DES
DEPARTMENT OF ENVIRONMENT AND SUSTAINABILITY
air quality desert conservation PROGRAM sustainability

4701 W. Russell Rd Suite 200
Las Vegas, NV 89118-2231
Phone (702) 455-5942
Fax (702) 383-9994

PART 70
TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)

APPLICATION FOR:
Significant Revision to a Part 70 Operating Permit

SUBMITTED BY:
99th Civil Engineer Squadron, Nellis Air Force Base

FOR:
99th Civil Engineer Squadron, Nellis Air Force Base

Source ID: 00114

Nellis Air Force Base

LOCATION:
4430 Grissom Avenue, Suite 101
Nellis AFB, Nevada 89191-6520

SIC code 9711, "National Security"
NAICS code 928110, "National Security"

May 1, 2025

EXECUTIVE SUMMARY

Nellis Air Force Base (NAFB), is located in Clark County, Nevada, near the City of Las Vegas. The facility is a major source located in Hydrographic Area (HA) 212 (Las Vegas Valley) and HA 215 (Black Mountains Area). HA 212 is currently designated as attainment for all pollutants except ozone and it is subject to a maintenance plan for the CO and PM_{10} NAAQS. HA 212 was designated a moderate nonattainment area for ozone on January 5, 2023, for the 2015 standard and then designated a serious nonattainment area for ozone on January 21, 2025. Clark County has drafted or imposed new requirements to address this designation. HA 215 is in attainment for all criteria pollutants.

NAFB is permitted as a Part 70 major source of NO_X and VOC, a synthetic minor source for PM_{10}, $PM_{2.5}$, CO, and HAP, and a minor source for all other regulated pollutants. NAFB is a stationary source which, as of August 7, 1980, is being regulated under Section 111 or 112 of the Act (Asphalt Plants). Therefore, fugitive emissions are included in the source status determination. NAFB is a source of greenhouse gases (GHG). Additionally, NAFB is a major stationary source of NO_X and VOC in a serious nonattainment area as of January 21, 2025.

The following table summarizes the source potential to emit for each regulated air pollutant from all emission units addressed by this significant revision to the Part 70 Operating Permit.

Table 1: Source PTE Summary (TPY)

Pollutants	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAPs	GHG[1]
Source PTE	**47.50**	**20.80**	**188.01**	**61.47**	**16.38**	**66.52**	**15.27**	**35,300.75**
Major Source Thresholds (Title V)	100	100	100	100	100	100	10/25[2]	-
Major Stationary Source Thresholds (PSD)	250	250	-	250	250	-	10/25[2]	-
Major Stationary Source Threshold (Serious Nonattainment)	-	-	50	-	-	50	-	-

[1]Metric tons per year, CO2e.
[2]Ten tons for any individual hazardous air pollutant or 25 tons for combination of all HAPs.

This source is subject to 40 CFR Part 60, Subparts I, IIII, JJJJ, and OOO, and 40 CFR Part 63, Subparts BBBBBB, CCCCCC, JJJJJJ, and ZZZZ. The engines subject to 40 CFR Part 60, Subpart IIII, satisfy the requirements of 40 CFR Part 63, Subpart ZZZZ, through compliance with 40 CFR Part 60, Subpart IIII.

Clark County Department of Environment and Sustainability (DES) has delegated authority from the U.S. Environmental Protection Agency to implement the requirement of the Part 70 operating permit program (Part 70 OP).

The information contained in this document is based on ATC permits issued on July 11, 2023 and June 25, 2024. Following a technical review performed by DAQ staff, DAQ proposes the issuance of a revised Part 70 Operating Permit to Nellis AFB.

TABLE OF CONTENTS

LIST OF TABLES

I. ACRONYMS AND ABBREVIATIONS

AQR	Clark County Air Quality Regulation
ATC	Authority to Construct
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CD	control device
DAQ	Division of Air Quality
DES	Department of Environment and Sustainability
DOM	date of manufacture
dscf	dry standard cubic feet
dscm	dry standard cubic meter
EPA	U.S. Environmental Protection Agency
EU	emission unit
g/gr	gram
HAP	hazardous air pollutant
hp	horsepower
kW	kilowatts
MSP	Minor Source Permit
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	nitrogen oxides
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standard
NSR	New Source Review
OP	Operating Permit
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PSD	Prevention of Significant Deterioration
PTE	potential to emit
SIC	Standard Industrial Classification
SO_2	sulfur dioxides
U.S.C.	United States Code
VMT	vehicle miles traveled
VOC	volatile organic compound

II. SOURCE INFORMATION

Responsible Official: Colonel Joshua D. DeMotts

Phone Number: (702) 652-9900

A. PROCESS DESCRIPTION

NAFB is divided into three geographic areas, which vary both in size and purpose. Area I (the Main Base) consists of the flight line and a wide variety of commercial and industrial use in support of the base's mission. Area II is located to the east of the Main Base. This area includes the munitions storage area and the Red Horse Squadron complex along with its mineral processing, asphalt batch plant, and concrete batch plant activities. Area III is a 1.9 square mile portion to the north of the Main Base and includes the bulk fuels storage area, Security Police Squadron facilities, open space, and other support facilities.

NAFB is a federal facility, and the area that NAFB covers is zoned as Public Facility (P-F). The closest residence to the boundary of NAFB is approximately 30 feet from the western fence line.

All of the activities and emission units at NAFB are classified as SIC 9711, "National Security," and NAICS Code 928110, "National Security." The emission units and activities conducted at NAFB can be classified into the following three efforts to support the Base:

- Civil Engineering, which supports and maintains the infrastructure of the Base.
- Flight and Maintenance Squadron, which maintains and supports combat readiness of the Air Force in support of National Security.
- Training and Support Organizations, which maintains and supports combat readiness of deployable Air Force Civil Engineering Squadrons.

NAFB is subject to 40 CFR Part 60, Subpart I; 40 CFR Part 60, Subpart OOO; 40 CFR Part 60, Subpart IIII; 40 CFR Part 60, Subpart JJJJ; 40 CFR Part 63, Subpart ZZZZ; 40 CFR Part 63, Subpart BBBBBB; 40 CFR Part 63, Subpart CCCCCC; and 40 CFR Part 63, Subpart JJJJJJ. The engines subject to 40 CFR Part 60, Subpart IIII, satisfy the requirements of 40 CFR Part 63, Subpart ZZZZ, through compliance with 40 CFR Part 60, Subpart IIII.

B. PERMITTING HISTORY

This is a significant revision to the NAFB Part 70 operating permit. Table III-B-1 shows each permit issued to the source, beginning with the most recent Part 70 renewal.

Table II-B-1: Permit History

Issuance Date	Description
June 15, 2021	Part 70 Operating Permit Renewal
February 24, 2022	Revision to Part 70 Operating Permit
September 8, 2022	Authority to Construct Permit
October 13, 2022	Authority to Construct Permit
January 19, 2023	Authority to Construct Permit
May 23, 2023	Prior Notification Form
July 11, 2023	Authority to Construct Permit
September 21, 2023	Revision to Part 70 Operating Permit

Issuance Date	Description
June 25, 2024	Authority to Construct Permit

C. CURRENT PERMITTING ACTION

This is a significant revision to an existing Part 70 Operating permit that will expire on June 14, 2026. The permittee requested to incorporate the emission units included in the ATC permits issued on July 11, 2023, and June 25, 2024. The new emission units include one gasoline-powered continuous duty generator (EU: G192), nine diesel-powered emergency generators (EUs: G190, G191, and G193 – G199), and four natural gas-fired boilers (EUs: RB666 – RB669). Adding diesel engines that are subject to an NSPS is a Title I modification. As a result, this permitting action cannot be a minor revision per AQR 12.5.2.14(a)(1)(E). Therefore, this permitting action is categorized as a significant revision to the Part 70 OP. In addition, the woodworking operation has been revised to include two new sanders (EU: E001) and 10 new woodworking tools categorized as "Other Equipment" (EU: E003).

The source PTE has been revised with this permitting action. On May 23, 2023, the permittee submitted a prior notification form (PNF) requesting the removal of 35 diesel and gasoline-powered engines, four spray booths, and two natural gas-fired spray booth heaters. The stated reasons for this request included "removed", "NSE exempt", "nonoperational", "never purchased", and "converted to powder coating". With the exception of emission units identified as "nonoperational" and "converted to powder coating", DAQ accepted the entire list. A portion of the affected emission units were subsequently removed from the operating permit with the significant revision issued on September 21, 2023. However, the PTE calculations and tables were not updated accordingly. All references to emission units identified in the PNF that remained in the September 2023 permit have been removed with this permitting action. This includes nine natural gas-fired boilers and three diesel-powered generators that were mistakenly retained in the operating permit. These units were identified by the permittee during source review of the draft permit for the current permitting action. Comments were submitted on January 8, 2025. These twelve emission units have been removed from the permit, and the PTE has been adjusted accordingly.

Condition 1.2.2.2.3, from the permit issued on June 25, 2024, under "Controls" for external combustion units, has been removed from the operating permit with this permitting action. The condition specified that only propane could be combusted in EU: RB630. This emission unit was removed from the emission unit list with the permit issued on April 30, 2020, but the condition was retained. Correspondence with the permittee on July 29, 2024, confirmed this unit has been removed.

On December 5, 2024, a supplemental application was submitted which requested to revise the list of external combustion units that, as a group, are limited to a maximum annual fuel consumption cap. Four boilers are affected by this revision: EU: RB094 has been removed and three new boilers to be identified as EU: RB670 (1.00 MMBTU/hr), EU: RB671 (1.60 MMBtu/hr), and EU: RB672 (1.60 MMBtu.hr) have been added. Due to the fact that these units are part of an annual fuel consumption cap, the source PTE is not affected.

The supplemental application also requested to remove degreasers identified as EUs: M022, M026, M030, M037, M068, and M069. In addition, a request was made to reclassify EUs: M002, M003, M004, M011, M017, M038, M060, M061, M072, and M073 as insignificant activities due to the fact that the solvent being consumed in these units does not contain VOC compounds.

In 2024, the local air quality rules were amended with the addition of AQR Sections 101 through 107 and 130. The new rules, defined as Control Technique Guidelines (CTG), target sources that have the potential to emit VOC pollutants. An assessment was conducted which identified AQRs 102, 104, and 105 as possible regulations applicable to NAFB. The conclusions are as follows:

AQR 102: Gasoline Dispensing Facilities

The source meets the applicability requirements of AQR 102. The current operating permit contains conditions specific to 40 CFR Part 63, Subpart CCCCCC. As a result, it is not necessary to incorporate additional requirements into the permit. Compliance with Subpart CCCCCC equates to compliance with AQR 102. The source has consistently demonstrated compliance with the federal regulation.

AQR 104: VOC Emissions Control for Industrial Cleaning Solvents

The source meets the applicability requirements of AQR 104. Industrial cleaning solvents are consumed as part of the surface coating operations. The current operating permit includes conditions that are specific to the federal aircraft surface coating CTG. As a result, it is not necessary to incorporate additional requirements into the permit. Compliance with the aircraft surface coating CTG equates to compliance with AQR 104. The source has consistently demonstrated aircraft surface coating CTG.

AQR 105: VOC Emissions Control for Metal Solvent Degreaser Operations

On December 4, 2024, the permittee submitted documentation showing the total annual consumption of VOC-containing degreasers for 2021 (31.92 gallons), 2022 (32.62 gallons), and 2023 (19.46 gallons) fall well below the 500 gallon threshold defined in AQR 105. As a result, the source is not subject to this regulation.

Only new and modified emission units are addressed in this document.

III. EMISSIONS INFORMATION

A. EMISSION UNIT LIST

Table III-A-1 lists the new units in this Part 70 OP for which an ATC permit has been issued.

Table III-A-1: New and Modified Emission Units for Which an ATC Permit has been Issued

EU	Building	Rating	Description	Manufacturer	Model No.	Serial No.	SCC
ATC Issued July 11, 2023							
G190	621 ITN	50 kW	Emergency Genset	Cummins	C50D6C	C240321690	20300101
		173 hp	Diesel Engine; DOM: 2022		QSB5-G13	22651972	
G191	1733	80 kW	Emergency Genset	Marathon	362CSL1604	MT-0116446-1221	20300101
		197 hp	Diesel Engine; DOM: 2022	Mercedes-Benz	OM924LA	95130501876	
G192	Concrete Plant	9.5 hp	Continuous Duty Engine	Kohler	CH395	4616810108	20300101

EU	Building	Rating	Description	Manufacturer	Model No.	Serial No.	SCC
			Gasoline Engine; DOM: 2016				
G193	DASR	102 kW	Emergency Genset	Kohler	100REOZJF	TBD	20300101
		158 hp	Diesel Engine; DOM: 2023	John Deere	4045HF285	TBD	
ATC Issued June 25, 2024							
RB666	20	1.75 MMBtu/hr	Natural Gas-Fired Boiler	Patterson-Kelley	ST-1750	TBD	10200603
RB667	201	1.00 MMBtu/hr	Natural Gas-Fired Boiler	Patterson-Kelley	SC-1000	TBD	10200603
RB668	259	2.00 MMBtu/hr	National Gas-Fired Boiler	Patterson-Kelley	ST-2000	TBD	10200603
RB669	259	2.00 MMbtu/hr	Natural Gas-Fired Boiler	Patterson-Kelley	ST-2000	TBD	10200603
G194	21	1,250 kW	Emergency Genset	Cummins	DQGAA	D240335024	20300101
		2,220 hp	Diesel Engine; DOM: 2022		QSK50-G4 NR2	25492111	
G195	918	60 kW	Emergency Genset	Cummins	C60 D6	D240327595	20300101
		99 hp	Diesel Engine; DOM: 2022		4BTAA3.3-G7	72079588	
G196	1998	250 kW	Emergency Genset	Cummins	C200D2RE	C200740519	20300101
		314 hp	Diesel Engine DOM: 03/2020		QSB7-G9	74627531	
G197	1608	125 kW	Emergency Genset	Cummins	C125D6D	A240301969	20300101
		324 hp	Diesel Engine; DOM: 2022		QSB7-G5	22641992	
G198	2892	50 kW	Emergency Genset	Cummins	C50D6C	TBD	20300101
		173 hp	Diesel Engine; DOM: 2023		QSB5-G13	TBD	
G199	1995	125 kW	Emergency Genset	Cummins	C125D6D	A240301969	20300101
		324 hp	Diesel Engine; DOM: 2023		QSB7-G5 NR3	226441992	

EU	Building	Description	Sanders	Other Equipment	Control Equipment	SCC
E001[1]	807	Woodworking Equipment	6 (2 new)	14	Cyclone\Fabric Filter	30703097
E003[1]	10118	Woodworking Equipment	5	15 (10 new)	Cyclone\Fabric Filter and Portable Vacuum Units	30703097
Supplemental Application Submitted December 5, 2024						
RB670	620	1.00	Natural Gas-Fired Boiler	Patterson-Kelley	SC-1000	S100-23-02891	10300603
RB671	245	1.60	Natural Gas-Fired Boiler	Greenheck	DGX-P227-H38-11	22487605	10300603
RB672	245	1.60	Natural Gas-Fired Boiler	Greenheck	DGX-P227-H38-11	22487599	10300603

[1]Existing units that are modified. All other emission units are new.

B. APPLICABILITY EMISSIONS

Permitting applicability is determined by calculating the emissions for all proposed emission units using 8,760 hours of operation (except for emergency generators or fire pumps, which use 500 hours), any inherent controls, any inherent throughput limitations, and the emission factors provided by the manufacturer, by source test results, by EPA AP-42, or by other approved methods. Applicability emissions include emissions from insignificant emission units and activities, but do not include fugitive emissions.

Table III-B-1 shows the PTE associated with the affected emission units in this action. PTE calculations are included in the attachments.

Table III-B-1: Applicability Emissions and PTE (tons per year)

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	Single HAP (Methanol)	Total HAP	GHG[1]
Applicability Thresholds	5	5	5	25	25	5	3.76		
Major Source Thresholds	100	100	50	100	100	50	10[2]	25[2]	75,000
Applicability Emissions Total	5,801.80	960.55	343.83	285.13	21.71	148.18	3.76	46.68	35,300.75

[1]Expressed in units of CO_2e
[2]10 tons for a single HAP compound or 25 tons for any combination of HAP compounds

As Table III-B-1 shows, Applicability Emissions are above major source thresholds for PM_{10}, $PM_{2.5}$, NO_x, CO, and VOC pollutants.

C. SOURCE-WIDE PTE

Table III-C-1: Source PTE (tons per year)

Pollutants	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAPs	GHG[1]
PTE from OP Issued on 09/21/2023 (current OP)	47.15	20.45	201.46	65.36	16.72	83.52	20.24	35,291.34
PTE for Units Added from ATC Issued 07/11/2023	0.07	0.07	1.26	0.57	0.05	0.94	0.93	44
PTE for Units Added from ATC Issued 06/25/2024	1.35	1.35	6.72	1.19	0.05	0.31	0.05	942.95
Emission Units Removed[2]	-0.73	-0.73	-9.40	-4.43	-0.37	-8.25	-3.09	-697.15
Adjustments Following Source Review (01/08/2025)[2]	-0.34	-0.34	-12.03	-1.22	-0.07	-10.00	-2.86	-280.39
Source PTE	**47.50**	**20.80**	**188.01**	**61.47**	**16.38**	**66.52**	**15.27**	**35,300.75**

[1]Metric tons per year, CO2e.
[2]See explanation in Section II-C "Current Permitting Action". This includes nine natural gas-fired boilers and three diesel-powered generators that were removed by a previous permitting action but inadvertently retained in the operating permit and in source PTE.

Table III-C-2: Emissions Increase (tons per year)

Description	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	GHG[1]
PTE-Proposed Permitting Action	47.50	20.80	188.01	61.47	16.38	66.52	15.27	35,300.75
PTE-Minor Revision Issued 09/21/2023	47.15	20.45	201.46	65.36	16.72	83.52	20.24	35,291.34

Description	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP	GHG[1]
Difference	0.35	0.35	-13.45	-3.89	-0.34	-17.00	-4.97	9.41
Net Emissions Increase	0.35	0.35	0	0	0	0	0	9.41
AQR 12.5.1(d) Minor NSR Significance Levels	7.5	5.0	20	50	20	20		N/A
AQR 12.2.2(uu)/Serious NA Significance Thresholds	15	10	25	100	40	25	10	N/A
RACT/BACT Analysis Required	No	No	No	No	No	No	No	No

The source is classified as a major source for NO_x and VOC, a synthetic minor PM_{10}, $PM_{2.5}$, CO, and HAP, and a minor source for all other pollutants.

IV. CONTROL TECHNOLOGY

The emissions increase from the affected units do not exceed the minor NSR significant levels in AQR 12.5.1, therefore a controls analysis is not required.

Generators

The permittee shall only combust diesel fuel with a maximum sulfur content of 15 ppm and either a minimum cetane index of 40 or a maximum aromatic content of 35% by volume in each emergency generator (EUs: G190, G191, and G193 – G199).

Boilers

The permittee shall only combust natural gas in each boiler (EUs: RB666 – RB672).

Woodworking Equipment

The permittee shall maintain the existing cyclone/fabric filters on the modified woodworking equipment (EUs: E001 and E003).

All other control methods established with previous permitting actions remain enforceable.

V. OPERATIONAL LIMITS

Generators

The new diesel-powered emergency generators (EUs: G190, G191, and G193 – G199) shall be limited to operating 100 hours per year for testing and maintenance purposes, including nonemergency limitations. On May 1, 2015, the U.S. Court of Appeals for the District of Columbia Circuit issued a decision to vacate provisions in 40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ that allowed emergency engines to operate for demand response and when there is a deviation of voltage or frequency.

DAQ prohibited sources from operating emergency generators for those activities, consistent with the court decision and EPA's April 15, 2016, implementation memo. On August 10, 2022, EPA published a notice in the *Federal Register* (87 FR 48603) formally promulgating changes to the

three CFR subparts listed above. Now, except as provided in 40 CFR Part 60.4211(f)(3)(i), and/or 40 CFR Part 60.4243(d)(3)(i), and/or 40 CFR Parts 63.6640(f)(4)(i) and (ii), the 50 hours per year for nonemergency use cannot be used for peak shavings or nonemergency demand response, or to generate income for a facility by supplying power to an electric grid or to otherwise supply power as part of a financial arrangement with another entity.

Boilers

The permittee requested to include the new boilers (EUs: RB666 – RB673) in the existing fuel cap of 225 MMscf of natural gas in any consecutive 12-month period.

All other operational limitations established with previous permitting actions remain enforceable.

VI. REVIEW OF APPLICABLE REGULATIONS

Local

DAQ has determined that the following public laws, statutes, and associated regulations are applicable:

1. CAAA (authority: 42 U.S.C. § 7401, et seq.);

2. Title 40 of the CFR, including 40 CFR Part 70 and others;

3. Chapter 445 of the NRS, Sections 401 through 601;

4. Portions of the AQR included in the state implementation plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from ATC permits issued by DAQ are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and

5. Portions of the AQR not included in the SIP. These locally applicable requirements are locally enforceable only.

Federal Regulations

The new diesel-powered emergency generators (EUs: G190, G191 and G193 – G199) are subject to 40 CFR Part 60, Subpart IIII. By adhering to the requirements of Subpart IIII, they also meet the requirements of 40 CFR Part 63, Subpart ZZZZ. The continuous duty gasoline engine (EU: G192) is subject to 40 CFR Part 60, Subpart JJJJ.

All other federal regulations identified in previous permitting actions remain enforceable.

VII. MONITORING

Engines

1. The permittee shall monitor the sulfur content and cetane index or aromatic content of the fuel burned in each emergency generator by retaining a copy of vendor fuel specifications (EUs: G190, G191, and G193 – G199).

2. The permittee shall conduct a visual emissions check at least quarterly on each diesel-fired emergency generator while it is in operation (EUs: G190, G191, and G193 – G199).

Boilers

The permittee shall continue to monitor the annual fuel consumption for the natural gas-fired boilers.

Woodworking

The permittee shall continue to monitor the number of sanders and other woodworking equipment used.

VIII. PERFORMANCE TESTING

No performance testing requirements have been identified for the new and modified emission units associated with this permitting action.

All performance testing requirements established with previous permitting actions remain enforceable.

IX. INCREMENT ANALYSIS

Nellis Air Force Base is a major source in Hydrographic Area (HA) 212 (Las Vegas Valley) and HA 215 (Black Mountains Area). Minor source baseline dates for NO_x (October 21, 1988) and SO_2 (June 29, 1979) have been triggered in HA 212. Minor source baseline dates for NO_X (July 19, 1989) and PM_{10} (June 18, 1983) have been triggered in HA 215.

DAQ modeled the source using AERMOD to track the increment consumption. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (2011 to 2015) of meteorological data from the McCarran Station were used in the model. U.S. Geological Survey National Elevation Dataset terrain data were used to calculate elevations. Table IX-1 shows the location of the maximum impact, and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

Table IX-1: PSD Increment Consumption

Pollutant	Averaging Period	Source's PSD Increment Consumption (µg/m³)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	9.51[1]	676985	4013916
SO_2	24-hour	5.19[1]	676985	4013916
SO_2	Annual	2.26	676985	4013916
NO_X	Annual	12.23	676985	4013916
PM_{10}	24-hour	15.11[1]	676985	4013916
PM_{10}	Annual	6.69	676985	4013916

[1] Highest Second High Concentration.

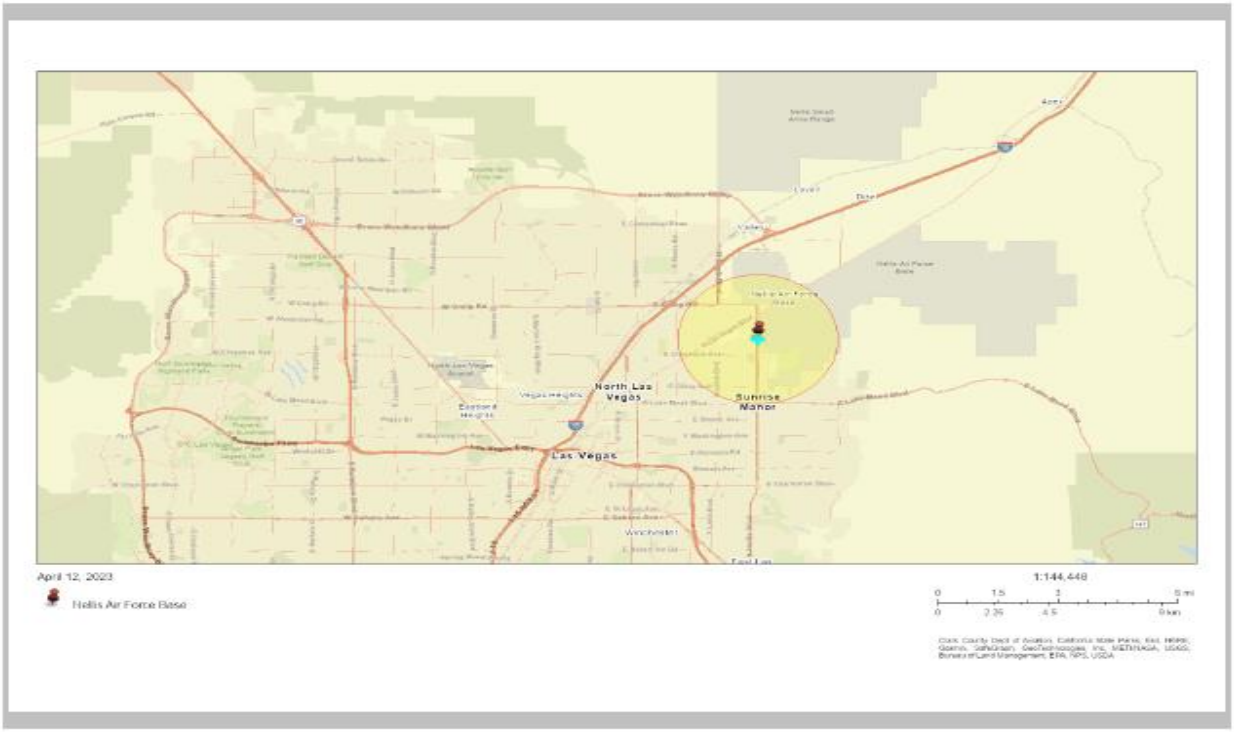
X. PUBLIC PARTICIPATION

Public participation is required for a significant revision to a Part 70 OP permit per AQR 12.5.2.14(c)(2).

XI. ENVIRONMENTAL JUSTICE

NAFB's location is in northeast Las Vegas. The nearest residences are on the western border of the base. Using the EPA's Environmental Justice Screening and Mapping Tool (EJScreen) shows that this permitting action will not have an adverse or disparate effect on an underserved population when compared to the general population of Las Vegas.

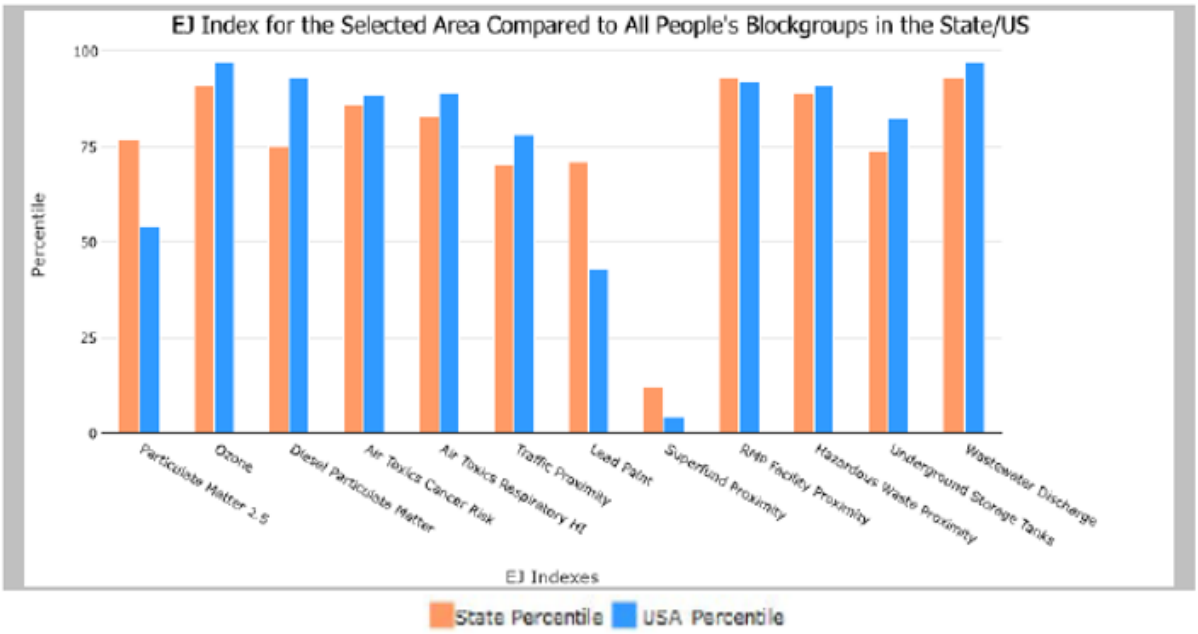
The environmental justice graph encompasses a two mile radius from the western edge of NAFB. The area is in higher percentiles for all the indexes. This can be attributed to the northeast side of Las Vegas having a higher concentration of commercial/industrial sites than other areas of the valley. Although there is a higher percentile of the socioeconomic indicators in this area included in the EJ Screen tool, this permitting action is not a significant increase in criteria pollutants to warrant additional outreach.



Nellis Air Force Base (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	77	54
Ozone EJ index	91	97
Diesel Particulate Matter EJ index*	75	93
Air Toxics Cancer Risk EJ index*	86	88
Air Toxics Respiratory HI EJ index*	83	89
Traffic Proximity EJ index	70	78
Lead Paint EJ index	71	43
Superfund Proximity EJ index	12	4
RMP Facility Proximity EJ index	93	92
Hazardous Waste Proximity EJ index	89	91
Underground Storage Tanks EJ index	74	82
Wastewater Discharge EJ index	93	97

EJ Indexes - The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.



*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Nellis Air Force Base (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m³)	7.44	7.12	59	8.67	20
Ozone (ppb)	59.7	57.6	84	42.5	97
Diesel Particulate Matter* (µg/m³)	0.496	0.439	60	0.294	80-90th
Air Toxics Cancer Risk* (lifetime risk per million)	30	25	98	28	80-90th
Air Toxics Respiratory HI*	0.4	0.34	86	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	320	700	55	760	56
Lead Paint (% Pre-1960 Housing)	0.033	0.05	69	0.27	22
Superfund Proximity (site count/km distance)	0.0044	0.014	7	0.13	1
RMP Facility Proximity (facility count/km distance)	1.7	0.42	95	0.77	87
Hazardous Waste Proximity (facility count/km distance)	3.2	2	81	2.2	79
Underground Storage Tanks (count/km²)	4.5	3.3	76	3.9	75
Wastewater Discharge (toxicity-weighted concentration/m distance)	15	13	92	12	98
Socioeconomic Indicators					
Demographic Index	66%	41%	85	35%	87
Supplemental Demographic Index	26%	16%	85	15%	89
People of Color	80%	52%	85	40%	84
Low Income	51%	32%	79	30%	81
Unemployment Rate	11%	7%	80	5%	84
Limited English Speaking Households	11%	6%	80	5%	86
Less Than High School Education	30%	13%	86	12%	90
Under Age 5	9%	6%	78	6%	78
Over Age 64	6%	16%	15	16%	14
Low Life Expectancy	15%	20%	4	20%	10

XII. ATTACHMENTS

See the following attachment for calculations.

Attachment 1: Applicability Emissions (tons per year)

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	Single HAP (Methanol)	Total HAP
Previous Applicability Emissions[1]	5,808.89	967.64	399.70	307.75	28.26	180.70	3.06	56.03
Applicability Emissions from Units removed with PNF dated 05/23/2023	7.09	7.09	55.87	22.62	6.55	29.14	0	9.35
Reduced PTE for Degreasing Operations (12/04/2024)	0	0	0	0	0	3.38	0	0
Current Applicability Emissions	5,801.80	960.55	343.83	285.13	21.71	148.18	3.06	46.68

[1]Values obtained from Airtrax, authorized 9/22/2023.

Attachment 2: Source PTE (tons per year)

	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	Single HAP[1] (Methanol)	Total HAP	GHG
Storage Tanks/Fuel Dispensing/Fuel Loading	0	0	0	0	0	15.33	0	0.57	0
External Combustion	0.95	0.95	11.94	9.65	0.11	0.66	0	0.28	15,608.93
Internal Combustion	3.97	3.97	128.99	27.32	0.99	8.86	0	1.81	11,046.54
Hush House	2.15	1.89	46.41	23.13	15.17	4.60	0	0.61	8,126.00
Disturbed Vacant Areas/Unpaved Parking Areas	21.22	3.18	0	0	0	0	0	0	0
Mineral Processing	9.89	1.49	0.67	1.37	0.11	0.78	0	0.10	519.28
Paint Booths	0.40	0.40	0	0	0	17.13	3.06	9.08	0
Cooling Towers	2.78	2.78	0	0	0	0	0	0	0
Wood Working	6.14	6.14	0	0	0	0	0	0	0
Degreasers	0	0	0	0	0	0.02	0	0	0
Miscellaneous Chemicals	0	0	0	0	0	19.14	0	2.82	0
Totals	**47.50**	**20.80**	**188.01**	**61.47**	**16.38**	**66.52**	**3.06**	**15.27**	**35,300.75**

[1]Methanol accounts for 25.87% of HAP emissions from surface coating operations (11.83 * 0.2587 = 3.06)

Attachment 3: PTE for Diesel Engine

EU#	G190	**Horsepower:**	173	
Make:	Cummins	**Hours/Day:**	24.0	
Model:	QSB5-G13	**Hours/Year**	500	
S/N:	TBD			
Manufacturer Guarantees				
PM10	0.2	g/hp-hr		
NOx	2.23	g/hp-hr		
CO	0.53	g/hp-hr		
SO_2		g/hp-hr		
VOC	0.06	g/hp-hr		
Engine Type:	Diesel	2		

	Emission Factor (lb/hp-hr)	Potential Emissions lb/hr	lb/day	ton/yr
PM10	4.41E-04	0.08	1.83	0.02
NOx	4.92E-03	0.85	20.41	0.21
CO	1.17E-03	0.20	4.85	0.05
SO_2	1.21E-05	0.01	0.05	0.01
VOC	1.32E-04	0.02	0.55	0.01
HAP	2.71E-05	0.01	0.11	0.01

Diesel Fuel Sulfur Content is 15 ppm (0.0015%)

Attachment 4: PTE for Gasoline Engine

EU#	G192	**Horsepower:**	10	
Make:	Kohler	**Hours/Day:**	24.0	
Model:	CH395	**Hours/Year**	8760	
S/N:	4616810108			
Manufacturer Guarantees				
PM10		g/hp-hr		
NOx		g/hp-hr		
CO		g/hp-hr		
SO_2		g/hp-hr		
VOC		g/hp-hr		
Engine Type:	Gasoline	1		

	Emission Factor (lb/hp-hr)	Potential Emissions lb/hr	lb/day	ton/yr
PM10	7.21E-04	0.01	0.16	0.03
NOx	1.10E-02	0.10	2.51	0.46
CO	6.96E-03	0.07	1.59	0.29
SO_2	5.91E-04	0.01	0.13	0.02
VOC	2.16E-02	0.21	4.92	0.90
HAP	2.16E-02	0.21	4.92	0.90

Diesel Fuel Sulfur Content is 15 ppm (0.0015%)

Attachment 5: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G191		**Horsepower:**	197.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	Mercedes Benz		**Hours/Day:**	24.0	**PM10**	1.76E-04	0.03	0.83	0.01
Model:	OM924LA		**Hours/Year**	500	**NOx**	7.56E-03	1.49	35.75	0.37
S/N:	95130501876				**CO**	3.13E-03	0.62	14.80	0.15
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.06	0.01
PM10	0.08	g/hp-hr			**VOC**	3.97E-04	0.08	1.88	0.02
NOx	3.43	g/hp-hr			**HAP**	2.71E-05	0.01	0.13	0.01
CO	1.42	g/hp-hr							
SO_2		g/hp-hr							
VOC	0.18	g/hp-hr							
Engine Type:	Diesel			[2]	Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 6: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G193		**Horsepower:**	158		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	John Deere		**Hours/Day:**	24.0	**PM10**	2.79E-04	0.04	1.06	0.01
Model:	4045HF285		**Hours/Year**	500	**NOx**	5.52E-03	0.87	20.95	0.22
S/N:	TBD				**CO**	2.14E-03	0.34	8.10	0.08
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.05	0.01
PM10	0.17	g/kW-hr			**VOC**	2.47E-04	0.04	0.94	0.01
NOx	3.36	g/kW-hr			**HAP**	2.71E-05	0.01	0.10	0.01
CO	1.3	g/kW-hr							
SO_2		g/hp-hr							
VOC	0.15	g/kW-hr							
Engine Type:	Diesel			[2]	Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 7: PTE for Diesel Engine

						Emission Factor	Control	Potential Emissions		
EU#	G194		**Horsepower:**	2,220		(lb/hp-hr)	Efficiency	lb/hr	lb/day	ton/yr
Make:	Cummins		**Hours/Day:**	24.0	**PM10**	4.41E-05	0.00%	0.10	2.35	0.02
Model:	QSK50-G4 NR2		**Hours/Year**	500	**NOx**	1.06E-02	0.00%	23.59	566.17	5.90
S/N:	TBD				**CO**	8.82E-04	0.00%	1.96	46.99	0.49
Manufacturer Guarantees					**SO_2**	1.21E-05	0.00%	0.03	0.65	0.01
PM10	0.02	g/hp-hr			**VOC**	1.98E-04	0.00%	0.44	10.57	0.11
NOx	4.82	g/hp-hr			**HAP**	1.10E-05	0.00%	0.02	0.59	0.01
CO	0.4	g/hp-hr								
SO_2		lb/hp-hr								
VOC	0.09	g/hp-hr								
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)					

Attachment 8: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G195		**Horsepower:**	99.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	Cummins		**Hours/Day:**	24.0	**PM10**	1.76E-04	0.02	0.42	0.01
Model:	4BTAA3.3-G7		**Hours/Year**	500	**NOx**	8.49E-03	0.84	20.17	0.21
S/N:					**CO**	6.61E-04	0.07	1.57	0.02
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.03	0.01
PM10	0.08	g/hp-hr			**VOC**	8.82E-05	0.01	0.21	0.01
NOx	3.85	g/hp-hr			**HAP**	2.71E-05	0.01	0.06	0.01
CO	0.3	g/hp-hr							
SO_2		g/hp-hr							
VOC	0.04	g/hp-hr							
Engine Type:	Diesel	[2]			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 9: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G196		**Horsepower:**	314.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	Cummins		**Hours/Day:**	24.0	**PM10**	1.64E-05	0.01	0.12	0.01
Model:	QSB7-G9		**Hours/Year**	500	**NOx**	3.12E-04	0.10	2.35	0.02
S/N:	74627531				**CO**	6.68E-03	2.10	50.34	0.52
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.09	0.01
PM10	0.01	g/kW-hr			**VOC**	6.58E-05	0.02	0.50	0.01
NOx	0.19	g/kW-hr			**HAP**	2.71E-05	0.01	0.20	0.01
CO		g/hp-hr							
SO_2		g/hp-hr							
VOC	0.04	g/kW-hr							
Engine Type:	Diesel	[2]			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 10: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G197		**Horsepower:**	324		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	Cummins		**Hours/Day:**	24.0	**PM10**	1.54E-04	0.05	1.20	0.01
Model:	QSB7-G5		**Hours/Year**	500	**NOx**	5.36E-03	1.74	41.66	0.43
S/N:	TBD				**CO**	1.28E-03	0.41	9.94	0.10
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.09	0.01
PM10	0.07	g/hp-hr			**VOC**	2.51E-03	0.81	19.55	0.20
NOx	2.43	g/hp-hr			**HAP**	2.71E-05	0.01	0.21	0.01
CO	0.58	g/hp-hr							
SO_2		g/hp-hr							
VOC		g/hp-hr							
Engine Type:	Diesel	[2]			Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 11: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G198		**Horsepower:**	173.0		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	Cummins		**Hours/Day:**	24.0	**PM10**	2.43E-04	0.04	1.01	0.01
Model:	QSB5-G13		**Hours/Year**	500	**NOx**	5.86E-03	1.01	24.35	0.25
S/N:	TBD				**CO**	1.54E-03	0.27	6.41	0.07
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.05	0.01
PM10	0.11	g/hp-hr			**VOC**	3.09E-04	0.05	1.28	0.01
NOx	2.66	g/hp-hr			**HAP**	2.71E-05	0.01	0.11	0.01
CO	0.7	g/hp-hr							
SO_2		g/hp-hr							
VOC	0.14	g/hp-hr							
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 12: PTE for Diesel Engine

						Emission Factor	Potential Emissions		
EU#	G199		**Horsepower:**	324		(lb/hp-hr)	lb/hr	lb/day	ton/yr
Make:	Cummins		**Hours/Day:**	24.0	**PM10**	1.54E-04	0.05	1.20	0.01
Model:	QSB7-G5 NR3		**Hours/Year**	500	**NOx**	5.36E-03	1.74	41.66	0.43
S/N:	226441992				**CO**	1.28E-03	0.41	9.94	0.10
Manufacturer Guarantees					**SO_2**	1.21E-05	0.01	0.09	0.01
PM10	0.07	g/hp-hr			**VOC**	1.76E-04	0.06	1.37	0.01
NOx	2.43	g/hp-hr			**HAP**	2.71E-05	0.01	0.21	0.01
CO	0.58	g/hp-hr							
SO_2		g/hp-hr							
VOC	0.08	g/hp-hr							
Engine Type:	Diesel				Diesel Fuel Sulfur Content is 15 ppm (0.0015%)				

Attachment 13: PTE for Woodworking Operations

Revised Woodworking Potential to Emit

Building Number	EU	New EU Number	Status	Number of Sanders	Number of Other Equipment	Sander EF (lb/hr)	Other Equip EF (lb/hr)	Control Device	Collection Efficiency (percent)	Hours of Operation	PM_{10} (lb/hr)*	$PM_{2.5}$ (lb/hr)	PM_{10} (tpy)*	$PM_{2.5}$ (tpy)
610	E004	W610-1	Modified – Title V Renewal	2	4	5	2	Portable Vacuum Units	99	8760	0.18	0.18	0.79	0.79
807	E001	W807-1	Existing, Permitted	6	14	5	2	Cyclone\Fabric Filter	99	8760	0.58	0.58	2.54	2.54
811	E002	W811-1	Existing, Permitted	0	5	5	2	Cyclone\Fabric Filter	99	8760	0.10	0.10	0.44	0.44
10118	E003	W10118-1	Existing, Permitted	5	15	5	2	Cyclone\Fabric Filter	99	8760	0.55	0.55	2.41	2.41
Total													**6.18**	**6.18**

Attachment 14: PTE for Degreasing Operations

EU	Limit (hrs)	Capacity (gal)	EF (lb/hour/ft^2)	Area (ft^2)	VOC (lbs/hr)	HAPs (lb/hr)	VOC (tpy)
M013	208	7	0.08	1.7	0.14	0	0.01
M047	208	7	0.08	1.7	0.14	0	0.01