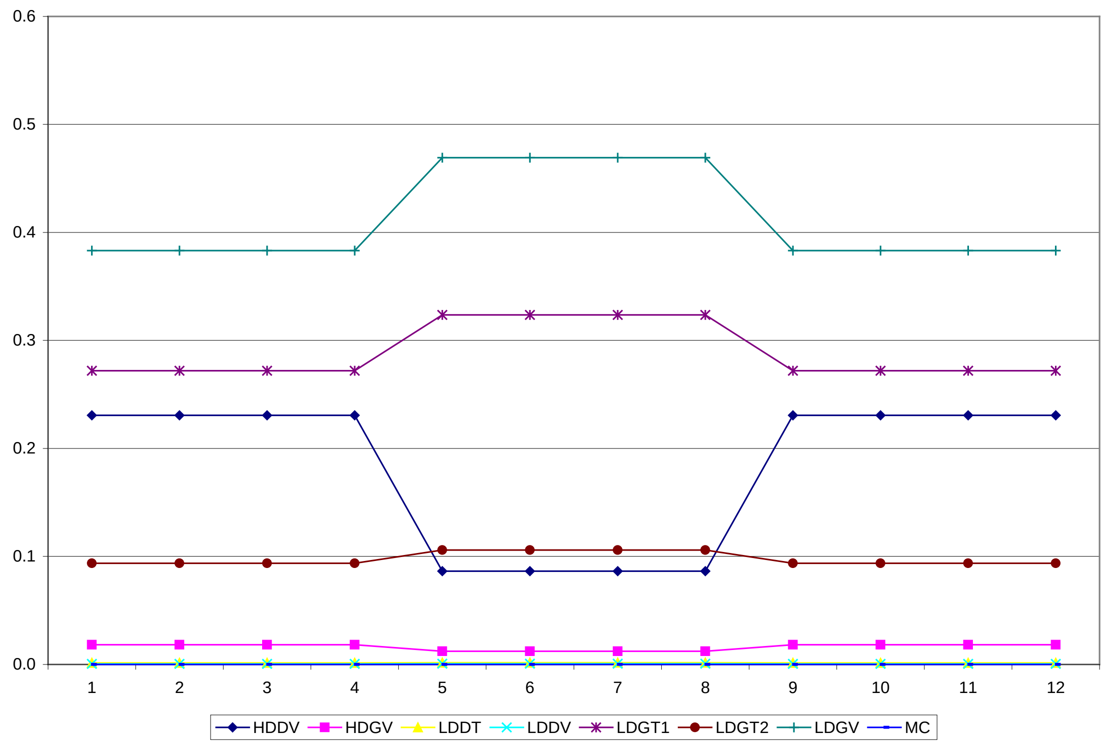


Figure 7-11. Example Monthly VMT Mix Temporal Profile: Urban Freeways and Expressways.

7.5.6 CONCEPT Modeling for Interstate 15

I-15 is a route heavily used for traveling between Las Vegas and the Los Angeles area. Traffic is particularly heavy on I-15 on Sunday evenings heading south to California, and special treatment was given to this roadway to take into account these varying traffic patterns.

The updated RTC TransCAD network included all of I-15 extending from the Las Vegas Valley south to the California/Nevada border. For the portion of I-15 within the RTC modeling network (from approximately Spring Mountain Road south), the detailed traffic volumes and speeds from the RTC TransCAD data were modeled the same way as the other links and speeds in the RTC network, except for the total volume temporal profile, as described below.

There was one NDOT continuous observation monitoring site on this stretch of roadway, and that was located just before the California/Nevada border. Traffic counts per direction were determined for 24 hours for each of 7 days from the bi-directional count data from the I-15 CA/NV monitoring site. The remaining temporal profiles required for input to CONCEPT were derived from the NDOT I-15 CA/NV monitoring site. These profiles were used for all of I-15 from Spring Mountain Road to the CA/NV border. Figure 7-12 shows the daily total volume profiles by month for the I-15 CA/NV monitoring site. While this figure shows increased traffic on Sundays, the heavy-duty diesel travel fraction is lowest on Sundays (see Figure 7-9). The result is lower NO_X emissions on Sundays than on weekdays; but with increased light-duty traffic, the VOC emissions are higher on Sundays.

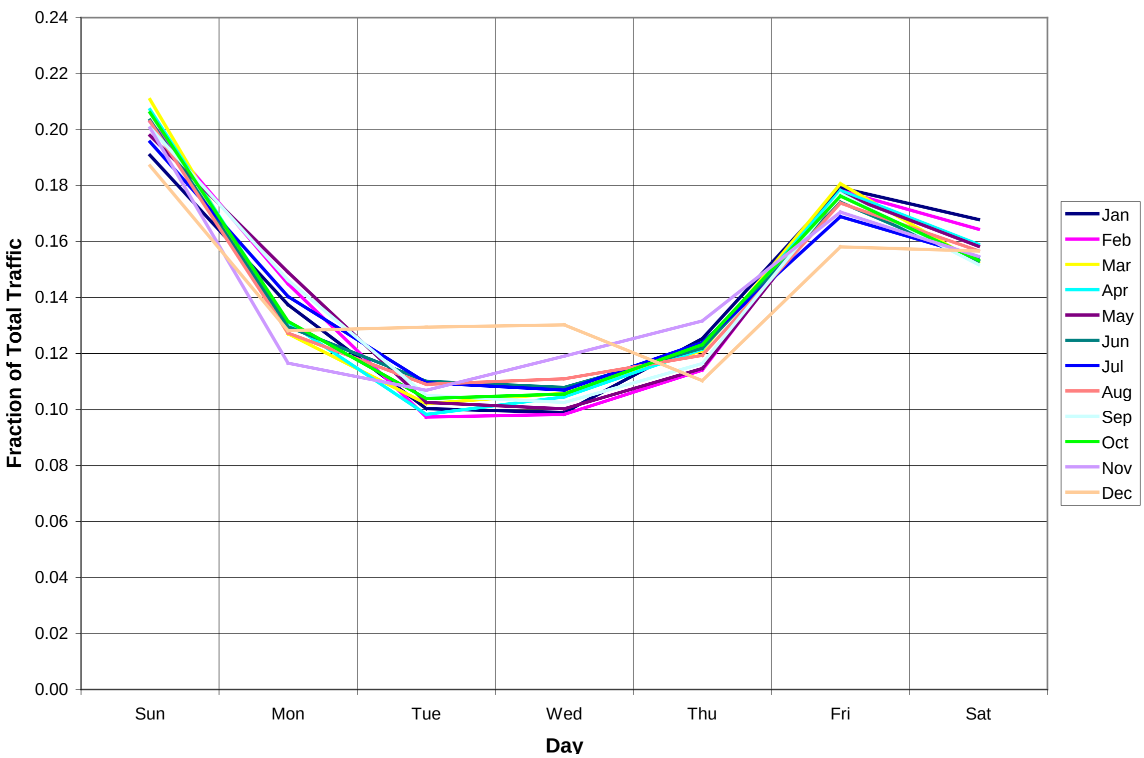


Figure 7-12. Daily Total Volume Profile for Southern Portion of I-15 (determined from monitoring site at CA/NV border).

MOBILE6 inputs for this portion of I-15 were the same as those used within the RTC network. While this stretch of roadway is in an area of Clark County not covered by a vehicle Inspection and Maintenance (I/M) program, MOBILE6 emissions factors with I/M were used because it was assumed that the majority of the vehicles traveling on this stretch of the Interstate were covered by either the Las Vegas I/M program or by a California I/M program.

7.5.7 Use of RTC Trips Data

RTC provided trip starts (origins) and ends (destinations) for each of the seven periods in the day for each of about 1,644 traffic analysis zones (TAZs). The trips were allocated from the seven time periods to the hours of the day using the Las Vegas trip start distributions in Figure 7-5.

The original intention was to use these hourly trip starts and ends by TAZ in lieu of MOBILE6 default assumptions on the number of trips per day. MOBILE6 uses trip starts and ends to estimate exhaust start and evaporative hot-soak emissions, respectively. However, CONCEPT runs using RTC trips compared to MOBILE6 defaults showed that emissions were significantly lower for both start and hot-soak emissions with RTC trips; this is because trips per day in RTC data were lower than MOBILE6 defaults. Therefore, RTC trip starts and ends were only used for spatial allocation for exhaust start and hot-soak emissions, and CONCEPT runs were performed using MOBILE6 default assumptions for the number of trips per vehicle per day.

7.6 CONCEPT Modeling to Estimate Emissions in Clark County Outside the RTC Network

This section describes data and methods used to estimate on-road emissions in the remainder of Clark County (the rural portion); these methods are different than those used to estimate link-based emissions in the Las Vegas Valley using the RTC transportation network. The steps to estimate emissions in the rural portion of Clark County are as follows:

1. Estimate rural vehicle miles traveled (VMT) by subtracting the RTC/I-15 VMT from the Clark County total;
2. Estimate rural emissions factors using EPA's MOBILE6 model;
3. Multiply emissions factors and VMT to estimate average daily emissions;
4. Use temporal profiles to allocate average daily emissions to hours in the modeling episode; and
5. Use spatial allocation surrogates to generate gridded emissions needed for air quality modeling.

The rural emissions were thus estimated outside CONCEPT, whereas CONCEPT was used to estimate emissions on the RTC links. As gridded model-ready emissions files were needed, CONCEPT was used to temporally and spatially allocate the county total rural emissions using the area sources module. Details on data used in these steps are provided below.

7.7 VMT and Speeds by Roadway Type

Clark County total VMT (urban and rural) and speeds by roadway type for year 2008 (based on NDOT Annual Vehicle Miles of Travel) are shown in Table 7-4.

Table 7-3. 2008 NDOT Clark County VMT and Speed by Roadway Class

Function Class	AVMT	Speed
Rural interstate	796,616,880	60
Rural other principal arterial	423,300,428	45
Rural minor arterial	48,055,973	40
Rural major collector	148,261,931	35
Rural minor collector	25,362,029	30
Rural local	124,341,031	30
Urban interstate	2,697,390,150	50
Urban other freeways and expressways	1,287,237,835	53
Urban other principal arterial	1,603,634,946	33
Urban minor arterial	3,471,731,518	32
Urban collector	986,200,023	33
Urban local	2,185,935,090	20
Annual Total:	**13,798,067,834**	
Daily Total:	**37,802,926**	

The 2008 rural VMT by roadway type was derived from the rural Clark County VMT (shown in Table 7-4) and subtracting VMT from links on I-15 south that are included in the RTC network. Based on the NDOT annual report, the VMT for I-15 south from Sloan Interchange to the CA/NV border is about 1,024,000 miles for year 2008. For future-year rural VMT by roadway type, growth factors were developed and applied to the 2008 VMT. Growth factors were determined separately by roadway type. For rural interstates and rural principal arterials, the growth factors were calculated by applying annual growth from the past 10-year historical VMT data provided by NDOT. For rural arterials, collectors, and local streets, growth factors were calculated based on population forecasts for rural towns (such as Laughlin, Searchlight, Blue Diamond, Goodsprings, and Cal-Nev-Ari) provided by the Clark County Department of Comprehensive Planning. The VMT growth factors and VMTs by roadway type for rural Clark County are shown in Table 7-5 and Table 7-6, respectively.

Table 7-4. Rural Clark County VMT Growth Rates by Roadway Type

Year	Interstates and Principal Arterials	Minor Arterials	Collectors	Locals
2015	1.319	1.379	1.770	1.770
2022	1.500	2.776	2.776	2.776

Table 7-5. Rural Clark County VMT by Roadway Type

Roadway Type	2008 VMT DVMT	2015 DVMT	2022 VMT DVMT
Rural interstate (without I-15 South)	1,158,512	1,528,077	1,737,768
Rural other principal arterial	1,159,727	1,529,680	1,739,591
Rural minor arterial	131,660	181,559	191,829
Rural major collector	406,197	718,969	1,127,603
Rural minor collector	69,485	122,988	192,890
Rural local	340,660	602,968	945,672
Total:	**3,266,241**	**4,684,242**	**5,935,353**

7.8 MOBILE6 Inputs

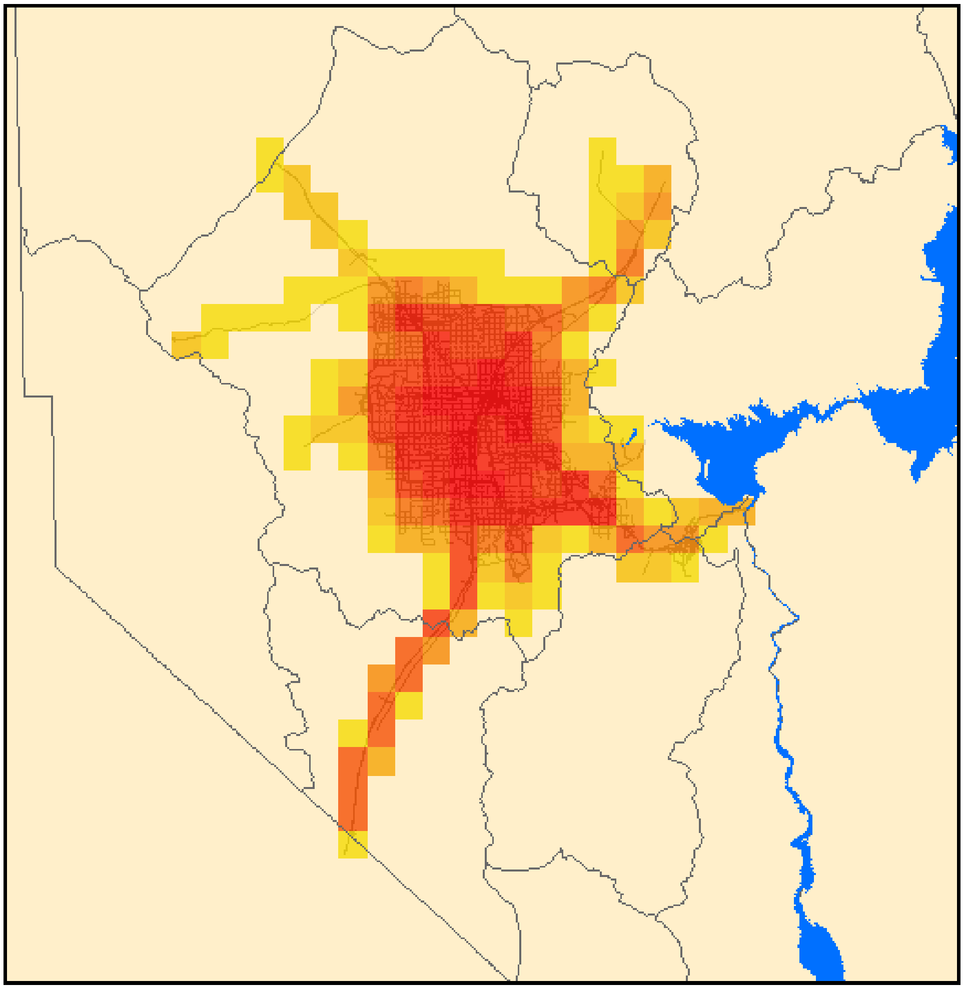
MOBILE6 inputs for rural Clark County emissions factors differed in three key inputs from the MOBILE6 inputs for urban roadways (provided in Figure 7-4). First, while the vehicles registered in the Las Vegas Valley are required to participate in an Inspection and Maintenance program (I/M), vehicles registered in rural area are not. Second, the rural MOBILE6 inputs used all defaults for start emissions, whereas the Las Vegas Valley starts-by-hour distribution (Figure 7-5) was used for the RTC network.

The third difference was in the VMT mix, i.e., the fraction of VMT by vehicle class. As described previously, VMT mix profiles for modeling RTC links by hour of day, for each day of the week, and month of the year, were determined from analyses of NDOT vehicle classification monitoring data augmented with data from a Las Vegas monitoring program. For the rural portion of the County, the VMT mix was based on the NDOT traffic report for rural areas in Nevada by roadway type. The estimated fraction of VMT from heavy-duty diesel vehicles (HDDV) in the rural area is higher than in the urban area: 32% on interstates; 17% for arterials and collectors; and 7% for locals.

For the Las Vegas Valley and I-15 south, DMV vehicle registration data for Clark County were used for age distribution. This same distribution was also used for the rural portion of the County. Last, the fuel sulfur levels were set the same in the rural area as in the valley.

7.9 Emissions Inventory Results

This section provides the overall results as well as an example in graphical display of emissions inventories generated using the procedures described in the preceding sections. Figure 7-12 is an example plot of gridded emissions inventories developed for Quality Assurance (QA) purposes. In this figure, the gridded NO_X emissions developed using RTC transportation network files are shown for the part of the 4-km modeling domain including Las Vegas Valley; the figure also includes a backmap of links in the roadway system as a reference. Emissions are scaled from yellow (lower emissions per grid cell) to red (higher emissions per grid cell). As expected, the on-road mobile source emissions appear in grid cells within the RTC transportation network area, and higher emissions occur on the largest roadway. NO_X emissions are heaviest on interstates and freeways, with much of the NO_X coming from HDDVs. On Interstate 15 on a weekday, HDDVs are by far the dominant source of NO_X emissions.



Source: DAQEM Planning Division.

Figure 7-13. Example Gridded Emissions Display with Roadway Network: NO_x Emissions for the RTC Roadway Network.

Table 7-7 shows Clark County summer average weekday emissions for 2008, 2015, and 2022 within the Las Vegas network (including the southern portion of I-15), and within the County but outside the network. These emissions are the average of CONCEPT modeling results for one week (week days) in July for those years. Despite a large increase in VMT from 2008 to 2022, emissions of all ozone precursors decrease. This is attributable to fleet turnover. The most stringent light-duty standards are known as Tier 2 standards, which began with the 2004 model year; the most stringent HDDV standards come into effect with the 2007 model year.

Table 7-6. Clark County Summer Average Weekday On-Road Emissions (tpd)

Year	Area of Analysis	CO	NO_x	VOC
2008	Las Vegas network	422.77	57.84	61.59
	Outside network	36.01	10.62	3.49
	Clark County Total:	**458.77**	**68.46**	**65.08**
2015	Las Vegas network	356.271	29.435	42.234
	Outside network	36.092	5.251	3.088
	Clark County Total:	**392.36**	**34.69**	**45.32**
2022	Las Vegas network	383.95	19.95	33.99
	Outside network	39.50	3.20	2.72
	Clark County Total:	**423.45**	**23.15**	**36.71**

8.0 NONROAD MOBILE EMISSIONS

Nonroad mobile equipment encompasses a wide variety of equipment types that either move under their own power or are capable of being moved from site to site. Emissions for common nonroad sources are estimated by EPA in their NONROAD emissions model, the latest version of which is NONROAD2008a.

The NONROAD model includes both emissions factors and default county-level population and activity data. The model estimates both emissions factors and emissions. The NONROAD model includes more than 80 basic and 260 specific types of nonroad equipment, and further stratifies equipment by horsepower rating and fuel type in the following categories:

- Airport ground support, such as terminal tractors;
- Agricultural equipment, such as tractors, combines, and balers;
- Construction equipment, such as graders and back hoes;
- Industrial and commercial equipment, such as forklifts and sweepers;
- Recreational vehicles, such as all-terrain vehicles and off-road motorcycles;
- Residential and commercial lawn and garden equipment, such as leaf and snow blowers;
- Logging equipment, such as shredders and large chain saws;
- Recreational marine vessels, such as power boats;
- Underground mining equipment; and
- Oil field equipment.

The model does not include commercial marine, locomotive, or aircraft emissions.

The NONROAD model incorporates the effects of promulgated federal nonroad equipment regulations, up through the latest Tier 4 emissions standards for nonroad compression-ignition engines and low-sulfur nonroad diesel fuel. The basic equation for estimating emissions in the NONROAD model is:

(Equation 2) Emissions = (Pop)(Power)(LF)(A)(EF)

where:

Pop = engine population

Power = average power (hp)

LF = load factor (fraction of available power)

A = activity (hrs/yr)

EF = emission factor (g/hp-hr)

The NONROAD model has default estimates variables and factors used in the calculations. All these estimates are in model input files, and can be changed by the user if data more appropriate to the local area are available. No local data were available for Clark County, so model defaults were used.

The NONROAD2008a model was used to estimate Clark County average weekday summertime nonroad emissions for base year 2008, and future years 2015 and 2022. In addition to the default data input files, the user is asked to specify parameters such as temperature and fuel specification when running the model. Table 8-1 lists the parameters used in the model runs for Clark County.

Table 8-1. Clark County Input Parameters for NONROAD2008a

User Input Parameter	2008	2015	2022
Fuel RVP for gas (PSI)	9	10	10
Oxygen weight %	2.19	3.5	3.5
Gas sulfur %	0.003	0.003	0.003
Diesel sulfur %	0.0015	0.0015	0.0015
Marine diesel sulfur %	0.0015	0.0015	0.0015
CNG/LPG sulfur %	0.003	0.003	0.003
Minimum temperature (F)	83	83	83
Maximum temperature (F)	105	105	105
Average temperature (F)	94	94	94
Altitude of region	LOW	LOW	LOW
Ethanol blend market share %	62.6	100	100
Ethanol volume %	10	10	10

Both gasoline and diesel fuel sulfur levels are required to meet the EPA requirement for low sulfur content. DAQEM used 30 ppm for gasoline and 15 ppm for diesel for the years modeled. DAQEM also used 62.6% ethanol market share for 2008 and 100% for both 2015 and 2022.

The model internally incorporates fleet turnover effects (i.e., older engines replaced by newer ones with stricter controls), so emissions factors by engine type decrease over time. Increases in emissions populations are also estimated within the model.

Table 8-2 shows the emissions estimates in tons per day (tpd) for Clark County from NONROAD2008a. Airport Ground Supporting Equipment emissions estimates from the NONROAD model were not considered, since they were estimated as part of the airport emissions inventories.

Table 8-2. Clark County Summertime Average Weekday Nonroad Emissions Estimates (tpd)

Equipment Type	2008			2015			2022		
	CO	NO_x	VOC	CO	NO_x	VOC	CO	NO_x	VOC
Agricultural	0.08	0.08	0.01	0.06	0.06	0.01	0.04	0.04	0.01
Airport	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial	40.24	1.42	2.55	33.46	1.15	1.88	37.33	0.92	1.86
Construction & Mining	38.55	32.78	4.95	27.72	21.59	3.53	21.56	11.91	2.86
Industrial	5.10	1.58	0.30	1.65	0.83	0.09	0.88	0.70	0.06
Lawn and Garden (COM)	308.24	4.57	19.12	243.48	3.53	14.09	267.86	3.34	15.13
Lawn and Garden (RES)	55.04	0.41	6.30	40.90	0.31	4.65	43.25	0.26	4.20
Logging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pleasure Craft	5.47	0.29	2.96	4.13	0.34	2.20	3.68	0.32	1.37
Railroad	0.03	0.02	0.00	0.03	0.01	0.00	0.03	0.01	0.00
Recreational	19.66	0.17	6.61	19.79	0.18	5.73	19.97	0.18	4.16
Total:	**472.42**	**41.31**	**42.80**	**371.21**	**27.99**	**32.19**	**394.60**	**17.69**	**29.65**

9.0 BIOGENIC EMISSIONS

VOC emissions from plants (biogenic emissions) can have a substantial impact on regional air quality. Biogenic sources include crops, lawn grass, and forests, which produce isoprene, monoterpene, alpha-pinene, and other VOCs; soils produce a small amount of NO_X emissions as well.

Like emissions from man-made sources (anthropogenic emissions), biogenic emissions react with oxidants in the atmosphere to promote ozone production. Biogenic emissions can even dominate anthropogenic emissions in some areas. Understanding the size and impact of biogenic emissions is crucial: a control strategy to reduce ozone by limiting anthropogenic emissions will be ineffective if biogenic emissions produce more ozone.

A comparison of biogenic emissions estimates to estimates of emissions from other categories (e.g., mobile sources) showed that biogenic VOC emissions represent a large portion of overall VOC emissions in Clark County. Conversely, biogenic NO_X emissions represent only a small fraction of overall NO_X emissions. Because biogenic emissions are beyond the scope of reasonable emission reduction measures, DAQEM assumed these emissions would remain the same over time. .

Nevertheless, biogenic emissions are important in determining the overall emissions profile of an area. Global modeling of biogenics emissions requires estimates for all land types, including arid lands, but measurements for arid regions such as Clark County have only recently entered the literature. This lack of knowledge complicated efforts to model the impact of biogenic VOCs on ozone concentrations in Clark County, resulting in a model estimate that biogenic emissions in the Las Vegas Valley were four times higher than anthropogenic emissions.

To address this discrepancy, DAQEM had contracted with Environmental Quality Management, Inc. (EQM) to develop a locally specific biogenic EI. EQM selected 22 native plant types in rural parts of the county, and adopted 9 urban plant classifications to represent the Las Vegas area. It carried out site surveys to identify dominant plant species and area coverage in many different land-use categories, and added a “barren” category to account for open spaces in the desert between vegetation. EQM used these categories to assign land-use designations and combinations to more than 19,000 modeling grids covering Clark County, each measuring one square kilometer. In general, the isoprene, monoterpene, and other VOC emissions modeled using the county-specific land-use designations were about 50 percent lower than the model’s default biogenics emissions. NO_X emissions were somewhat higher on both an annual and episodic basis.

Clark County also contracted with DRI and the National Center for Atmospheric Research to evaluate the accuracy of Clark County’s biogenic emissions model, version 3 of the Biogenic Emissions Inventory System (BEIS3). This evaluation noted three areas of weakness:

1. The biogenics EI relied on plant-specific emissions factors from the BEIS3 modeling framework. Since no BEIS3 emissions factors exist for many of the desert species in Clark County, most of the modeling domain was assigned to the generic “shrub grass” category.

2. The biogenics EI used the standard BEIS3 emission algorithms, which need adjustment for desert plants. Many desert species are drought deciduous; for instance, bursage (*Am-brosia dumosa*), a significant species in Clark County, is physiologically inactive in the summer. The BEIS3 algorithms did not account for this dormancy.

3. The biogenics survey was based on a RECON Environmental, Inc. land cover database that considered only spatial coverage, not foliar densities. The inventory used default foliar densities from the BEIS3 modeling framework, which are not appropriate for desert ecosystems. Other data sources have better estimates of species densities.

DRI compared the EQM land characterization data with new data from the Southwest Gap Regional Analysis Project and conducted biogenic VOC emissions measurements on desert plant species. The National Center for Atmospheric Research provided a beta EI based on existing defaults in the Model of Emissions of Gases and Aerosols from Nature (i.e., MEGAN) and a final EI based on MEGAN model estimates, measured emission factors, and species information from the completed surveys.

With these efforts, the biogenic ton-per-day emissions for Clark County are estimated to be 25.9 tons per day of CO, 5.0 tons per day of NO_X, and 159.5 tons per day of VOC.

The EQM report can be accessed from the following web site address:
http://www.accessclarkcounty.com/depts/daqem/aq/planning/Documents/Ozone/Biogenics%20Report.pdf

The DRI report can be accessed from the following web site address:
http://www.accessclarkcounty.com/depts/daqem/aq/planning/Documents/Ozone/BiogenicsInvImprovRpt.pdf

10.0 EMISSION REDUCTION CREDITS

Emission Reduction Credits (ERCs) may be granted, under strict guidelines, upon request by an emissions source that voluntarily reduces emissions beyond required levels of control. ERCs may be sold, leased, banked for future use, or traded in accordance with applicable regulations. When used to offset emissions, they are permanently retired. ERCs are intended to provide an incentive for reducing emissions and to establish a framework to promote a market-based approach to regulating air pollution.

Both the Nevada Division of Environmental Protection (NDEP) and DAQEM have authority to bank ERCs in Clark County. NDEP has jurisdiction over permitting, compliance, and ERC banking for specific electric steam-generating emission units within Clark County. All other emissions units in Clark County are under jurisdiction of DAQEM.

The following tables outline the ERCs currently banked in Clark County:

Table 10-1. ERCs Banked in Clark County (tpy)

Banking Authority	Component	CO	NOx	VOC
DAQEM	Entire DAQEM ERC Bank	25.42	323.40	19.63
NDEP	Reid-Gardner ERCs	0.00	573.92	0.00
	Mojave ERCs	0.00	7,216.00	137.00
	Totals:	25.42	8,113.32	156.63

Table 10-2. ERCs Banked in Clark County (tpd)

Banking Authority	Component	CO	NOx	VOC
DAQEM	Entire DAQEM ERC Bank	0.07	0.89	0.05
NDEP	Reid-Gardner ERCs	0.00	1.57	0.00
	Mojave ERCs	0.00	19.77	0.38
	Totals:	0.07	22.23	0.43

DAQEM contacted NDEP to verify its bank of ozone precursor emissions; NDEP provided these values and also the two specific facilities from which the ERCs originated. At the time this information was compiled, it was also learned that there were no pending ERC applications at either DAQEM or NDEP.

For the emissions analysis, DAQEM chose to put all of the ERCs in future years 2015 and 2022. Because ERCs can be used in nonattainment areas to offset emissions of new major sources and major modifications at existing major sources, it can be assumed that these ERC emissions are already accounted for in the 2022 point source emissions growth. In other words, point source emissions growth and ERCs largely overlap. To be conservative, however, DAQEM is not considering potential overlap of these emissions for the ozone maintenance plan.

Appendix B

EPA Air Quality System

Design Value Report 2006-2009

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

User ID: HJA

DESIGN VALUE REPORT

Report Request ID: 822506 Report Code: AMP480 Jan. 4, 2011

GEOGRAPHIC SELECTIONS

Tribal	State	County	Site	Parameter	POC	City	AQCR	UAR	CBSA	CSA	EPA Region	Method	Duration	Begin Date	End Date
	32	003													

PROTOCOL SELECTIONS

Parameter Classification	Parameter	Method	Duration
DESIGN VALUE	44201		

SELECTED OPTIONS

Option Type	Option Value
USER SITE METADATA	STREET ADDRESS
MERGE PDF FILES	YES
QUARTERLY DATA IN WORKFILE	NO
WORKFILE DELIMITER	,
SINGLE EVENT PROCESSING	EXCLUDE REGIONALLY CONCURRED EVENTS

GLOBAL DATES

Start Date	End Date
2008	2009

APPLICABLE STANDARDS

Standard Description
Ozone 8-Hour 2008

Pollutant: Ozone(44201)
Standard Units: Parts per million(007)
NAAQS Standard: Ozone 8-Hour 2008
Statistic: Annual 4th Maximum **Level:** .075

Design Value Year: 2008
REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.
State: Nevada

			2008				2007				2006				3 - Year		
Site ID	Poc	STREET ADDRESS	Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Percent Complete	Design Value	D. V. Validity
32-003-0020	1	4701 MITCHELL STREET	358	98	.071		357	98	.075		362	99	.079		98	.075	Y
32-003-0022	1	NE OF CITY-12101 HWY 93/I15	338	92	.071		355	97	.081		361	99	.079		96	.077	Y
32-003-0023	1	465 E. OLD MILL ROAD, MESQUITE, NV	359	98	.069		354	97	.065		364	100	.069		98	.067	Y
32-003-0043	1	4525 NEW FOREST DRIVE	355	97	.077		360	99	.083		364	100	.083		98	.081	Y
32-003-0071	1	7701 DUCHARME AVE	349	95	.076		355	97	.085		361	99	.085		97	.082	Y
32-003-0072	1	3525 N VALADEZ STREET	357	98	.078		360	99	.080		363	99	.085		99	.081	Y
32-003-0073	1	333 PAVILION CENTER DRIVE	351	96	.074		356	98	.081		359	98	.084		97	.079	Y
32-003-0075	1	6651 W. AZURE AVE	359	98	.080		361	99	.081		360	99	.083		99	.081	Y
32-003-0538	2	5483 CLUBHOUSE DR-WINTERWOOD, LAS VEGAS	309	84	.071		343	94	.076		360	99	.078		92	.075	Y
32-003-0601	1	1005 INDUSTRIAL ROAD	349	95	.071		343	94	.076		364	100	.074		96	.073	Y
32-003-1019	1	T25S R59E S10	347	95	.074		354	97	.083		363	99	.079		97	.078	Y
32-003-1021	1	1562 KATIE AVE	356	97	.074		352	96	.077		272	75	.085		89	.078	Y
32-003-2002	1	1301B EAST TONOPAH	360	98	.068		359	98	.080		361	99	.081		99	.076	Y

Notes:
1. Warning: Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
PRELIMINARY DESIGN VALUE REPORT

Report Date: Jan. 4, 2011

Pollutant: Ozone(44201)
Standard Units: Parts per million(007)
NAAQS Standard: Ozone 8-Hour 2008
Statistic: Annual 4th Maximum **Level:** .075

Design Value Year: 2009
REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.
State: Nevada

			2009				2008				2007				3 - Year		
Site ID	Poc	STREET ADDRESS	Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Percent Complete	Design Value	D. V. Validity
32-003-0020	1	4701 MITCHELL STREET	352	96	.072		358	98	.071		357	98	.075		97	.072	Y
32-003-0022	1	NE OF CITY-12101 HWY 93/I15	360	99	.070		338	92	.071		355	97	.081		96	.074	Y
32-003-0023	1	465 E. OLD MILL ROAD, MESQUITE, NV	359	98	.062		359	98	.069		354	97	.065		98	.065	Y
32-003-0043	1	4525 NEW FOREST DRIVE	353	97	.071		355	97	.077		360	99	.083		97	.077	Y
32-003-0071	1	7701 DUCHARME AVE	362	99	.074		349	95	.076		355	97	.085		97	.078	Y
32-003-0072	1	3525 N VALADEZ STREET	360	99	.072		357	98	.078		360	99	.080		98	.076	Y
32-003-0073	1	333 PAVILION CENTER DRIVE	360	99	.072		351	96	.074		356	98	.081		97	.075	Y
32-003-0075	1	6651 W. AZURE AVE	359	98	.074		359	98	.080		361	99	.081		98	.078	Y
32-003-0538	2	5483 CLUBHOUSE DR-WINTERWOOD, LAS VEGAS	361	99	.070		309	84	.071		343	94	.076		92	.072	Y
32-003-0601	1	1005 INDUSTRIAL ROAD	311	85	.071		349	95	.071		343	94	.076		92	.072	Y
32-003-1019	1	T25S R59E S10	356	98	.072		347	95	.074		354	97	.083		96	.076	Y
32-003-1021	1	1562 KATIE AVE	350	96	.071		356	97	.074		352	96	.077		97	.074	Y
32-003-2002	1	1301B EAST TONOPAH	354	97	.072		360	98	.068		359	98	.080		98	.073	Y

Notes:
1. Warning: Computed design values are a snapshot of the data at the time the report was run (may not be all data for year).
2. Annual Values not meeting completeness criteria are marked with an asterisk ('*').

Appendix C

Documentation of the Public Review Process

Table of Contents

1.0 30-DAY PUBLIC COMMENT PERIOD

1.1 Newspaper Notice

AFFP DISTRICT COURT
Clark County, Nevada

AFFIDAVIT OF PUBLICATION

STATE OF NEVADA)
COUNTY OF CLARK) SS:

Stacey M. Lewis, being 1st duly sworn, deposes and says: That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for,

CC AIR QUAL MGMT	3868527CC	6848282

was continuously published in said Las Vegas Review-Journal and / or Las Vegas Sun in 1 edition(s) of said newspaper issued from 12/12/2010 to 12/12/2010, on the following days:

12/12/2010

PUBLIC NOTICE OF A 30-DAY COMMENT PERIOD FOR THE PROPOSED OZONE REDESIGNATION REQUEST AND MAINTENANCE PLAN

NOTICE IS HEREBY GIVEN of a 30-day public comment period for the proposed Ozone Redesignation Request and Maintenance Plan (Plan) that Clark County plans to submit for U.S. Environmental Protection Agency (EPA) approval to redesignate the Clark County ozone Nonattainment Area to attainment status for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS).

Clark County was designated nonattainment of the 1997 8-hour ozone NAAQS in April 2004. The Phase 1 Implementation Rule issued by EPA on June 15, 2004 classified Clark County as a "basic" nonattainment area under Subpart 1 of the Clean Air Act. Clark County has experienced substantial improvement in air quality; no violations of the 1997 8-hour ozone standard have been recorded since 2008.

The Plan is available for public inspection at the front counter of the Clark County Department of Air Quality and Environmental Management (DAQEM) located at 500 S. Grand Central Parkway, Las Vegas, Nevada 89106, telephone 702-455-5942. The plan is also available on the DAQEM Web site at http://www.clarkcountynv.gov/depts/daqem . The Plan will be mailed to interested persons upon request. Any fees associated with this request will be billed at a cost consistent with the Clark County Public Records Policy and NRS 239.

Comments must be submitted in writing to the DAQEM at the address given above and placed to the attention of Will Cates, Principal Planner. Mr. Cates can be reached at 455-1650. Comments can also be submitted via email to CATES@ClarkCountyNV.gov . The 30-day comment period commences on Monday December 13, 2010. All comments must be received by Wednesday, January 12, 2011 at 5:00 PM. After this date, the Clark County Board of County Commissioners will hold a public hearing to consider approving the Plan including any changes made to the public review draft based on written comments received during the comment period.

PUB: December 12, 2010
LV Review-Journal

Signed: Stacey M. Lewis

SUBSCRIBED AND SWORN BEFORE ME THIS, THE 13th day of Dec. 2010.

Emily Gonzalez

Notary Public

EMILY GONZALEZ
Notary Public State of Nevada
No. 09-8940-1
My appt. exp. Nov. 13, 2012

1.2 Webpage Notices

Air Quality

NOTICE

The Clark County Department of Air Quality and Environmental Management (DAQEM) has developed an Ozone Redesignation Request and Maintenance Plan, this Plan is in response to the 1997 National Ambient Air Quality Standard (NAAQS) for ozone of 80 parts per billion (ppb).

In April 2004, Clark County was designated in nonattainment of the 1997 8-hour ozone standard, and was classified as a "basic" nonattainment area under Subpart 1 of the Clean Air Act.

Monitoring data shows that the Clark County nonattainment area has been in attainment with the ozone NAAQS since 2008. The Maintenance Plan summarizes the progress in attaining the ozone standard, demonstrates that all Clean Air Act (CAA) requirements for attainment have been met, and presents a plan to assure continued attainment over the next ten years. DAQEM inventoried emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) for the attainment year 2008 and projected those emissions outward to 2015 and 2022. The inventories were adjusted to reflect federal, state and local rules on VOC and NO_x emissions that have already been adopted or implemented. These controls were shown to reduce overall ozone emissions through the maintenance year 2022. No additional control measures were needed to attain the standard.

The required public notice, to announce a 30-day public comment period commencing on December 13, 2010 and ending on January 12, 2011 at 5:00 p.m., was published on December 12, 2010.

The public has the opportunity to review and comment on the proposed Ozone Redesignation Request and Maintenance Plan and Technical Support Document. The Plan is also available for inspection at the front counter of the DAQEM office on the 1st floor of the Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, Nevada 89155-1776.

Comments must be submitted in writing to the DAQEM at the address given above and placed to the attention of Will Cates, Principal Planner. Mr. Cates can be reached at 455-1650. Comments can also be submitted via email to CATES@ClarkCountyNV.gov. All comments must be received by Wednesday, January 12, 2011 at 5:00 PM, the close of the 30-day comment period. Written comments will be retained and considered prior to the submittal of the proposed Plan to the Clark County Board of County Commissioners (BCC). The BCC will conduct a public hearing on the Plan on February 15, 2011.

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Residents | **Visitors** | **Business** | **About Clark County** | **Elected Officials** | **Services** | **Departments** |

ePayments

Tuesday, December 14, 2010

Clark County > Departments > Air Quality

Air Quality

By authority of NRS 445B.500, the Clark County Board of County Commissioners established the Department of Air Quality Management in 2001. Air Quality administers the air pollution control program for Clark County under provisions of the Clark County Air Quality Regulations. The mission of the department is to develop and implement high-quality, effective local programs to fulfill air quality regulatory requirements and address community concerns, thereby protecting the region's quality of life while facilitating orderly growth.

Stationary source air permits, including Title V permits, are issued through the Permitting Division. The Compliance and Enforcement Division regulates sources of air pollutants to minimize adverse impacts on the community and environment. The Planning Division is responsible for preparing studies and plans to show how Clark County will comply with the national ambient air quality standards. It also compiles and maintains the emissions inventory and conducts emissions modeling. The Engineering Division is responsible for maintaining and operating the ambient monitoring network and informing the public about current air conditions.

How We're Serving You

Green House Gases
Pending greenhouse gas (GHG) emissions legislation may soon affect U.S. companies.
More Information

Small Business Assistance
Need help with your stationary source permit application or a compliance issue?
More Information

Announcements

Ozone Maintenance Plan
Ozone Redesignation and Maintenance Plan *More Information*

Pollen
Clark County Aeroallergen History and Cycles *More Information*

CO Redesignation
CO Redesignation to Attainment *More Information*

Jobs Site Map Contact Us Privacy Policy

500 S. Grand Central Pkwy., Las Vegas, NV 89155 (702) 455-0000

Air Quality

The **Air Quality Planning** Division is responsible for the development and implementation of air quality plans and policies. The primary functions performed by the Planning Division include: plan development, emissions inventories, air quality computer modeling and mobile sources programs.

Planning staff prepare long-term planning documents and reports, and conduct studies related to the criteria pollutants. Plans and reports include State Implementation Plans (SIPs), Progress Reports, and Exceptional Event packages for nonattainment areas in Clark County. Long-term plans demonstrate how Clark County will meet and continue to maintain compliance with the National Ambient Air Quality Standards (NAAQS). So far, plans developed in Clark County consist of those for Particulate Matter (PM_{10}), Ozone (O_3) and Carbon Monoxide (CO).

The emissions inventory and modeling staff compile emissions inventories of air pollutant emissions from all sources within Clark County. These staff use computer models to simulate dispersion and formation of pollutants in the atmosphere to help demonstrate compliance and identify pollutant sources that require control.

The mobile sources program staff develops and implements programs to reduce emissions from mobile sources. These include cars, trucks, buses, construction equipment, RVs, off-road vehicles, and lawn or garden equipment. The program also includes identifying the air quality impacts of transportation issues, which include vehicle inspection and maintenance, clean fuels, and highway construction. The section also assists in the development of transportation conformity analysis and transportation planning.

Notice of Public Comment Period

NEWS: DAEQM has developed an Ozone Redesignation Request and Maintenance Plan; this Plan is in response to the 1997 ozone standard of 80 parts per billion (ppb). The public has the opportunity to review and comment on the proposed Ozone Redesignation Request and Maintenance Plan and Technical Support Document. The 30-day public comment period is from December 13, 2010 through January 12, 1011. Comments must be received by Wednesday, January 12, 2011 at 5:00 PM. Written comments will be retained and considered prior to the submittal of the proposed Plan to the Clark County Board of County Commissioners (BCC). The BCC will conduct a public hearing on the Plan on February 15, 2011. More details are available on the NEWS page.

Planning Contact Information

1.3 Public Comment Report

Public Notice:	*Las Vegas Review-Journal*, December 12, 2010
Public Comment Period:	December 13, 2010 to January 12, 2011
Formal Comments Received:	None

2.0 BOARD OF COUNTY COMMISSIONERS MEETING 2/1/2011 – SET PUBLIC HEARING FOR MARCH 15, 2011

2.1 Agenda Item

CLARK COUNTY BOARD OF COMMISSIONERS
AGENDA ITEM

Issue:	**Set a Public Hearing**	**Back-up:**
Petitioner:	Lewis Wallenmeyer, Director, Air Quality & Environmental Management	**Clerk Ref. #**

Recommendation:

That the Board of County Commissioners set a public hearing for Tuesday, March 15, 2011, at 10:00 a.m. to consider and approve the Clark County Ozone Redesignation Request and Maintenance Plan.

FISCAL IMPACT:

Fund #: N/A Fund Name: N/A
Fund Center: N/A Funded Pgm/Grant: N/A
Description: N/AAmount: N/A
Added Comments: N/A

BACKGROUND:

In April 2004, the U.S. Environmental Protection Agency (EPA) designated Clark County nonattainment for the 1997 8-hour ozone national ambient air quality standard of 80 parts per billion (ppb). Air Quality monitoring data since that date show the County attained the standard at the end of 2008, and maintained compliance with the standard through 2010.

The Clark County Department of Air Quality and Environmental Management (DAQEM) has developed an Ozone Redesignation Request and Maintenance Plan (Plan) in accordance with federal regulations, to demonstrate continued maintenance of the ozone standard for at least ten years, and request the EPA to formally redesignate the County an ozone attainment area.

The Plan summarizes the progress in attaining the ozone standard, and substantiates that all Clean Air Act (CAA) requirements for attainment have been met. It demonstrates that federal, state and local rules to control ozone precursor emissions, already adopted or implemented, reduce overall emissions sufficiently to maintain compliance with the standard through the maintenance year 2022. No additional control measures were established by this Plan to attain or maintain the standard.

A 30-day public comment period was noticed and conducted December 13, 2010 through January 12, 2011. The attached Plan includes changes made to the public review draft incorporating comments received from the EPA during the comment period. No other comments were received. ***The Plan is available for review on the County web site at www.clarkcountynv.gov/depts/daqem, and at the DAQEM office on the 1st floor of the Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, Nevada.***

Respectfully submitted,

DONALD G. BURNETTE, County Manager

Cleared for Agenda

2/1/2011

Agenda Item #

13

2.2 Meeting Summary

SUMMARY OF FINAL ACTION

AGENDA

JOINT MEETING OF THE CLARK COUNTY BOARD OF COMMISSIONERS, CLARK COUNTY WATER RECLAMATION DISTRICT BOARD OF TRUSTEES, AND UNIVERSITY MEDICAL CENTER OF SOUTHERN NEVADA BOARD OF TRUSTEES

9:30 A.M. TUESDAY, FEBRUARY 1, 2011

CLARK COUNTY COMMISSION CHAMBERS, GOVERNMENT CENTER

500 SOUTH GRAND CENTRAL PARKWAY, LAS VEGAS, NEVADA

This meeting has been properly noticed and posted in the following locations:		Agenda Also Available At:	
CC Government Center 500 S. Grand Central Pkwy. Las Vegas, NV (Principal Office)	Regional Justice Center 200 Lewis Ave, 1st Fl. Las Vegas, NV	City of Las Vegas 400 E. Stewart Ave. Las Vegas, NV	City of North Las Vegas 2200 Civic Center Dr. No. Las Vegas, NV
Third Street Building 309 S. Third St. Las Vegas, NV	Paradise Park Pool & Center 4775 McLeod Dr. Las Vegas, NV	City of Henderson 200 Water St. Henderson, NV	City of Boulder City 400 California Ave. Boulder City, NV
Winchester Park & Center 3130 S. McLeod Dr Las Vegas, NV	Desert Breeze Park & Community Ctr 8275 Spring Mtn. Rd Las Vegas, NV	City of Mesquite 10 E. Mesquite Blvd. Mesquite, NV	Clark County Reg. Govt. Center 101 Civic Way Laughlin, NV

Tune in to the County's news magazine "Chronicles" Tuesday, February 1, 2011, at 6:30 p.m.
The min agenda is available on Clark County's Internet Web Site, http://www.accessclarkcounty.com.
This meeting will be broadcast live on Clark County Television, Channel 4 (CCTV 4) and over the Internet, http://www.accessclarkcounty.com. It will be replayed over CCTV 4 on Tuesday, February 1, 2011, at 8:00 p.m.
For more programming information, call the Public Communications Office at 455-6888.

SEC. 1. OPENING CEREMONIES

CALL TO ORDER

INVOCATION

PLEDGE OF ALLEGIANCE

***

1 Approval of Minutes of the Regular Meeting on November 16, 2010. (Available in the County Clerk's Office, Commission Division)

MOVED BY: Tom Collins
ACTION: APPROVED SUBJECT MINUTES AS RECOMMENDED
VOTE: 6-0
VOTING AYE: Tom Collins, Lawrence Weekly, Steve Sisolak, Susan Brager,

Chris Giunchigliani, Larry Brown
VOTING NAY: NONE
ABSTAINING: Mary Beth Scow
ABSENT: NONE

2 Approval of Agenda with the Inclusion of Any Emergency Items and Deletion of Any Items

MOVED BY: Steve Sisolak
ACTION: APPROVED AGENDA AS RECOMMENDED
VOTE: 7-0
VOTING AYE: Tom Collins, Mary Beth Scow, Lawrence Weekly, Steve Sisolak, Susan Brager, Chris Giunchigliani, Larry Brown
VOTING NAY: NONE
ABSTAINING: NONE
ABSENT: NONE

SEC. 2. CONSENT AGENDA: Items No. 3 through No. 61

NOTE: All items listed on this agenda are for action by the Board/Trustees unless otherwise noted. Action may consist of any of the following: approve, deny, condition, hold, or table.

Consent Agenda - All matters in this sub-category are considered by the Board of County Commissioners, Board of Trustees, Licensing Board and Agency to be routine and may be acted upon in one motion. Most agenda items are phrased for a positive action. However, the Board/Trustees may take other actions such as hold, table, amend, etc.

COMMENTS BY THE GENERAL PUBLIC
According to Nevada's Open Meeting Law, it is the Board's/Trustees' discretion to take Public Comment during times other than during a Public Hearing or during the Public Comment Session. In all other instances, a citizen may speak on any matter before the Board/Trustees for consideration, after receiving recognition and consent of the Chairman of the Board. Public Comment will be limited to three minutes. If any member of the Board/Trustees wishes to extend the length of a presentation, this will be done by the Chairman, or the Board/Trustees by majority vote.

If you wish to speak on a matter not listed as a public hearing or on a matter not posted on the agenda, you may do so during the Public Comment Session. Please step up to the speaker's podium, clearly state your name and address -- please spell your name for the record -- and limit your comments to no more than three minutes. No vote may be taken on any matter not listed on the posted agenda.

Consent Agenda items are routine and can be taken in one motion unless a Commissioner/Trustee/Licensing member requests that an item be taken separately. For all items left on the Consent Agenda, the action taken will be staff's recommendation as indicated on the item.

Items taken separately from the Consent Agenda by Commission/Trustees/Licensing members at the meeting will be heard following the Commissioners'/County Manager's Recognition Section.

MOVED BY: Steve Sisolak
ACTION: APPROVED CONSENT AGENDA EXCLUDING ITEM NOS. 9, 11, 41, 46, 49 & 55 (WITH COMMISSIONER SISOLAK ABSTAINING ON ITEM NO. 61) AS RECOMMENDED
VOTE: 7-0
VOTING AYE: Tom Collins, Mary Beth Scow, Lawrence Weekly, Steve Sisolak, Susan Brager, Chris Giunchigliani, Larry Brown
VOTING NAY: NONE
ABSTAINING: NONE
ABSENT: NONE

Purchasing & Contracts

3 That the Board of County Commissioners and the University Medical Center of Southern Nevada (UMC) Board of Hospital Trustees, authorize the Chair to sign Amendment No. 1 to the interlocal contract with UMC, to provide Medical and Supportive Services for HIV/AIDS Infected and Affected Clients in the Las Vegas, Ryan White, Transitional Grant Area, on an as-needed basis; or take other action as appropriate.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: P601268-08-UMC Amendment.pdf

4 Approve Amendment No. 1 to the contract with AID for AIDS of Nevada, to provide Medical and Supportive Services for HIV/AIDS Infected and Affected Clients in the Las Vegas, Ryan White, Transitional Grant Area, on an as-needed basis; and authorize the Chief Financial Officer or his designee to sign the amendment; or take other action as appropriate.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: P601268-08-AID for AIDS Disclosure.pdf

ATTACHMENT: P601268-08-Aid for AIDS Amendment.pdf

5 Authorize the Chair to sign Amendment No. 2 to the interlocal contracts with Mohave County, AZ and Nye County, NV, to provide Medical and Supportive

Services for HIV/AIDS Infected and Affected Clients in the Las Vegas, Ryan White, Transitional Grant Area, on an as-needed basis; or take other action as appropriate.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: P601268-08-Mohave and Nye Amendments.pdf

6 Approve the contract with JMA Architects, Inc., for the County Detention Center Control Room Security Systems Upgrade; and authorize the Chief Financial Officer or his designee to sign the contract; or take other action as appropriate.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: C602152-10-Disclosure.pdf

ATTACHMENT: C602152-10-Contract.pdf

ATTACHMENT: C602152-10-Contract Exhibits.pdf

7 Approve the award of Bid No. 602136-10, Sunrise Avenue Storm Drain, Fogg Street to Clayton Avenue, to the low responsive and responsible bidder, contingent upon submission of the required bonds and insurance. Staff recommends award to Tand, Inc.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: B602136-10-Disclosure.pdf

8 Approve the award of Bid No. 602108-10, Sunset Road, Decatur Boulevard to Valley View Boulevard, to the low responsive and responsible bidder, contingent upon submission of the required bonds and insurance. Staff recommends award to Contri Construction Company.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: B602108-10-Disclosure.pdf

9 Approve the contract with Embarq Payphone Systems, Inc., dba CenturyLink, to provide Inmate Telephone Services; and authorize the Chief Financial Officer or his designee to sign the contract; or take other action as appropriate.

MOVED BY: Steve Sisolak

ACTION: HELD (TO NO DATE CERTAIN) WITH MATTER BROUGHT BACK AFTER STAFF MEETS WITH VENDOR TO ADDRESS ISSUES OF CONCERN AND/OR RENEGOTIATES; AND AUTHORIZED DETENTION SERVICES STAFF TO CONTINUE CURRENT CONTRACT ON A MONTH-TO-MONTH BASIS AS RECOMMENDED
VOTE: 7-0
VOTING AYE: Tom Collins, Mary Beth Scow, Lawrence Weekly, Steve Sisolak, Susan Brager, Chris Giunchigliani, Larry Brown
VOTING NAY: NONE
ABSTAINING: NONE
ABSENT: NONE

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: 3302 AIDR.AWARD OF CONTRACT.pdf

ATTACHMENT: P601972-10-Disclosure.pdf

ATTACHMENT: P601972-10-Contract.pdf

10 Approve the contract with Carpenter Sellers Del Gatto Architects, to provide architectural and engineering services for the Parkdale Community Center-Selective Demolition, Building Addition and Shade Structure; and authorize the Chief Financial Officer or his designee to sign the contract; or take other action as appropriate.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: C602168-10-Disclosure.pdf

ATTACHMENT: C602168-10-Contract.pdf

ATTACHMENT: C602168-10-Contract Exhibits.pdf

11 That the Board of County Commissioners and the University Medical Center of Southern Nevada Board of Hospital Trustees, authorize Clark County, University Medical Center and McCarran International Airport to utilize the National Intergovernmental Purchasing Alliance (National IPA), Master Agreement Number 083205-01, with CDW-Government (publicly solicited via RFP and awarded by City of Tucson, AZ, and offered nationally through National IPA), to purchase computer equipment, software, peripherals, and related services, as needs arise, subject to approved budgeted appropriations; or take other action as appropriate.

MOVED BY: Susan Brager
ACTION: HELD (TO NO DATE CERTAIN) AS RECOMMENDED
VOTE: 7-0
VOTING AYE: Tom Collins, Mary Beth Scow, Lawrence Weekly, Steve Sisolak, Susan Brager, Chris Giunchigliani, Larry Brown
VOTING NAY: NONE

ABSTAINING: NONE
ABSENT: NONE

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: C602159-10-Disclosure.pdf

ATTACHMENT: C602159-10-Master Agreement.pdf

STAFF DIRECTED TO INVESTIGATE IF THERE ARE BETTER OPTIONS OR DIFFERENT SCENARIOS WHERE THERE ARE GREATER SAVINGS IN THE STATE OF NEVADA AS THE STATE OF NEVADA & ALL OTHER MUNICIPALITIES WORKING TOWARDS SOME ARRANGEMENT WITH INFORMATION BROUGHT BACK PRIOR TO AUGUST 2011 DEADLINE

Town Services (Minutes to be noted, available in the County Clerk's Office, Commission Division)

12 Note for the record the following Town Advisory Board (TAB) and Citizens Advisory Council (CAC) Minutes: Red Rock CAC - December 1, 2010; Lower Kyle CAC - December 14, 2010; Indian Springs TAB - December 16, 2010; Whitney TAB - December 16, 2010; Paradise TAB - December 28, 2010; Lone Mountain CAC - December 28, 2010; and Enterprise TAB - December 29, 2010.

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

Air Quality & Environmental Management

13 Set a public hearing for Tuesday, March 15, 2011, at 10:00 a.m. to consider and approve the Clark County Ozone Redesignation Request and Maintenance Plan. (The Plan is available for review on the County web site at www.clarkcountynv.gov/depts/daqem, and at the DAQEM office on the 1st floor of the Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, Nevada.)

ACTION: APPROVED AS RECOMMENDED

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: Ozone Maint Plan final .pdf

ATTACHMENT: Appendix A Technical Support Document.pdf

ATTACHMENT: Appendix B EPA AQS Design Value Report 2006-2009.pdf

ATTACHMENT: Appendix C Documentation of the Public Review Process.pdf

Parks & Recreation

3.0 BOARD OF COUNTY COMMISSIONERS MEETING 3/15/2011 – PUBLIC HEARING ON OZONE REDESIGNATION REQUEST AND MAINTENANCE PLAN

3.1 Webpage Notices

The Department of Air Quality and Environmental Management is the air pollution control agency for all of Clark County, Nevada. Established by the Clark County Board of County Commissioners in 2001, Air Quality administers a variety of programs to improve the health and welfare of our citizens by ensuring that the quality of the air in Clark County meets healthful, regulatory standards.

Announcements

Notice of Public Hearing
The Clark County Board of County Commissioners will hold a public hearing to consider approving the *Ozone Redesignation Request and Maintenance Plan* *More Information*

Annual Emissions Inventory Reporting
Annual Emissions Inventory Reports for 2010 are due now and must be submitted before March 31st. *More Information*

Clark County Advisory Board to Manage Wildlife
Now accepting applications for two volunteers to fill vacancies on CCABMW Board.*More Information*

High Wind Exceptional Event Feb 13, 2008
30 day public comment period for the Event on Feb 13, 2008*More Information*

Notice of Public Hearing

NOTICE IS HEREBY GIVEN that the Board of County Commissioners will conduct a public hearing to approve the Clark County Ozone Redesignation Request and Maintenance Plan (Plan) and authorize the Clark County Department of Air Quality and Environmental Management (DAQEM) to submit the Plan to the State of Nevada and the U.S. Environmental Protection Agency (EPA) for their review and approval as a revision to the Nevada State Implementation Plan.

The DAQEM developed the Plan in accordance with federal regulations to demonstrate continued maintenance of the 1997 8-hour ozone national ambient air quality standard (NAAQS) of 80 parts per billion through the maintenance year 2022. No additional local rules were established by this Plan to maintain compliance with the NAAQS.

The Plan is available for public inspection at the front counter of the DAQEM located at 500 S. Grand Central Parkway, Las Vegas, Nevada 89106. The plan is also available on the DAQEM Web site at http://www.clarkcountynv.gov/depts/daqem/Pages/StateImplementationPlans.aspx

The public hearing will take place on March 15, 2011 at 9:15 am in the

Clark County Commission Chambers,
Government Center
500 South Grand Central Parkway, Las Vegas, Nevada

3.2 Agenda Item

CLARK COUNTY BOARD OF COMMISSIONERS
AGENDA ITEM

Issue:	**Public Hearing**	**Back-up:**
Petitioner:	Lewis Wallenmeyer, Director, Air Quality & Environmental	**Clerk Ref. #**

Recommendation:

That the Board of County Commissioners conduct a public hearing; approve and adopt the 2011 Ozone Redesignation Request and Maintenance Plan; and authorize staff to incorporate any relevant public comments from the public hearing into the Plan and submit the Plan to the State of Nevada and the U.S. Environmental Protection Agency for their review and approval of the Plan as a revision to the Nevada State Implementation Plan.

(The Plan is available for review on the County web site at www.clarkcountynv.gov/depts/daqem, and at the DAQEM office on the 1st floor of the Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, Nevada.)

FISCAL IMPACT:

Fund #: N/A Fund Name: N/A
Fund Center: N/A Funded Program/Grant: N/A
Description: N/A Amount: N/A
Added Comments: N/A

BACKGROUND:

The attached 2011 Ozone Redesignation Request and Maintenance Plan (Plan) has been developed in accordance with federal regulations to demonstrate continued maintenance of the 1997 8-hour ozone national ambient air quality standard of 80 parts per billion through the maintenance year 2022 and to request the U.S. Environmental Protection Agency (EPA) to redesignate the County as an ozone attainment area.

This Plan does not require the implementation of any additional regulations to demonstrate continued maintenance of the 1997 ozone standard. No comments were received during the required 30-day public comment period conducted from December 13, 2010 through January 12, 2011. The attached Agenda Item Development Report No. 3309 provides for additional information.

Staff recommends that the Board approve and adopt the Plan and authorize staff to submit the Plan to the State of Nevada and the EPA for review and final approval as a State Implementation Plan revision.

(The Plan is available for review on the County web site at www.clarkcountynv.gov/depts/daqem, and at the DAQEM office on the 1st floor of the Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, Nevada.)

Respectfully submitted,

DONALD G. BURNETTE, County Manager

Cleared for Agenda
3/15/2011
Agenda Item #
65

3.3 Agenda Item Development Report

AGENDA ITEM DEVELOPMENT REPORT

OFFICE OF THE COUNTY MANAGER
CLARK COUNTY, NEVADA

AIDR No.: 3309

DONALD G. BURNETTE
County Manager

JEFFREY M. WELLS
Assistant County Manager

RANDALL J. TARR
Assistant County Manager

EDWARD M. FINGER
Assistant County Manager

Date: 03/04/2011 Agenda Date: 03/15/2011

Originating Department: DAQEM

Contact/Ext: Dennis Ransel/1660

Issue: OZONE REDESIGNATION REQUEST AND MAINTENANCE PLAN

Subject/Title:

Ozone Redesignation Request and Maintenance Plan

Recommended Action:

That the Board of County Commissioners conduct a public hearing to approve, adopt, and authorize the 2011 Ozone Redesignation Request and Maintenance Plan; and authorize staff to incorporate any relevant public comments from the public hearing into the Plan and submit the Plan to the State of Nevada and the U.S. Environmental Protection Agency for their review and approval of the Plan as a revision to the Nevada State Implementation Plan.

Summary:

The 2011 Ozone Redesignation Request and Maintenance Plan (Plan) is a formal request to the U.S. Environmental Protection Agency (EPA) to redesignate the Clark County ozone nonattainment area to attainment status for the 1997 8-hour National Ambient Air Quality Standard (NAAQS) of 80 parts per billion. The Plan summarizes the progress in attaining the ozone NAAQS, demonstrates that Clean Air Act (CAA) requirements for attainment have been met, and presents a plan to assure continued attainment through the maintenance year 2022. After EPA approval, the plan will become a federally enforceable plan that identifies how Clark County will maintain the 1997 ozone NAAQS through 2022.

In April 2004 the EPA designated Clark County as nonattainment for the 1997 8-hour ozone NAAQS. In June 2004 the EPA classified Clark County as a "basic" nonattainment area under Subpart 1 of the CAA. In 2008 air quality monitoring data showed that Clark County had attained the 1997 8-hour ozone NAAQS making the area eligible to submit a request for redesignation to attainment status.

Analyses in the Plan include inventoried emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) for the attainment year 2008 and projected emissions for 2015 and 2022. The inventories were adjusted to reflect federal, state and local rules/controls on VOC and NO_x emissions previously adopted and/or implemented. The controls were shown to reduce overall emissions through the maintenance year 2022. No additional control measures were needed to attain the 1997 8-hour ozone NAAQS. Therefore, this Plan does not require the adoption of any additional control measures.

The attainment demonstration included in the Plan makes use of the most recently adopted planning variables (e.g., vehicle miles traveled projections and population forecasts) approved by the designated Metropolitan Planning Organization for the Las Vegas urban area (the

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Regional Transportation Commission of Southern Nevada (RTC)). The Plan also provides revised emission inventories and updated Motor Vehicle Emission Budgets used by the RTC for conformity determinations in future regional transportation plans.

Submittal of the Plan fulfills the commitment of the Board to the EPA (see Clark County Board of Commissioners Meeting - October 20, 2009, Item 26) to submit a maintenance plan in support of the conformity determination for the beddown of the F-35 Force Development Evaluation and Weapons School at Nellis AFB, NV (Nellis F-35 Program).

DONALD G. BURNETTE
County Manager

3.4 Public Comment Report

Formal Comments Received: None

3.5 Meeting Summary

SUMMARY OF FINAL ACTION

AGENDA

JOINT MEETING OF THE CLARK COUNTY BOARD OF COMMISSIONERS, CLARK COUNTY WATER RECLAMATION DISTRICT BOARD OF TRUSTEES, UNIVERSITY MEDICAL CENTER OF SOUTHERN NEVADA BOARD OF TRUSTEES AND THE CLARK COUNTY LIQUOR AND GAMING LICENSING BOARD

9:30 A.M. TUESDAY, MARCH 15, 2011

CLARK COUNTY COMMISSION CHAMBERS, GOVERNMENT CENTER

500 SOUTH GRAND CENTRAL PARKWAY, LAS VEGAS, NEVADA

This meeting has been properly noticed and posted in the following locations:		Agenda Also Available At:	
CC Government Center 500 S. Grand Central Pkwy. Las Vegas, NV (Principal Office)	Regional Justice Center 200 Lewis Ave, 1st Fl. Las Vegas, NV	City of Las Vegas 400 E. Stewart Ave. Las Vegas, NV	City of North Las Vegas 2200 Civic Center Dr. No. Las Vegas, NV
Third Street Building 309 S. Third St. Las Vegas, NV	Paradise Park Pool & Center 4775 McLeod Dr. Las Vegas, NV	City of Henderson 200 Water St. Henderson, NV	City of Boulder City 400 California Ave. Boulder City, NV
Winchester Park & Center 3130 S. McLeod Dr Las Vegas, NV	Desert Breeze Park & Community Ctr 8275 Spring Mtn. Rd Las Vegas, NV	City of Mesquite 10 E. Mesquite Blvd. Mesquite, NV	Clark County Reg. Govt. Center 101 Civic Way Laughlin, NV

Tune in to the County's news magazine "Chronicles" Tuesday, March 15, 2011, at 6:30 p.m.
The min agenda is available on Clark County's Internet Web Site, http://www.accessclarkcounty.com.
This meeting will be broadcast live on Clark County Television, Channel 4 (CCTV 4) and over the Internet, http://www.accessclarkcounty.com. It will be replayed over CCTV 4 on Tuesday, March 15, 2011, at 8:00 p.m.
For more programming information, call the Public Communications Office at 455-6888.

SEC. 1. OPENING CEREMONIES

CALL TO ORDER

INVOCATION

PLEDGE OF ALLEGIANCE

***

1 Approval of Minutes of the Board of County Commissioners' meeting on February 1, 2011 and the Clark County Liquor and Gaming Licensing Board meeting on February 1, 2011. (Available in the County Clerk's Office, Commission Division)

MOVED BY: Steve Sisolak
ACTION: APPROVED SUBJECT MINUTES AS RECOMMENDED

64 Agassi Preparatory Academy Basketball team, and the Centennial High School Girls' Basketball team, Bowling team, and the Men's Cross Country team for their outstanding accomplishments in sports.

ATTACHMENT: Clark County Agenda Item Template.doc

RECOGNIZED AS RECOMMENDED

SEC. 4. ITEMS TAKEN SEPARATELY FROM CONSENT AGENDA

SEC. 5. PUBLIC HEARINGS - 10 AM

***

65 Conduct a public hearing; approve and adopt the 2011 Ozone Redesignation Request and Maintenance Plan; and authorize staff to incorporate any relevant public comments from the public hearing into the Plan; and submit the Plan to the State of Nevada and the U.S. Environmental Protection Agency for their review and approval of the Plan as a revision to the Nevada State Implementation Plan. (The Plan is available for review on the County web site at www.clarkcountynv.gov/depts/daqem, and at the DAQEM office on the 1st floor of the Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, Nevada.)

ATTACHMENT: Clark County Agenda Item Template.doc

ATTACHMENT: Ozone Redisignation Plan.pdf

ATTACHMENT: Ozone Appendix A.pdf

ATTACHMENT: Ozone Appendix B.pdf

ATTACHMENT: Ozone Appendix C.pdf

ATTACHMENT: AIDR 3309 Ozone Redesignation Plan.pdf

MOVED BY: Tom Collins
ACTION: APPROVED AS RECOMMENDED
VOTE: 6-0
VOTING AYE: Lawrence Weekly, Steve Sisolak, Susan Brager, Larry Brown, Tom Collins, Mary Beth Scow
VOTING NAY: NONE
ABSTAINING: NONE
ABSENT: Chris Giunchigliani

66 Conduct a public hearing and consider Applications 53987 through 53992 and Applications 54003 through 54021 submitted by the Southern Nevada Water Authority to the State Engineer for appropriation of water from Lincoln and White Pine counties for municipal use within Clark, Lincoln, Nye, and White Pine counties; recommend a course of action, if any, to the State Engineer; and authorize the Director of Air Quality and Environmental Management to submit