

## **TECHNICAL SUPPORT DOCUMENT**

FOR:  
**Initial Part 70 Operating Permit (Title V)**

**ROYAL CEMENT COMPANY, INC.**

5501 North Moapa Valley Blvd.  
Logandale, Nevada 89021  
Nevada Moapa Valley (MV), Clark County, Nevada

**SOURCE NUMBER: A-154**

Compiled By Permitting Unit  
Clark County Department of Air Quality Management  
December 2002

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## **SECTION 1: INTRODUCTION**

Royal Cement Company, Inc. (formerly known as Las Vegas Cement Company) was issued an initial "Authority to Construct" (ATC) on August 9, 1985. A Section 16 Agreement to Permit Conditions was issued to Royal Cement Company, Inc. on July 7, 1994. Individual Operating Permits for equipment were issued on July 20, 1994.

Following a performance test in March 1998, Royal Cement applied for a modification to increase NO<sub>x</sub> limitations. A revised application including air quality modeling and a BACT analysis for the kiln was submitted in 1999. That application was withdrawn in 2001, with Royal Cement stating that it would meet the 1994 emission limitations using proprietary urea injection into the kiln.

DAQM has expended considerable resources determining the status of compliance for this facility, including numerous site visits, the issuance of several Corrective Action Orders for a variety of violations and an elongated permitting process. DAQM has determined that the facility has not undergone a modification since the 1994 permitting actions and will issue this Part 70 Operating Permit with a compliance monitoring plan based upon company submitted information in previous NSR applications, a July 17, 2002 revised Title V application and staff information gathered during site visits and performance tests.

Royal Cement operates ambient air monitors for PM, NO<sub>x</sub> and SO<sub>2</sub> onsite and a continuous opacity monitor (COMS) on the kiln. Following certification of the NO<sub>x</sub> and SO<sub>2</sub> CEMs, the ambient monitors for these two pollutants may be removed. Following recertification of the COMS, the PM ambient monitor may be removed. These conditions are in this draft Part 70 permit.

## **SECTION 2: PROCESS DESCRIPTION**

The facility manufactures Portland cement using a dry process. Limestone and shale are quarried from an open pit located approximately two-tenths of a mile north-northeast of the plant. The raw materials are crushed and screened and then mixed with iron ore and clay. The raw mix is then dried to minus 0.5 percent moisture and ground in a ball mill to 80 percent minus 200 mesh. This material is fed directly into the long rotary kiln.

The kiln is a refractory-lined, coal fired, horizontal steel cylinder which rotates about its longitudinal axis and is slightly inclined so that the material moves through the cylinder continuously. It is fired directly from the lower end enabling the hot gases to move upward and counter flow through the moving raw material. Drying, de-carbonating, and calcining occur as the material travels through the heated kiln to create clinker. The clinker is cooled, mixed with gypsum, and then ground to product fineness in a ball mill. The Portland cement is stored in the cement storage silo ready for shipment by truck.

Royal Cement's kiln fires western coal which contains about 0.8 percent sulfur. Coal is shipped in by trucks or rail cars. The facility has a paved road of about 0.8 mile that connects with State Route 169 and an on-site access paved road of 0.6 mile for delivery and pick-up of raw materials and finished product.

**SECTION 3. EMISSION UNITS AND EMISSIONS**

The following table of emission units has been compiled from Royal Cement submissions, DAQM inspection reports and the 2002 Title V application.

EU #	DESCRIPTION	SCC No.	Prod. ton/hr	Prod. ton/yr	Emission Factor	Control Eff. %	PTE lb/hr	PTE ton/yr
<b>A RAW MATERIAL PREP</b>								
A01	Limestone Mining/Quarrying	30502008	600	293,000	0.08 lb/ton	81.50	8.88	2.17
A02	Bulk Materials Stockpile - 2 acre	30500708	NA	NA	1.66 lb/acre-day	-----	0.14	0.61
A03	Dump Hopper	30500625	600	293,000	0.01 lb/ton	0.00	6.00	1.47
A04	Hammer Mill w/ baghouse	30500613	600	293,000	0.13 lb/ton (after control)	-----	78.00	19.05
A05	Belt Conveyor	30500624	600	293,000	0.01 lb/ton	-----	6.00	1.47
A06	Belt Conveyor w/ baghouse	30500624	600	293,000	0.01 lb/ton	99.00	0.06	0.01
A07	Ty Rock Vibrating Screen w/ baghouse	30500611	600	293,000	0.08 lb/ton	99.00	0.48	0.12
A08	Radial Stacker	30500612	600	293,000	0.04 lb/ton	81.50	4.44	1.08
A09	Limestone Stockpile- 1 acre	30500608	NA	NA	1.66 lb/acre-day	-----	0.07	0.30
A10	Gypsum Stockpile-1 acre	30500608	NA	NA	1.66 lb/acre-day	-----	0.07	0.30
A11	Coal Stockpile-1 acre	30500608	NA	NA	1.66 lb/acre-day	-----	0.07	0.30
A12	Clinker Stockpile-1 acre	30500615	NA	NA	1.66 lb/acre-day	-----	0.07	0.30
A13	Iron Ore/Millscale Stockpile 1 acre	30500608	NA	NA	1.66 lb/acre-day	-----	0.07	0.30
<b>SUB-TOTAL (A01-A13)</b>								
EU #	DESCRIPTION	SCC No.	Prod. ton/hr	Prod. ton/yr	Emission Factor	Control Eff. %	PTE lb/hr	PTE ton/yr
<b>B Numbers Not Used</b>								
C01	No. 1 Silo, Kiln Feed w/ baghouse	30500612	35	266,000	0.15 lb/ton	99.00	0.05	0.20
C02	No. 2 Silo, Kiln Feed w/ baghouse	30500612	35	266,000	0.15 lb/ton	99.00	0.05	0.20
C03	Weigh Belt	30500628	35	266,000	0.01 lb/ton	99.00	<0.01	0.01
C04	No. 3 Silo Gypsum w/ baghouse	30500612	1.75	12,800	0.15 lb/ton	99.00	<0.01	0.01
C05	Weigh Belt	30500628	1.75	12,800	0.01 lb/ton	99.00	<0.01	<0.01
C06	No. 4 Silo Limestone /baghouse	30500612	45	293,000	0.15 lb/ton	99.00	0.07	0.22
C07	No. 5 Silo Limestone /baghouse	30500612	45	293,000	0.15 lb/ton	99.00	0.07	0.22
C08	Weigh Belt (2 units)	30500628	45	293,000	0.01 lb/ton	99.00	<0.01	0.01

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EU #	DESCRIPTION	SCC No.	Prod. ton/hr	Prod. ton/yr	Emission Factor	Control Eff. %	PTE lb/hr	PTE ton/yr
C09	No. 6 Silo Iron Ore/Millscale	30500612	2	17,000	0.15 lb/ton	99.00	<0.01	0.01
C10	Weigh Belt	30500628	2	17,000	0.01 lb/ton	99.00	<0.01	<0.01
C11	No. 7 Silo Bottom Ash w/baghouse	30500612	13.75	120,450	0.15 lb/ton	99.00	0.02	0.09
C12	Weigh Belt	30500628	13.75	120,450	0.01 lb/ton	99.00	<0.01	0.01
C11	Dump Hopper (Raw Mill)	30500628	150	333,756	0.15 lb/ton	99.00	0.23	0.25
C12	Belt Conveyor	30500627	150	333,756	0.01 lb/ton	99.00	0.02	0.02
C13	Dump Hopper (Finish Mill)	30500628	150	268,800	0.15 lb/ton	99.00	0.23	0.20
C14	Belt Conveyor	30500627	150	268,800	0.01 lb/ton	99.00	0.02	0.01
C15	Bucket Elevator (Coal)	30500612	150	60,000	0.01 lb/ton	-----	1.50	0.30
C16	Bucket Elevator (Coal Dump Hopper)	30500618	150	60,000	0.01 lb/ton	-----	1.50	0.30
	<b>SUB-TOTAL (C01-C16)</b>						<b>3.83</b>	<b>2.08</b>
D	<b>RAW MILL</b>							
D01	Bucket Elevators w/ baghouse	30500618	55	333,756	0.01 lb/ton	99.00	0.02	0.02
D02	Air Separator w/ baghouse	30500626	55	333,756	0.032(after control)	---	1.76	5.34
D03	Raw Mill (Ball Mill) w/ baghouse	30500699	55	333,756	0.012(after control)	-----	0.66	2.00
D04	Airslides (3 units)	30500612	55	333,756	0.019(after control)	-----	1.05	3.17
D05	Conveyor Belts to Raw Mill (2 units)	30500612	55	333,756	0.019(after control)	-----	1.05	3.17
	<b>SUB-TOTAL (D01-D05)</b>						<b>4.53</b>	<b>13.70</b>
E	<b>COAL MILL (Dust Collector &amp; Fan)</b>							
E01	Rotary Feeder	30500624	6.79	60,000	0.0031(after control)	-----	0.02	0.09
E02	Coal Mill	30500613	6.79	60,000	0.012(after control)	-----	0.08	0.36
E03	Coal Mill Weigh Belt	30500628	6.79	60,000	0.019(after control)	-----	0.13	0.57
	<b>SUB-TOTAL (E01-E03)</b>						<b>0.23</b>	<b>1.02</b>
F	<b>CLINKER COOLING</b>							
F01	Clinker Cooler w/ baghouse	30500614	24.6	215,272	0.13 (after control)	-----	3.20	14.00
F02	Screw Conveyor (3 units)	30500612	24.6	215,272	0.000029(after control)	-----	<0.01	<0.01

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EU #	DESCRIPTION	SCC No.	Prod. ton/hr	Prod. ton/yr	Emission Factor	Contro Eff. %	PTE lb/hr	PTE ton/yr
F03	Drag Conveyors to Belt Conveyor (2 units) w/ dust collector	30500612	24.6	215,272	0.000029(after control)	-----	<0.01	<0.01
F04	Belt conveyor to elevator	30500612	24.6	215,272	0.000029(after control)	-----	<0.01	<0.01
	<b>SUB-TOTAL (F01-F04)</b>						<b>3.23</b>	<b>14.03</b>
<b>G</b>	<b>BLENDING/FINISH MILLS</b>							
G01	Blending Silo w/baghouse	30500618	55	333,756	0.029 (after control)	---	1.60	4.84
G02	Kiln Feed Screw Conveyor	30500612	55	333,756	0.000029 (after control)	---	0.09	0.01
G03	Finish Mill #1	30500617	35	268,800	0.008(after control)	---	0.28	1.08
G04	Alternate Finish Mill #2 backup only for EU G03	30500617	---		---	---	---	---
G05	Bucket Elevator	30500612	35	268,800	0.000029 (after control)	---	<0.01	<0.01
G06	Airslides (5 units)	30500612	35	268,800	0.000029 (after control)	---	<0.01	<0.01
G07	Air Separator	30500629	35	268,800	0.028 (after control)	---	0.98	3.76
G08	Conveyor Belt to Finish Mill	30500612	35	268,800	0.000029 (after control)	---	<0.01	<0.01
	<b>SUB-TOTAL (G01-G08)</b>						<b>2.98</b>	<b>9.72</b>
<b>H</b>	<b>CEMENT PRODUCT HANDLING</b>							
H01	F-K Pump	30500612	35	268,800	0.0019 (after control)	-----	0.07	0.26
H02	Cement Storage Silo w/baghouse	30500618	35	268,800	0.029 (after control)	-----	1.02	3.90
H03	Airslide Blower Feeder	30500612	35	268,800	0.000029 (after control)	-----	<0.01	<0.01
H04	Cement Loadout Storage Bins w/ baghouse	30500619	35	268,800	0.000029 (after control)	-----	<0.01	<0.01
H05	Cement Loadout Storage Bin w/ baghouse	30500619	35	268,800	0.000029 (after control)	-----	<0.01	<0.01
H06	Truck Loadout Loading	30500699	35	268,800	0.000029 (after control)	-----	<0.01	<0.01
H07	Airslide	30500612	35	268,800	0.000029 (after control)	-----	<0.01	<0.01
H08	Paved Road 0.8 mile, 1 way)		2,343 mi		7.57 lb/vmt	98.00	0.18	0.18
H09	Unpaved Road 0.3 mile, 1 way)		44.9 mi		7.57 lb/vmt	90.00	0.02	0.02
	<b>SUB-TOTAL (H01-H09)</b>						<b>1.34</b>	<b>4.41</b>
	<b>Subtotal Sections A-H</b>						<b>120.49</b>	<b>72.44</b>

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EU #	DESCRIPTION	SCC No.	Prod. tons/hr	Prod. tons/yr	Emission Factor	PTE lb/hr	PTE ton/yr
101	Rotary kiln (11' dia. X 375' long) with electrostatic precipitator	30500606	38.10	333,756			
	PM <sub>10</sub>				0.1945	7.41	32.46
	NOx				125.00 lbs/hr	125.00	480.00
	CO				8.30 lbs/hr	8.30	32.00
	SO <sub>2</sub>				0.435 lbs/ton of cement	16.6	63.90
	VOC				0.028 lbs/ton cement	1.07	4.67
	HAPs				various	2.28	6.55
	TCS				various	4.83	13.21
	<b>TOTAL FACILITY PM<sub>10</sub></b>					<b>127.90</b>	<b>104.90</b>

DAQM staff recalculated all emissions. An error was identified in the PM<sub>10</sub> pound per hour calculations. Current permitting strategy is to calculate the worst-case emissions from each emission unit based upon throughput and sum them to ascertain the facility pound per hour limits. This assumes that all emission units operate simultaneously and at full capacity. In reality, this is conservative because not all emission units at this facility operate together all the time, nor at full capacity. It is believed the 1994 pound per hour limit was derived mathematically by simply dividing the tons per year by 8,760 hours of operation rather than basing emissions on hourly throughput. The annual limit for PM<sub>10</sub> does not change. No changes in operations have occurred, therefore, correcting the calculation does not subject this facility to renewed NSR activity.

In addition, the 1994 permit did not specifically limit VOCs, HAPs or TCS emissions. VOC, HAP and TCS emissions were calculated from AP-42 emission factors and permitted throughput levels. See Table III-A-3 for these specific pollutants.

**Table III-A-1: Facility PTE as permitted in Section 16 Operating Permit, July 7, 1994**

	PM <sub>10</sub>		NO <sub>x</sub>		CO		SO <sub>2</sub>		Pb	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Quarry	23.7	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cement Plant	24.1	96.4	125.0	480.0	8.3	32.0	16.6	63.9	0.006	0.022

**Table III-A-2: Facility PTE Based Upon Throughput**

	PM <sub>10</sub>	CO	NO <sub>x</sub>	SO <sub>2</sub>	HAPs	TCS	VOC	Pb
lbs/hour	127.90	8.3	125.0	16.6	2.28	4.83	1.07	<0.01
tons/year	104.90	32.0	480.0	63.9	6.55	13.21	5.48	0.022

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**Table III-A-3: Tons Per Year Estimated Hazardous Air Pollutant Emissions (HAPs), VOC and TCS Based upon Kiln Throughput of 333,756 tons per year**

Pollutant	Emission Factor	HAP	VOC	TCS
Ammonia	0.01			1.04
Ammonium	0.068			11.40
Benzene	0.0031	0.52	0.52	
Carbon disulfide	0.00011	0.02		
Chloride	0.0021	0.35		
Dibutyl phthalate	0.000041	0.01	0.01	
Dichloro Methane	0.00049	0.08	0.08	
Formaldehyde	0.00046	0.05	0.05	
Hydrogen Chloride	0.049	5.09		
Lead	0.00071	0.12		
Manganese	0.00086	0.09		
Mercury	0.00022	0.04		
Methylene Chloride	0.00038	0.06	0.06	
Methyl Ethyl Ketone	0.00003	0.01	0.01	
Naphthalene	0.00022	0.02	0.02	
Nickel	0.0003	0.03		
Nitric Acid	0.0046			0.77
Phenol	0.00011	0.02	0.02	
Toluene	0.00019	0.02	0.02	
Xylene, mixed isomers	0.00013	0.02	0.02	
Organic Compounds			4.67	
		<b>6.55</b>	<b>5.48</b>	<b>13.21</b>

## SECTION 4: COMPLIANCE

### A. Overview

An important aspect of the Part 70 program is the review of permit conditions compared to regulatory requirements and a pairing of those requirements with the methods in which the owner/operator can show compliance with those requirements. In general, record keeping, reporting and performance testing are standard compliance tools. This facility will also be required to install CEMs to show compliance with the kiln NO<sub>x</sub> and SO<sub>2</sub> limits. A Method 9 certified individual will also be required to be onsite any time the facility is operating. The following subsections review federal, state and local regulatory requirements and compliance strategies. Please note that no discussion will be accorded to the Nevada Revised Statutes (NRS) or the Clean Air Act Amendments (CAAA) because these public laws establish the general authority for the Regulations mentioned. DAQM has included the more relevant text from the applicable requirements in this document for convenience. Please refer to the appropriate regulation for the complete text. The chart below presents an overview of ATC/OP permit conditions, applicability of specific federal regulations, and compliance methodology for this facility.

**Table IV-A-1: Overview of Federal NSPS, NESHAPS, and Permit Conditions**

Condition or Requirements	Current permit issued 7/7/94 Section 16 Operating Permit with conditions. July 15, 1994.	Title V 2002 Application and information gathered from source up until June 2002.	Comments
Production - mining, crushing and screening	293,000 tons per year with a daily limit of 6400 tons		Daily record keeping of weigh scales throughput.
Kiln feed rate	38.10 tons per hour	38.10 tons per hour	No hourly limit specified; no annual limit in tons which assumes 8760 hours times 38.1 or 333,756 tons per year. Daily recordkeeping of throughput.
Kiln limits NOx	NOx emissions calculated as NO <sub>2</sub> 5.3 #/ton of cement produced. 125 pounds per hour and 480 tons per year	NOx emissions remain the same. CEMs to be installed. Ambient air monitor to be removed after CEMs certification.	With urea injection per Royal design, performance testing showed compliance with NOx limits. Installation of CEMs on stack.
CO	8.3 lb/hr 32.0 tpy	8.3 #/hr 32.00 tpy	Performance test in Oct 2001 verified compliance with these limits.
SO <sub>2</sub>	16.60 lb/hour 63.9 tpy also 0.7 pounds per ton of cement produced.	No changes in PTE. SO <sub>2</sub> CEMs to be installed. Ambient air monitor to be removed after CEMs certification.	Installation of CEMS on stack.
Pb	0.006 #/ hr 0.022 tpy	No changes	Record keeping and reporting of calculated emissions
VOC	No limits in ATC/OP	VOC limits added: 2.08 #/hr 8.0 tpy based upon emission factor of 0.028 #/ton of kiln feed	VOC emissions to be verified in performance test.
HAPs	No limits in the ATC/OP	HAP limits added. Subject to parts of NESHAP 40 CFR 63 Subpart LLL (dioxan and furans)	Federal enforceability, DAQM has not adopted this subpart in AQRs. Subpart LLL promulgated June 1999 with full source compliance required by June 10, 2002.
PM <sub>10</sub>	0.30 pounds per ton of kiln feed		Calculated

Condition or Requirements	Current permit issued 7/7/94 Section 16 Operating Permit with conditions. July 15, 1994.	Title V 2002 Application and information gathered from source up until June 2002.	Comments
Kiln Opacity	10% or less	May not exceed for more than 3 minutes in any 60 minute period.	COMs
<p><b>40 CFR 60 Subpart OOO</b>                      Source: 51 FR 31337, Aug. 1, 1985, unless otherwise noted.  <u>§ 60.670 Applicability and designation of affected facility.</u></p> <p>(e) An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983 is subject to the requirements of this part.</p>	No citation in 1994 permit. Required limits of 10% for conveyors, screens etc. listed as a condition. Crusher opacity not to exceed 15% listed as a condition.	Subpart OOO requirements not applicable as source did not modify per the definition of §60.14(e)6. Source relocated to Nevada from Iowa in its entirety.	<p>40 CFR 60 § 60.14 Modification (a) Except as provided under paragraphs (e) and (f) of this section,....</p> <p>(e) The following shall not, by themselves, be considered modifications under this part:</p> <p>(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of paragraph (c) of this section and §60.15.</p> <p>(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.</p> <p>(3) An increase in the hours of operation.</p> <p>(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.</p> <p>(6) The relocation or change in ownership of an existing facility. “</p>
40 CFR 60 Subpart F	No specific citation, but PM limits included in 1994 permit	§60.60 Applicability “..commences construction or modification after August 17, 1971, is subject...”	Relocation is not a modification. Source was in operation prior to applicability date.

			Not applicable in its entirety, but limits and requirements from Subpart F are included in the 1994 Agreement to Permit Conditions.
<p><b>40 CFR 63 Subpart LLL--</b>                  National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry                  Source: 64 FR 31925, June 14, 1999, unless otherwise noted.</p>	<p>The 1994 permit predates this new regulation.</p>	<p>Sec. 63.1340 Applicability and designation of affected sources.                  (a) Except as specified in paragraphs (b) and (c) of this section, the provisions of this subpart apply to each new and existing portland cement plant which is a major source or an area source as defined in Sec. 63.2.</p>	<p><b>40 CFR 63.2 NESHAPS</b>                  "Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part." <b>[Royal Cement is an area source.]</b></p> <p>"Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence."</p> <p><b>[Royal cement is not a major HAPs source by definition]</b></p>

Further discussion of 40 CFR 63 Subpart LLL :

(b) The affected sources subject to this subpart are:

(1) Each kiln and each in-line kiln/raw mill at any major or area source, including alkali bypasses, except for kilns and in-line kiln/raw mills that burn hazardous waste and are subject to and regulated under subpart EEE of this part;

**[The kiln and kiln limitations apply to this area source facility and shall be included in the Title V permit]**

(2) Each clinker cooler at any portland cement plant which is a major source; [Does not apply]

(3) Each raw mill at any portland cement plant which is a major source; [Does not apply]

(4) Each finish mill at any portland cement plant which is a major source; [Does not apply]

- (5) Each raw material dryer at any portland cement plant which is a major source and each greenfield raw material dryer at any portland cement plant which is a major or area source; [Does not apply]
- (6) Each raw material, clinker, or finished product storage bin at any portland cement plant which is a major source; [Does not apply]
- (7) Each conveying system transfer point at any portland cement plant which is a major source; [Does not apply]
- (8) Each bagging system at any portland cement plant which is a major source; [Does not apply] and
- (9) Each bulk loading or unloading system at any portland cement plant which is a major source. [Does not apply]

Sec. 63.1343 Standards for kilns and in-line kiln/raw mills.

(a) General. The provisions in this section apply to each kiln, each in-line kiln/raw mill, and any alkali bypass associated with that kiln or in-line kiln/raw mill.

(b) Existing, reconstructed, or new brownfield/major sources. No owner or operator of an existing, reconstructed or new brownfield kiln or an existing, reconstructed or new brownfield in-line kiln/raw mill at a facility that is a major source subject to the provisions of this subpart shall cause to be discharged into the atmosphere from these affected sources, any gases which:

(1) Contain particulate matter (PM) in excess of 0.15 kg per Mg (0.30 lb per ton) of feed (dry basis) to the kiln. When there is an alkali bypass associated with a kiln or in-line kiln/raw mill, the combined particulate matter emissions from the kiln or in-line kiln/raw mill and the alkali bypass are subject to this emission limit. **[Already in 1994 permit]**

(2) Exhibit opacity greater than 20 percent. **[Already limited to 10 percent in 1994 ATC/OP]**

(3) Contain D/F in excess of:

(i) 0.20 ng per dscm (8.7 x 10<sup>-11</sup> gr per dscf) (TEQ) corrected to seven percent oxygen; or

(ii) 0.40 ng per dscm (1.7 x 10<sup>-10</sup> gr per dscf) (TEQ) corrected to seven percent oxygen, when the average of the performance test run average temperatures at the inlet **[Added to kiln limitations in Part 70 permit]**.

**B. Compliance with SIP and Local Air Quality Regulations**

The terms State Implementation Plan (SIP), Implementation Plan (IP), and Clark County Implementation Plan (CCIP) are essentially synonymous. They refer to those AQR that have been approved by the EPA for inclusion into the SIP. These rules are federally enforceable. For the sake of simplicity and consistency, the term SIP will be used exclusively in this document.

Locally applicable requirements are portions of the AQR that are locally enforceable only. These rules have not been approved by EPA for inclusion into the State Implementation Plan (SIP). Full text of these regulations may be accessed on the internet at: [www.co.clark.nv.us/air\\_quality/air\\_quality\\_information.htm](http://www.co.clark.nv.us/air_quality/air_quality_information.htm) or viewed at the Department of Air Quality offices. Requirements and conditions that appear in the Part 70 OP which are related only to non-SIP rules will be notated as locally enforceable only. In Table IV-B-1, local only rules are identified with 'no' in the column headed SIP.

Table IV-B-1: Clark County Air Quality Regulations and State Implementation Plan

Applicable Section - Title	Applicable Subsection - Title	SIP	Affected Emission Unit	Compliance Method
0. Definitions	applicable definitions	no	entire facility	recordkeeping
1. Definitions	applicable definitions	yes	entire facility	recordkeeping
4. Control Officer	all subsections	yes	entire facility	recordkeeping
5. Interference with Control Officer	all subsections	yes	entire facility	recordkeeping
8. Persons Liable for Penalties - Punishment: Defense	all subsections	yes	entire facility	recordkeeping
9. Civil Penalties	all subsections	yes	entire facility	recordkeeping
10. Compliance Schedules	when applicable; applicable subsections	yes	entire facility	recordkeeping
11. Ambient Air Quality Standards	applicable subsections	yes	entire facility	recordkeeping
12. Preconstruction Review for New or Modified Stationary Sources	§ 12.1 General Application Requirements for New and Modified Sources of Air Pollutants. § 12.2.5 Requirements for PM <sub>10</sub> Sources in the PSD Area. § 12.2.10 Requirements for CO Sources in the PSD Area. § 12.2.13 Requirements for VOC Sources in the PSD Area. § 12.2.15 Requirements for NOx Sources in the PSD Area. § 12.2.18 HAP Sources in Clark County § 12.3 Owner/Operator Notification, Application Processing Deadlines, Notice of Proposed Action Procedures, and Public Hearings. § 12.8 Issuance of Authority to Construct Certificate with conditions.	no	entire facility	recordkeeping performance testing reporting NOx, SO <sub>2</sub> CEMS; COMs

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**ROYAL CEMENT COMPANY, INC.**  
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Applicable Section - Title	Applicable Subsection - Title	SIP	Affected Emission Unit	Compliance Method
15. Source Registration	all subsections <b>except</b> § 15.14 Source registration for Areas Exceeding Air Quality Standards	yes	entire facility	recordkeeping performance testing reporting
16. Operating Permits	all subsections	yes	entire facility	Recordkeeping NOx, SO <sub>2</sub> CEMS; COMs performance testing reporting
18. Permit and Technical Service Fees	§ 18.1 Operating Permit Fees. § 18.2 Annual Emission Unit Fees. § 18.4 New Source Review Application Review Fee. § 18.5 Part 70 Application Review Fee. § 18.6 Annual Part 70 Emission Fee. § 18.14 Billing Procedures	part	entire facility	recordkeeping
19. Part 70 Operating Permit	§ 19.2 Applicability § 19.3 Part 70 Permit Applications § 19.4 Part 70 Permit Content § 19.5 Permit Issuance, Renewal, Reopenings, and Revisions § 19.6 Permit Renewal by the EPA and Affected States § 19.7 Fee Determination and Certification	NA	entire facility	recordkeeping
24. Sampling and Testing - Records and Reports	§ 24.1 Requirements for installation and maintenance of sampling and testing facilities. § 24.2 Requirements for emissions recordkeeping. § 24.3 Requirements for the record format. § 24.4 Requirements for the retention of records by the emission sources.	yes	entire facility	recordkeeping reporting
25.1 Upset/Breakdown, Malfunctions	§ 25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions. § 25.2 Reporting and Consultation	part	entire facility	recordkeeping reporting

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Applicable Section - Title	Applicable Subsection - Title	SIP	Affected Emission Unit	Compliance Method
26. Emission of Visible Air Contaminants	§ 26.1 Limit on opacity (≤ 20% for 3 minutes in a 60 minute period)	yes	entire facility	recordkeeping Method 9 (EPA)
27. Particulate Matter from Process Weight Rate	Entire	yes	Entire facility	recordkeeping Method 9 (EPA)
29. Sulfur Contents of Fuel Oil	§ 29.1 Diesel oil sulfur < 0.05 percent by weight	yes	generator	Recordkeeping Reporting
34. New Source Performance Standards for Nonmetallic Mineral Mining and Processing	§ 34.1 Applicability § 34.2.1 Performance standard: < 10% opacity for fugitives, mills screens etc. § 34.2.2 15% opacity max for crushers § 34.2.3 7% opacity max. for stacks and bin vents	no	entire facility	VE trained individual on site Method 9 (EPA)
40. Prohibitions of Nuisance Conditions	§ 40.1 Prohibitions	no	entire facility	recordkeeping
41. Fugitive Dust	§ 41.1 Prohibitions	yes	entire facility	recordkeeping
42. Open Burning	§ 42.1 Burning of Combustibles § 42.4 Open burning	yes	entire facility	recordkeeping
43. Odors In the Ambient Air	§ 43.1 Prohibitions	yes	entire facility	recordkeeping
60. Evaporation and Leakage	all subsections	yes	entire facility	recordkeeping
70. Emergency Procedures	all subsections	yes	entire facility	recordkeeping
80. Circumvention	all subsections	yes	entire facility	recordkeeping
81. Regulations Severable	all subsections	yes	entire facility	recordkeeping



### **Discussion of Local Regulations**

In reviewing the compliance status and requirements for this source, some regulations require a more thorough discussion.

On August 29, 2001, the Ninth District Circuit Court remanded review of Sections 12 and 0 back to the EPA, negating SIP approval of these sections. (AQR SECTION 0 – DEFINITIONS [Rev. 05/24/01] pages 0-1 through 0-49 and AQR SECTION 12 – PRECONSTRUCTION REVIEW FOR NEW OR MODIFIED STATIONARY SOURCES [Rev. 05/24/01] AQR pages 12-1 through 12-71.)

Although Royal Cement was issued Section 15 and 16 (both SIP rules) Operating Permits and Agreement to Permit Conditions, a review of the requirements of Section 12 is required to insure compliance with local regulations in effect at the time of NSR activity (Section 12, Revised 11/18/93.) Some of the information included in this Part 70 Operating Permit which insures compliance with Section 12 was gathered during the 1998-2000 ATC Modification process. That modification was withdrawn by Royal Cement, which is operating within the 1994 limits.

Royal Cement is located in the Moapa Valley Airshed, PSD for all pollutants. Shaded areas in Table IV-B-2 below indicate requirements that had to be met prior to issuance of the 1994 Operating Permits and or information and analysis that had to be completed prior to issuance of the Part 70 Operating Permit.

Royal Cement has had a COMs for opacity in operation since 1998 when the company actually began operating. This requirement, with specific operational and reporting requirements is included in the Part 70 OP. NO<sub>x</sub> and SO<sub>2</sub> CEMs are being required in this Part 70 Operating Permit. Post construction ambient air monitoring was required for PM, NO<sub>x</sub> and SO<sub>2</sub>. This monitoring is still being conducted. DAQM has determined that once the CEMs and COMs units are certified, the ambient air monitors may be removed.

Initial modeling (1985) and subsequent modeling (1998 for visibility and increment) have been completed. The additional impact analysis required for PM<sub>10</sub> and NO<sub>x</sub> has been completed. Royal Cement predates the NO<sub>x</sub> baseline trigger date (1988). The air impact analysis completed in 1985 proved no exceedances of the NAAQS. In 2000, the National Park Service notified DAQM the then proposed modification which represented an emissions increase would not significantly deteriorate any Class I areas nor exceed the Class I increments.

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**Table IV-B-2: Section 12 Requirements in a Prevention of Significant Deterioration (PSD) Area**

Pollutant	PM <sub>10</sub>	NO <sub>x</sub>	CO	SO <sub>2</sub>	VOC
<i>Major Source</i>	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy
<i>Notice of Proposed Action</i>	Yes, If PTE ≥ 15 tpy or NEI ≥ 15 tpy	Yes, If PTE or NEI ≥ 40 tpy	Yes, If PTE ≥ 70 tpy or NEI ≥ 70 tpy	Yes, If PTE or NEI ≥ 40 tpy	Yes, If PTE or NEI ≥ 40 tpy
<i>Control Technology</i>	BACT	BACT	BACT	BACT	BACT
<i>Permitting 'de minimus'</i>	1 tpy	2 tpy	2 tpy	1 tpy	2 tpy
<i>Continuous Emissions Monitoring</i>	Yes, Opacity per NSPS	Yes, if PTE ≥ 100 tpy & NEI ≥ 40 tpy	Yes, if PTE ≥ 100 tpy & NEI ≥ 100 tpy	Yes, if PTE ≥ 100 tpy & NEI ≥ 40 tpy	No
<i>Pre Construction Ambient Air Monitoring</i>	Yes, If PTE ≥ 100 tpy & NEI ≥ 15 tpy & impact ≥ 10 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy & impact ≥ 14 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 & NEI ≥ 100 tpy & impact ≥ 575 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy & impact ≥ 13 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 tpy
<i>Post Construction Ambient Air Monitoring</i>	Yes, If PTE ≥ 100 tpy & NEI ≥ 15 tpy & impact ≥ 16 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy & impact ≥ 14 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 & NEI ≥ 100 tpy & impact ≥ 2000 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy & impact ≥ 50 µg/m <sup>3</sup>	Yes, If PTE ≥ 100 tpy
<i>Additional Impact Analysis</i>	Yes, If PTE ≥ 100 tpy & NEI ≥ 15 tpy	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy	Yes, If PTE ≥ 100 tpy & NEI ≥ 100 tpy	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy	Yes, If PTE ≥ 100 tpy & NEI ≥ 40 tpy

tpy = tons per year, NEI = NET EMISSION INCREASE, PTE = POTENTIAL TO EMIT  
 Section 12 also has specific regulations for Toxic Chemical Substances (TCS), Pb and HAPs. These emissions are included in the Part 70 OP based upon emission factors and throughputs. No specific modeling was required based upon emissions.

**Table IV-B-3: Section 15 SIP Approved Requirements for Source Registration in a PSD area**

Pollutant	PM	CO	SO <sub>2</sub>	VOC	NO <sub>x</sub>
<i>Major Source</i>	Not defined	Not defined	Not defined	Not defined	Not defined
<i>Public Notice</i>	5 tpy	25 tpy	40 tpy	40 tpy	40 tpy
<i>Control Technology</i>	BACT	BACT	BACT	BACT	BACT
<i>Specific Increments</i>	Annual 19 µg/M <sup>3</sup> 24 hour 37 µg/M <sup>3</sup>		Annual 20 24 hour 91 3 hour 512		
<i>Preconstruction Monitoring</i>	TSP <10µg/M <sup>3</sup> 24 hr avg	CO <0.5 mg/M <sup>3</sup> 8 hr avg	SO <sub>2</sub> < 13µg/M <sup>3</sup> 24 hr avg	<40 tpy, ozone req.	<14 µg/M <sup>3</sup> annual avg.
<i>Post construction monitoring</i>	Up to Control Officer §15.13.12(2)	Up to Control Officer §15.13.12(2)	Up to Control Officer §15.13.12(2)	Up to Control Officer §15.13.12(2)	Up to Control Officer §15.13.12(2)
<i>Additional Impact Analysis</i>	Required for all	Required for all	Required for all	Required for all	Required for all

Section 15 requires modeling for lead if emissions exceed 0.2 tpy or 0.1 µg/M<sup>3</sup> impact 24 hour average.

DAQM required pre and post construction ambient air monitoring for PM, SO<sub>2</sub> and NO<sub>x</sub>, which continues to this day. Best available control technology was required for all criteria pollutants. At the time of the permit issuance, an ESP on the kiln was considered BACT for PM. Because of the age and type of kiln, BACT was considered good combustion practices, western coal with sulfur and chloride limits

#### Section 16- Operating Permits

##### 16.4 Conditions to OPERATING PERMITS

The CONTROL OFFICER may issue an OPERATING PERMIT with conditions, agreed upon in writing by the applicant, that specify emission limits, production rates, control methods, etc. These conditions may also limit the hours or periods of operation.

**Discussion:** An operating permit with emission limitations, control requirements, production rates, monitoring and testing requirements was issued by DAQM's predecessor agency on July 7, 1994 and signed, thereupon showing agreement by Aldo R. Dinardo, President of Royal Cement, Inc. on July 15, 1994.

- 16.4.1 These conditions are subject to annual review by the CONTROL OFFICER. After the review with the permittee, the CONTROL OFFICER may impose or MODIFY conditions to assure continuing compliance with all sections of these Regulations.
- 16.4.2 Violation of the conditions of the permit shall constitute a violation of this section.
- 16.5 The OPERATING PERMIT conditions for new or MODIFIED STATIONARY SOURCES commencing CONSTRUCTION after May 1, 1981, shall include a description of additional CONTROL MEASURES the OPERATOR will undertake, as necessary, if a nearby monitoring station indicates that an applicable AMBIENT AIR quality standard or increment has been exceeded.
- 16.5.1 The CONTROL MEASURES shall be taken within 24 hours of notification to the OPERATOR by the CONTROL OFFICER.
- 16.5.2 The CONTROL OFFICER shall consider the possible effects of emissions from other nearby or influential sources prior to notifying the OPERATOR.

**Discussion:** This requirement is subsumed in the Operating Permit and in the Part 70 OP in administrative conditions and the Emergency Plan required by Section 70.

- 16.6 No PERSON shall willfully deface, alter, forge, counterfeit, or falsify a permit to operate any article, machine, equipment, process or other contrivance.
- 16.7 An OPERATING PERMIT for an EMISSION UNIT shall not be transferable by operation of law or otherwise, from one location to another, nor from one piece of equipment or process to another, but it may be transferred from one PERSON to another upon payment of the required fee, and approval by the CONTROL OFFICER.

**Discussion:** Royal Cement has not physically moved nor have any of the operating permits issued singularly been transferred.

- 16.8 OPERATING PERMITS for an EMISSION UNIT are subject to revocation or suspension for violation of these Regulations. Upon a determination by the CONTROL OFFICER that a permittee is in violation of these Regulations, the CONTROL OFFICER may serve upon the permittee, through personal service or by certified mail, a Notice of Suspension or Revocation of OPERATING PERMIT, setting forth in detail the violations charged. Such suspension or revocation shall become final and effective ten (10) days after service of the written notice, and the OPERATING PERMIT thereupon surrendered to the CONTROL OFFICER, unless the permittee files with the HEARING BOARD, in writing, within ten (10) days after service of the Notice of Suspension or Revocation, an appeal from such action of the CONTROL OFFICER. The filing of such appeal shall stay the suspension or revocation of the permit pending a decision thereon by the HEARING BOARD. The HEARING BOARD shall meet to decide the appeal no later than thirty (30) days after the filing of the permittee's appeal, and after public hearing on said appeal, affording the permittee and the

CONTROL OFFICER full opportunity to present evidence, and testimony may affirm, MODIFY or set aside the action taken by the CONTROL OFFICER. For this purpose, public notice of less than thirty (30) days may be given of such appeal hearing.

16.9 If the OPERATING PERMIT is canceled, suspended, or revoked, any fee paid shall be forfeit.

### **C. Part 70 Operating Permit Program Requirements**

AQR SECTION 19 - PART 70 OPERATING PERMITS [Rev. 05/24/01] AQR Section 19 details Part 70 Operating Permit Program requirements. Section 19 and the AQR Part 70 (Title V) Program received Final Approval on November 30, 2001 with publication of that approval appearing in the Federal Register December 5, 2001 Vol. 66, No. 234.

**Discussion:** Please reference pages 19-1 through 19-28 of the AQR. The applicable requirements of Section 19 are incorporated into the conditions of the Part 70 OP.

VI-8: Clark County Department of Air Quality Management- Air quality Regulations and State Implementation Plan

Applicable Section - Title	Applicable Subsection - Title	SIP	Affected Emission Unit	Compliance Method
0. Definitions	applicable definitions	no	entire facility	recordkeeping
1. Definitions	applicable definitions	yes	entire facility	recordkeeping
4. Control Officer	all subsections	yes	entire facility	recordkeeping
5. Interference with Control Officer	all subsections	yes	entire facility	recordkeeping
8. Persons Liable for Penalties - Punishment: Defense	all subsections	yes	entire facility	recordkeeping
9. Civil Penalties	all subsections	yes	entire facility	recordkeeping
10. Compliance Schedules	when applicable; applicable subsections	yes	entire facility	recordkeeping
11. Ambient Air Quality Standards	applicable subsections	yes	entire facility	recordkeeping
12. Preconstruction Review for New or Modified Stationary Sources	§ 12.1 General Application Requirements for New and Modified Sources of Air Pollutants. § 12.2.5 Requirements for PM <sub>10</sub> Sources in the PSD Area. § 12.2.10 Requirements for CO Sources in the PSD Area. § 12.2.13 Requirements for VOC Sources in the PSD Area. § 12.2.15 Requirements for NOx Sources in the PSD Area. § 12.2.18 HAP Sources in Clark County § 12.3 Owner/Operator Notification, Application Processing Deadlines, Notice of Proposed Action Procedures, and Public Hearings. § 12.8 Issuance of Authority to Construct Certificate with conditions.	no	entire facility	recordkeeping performance testing reporting NOx, SO <sub>2</sub> CEMS; COMs

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Applicable Section - Title	Applicable Subsection - Title	SIP	Affected Emission Unit	Compliance Method
15. Source Registration	all subsections <b>except</b> §15.14 Source registration for Areas Exceeding Air Quality Standards	yes	entire facility	recordkeeping performance testing reporting
16. Operating Permits	all subsections	yes	entire facility	Recordkeeping NOx, SO <sub>2</sub> CEMS; COMs performance testing reporting
18. Permit and Technical Service Fees	§ 18.1 Operating Permit Fees. § 18.2 Annual Emission Unit Fees. § 18.4 New Source Review Application Review Fee. § 18.5 Part 70 Application Review Fee. § 18.6 Annual Part 70 Emission Fee. § 18.14 Billing Procedures	part	entire facility	recordkeeping
19. Part 70 Operating Permit	§ 19.2 Applicability § 19.3 Part 70 Permit Applications § 19.4 Part 70 Permit Content § 19.5 Permit Issuance, Renewal, Reopenings, and Revisions § 19.6 Permit Renewal by the EPA and Affected States § 19.7 Fee Determination and Certification	NA	entire facility	recordkeeping
24. Sampling and Testing - Records and Reports	§ 24.1 Requirements for installation and maintenance of sampling and testing facilities. § 24.2 Requirements for emissions recordkeeping. § 24.3 Requirements for the record format. § 24.4 Requirements for the retention of records by the emission sources.	yes	entire facility	recordkeeping reporting
25. Upset/Breakdown, Malfunctions	§ 25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions. § 25.2 Reporting and Consultation	part	entire facility	recordkeeping reporting

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Applicable Section - Title	Applicable Subsection - Title	SIP	Affected Emission Unit	Compliance Method
26. Emission of Visible Air Contaminants	§ 26.1 Limit on opacity (≤ 20% for 3 minutes in a 60 minute period)	yes	entire facility	recordkeeping Method 9 (EPA)
27. Particulate Matter from Process Weight Rate	All subsections	yes	entire facility	recordkeeping Method 9 (EPA)
29. Sulfur Contents of Fuel Oil	§ 29.1 Diesel oil sulfur < 0.05 percent by weight	yes	generator	Recordkeeping Reporting
34. New Source Performance Standards for Nonmetallic Mineral Mining and Processing	§ 34.1 Applicability § 34.2.1 Performance standard: < 10% opacity for fugitives, mills screens etc. § 34.2.2 15% opacity max for crushers § 34.2.3 7% opacity max. on stacks and bin vents	no	entire facility	VE trained individual on site Method 9 (EPA)
40. Prohibitions of Nuisance Conditions	§ 40.1 Prohibitions	no	entire facility	recordkeeping
41. Fugitive Dust	§ 41.1 Prohibitions	yes	entire facility	recordkeeping
42. Open Burning	§ 42.1 Burning of Combustibles § 42.4 Open burning	yes	entire facility	recordkeeping
43. Odors In the Ambient Air	§ 43.1 Prohibitions	yes	entire facility	recordkeeping
60. Evaporation and Leakage	all subsections	yes	entire facility	recordkeeping
70. Emergency Procedures	all subsections	yes	entire facility	recordkeeping
80. Circumvention	all subsections	yes	entire facility	recordkeeping
81. Regulations Severable	all subsections	yes	entire facility	recordkeeping



COMPLIANCE MONITORING COMPLIANCE PLAN

**Kiln:**

NO<sub>x</sub> limits of 125 lb/hr Installation of NO<sub>x</sub> CEMS on kiln stack. CEMS must have alarm set at 120 pounds per hour to signal commencement of urea injection or the necessity to shut down. Monthly reporting of CEMs info and urea usage.

SO<sub>2</sub> limits Installation of SO<sub>2</sub> CEMs on kiln stack. Monthly reporting of CEMs info including causes and corrections of any exceedances.

PM limits and opacity Calibration of COMS unit. Monthly submission of COMS charts. Monthly submission of throughput records as logged daily. ESP must be operational at all times kiln is operating.

Dioxan/furan limits Annual performance test.

VOC, CO limits Annual performance test. Throughput limits and good combustion.

**Clinker cooler:**

PM<sub>10</sub> from exhaust Record keeping.  
Limited to 0.1 pounds per ton of kiln feed

Opacity limits VE trained individual onsite.

**Quarry controls:**

PM<sub>10</sub> Record keeping weigh scales to track throughput, reported monthly. Moisture minimum of 1.5 percent at all stacker points and operations not controlled by surfactant, baghouse or enclosure.

Opacity: Crusher Limited to 15 percent. Baghouse must be operating at all times hammer mill is operating. Onsite VE trained individual. Reporting of upset/breakdown events.

**Cement Plant:**

Grinding mill, screening Opacity limited to 10 percent. Baghouses as identified in Part 70 OP  
all transfer points, all Emission Unit list must be operational at all times associated equipment  
bagging equipment, all is operating. Enclosures, bin vents must be properly operating at all  
storage bins times associated equipment is operating.

Baghouse opacity 10 percent limit. VE trained individual onsite. Reporting of upset/breakdowns within 1 hour of event.

Coal Annual testing of coal from each supplier. Recordkeeping required.  
Sulfur 0.8 percent  
Chloride 0.25 percent

Table IV-B-4: Permits Issued to Facility

DATE ISSUED	PERMIT NUMBER	DESCRIPTION
1985		
07/09/85	A-550	Conditions to the ATC issued to Las Vegas Cement Company
08/09/85	A-550	Conditions to the ATC issued to Las Vegas Cement Company
1994		
07/07/94	A-154	Agreement to Permit Conditions issued to Royal Cement Company, Inc. <i>(Note: Application for Transfer of an Operating Permit from Las Vegas Cement Co. to Royal Cement was submitted to CCHD-APCD on November 10, 1993.)</i>
07/20/94	A15401	Hammermill; Model # HMI R06-NC with Baghouse
07/20/04	A15402	Vibrating Screen Ty rock; Model # F-900 with Baghouse
07/20/04	A15403	No. 1 Silo; Kiln Feed Storage with Baghouse
07/20/04	A15404	No. 2 Silo; Shale Storage
07/20/04	A15405	No. 3 Silo; Crushed Limestone Storage with Baghouse
07/20/04	A15406	No. 4 Silo; Crushed Limestone Storage
07/20/04	A15407	No. 5 Silo; Flyash Storage with Baghouse
07/20/04	A15408	Ball Mill #1 with Sturtevant Separator and Baghouse
07/20/04	A15409	Cement Kiln and Electrostatic Precipitator
07/20/04	A15410	Clinker Cooler with Baghouse
07/20/04	A15411	No. 6 Silo; Gypsum Storage
07/20/04	A15412	No. 7 Silo; Clinker Storage
07/20/04	A15413	No. 8 Silo; Clinker Storage with Baghouse
07/20/04	A15414	No. 9 Silo; Coal Storage with Baghouse
07/20/04	A15415	Ball Mill #2 with Sturtevant Separator and Baghouse
07/20/04	A15416	No. 10 Silo; Cement Storage
07/20/04	A15417	No. 11 Silo; Cement Storage
07/20/04	A15418	No. 12 Silo; Cement Storage with Baghouse
07/20/04	A15419	Mining Process

**Table IV-B-5: Chronological Review of Permitting Activities**

DATE	ACTIVITY
Year 1985	
May 1985	ATC Application for Las Vegas Cement Company was submitted to CCHD-APCD.
May 28, 1985	Notice of Proposed Action for the ATC Application of Las Vegas Cement Company's Portland Cement Manufacturing Facility with quarry milling equipment and a coal-fired kiln was published in the <i>Las Vegas Review Journal</i> .
May 29, 1985	A copy of the Notice of Proposed Action and ATC Application was submitted to EPA Region 9 by CCHD-APCD for review.
June 6, 1985	Notice of Proposed Action for the ATC Application of Las Vegas Cement Company's Portland Cement Manufacturing Facility with a quarry milling equipment and a coal-fired kiln was published in the <i>Valley Herald</i> .
June 25, 1985	NDEP Dept. of Conservation and Natural Resources submitted its comments on the ATC Application to CCHD-APCD.
July 8, 1985	EPA Region 9 submitted its comments on the ATC Application to CCHD-APCD.
July 9, 1985	Conditions of the Authority to Construct (ATC) issued to Las Vegas Cement Company.
Year 1988	
January 13, 1988	CCHD-APCD required Las Vegas Cement Company to submit a more complete quality assurance program as required in Conditions 8, 10 and 11 of the ATC.
March 8, 1988	Las Vegas Cement Company submitted an Air Quality Program to CCHD-APCD to meet the quality assurance for PSD monitoring.
March 25, 1988	CCHD-APCD advised Las Vegas Cement Company that the quality assurance program has met the PSD air monitoring requirements but specific measures presented in February 13, 1988 letter must be incorporated as permit conditions in the operating permit. Also, CCHD-APCD reminded Las Vegas Cement Company that APCD's participation in operating the Hi-Vol Sampler will end on May 31, 1988 and Las Vegas Cement Company has to take over the monitoring task. A second PM-10 sampler has also been required not later than the main kiln's date of operation.
March 29, 1988	CCHD-APCD required Las Vegas Cement Company to use two flow transfer standards properly calibrated against an authoritative volume standard.
December 14, 1988	CCHD-APCD informed Las Vegas Cement Company that no operating permit can be issued unless each of the required monitoring instruments has been properly installed and functions normally.
Year 1989	
January 6, 1989	CCHD-APCD informed Las Vegas Cement Company that one of its co-located PM-10 sampler is not functionally complete and required the facility to use a critical flow device from Wedding & Associates for the least expensive way of satisfying the PM-10 sampling requirement.
Year 1990	
April 20, 1990	CCHD-APCD informed Las Vegas Cement Company that EPA Region 9 was informed on April 19, 1990 that CCHD-APCD has required the facility to install an opacity monitor at the Clinker Cooler exhaust stack pursuant to condition 13 (a) of ATC Agreement.
July 12, 1990	Las Vegas Cement Company requested APC Hearing Board for variance from Section 12.2.2.5 for a period of one year since the President of the company was seriously injured in an accident, and the company is still looking for a monitoring technician.

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<b>November 1, 1990</b>	<p>CCHD APC Hearing Board granted the variance from Sec. 12.2.2.5 with the following conditions:</p> <ol style="list-style-type: none"> <li>To utilize the period of variance to find a suitable employee to continue post construction monitoring;</li> <li>Variance will not be renewed; and</li> <li>If there is a change of ownership, terms of variance apply to the new owner.</li> </ol>
<b>Year 1991</b>	
<b>August 20, 1991</b>	<p>A copy of Notice of Certification of Pre-Compliance with Hazardous Waste Burning Requirements of Las Vegas Cement Company per 40 CFR 266.103 (b) was sent to CCHD-APCD by DF Acquisition Corp.</p> <p>CCHD-APCD advised Las Vegas Cement Company that the ATC does not allow burning of any hazardous wastes, only low-sulfur coal. CCHD-APCD also advised that a separate ATC is required for the burning of hazardous waste as required in the Notice of Certification of Pre-Compliance with Hazardous Waste Burning. Requirements would involve a significant change in the method of the operation, and would result in emissions of additional regulated air contaminants not previously permitted.</p>
<b>August 21, 1991</b>	<p>CCHD-APCD also informed Las Vegas Cement Company that there is no operating permit issued for the facility.</p>
<b>August 28, 1991</b>	<p>Pre-Compliance Certification for Hazardous Waste Burning Requirement of Las Vegas Cement Company per 40 CFR 266.103 (b) was submitted to EPA by DF Acquisition Corp.</p> <p>Notice of Certification of Pre-Compliance with Hazardous Waste Burning Requirements of 40 CFR 266.103 (b) was published at <i>Moapa Valley Progress</i>.</p>
<b>September 19, 1991</b>	<p>CCHD-APCD sent Las Vegas Cement Company a Protocol/Policy on PSD/Ambient Air Monitoring pursuant to Sec. 40 CFR 58, Appendix B and Sec. 12, 13, and 15 of the APC Regulations which is effective on the 4<sup>th</sup> Quarter of 1991 requiring Las Vegas Cement company to submit the report before January 30, 1992. The protocol/policy is applicable only to particulate monitoring reporting.</p>
<b>October 2, 1991</b>	<p>CCHD-APCD received a letter from Moapa Valley Town Advisory Board requesting APCD attendance of the October 10, 1991 Town board Meeting to address the permit application of Las Vegas Cement Company to burn hazardous wastes and other issues for clarification such as open burning under Sec. 41 of APC Regulations.</p>
<b>October 17, 1991</b>	<p>NDEP Dept. of Conservation and Natural Resources informed Las Vegas Cement Company that it has reviewed the letter to EPA Region 9 sent by DF Acquisition Corp. stating that cement kiln has been under construction for several years and meets the requirement for "in existence". According to 40 CFR 266.103 (a)(1)(ii), "in existence" means an industrial furnace that is either in operation burning or processing hazardous waste or for which construction (including ancillary facilities to burn or process the hazardous waste) has commenced on or before August 21, 1991.</p> <p>Per NDEP, it has not reviewed any application for State permits and approvals that are required prior to physical construction of new hazardous waste units, physical modifications of the existing facility, or burning hazardous waste as fuel. Pursuant to NRS 459.515, it is unlawful for any person to construct, substantially alter or operate any facility for the treatment, storage or disposal of hazardous waste unless a permit has been obtained from NDEP.</p>
<b>Year 1992</b>	
<b>September 11, 1992</b>	<p>CCHD-APCD informed Las Vegas Cement Company that it has not received any communication with respect to the NOV # 2203 since the case was continued by APC Hearing board on July 13, 1992. CCHD-APCD ordered the appearance of Las Vegas Cement Company to appear on September 23, 1992 and requested to provide a written response to each of facts</p>

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<b>Year 1993</b>	alleged by October 1, 1992.
<b>February 25, 1993</b>	<p>The request of Las Vegas Cement Company for a variance from Sec. 12.2.2.5 of the APC Regulations and Conditions # 9 of ATC was granted by the CCHD APC Hearing Board with the following conditions:</p> <ol style="list-style-type: none"> <li>1. Variance shall be effective from December 31, 1992 and expire on January 1, 1994.</li> <li>2. Las Vegas Cement Co. may cease particulate matter monitoring after December 31, 1992 sample run date.</li> <li>3. Las Vegas Cement Co. shall submit the first quarter's monitoring data and quality assurance data in compliance with APCD's Policy on Ambient Air Monitoring.</li> <li>4. Las Vegas Cement Co. shall again commence particulate matter monitoring on the 1<sup>st</sup> regularly scheduled sample run date after January 1, 1994 in compliance with 40 CFR 58 Appendix B and APCD's Policy on Ambient Air Monitoring.</li> <li>5. During the term of variance, Las Vegas Cement shall submit quarterly proof of continued construction reports.</li> <li>6. If Las Vegas Cement commences operations before January 1, 1994, it shall begin monitoring again after start-up date.</li> </ol>
<b>July 29, 1993</b>	Las Vegas Cement Company reported to CCHD-APCD the following activities done for the second quarter 1993 as required by the variance condition granted in February 25, 1993. (1) They have started to tidy up the plant; (2) They have obtained financing; (3) Start-up date is dependent on Overton power supply.
<b>October 30, 1993</b>	<p>Las Vegas Cement Company submitted its activities for the third quarter 1993 in compliance with the variance conditions issued by CCHD-APCD on July 7, 1994:</p> <ol style="list-style-type: none"> <li>1. Construction of plant facilities completed</li> <li>2. Financing secured for start-up</li> <li>3. Company name changed from Las Vegas Cement Company to Royal Cement Company, Inc.</li> </ol> <p>Process and equipment tune-up phase started and also informed of tentative commencement of operation before January 1, 1994.</p>
<b>November 10, 1993</b>	Application for Transfer of an Operating Permit from Las Vegas Cement Co. to change of ownership to Royal Cement Company, Inc. was submitted to CCHD-APCD.
<b>Year 1994</b>	
<b>July 7, 1994</b>	Agreement to Permit Conditions for the facility was issued to Royal Cement.
<b>July 8, 1994</b>	CCHD-APCD sent the Agreement to Permit Conditions under its new name to Royal Cement Company, Inc. (or Royal Cement).
<b>July 20, 1994</b>	Operating Permits (A15401 to A15419) issued to Royal Cement.
<b>July 22, 1994</b>	A15408 Ball Mill #1 with Sturtevant Separator and Baghouse
	CCHD-APCD informed Royal Cement that the Operating Permits A15401 through A15419 will be forwarded to the company upon payment of the permit fees.
<b>Year 1995</b>	
<b>January 6, 1995</b>	Royal Cement submitted a request for an extension of time to comply with the conditions of the July 7, 1994 operating permit. The Agreement to Permit conditions requires performance tests and monitoring of NOx and SO <sub>2</sub> within 180 days after commencing operation. However, the facility operated only from July 15 to September 22, at which time the collapse of a 1,000 ton storage silo forced the facility to shut down.
	Royal Cement requested a hearing before the ATC Hearing Board for variance and allowing them one year to comply with 40

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	CFR 60.8 Par. (1) performance test requirement from 60 to 180 days after achieving maximum production rate. Royal Cement alleged that it has not achieved maximum production and the variance will keep them in compliance. The request for a variance from Sec. 16.4 of the APC Regulations was granted by the APC Hearing Board with the following conditions: <ol style="list-style-type: none"> <li>1. To provide monthly reports on status of the facility;</li> <li>2. To provide a copy of the performance test protocol for both kiln and clinker cooler;</li> <li>3. Performance test to be done within 60 days after kiln start-up;</li> <li>4. To commence monitoring NOx and SO<sub>2</sub> within 30 days after kiln start-up;</li> <li>5. To provide annual report for calendar year 1994 as required in OP conditions by March 3, 1995; and</li> <li>6. A new variance has to be applied for if facility is not in operation on January 10, 1996.</li> </ol> Royal Cement submitted to CCHD-APCD its 1994 Report summarizing activities from July 15, 1994 (start-up) until shut down on September 22, 1994. Royal Cement informed CCHD-APCD that its kiln is currently shut down but no exact date to resume operations has been determined due to the continuing test and repairs of equipment. Royal Cement informed CCHD-APCD that it operated its rotary kiln approximately 10 days for the last month but it was taken down for emergency repairs and have experienced delays in restarting it. CCHD-APCD required Royal Cement to submit a complete application for modification before January 8, 1996 to include existing emission units not currently permitted by APCD.
<b>February 22, 1995</b>	
<b>March 3, 1995</b>	
<b>April 3, 1995</b>	
<b>August 2, 1995</b>	
<b>November 1, 1995</b>	
<b>Year 1996</b>	
<b>March 19, 1996</b>	CCHD-APCD billed Royal Cement for the annual Operating Permit fees and Title V emission unit fees for 19 emission units.
<b>May 21, 1996</b>	Notice of Violation (NOV # 3065) was issued to Royal Cement for violating Sec. 16.4.2 (Operating Permits). The emission rates and emission standards (factors) for NOx, CO, PM <sub>10</sub> (clinker), kiln rate, and opacity failed based on performance test results and a corrective action order and a proposed settlement and penalty was presented to Royal Cement for the NOV for presentation in the CCHD APC Hearing board on July 18, 1996.
<b>July 5, 1996</b>	CCHD-APCD issued Notice of Violation # 3077 to Royal Cement for violation of Sec. 18.2 and Sec. 18.6 (Permit and Technical Service and Title V Emission fees) for failure to pay the 1996 Annual Operating Permit and Title V emission fees for 19 emission units
<b>July 19, 1996</b>	CCHD-APCD submitted to EPA Region 9 a permit application of Royal Cement pursuant to Title V of CAA, 42 USC Sec. 7661 through 7661f.
<b>August 13, 1996</b>	CCHD-APCD has received a delinquent fee payment schedule per Part IV F of Title V Submittal from Royal Cement.
<b>August 20, 1996</b>	Royal Cement accepted the offer to settle NOV # 3053 for penalty of \$ 500 and NOV # 3065 for penalty of \$ 1,000.
<b>September 9, 1996</b>	Royal Cement submitted the monthly program report in compliance with Part IV, Title V and notice of Violation # 3100 (Revised), Compliance Schedule Par. 5.
<b>September 15, 1996</b>	The ambient air monitoring station has been on line in accordance with Royal Cement Compliance Plan under Title V. Informed CCHD-APCD that audit will be completed by September 25, 1996.
<b>September 23, 1996</b>	Royal Cement informed CCHD-APCD that it hired an auditor, Southwest Technical Services to perform an audit of its ambient air monitoring station.
<b>September 25, 1996</b>	CCHD-APCD approved the protocol methodology which was outlined in Royal Cement's September 17, 1996 submission.
<b>October 7, 1996</b>	Program Report #2 in compliance with the directive in Part V, Title V and NOV # 3100 (Revised) and in accordance with the

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	directive contained in Part B, Certification of the continuous Opacity Monitors for the Kiln and Clinker Cooler Stacks, Par. 5 was submitted by Royal Cement to CCHD-APCD.
<b>November 10, 1996</b>	Progress Report III in compliance with Part IV of the compliance plan with regard to its continuous opacity monitoring system was submitted by Royal Cement.
<b>November 13, 1996</b>	A Certified Progress Report was submitted by Royal Cement in compliance with Part IV, title V, and NOV # 3100 (Revised) in accordance with the directive contained in Compliance Schedule Par. F.
<b>December 3, 1996</b>	EPA Region 9 sent a letter to Royal Cement requiring to submit information to assess the past and current compliance status of the cement plant with regard to 40 CFR Sec. 60.60 (a) Subpart F. Pursuant to 40 CFR Sec. 60.60 (b), Subpart F Affected Facility, which commences construction or modification after August 17, 1971 is subject to 40 CFR Sec. 60.16. An existing facility may become an affected facility subject to the requirements of Subpart F if it is recommended. The following information requested by EPA: <ol style="list-style-type: none"> <li>1. Identify each Subpart F affected facility at the plant</li> <li>2. Provide a plot plan showing location of each Subpart F affected facility</li> <li>3. Description of all air pollution control equipment associated with each Subpart F affected facility</li> <li>4. Date of construction of Subpart F affected facility</li> <li>5. Date on which any physical or operational change occurred.</li> </ol>
<b>Year 1997</b>	
<b>April 8, 1997</b>	Royal Cement informed CCHD-APCD that the COMS in both emission points have been calibrated and certified by CEM Preventive Maintenance. Method 9 calibration was performed on these units.
<b>May 15, 1997</b>	A Certified Progress Report was submitted by Royal Cement in compliance with Part IV, Title V, and compliance Schedule, Par. F.
<b>May 29, 1997</b>	Royal Cement submitted the Test Report for 1997 emission Compliance Tests for Cooler and Kiln to CCHD-APCD and informing that the plant has met the limits for all tests including cooler PM <sub>10</sub> , Kiln Opacity (including Method 9) and CO, except for NOx which exceeded the permit limit.
<b>July 23, 1997</b>	EPA Region 9 requested Royal Cement for additional information to its submittals on February 1997 in response to EPA Region 9 request on December 3, 1996. The requested additional information is to ascertain the compliance status pursuant to Sec. 114 CAA, 42 USC Sec. 7414. Additional information requested by EPA Region 9 were the following: <ol style="list-style-type: none"> <li>1. Why was particulate performance tests conducted in March 1996 for PM10 rather than particulate matter as required by 40 CFR Part 60 Subpart F.</li> <li>2. Complete copy of all particulate matter performance test reports and opacity observations conducted subsequent to October 1996.</li> <li>3. Details of all modifications and repairs made on equipment controlling air emissions from the kiln and clinker cooler subsequent to March 12, 1996.</li> <li>4. Commencement of construction and start-up</li> <li>5. Copies of all notification submitted as required by 40 CFR Sec. 60.7 (a) of EPA's information request letter dated December 3, 1996.</li> <li>6. Copy of documents responsive of item # 11 of EPA's December 3, 1996 letter which are not contained in Appendix D</li> <li>7. Detail of relationship between Las Vegas Cement Company</li> </ol>
	Submission was requested no later than August 8, 1997.

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<p><b>September 12, 1997</b></p>	<p>EPA Region 9 issued Royal Cement a Finding and Notice of violation (NOV) pursuant to Sec. 113(a)(1) and Sec. 113(a)(3) of CAA as amended, 42 USC Sec. 7413(a)(1) and 7413(a)(3) of CAA, for violation of Sec. 15 and 16 (Operating Permit) of CCHD APC Regulations, SIP, and conditions in its ATC/OP as well as 40 CFR Part 60, NSPS Subpart A and F. The NOV indicated that Royal Cement:</p> <ol style="list-style-type: none"> <li>1. Failed to notify EPA of the date of construction and/or reconstruction of Subpart F affected facilities within 30 days after date of construction and/or reconstruction</li> <li>2. Failed to notify EPA of the anticipated date of initial start-up of Subpart F affected facilities at the plant prior to the date of initial start-up</li> <li>3. Failed to notify EPA of the actual date of initial start-up of subpart F affected facilities within 15 days after such date</li> <li>4. Failed to notify EPA at least 30 days prior to any performance test and opacity observations on the affected facilities in order for EPA to have an observer present</li> <li>5. Failed to submit EPA semi-annually an excess emissions and monitoring systems performance report for Continuous Monitoring System (CMS) and monitoring device</li> <li>6. Failed to conduct performance tests and opacity observations on subpart F affected facilities and failed to furnish EPA with written reports of the results of performance tests within 60 days after achieving 60% maximum production rate or within 180 days after initial start-up of opacity</li> <li>7. Failed to comply with opacity limit for the kiln exhaust</li> <li>8. Failed to comply with the particulate matter emission limit for the clinker cooler</li> <li>9. Failed to comply with the continuous opacity monitoring requirement for the clinker cooler</li> </ol>
<p><b>September 15, 1997</b></p>	<p>EPA Region 9 sent its Finding and Notice of Violation (NOV) to Royal Cement.</p>
<p><b>September 18, 1997</b></p>	<p>A copy of the Finding and Notice of Violation (NOV) issued by EPA Region 9 to Royal Cement was received by CCHD-APCD.</p>
<p><b>Year 1998</b></p>	<p><b>January 28, 1998</b></p> <p>CCHD-APCD informed Royal Cement that the performance test protocol submitted by American Environmental Testing Co. via Laurel Pathman &amp; Associates for the NOx emissions from the cement kiln stack was found unacceptable and cannot be approved by CCHD-APCD for the following reasons:</p> <ol style="list-style-type: none"> <li>1. Protocol did not include a measurement methodology for determining "tons cement produced". Protocol did not include the appropriate Quality Assurance/Quality control (QA/QC) of that measurement system.</li> <li>2. NOx emissions from a combustion source are basically proportional to the amount of fuel used. No measurement methodology for the fuel input, nor any QA/QC for such system was included in the protocol.</li> <li>3. Verification of the absence of cyclonic flow which is necessary to demonstrate the applicability of Methods 1 or 1A.</li> </ol>
<p><b>January 23, 1998</b></p>	<p>Laurel Pathman &amp; Associates submitted the Pretest Protocol for NOx emissions of cement kiln for Royal Cement's performance testing scheduled on February 24, 1998.</p>
<p><b>March 5, 1998</b></p>	<p>CCHD-APCD informed Royal Cement regarding expectations of APCD on the performance testing and performance testing protocol for various tests to be conducted at the Portland cement facility, as follows:</p> <ol style="list-style-type: none"> <li>a. Cement kiln stack             <ol style="list-style-type: none"> <li>1. Method 7E for NOx</li> <li>2. Method 201A/202 for PM<sub>10</sub></li> <li>3. Method 5 for PM</li> <li>4. Method 9 (and 40 CFR 60.11) for opacity</li> </ol> </li> </ol>



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	<p>5. Methods 1,2,3,4 for stack and stack gas parameters          Clinker Cooler Stack</p> <p>1. Method 201A/202 for PM<sub>10</sub></p> <p>2. Method 5 for PM</p> <p>3. Methods 1,2,3,4 for stack and stack gas parameters</p> <p>c. 40 CFR 60 Subpart F affected facilities:</p> <p>1. Method 9 and the procedure of 40 CFR 60, Subpart OOO</p> <p>2. VE testing shall commence at sometime during the stack testing. It is not necessary that all VE tests be completed by the end of the stack test. However, the production rate during all VE testing shall be certified as being conducted at no less than 80% of the permitted maximum production rate or the manufacturer's designed maximum capacity, whichever is greater.</p> <p>d. 40 CFR Subpart OOO affected facilities</p> <p>1. Method 9 and the procedure of 40 CFR 60 Subpart OOO</p> <p>2. Same as c(2) above</p> <p>e. Compliance</p> <p>1. Each of various test results will demonstrate compliance with the standard contained in the appropriate subparts of 40 CFR 60</p> <p>2. Each of the various test results will demonstrate compliance with the appropriate limitations contained in local OP</p> <p>f. The anticipated date for the various performance tests was March 5 and 6, 1998. Royal Cement shall submit a 10-day written prior notice of the revised testing dates.</p> <p>g. Any decision from the above, without prior written approval, shall submit result in the testing being declared invalid, and appropriate enforcement action taken.</p>
<b>March 17, 1998</b>	<p>Royal Cement informed CCHD-APCD that it shut down its Portland Cement Manufacturing Facility due to financial problems and hoped to resume the plant operations within 30 to 90 days. The performance test scheduled for March 19 and 20, 1998 has been delayed indefinitely.</p>
<b>April 1, 1998</b>	<p>ATC/OP Modification #1 Application was submitted to CCHD-APCD. The permit modification involve:</p> <p>1. NOx emission limitation increase</p> <p>2. CO limit on kiln based on performance testing</p> <p>3. Request for opacity limit increase from 10% to 20%</p> <p>4. Kiln feed rate based on monthly average</p>
<b>June 29, 1998</b>	<p>CCHD-APCD sent a copy to EPA Region 9 the documents submitted by Royal Cement for its ATC/OP Modification #1 application.</p>
<b>August 6, 1998</b>	<p>CCHD-APCD informed Royal Cement that its application for ATC/OP Modification #1 has been deemed incomplete and additional information is requested not later than September 11, 1998. The additional requirements requested are: new NOx emission limit based on performance test, modeling for NAAQS and increment consumption, detailed BACT analysis for NOx, estimated CO emissions from kiln, and other requirements based on the initial review of application.</p>
<b>Year 1999</b>	
<b>April 6, 1999</b>	<p>Royal Cement submitted a BACT study and results of emissions test performed by Steiner Environmental Inc. on March 12, 13 and 14, 1996 for NOx emissions as required by CHD-APCD in its letter dated August 6, 1998 for the submission of an ATC/OP Modification that proposes a NOx emission limit based on a compliance test.</p>

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	Royal Cement submitted the NOx Modeling done with Short Term (ISCST3) Dispersion Model done by Terracon. Terracon conducted 2 NAAQS and PSD model runs due to the magnitude of the coverage area.
<b>May 19, 1999</b>	CCHD-APCD informed Royal Cement that the ATC/OP Modification #1 Application has been processed and also requested to submit additional information before June 19, 1999; updated list of process equipment/emission units, throughput, control devices and compliance with other requirements.
<b>June 11, 1999</b>	The Modeling Staff of CCHD-AQD submitted comments to NSR that the modeling performed by Terracon appears to adequately demonstrate that neither NAAQS nor PSD increment for NOx would be exceeded by the Modification at the emission levels modeled.
<b>June 16, 1999</b>	CCHD-APCD informed Royal Cement that the NOx Modeling performed by Terracon appeared to adequately demonstrate that neither NAAQS nor the PSD increment for NOx would be exceeded by modification at the emission level modeled, per review of the Air Quality Modeling Staff of APCD.
<b>August 4, 1999</b>	Royal Cement submitted the revisions of its ATC/OP Modification #1 Application to CCHD-APCD.
<b>August 9, 1999</b>	Royal Cement's Consultant (Terracon) submitted its request to CCHD-APCD to discontinue the operation of the ambient air monitoring for SO <sub>2</sub> and NOx at Royal Cement's facility. Since the SO <sub>2</sub> and NOx emissions are less than 100 tpy based on the modeling conducted by Steiner Environmental for the evaluation of impact.
<b>November 19, 1999</b>	Royal Cement's Consultant (Terracon) submitted to CCHD-APCD the NOx Class I area impacts. Terracon informed that based on the air quality modeling results, Class I Area impacts is not required and that the Grand Canyon National Park Class I area from sources within the Moapa Valley is well below PSD increment and NAAQS levels.
<b>November 29, 1999</b>	Draft ATC/OP and TSD Modification #1 was submitted to EPA Region 9 for review. EPA was informed that APCD plans to publish the Notice of Proposed Action on November 28, 1999.
<b>Year 2000</b>	EPA Region 9 requested from CCHD-APCD copies of supplemental documents, top-down BACT analysis for NOx, 1994 OP, NOx modeling and justification of opacity increase from 10% to 20%, for review in connection with the ATC/OP Modification #1 Application of Royal Cement.
<b>January 9, 2000</b>	Notice of Proposed Action for Royal Cement's ATC/OP Modification #1 Application due to the increase of NOx emissions limitation for the kiln, CO limit based on performance testing, opacity limit for the kiln to be changed from 10% to 20%, and the kiln feed rate based on monthly average was published in the <i>Las Vegas Review Journal</i> .
<b>January 26, 2000</b>	EPA Region 9 requested from CCHD-APCD copies of PCA BACT analysis, modeled fence line annual NOx impact, old permits (1985 ATC and 1994 OP) and justification of hourly and annual NOx PTE for review in connection with the ATC/OP Modification #1 Application of Royal Cement.
<b>January 27, 2000</b>	CCHD-APCD sent EPA Region 9 the requested documents.
<b>February 6, 2000</b>	Nevada Environmental Coalition (NEC) submitted a request for a public hearing regarding the Notice of Proposed Action for Royal Cement's ATC/OP Modification #1 Application published on January 9, 2000.
<b>February 7, 2000</b>	EPA Region 9 submitted its comments regarding Royal Cement's ATC/OP Modification #1 Application to CCHD-AQD. EPA's comments based on the draft ATC/OP and TSD: 1. BACT analysis provided by applicant is not adequate and a thorough analysis must be prepared. Any conclusion that a control is not BACT due to economic concerns should be supported by an analysis of the cost of control per ton of

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	<p>emission reduction achieved</p> <ol style="list-style-type: none"> <li>2. Calculation of the net emissions increase should be based on "actual-to-potential test" . Using an actual-to-potential test would likely show that the facility should undergo review for a major modification of PM<sub>10</sub> emissions.</li> <li>3. The additional impact analysis is a pre-construction review requirement which must be completed by the applicant prior to permit issuance.</li> <li>4. Control requirements for particulate emissions using water sprays and baghouses should be expanded to make the use of these controls enforceable. Annual limits should not be set higher than 20% above what continuous operation at a short-term limit would allow.</li> <li>5. Permit should specify what type of ambient monitoring is required.</li> <li>6. 10% opacity limit for baghouse emissions should be maintained in the permit.</li> <li>7. The use of a baghouse for Ty Rock Vibrating Screen as being 99% controlled but only required the screen to be controlled with water sprays is inconsistent and should be corrected.</li> <li>8. Emissions calculations for crushing, screening, and batch preparations are inconsistent. EPA suggested to use emission factors outlined in 1997 EPA Memo to CCHD-APCD, since AP-42 factors are likely not representative of the emissions from processing operations in very dry, desert-like condition in Clark County.</li> <li>9. Notify EPA of the initial start-up of the facility.</li> </ol>
<b>February 9, 2000</b>	<p>Robert Hall submitted to CCHD-AQD his comments and administrative protest regarding the issuance of an ATC/OP modification #1 based on a Public Notice on January 9, 2000.</p>
<b>February 25, 2000</b>	<p>EPA Region 9 e-mailed to CCHD-AQD informing that some significant work has to be done before the ATC/OP Modification #1 can be issued and that another public notice may be required for the application.</p> <p>Royal Cement's ATC/OP Modification #1 Application deemed incomplete and could be withdrawn as a result of EPA Region 9 comments to give Royal Cement more time to finalize the changes in the ATC/OP Modification #1 Application. NSR is treating it as a modification to an existing source although it has limited production with which to establish historical records of production rates.</p>
<b>March 1, 2000</b>	<p>CCHD-AQD e-mailed copies of the draft ATC/OP Modification #1 and TSD to the National Park Service (NPS) for review.</p>
<b>March 3, 2000</b>	<p>A copy of Robert Hall's comments and administrative protest regarding the issuance of an ATC/OP Modification #1 was sent to Royal Cement by CCHD-AQD.</p>
<b>March 8, 2000</b>	<p>National Park Service (NPS) faxed its comments/suggestions and recommendations to CCHD-AQD regarding Royal Cement's ATC/OP and TSD for Modification #1 application. Per NPS, an impact analysis was not performed and a visibility analysis needs to be performed. Based on the Notice of Proposed Action, a cumulative NO<sub>2</sub> increment analysis needs to be performed also. NPS also expressed concern about the large increase in emissions and that it intends to review the BACT analysis.</p>
<b>March 15, 2000</b>	<p>Royal Cement submitted a copy of the BACT analysis (Part I) as required by EPA Region 9.</p>
<b>March 16, 2000</b>	<p>CCHD-AQD informed Royal Cement that it is rescinding the preliminary approval of the ATC/OP Modification #1 as public noticed on January 9, 2000 after review of EPA Region 9, National Park Service (NPS) AND Nevada Environmental Coalition (NEC) concerning BACT analysis and Class I NAAQS impacts. Royal Cement was required to submit additional BACT and Class I NAAQS impact analysis as required by the review agencies; after due consideration of the completeness and acceptability of the requirements, a Public Notice will be published again.</p>
<b>March 24, 2000</b>	<p>Royal Cement wrote to CCHD-AQD explaining the reasons for not applying the "Rule of Thumb" concerning PM<sub>10</sub> emission</p>

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	<p>limits to its crusher. The facility is a continuous operation from the raw mill through the kiln system and all other systems are operated only as needed, therefore, the crusher will operate only for few hours to meet the requirements of the kiln system. Another reason is that the crusher was obtained as a package along with the kiln system. Before it was obtained, it was providing crushed limestone for 3 cement kilns, whereas, now with Royal Cement, it serves only one kiln. Therefore, Royal Cement has asked that the current rate for its crusher remain the same.</p>
<b>March 30, 2000</b>	<p>Royal Cement submitted to CCHD-AQD a top-down BACT analysis (Part II) as well as clarifications of comments per EPA review of the draft ATC/OP Modification #1 and TSD.</p>
<b>March 31, 2000</b>	<p>CCHD-AQD sent a copy of the ATC/OP Modification #1 application of Royal Cement of Arizona Dept. of Environmental Quality (ADEC) for comments.</p> <p>NPS submitted its comments/suggestions and recommendations regarding Royal Cement's ATC/OP and TSD for Modification #1 application to CCHD-AQD. NPS requested that CCHD-AQD will notify them in the future for any PSD project during the permitting process or prior to the preparation of permit application. NPS comments/suggestions and recommendations are the following:</p> <ol style="list-style-type: none"> <li>1. Class I NO<sub>2</sub> increment analysis was performed for Grand Canyon National Park with the ISCST3 Model. Per NPS, this is not the appropriate model to use for the assessment of impacts. PSD projects beyond 50 km from a Class I area should use EPA CALPUFF Modeling System. Royal Cement should repeat the increment analysis using the CALPUFF Model.</li> <li>2. Royal Cement should also prepare a modeling protocol prior to performing the modeling so that CCHD-AQD and NPS agree up front on how the modeling will be performed. NPS recommends details on the visibility and deposition modeling be included in the modeling protocol.</li> <li>3. Royal Cement should prepare an additional impact analysis as part of the pre-construction review requirement on visibility at both Grand Canyon National Park and Lake Mead National Recreation Area.</li> <li>4. Royal Cement should perform a haze analysis for Grand Canyon National Park and both plume and haze analyses for Lake Mead National Recreation Area.</li> <li>5. Royal Cement should perform a nitrogen deposition analysis for both NPS areas.</li> </ol> <p>Regarding preparation of the protocol and use of CALPUFF Model, NPS suggested to Contact John Notar of NPS.</p>
<b>April 4, 2000</b>	<p>Royal Cement submitted to CCHD-AQD its request for permission to install a new dust collector unit between the precipitator and kiln stack exhaust fan for the Portland cement manufacturing plant. Per justifications submitted, the additional unit is a control device whose primary function is the reduction of particulate emissions and will not affect nor result in an increase in production capacity nor the PTE and will not be considered a modification of the facility.</p>
<b>April 17, 2000</b>	<p>CCHD-AQD informed Royal Cement that it has no objection for the installation of the dust collector unit at its facility without prejudice to the requirements of this type of equipment that shall be imposed in the ATC/OP Modification #1 conditions (if there shall be any) and that the additional unit will be included in the ATC/OP Modification #1 permit.</p>
<b>April 18, 2000</b>	<p>CCHD-AQD requested additional requirements from Royal Cement per NPS comments/suggestions and recommendations in its letter to CCHD-AQD on March 31, 2000.</p> <p>CCHD-AQD submitted a copy of the revised BACT determination submitted by Royal Cement to NPS for review. CCHD-AQD informed NPS that the pre-application requirements such as additional impact analysis, visibility and haze analysis, and recommendation to use EPA CALPUFF Modeling System for the Class I NO<sub>2</sub> increment analysis.</p>

**FINAL TECHNICAL SUPPORT DOCUMENT Initial Part 70 Operating Permit  
ROYAL CEMENT COMPANY, INC.  
Source No. A-154  
December 2002**

	Royal Cement submitted a letter to CCHD-AQD responding to the comments of EPA Region 9 on the ATC/OP Modification #1 Application that was sent to AQD on February 10, 2000. Royal Cement informed that it contracted the services of an environmental consultant (Pentacore) to perform modeling analysis to complete the additional requirement. (Other issues in the letter was addressed in a meeting with NSR Staff and Supervisor on March 21, 2000.)
<b>May 4, 2000</b>	Royal Cement's Consultant (Pentacore) informed CCHD-AQD about the status of the CALPUFF Model which is required by NPS. The Class I analysis is scheduled for completion on May 15, 2000.
<b>July 19, 2000</b>	CCHD-AQD requested Royal Cement to submit by July 28, 2000 the results of CALPUFF Model and include other requirements in AQD's letter dated April 18, 2000.
<b>July 28, 2000</b>	Royal Cement's Consultant (Pentacore) submitted an additional Class I analysis addressing NPS requirement including a summary of the result of the CALPUFF Modeling. Pentacore informed CCHD-AQD that it was retained by Royal Cement to perform the CALPUFF Modeling analysis for the Grand Canyon National Park Class I Area. Pentacore also informed that agreement on the modeling protocol has been achieved by submitting a draft CALPUFF Model input to NPS for review. The modeling resulted that the impacts to the Grand Canyon National Park Class I Area and Lake Mead National Recreation Area are insignificant and will not contribute to significant deterioration of Air Quality Related Values (AQRVs) at either area.
<b>March 18, 2001</b>	Public Notice appeared in the Las Vegas Review Journal for Modification #1 as revised
<b>November 2001</b>	Performance tests completed and accepted on kiln. 1994 limits were met.
<b>April 18, 2002</b>	Royal Cement withdrew the application for modification 1, agreeing to operate by the 1994 ATC/OP

## V. ADMINISTRATIVE REQUIREMENTS

This document was prepared in accordance with the latest interpretation of DAQM guidelines, policies, verbal and or written supervisory and managerial instruction, issued on or before August 5, 2002.

Section 19 requires that DAQM identify the original authority for each term or condition in the Part 70 Operating Permit. Such reference of origin or citation is denoted by [italic text in brackets] after each Part 70 Permit condition.

DAQM proposes to issue the Part 70 Operating Permit conditions on the following basis:

### Legal:

On December 5, 2001 in Federal Register Volume 66, Number 234 FR30097 the EPA fully approved the Title V Operating Permit Program submitted for the purpose of complying with the Title V requirements of the 1990 Clean Air Act Amendments and implementing Part 70 of Title 40 Code of Federal Regulations.

### Factual:

Royal Cement, Inc. submitted the initial Part 70 operating permit application August 24, 1995. An amended application submitted October 1, 1999 was deemed complete. On July 17, 2002, Royal Cement, Inc. submitted a revised application to update emissions information and identification of company officials.

### Conclusion:

DAQM has determined that Royal Cement Inc. will continue to determine compliance through the use of CEMS, monthly reporting, daily record keeping, coupled with annual certifications of Compliance. DAQM proceeds with the preliminary decision that a Part 70 Operating Permit should be issued as drafted for a period not to exceed 5 years.

14/11  
Mason ✓  
?

# Royal Cement Company, Inc.

## Fax Cover Sheet

PO Box 380  
State Route 169, 2 1/4 Miles East of I-15  
Logandale, Nevada 89021

(702) 398-3533

To Harold Glasser

Company Clark County Health Dist.

Date 12-9-96

Fax 702-383-1443

From Jim Dick

Number of Pages, (Including Cover): 2

Please see attached Carnot Proposal Test  
Protocol. Correction on page 6, section 3.5,  
Test Schedule. Test dated should read Dec. 12  
& 13, 1996.

TEST DESCRIPTIONSECTION 3.0

8. Personnel training.
9. Monitoring of new and emerging methods and technologies.

Specific QA data which is included in the appendices of this report are:

1. Equipment calibration data
2. CEM calibration
3. CEM performance data
4. Chain of custody on all samples

Carnot participates in EPA's audit programs for Methods 5, 6, and 7, and is certified by the California Air Resources Board and South Coast Air Quality Management District (SCAQMD) under their Independent Source Tester's Approval programs. Additional QA information is presented in Appendix B.

### 3.5 TEST SCHEDULE

The scheduled test date for has been set for December <sup>12</sup> ~~11~~ and <sup>13</sup> ~~12~~, 1996. A proposed test schedule for on-site testing activities is shown in Table 3-3. This schedule is based on the number of tests and the required sample times.



**Royal Cement Company, Inc.**

PO Box 380  
State Route 169, 2 1/2 Miles East of I-15  
Logandale, Nevada 89021

(702) 398-3533

12/9/96  
Mason,  
OK?  
[Signature]

December 6, 1996

Mr. Harold Glasser  
Enforcement Supervisor  
Clark County Health District  
625 Shadow Lane  
Las Vegas, NV 89127

Re: Emissions Testing Protocol

Dear Mr. Glasser:

In accordance with the directive contained in Part C "Excess NOx and CO emissions from the kiln stack," performance emissions testing has been scheduled for December 12 and 13, 1996.

Emissions testing will be performed by Carnot of Boulder, Colorado. Please find enclosed two copies of the test protocol for compliance testing.

If you have any questions, or if you intend to send an observer for the testing, please contact me at (702) 397-2591.

I would also like to take this opportunity to notify you of my addition to the Environmental Affairs division of Royal Cement. I will be working closely with Dr. James Dick on all matters of environmental concern at Royal Cement.

Sincerely,

*Robin Fulmer*

Robin Fulmer

Environmental Specialist

1996 DEC - 6 - 3 29

RECEIVED  
CCHD-APCD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

RECEIVED  
CCHD-APCD

1996 DEC -6 A 11: 15

December 3, 1996

12/13/96

To →

CERTIFIED MAIL NO. Z695 244 982  
RETURN RECEIPT REQUESTED

Mr. Aldo R. Dimardo  
President  
Royal Cement Company, Inc.  
1375 E. Hacienda #219  
Las Vegas, NV 89119

*Harold:*  
Once the revised ATC is issued,  
compliance status of this facility  
should be greatly improved.

*David Loebl*  
FYI,  
Do you see  
any problems  
now  
*David*

Dear Mr. Dimardo:

Royal Cement Company, Inc. ("Royal Cement") currently owns and/or operates a portland cement plant located in Logandale, Nevada (the "Cement Plant"). On August 19, 1996, the Clark County Health District ("District") submitted to EPA a permit application pursuant to Title V of the Clean Air Act, 42 U.S.C. §§ 7661 through 7661f, concerning the Cement Plant. The information submitted by Royal Cement thus far indicates that the Cement Plant is in violation of the Clean Air Act as set forth in the Title V Permit Application. However, EPA requires further information to establish the extent and nature of these violations.

The Administrator of EPA has promulgated standards of performance for new stationary sources pursuant to section 111 of the Clean Air Act. These standards are also known as "new source performance standards" or NSPS. The Administrator has promulgated NSPS requirements for designated process units used at portland cement plants which are codified at 40 C.F.R. Part 60, Subpart F. The general NSPS provisions, which are applicable whenever a plant is subject to any NSPS requirements, are codified at 40 C.F.R. Part 60, Subpart A. A copy of 40 C.F.R. Part 60, Subparts A and F is enclosed for your convenience.

Pursuant to 40 C.F.R. § 60.60(a), each of the following is an affected facility ("Subpart F affected facility"): kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems. Pursuant to 40 C.F.R. § 60.60(b), a Subpart F affected facility which commences construction or modification after August 17, 1971, is subject to the requirements of Subpart F. In addition, pursuant to 40 C.F.R. § 60.15, an existing facility may become an affected facility subject to the requirements of Subpart F if it is reconstructed.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

RECEIVED  
CCHD-APCD

1996 DEC -6 A 11: 15

December 3, 1996

CERTIFIED MAIL NO. Z695 244 982  
RETURN RECEIPT REQUESTED

Mr. Aldo R. Dimardo  
President  
Royal Cement Company, Inc.  
1375 E. Hacienda #219  
Las Vegas, NV 89119

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Pursuant to 40 C.F.R. § 60.60(a), each of the following is an affected facility ("Subpart F affected facility"): kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading and unloading systems. Pursuant to 40 C.F.R. § 60.60(b), a Subpart F affected facility which commences construction or modification after August 17, 1971, is subject to the requirements of Subpart F. In addition, pursuant to 40 C.F.R. § 60.15, an existing facility may become an affected facility subject to the requirements of Subpart F if it is reconstructed.

12/13/96  
Mason,  
This is EPA's  
request for  
info from Royal  
Cement. Do you  
see any need to  
visit  
Jad

In order for EPA to fully assess the past and current compliance status of the Cement Plant with regard to Subpart F, Royal Cement is hereby required, pursuant to section 114 of the Clean Air Act, to provide to EPA the following information and documents regarding each Subpart F affected facility at the Cement Plant which is or may be subject to the requirements of Subpart F. Royal Cement must answer each of the following information requests in this section separately to avoid potential confusion and ensure that full and complete information is provided to EPA.

1. Identify each Subpart F affected facility at the Cement Plant.
2. Provide a plot plan for the Cement Plant which shows the location of each Subpart F affected facility identified pursuant to request 1, above.
3. Describe all air pollution control equipment and processes and/or control practices in use (e.g., baghouse, wet scrubber, enclosure, dust suppression technique) associated with each Subpart F affected facility identified pursuant to 1, above. For each piece of air pollution control equipment, control process, or control practice:
  - a. identify the Subpart F affected facility to which the control(s) apply;
  - b. state the date that such controls initiated operation;
  - c. state the cost of such controls; and
  - d. state the actual or estimated emissions reductions achieved from these controls (including all calculations and assumptions used in formulating the actual or estimated emissions reductions).
4. For each Subpart F affected facility identified pursuant to request 1, above, state the date on which construction of the Subpart F affected facility was commenced. (Note: the terms "commenced" and "construction" are defined at 40 C.F.R. § 60.2.)
5. For each Subpart F affected facility identified pursuant to request 1, above, state each/all date(s) on which any physical or operational change occurred which resulted in an increased emissions rate to the atmosphere of particulate matter from that Subpart F affected facility. Do not include any physical or operational change which was commenced prior to August 18, 1971.

6. For each Subpart F affected facility identified pursuant to request 1, above, state each/all date(s) on which any physical or operational change occurred which resulted in an increased production rate for that Subpart F affected facility. Describe each physical or operational change which occurred and quantify the increase in production rate for that Subpart F affected facility. If the physical or operational change is listed pursuant to request 5, above, or request 7, below, do not include it in a response to this request. Do not include any physical or operational change which was commenced prior to August 18, 1971.
7. For each Subpart F affected facility identified pursuant to request 1, above, state each/all date(s) on which components of the Subpart F affected facility were replaced such that the replacements amounted to a reconstruction of that Subpart F affected facility. (Note: the term "reconstruction" is defined at 40 C.F.R. § 60.15.) Include the fixed capital cost of the replacement Subpart F affected facility and the fixed capital cost (at that time) of an entirely new Subpart F affected facility. Do not include reconstructions which were commenced prior to August 18, 1971.
8. For each Subpart F affected facility identified pursuant to request 1, above, state each/all date(s) on which components of the Subpart F affected facility were replaced such that the fixed capital cost of the replaced components exceeded 10% of the fixed capital cost that would have been required, at that time, to construct a comparable entirely new Subpart F affected facility. Describe the components replaced, state the fixed capital costs of the replacement components, and estimate and state the fixed capital costs, at that time, of a comparable entirely new Subpart F affected facility. If the replacement of components is listed pursuant to requests 5 or 7, above, do not include it in a response to this request. Do not include replacements of components which were commenced prior to August 18, 1971.
9. Provide a copy of all particulate matter performance tests and opacity observations conducted as required by any permit or pursuant to 40 C.F.R. §§ 60.8(a) or 60.64.
10. Provide a copy of all particulate matter performance tests and opacity observations conducted which are not covered by request 9, above.
11. Provide a copy of all commencement of construction and/or startup notifications submitted to EPA, Clark County Health District, or the State of Nevada as required by 40 C.F.R. § 60.7(a).

12. Provide a copy of all permits issued by the District concerning air emissions and/or air emissions equipment at the Cement Plant.
13. Provide monthly output figures (in tons) for the Cement Plant for both the production of clinker and the production of finished cement from December 1, 1991, through November 30, 1996.

Royal Cement shall submit its response to this request postmarked no later than January 10, 1997. Your response must be signed by a responsible corporate official of Royal Cement.

Royal Cement shall submit the requested information via certified mail with return receipt requested, addressed as follows:

Mr. David P. Howekamp  
Director, Air Division (AIR-1)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Attn: Steve Frey (AIR-5)

Please be advised that under section 113(a) of the Clean Air Act, failure to provide the documents required by this letter may result in an Order requiring compliance, an Order assessing an administrative penalty, or a civil action for appropriate relief. Section 113(b) of the Clean Air Act provides for the assessment of a civil penalty of \$25,000 per day for each violation of the Act. In addition, section 113(c) of the Clean Air Act provides criminal penalties for knowingly making any false material statement in, or omitting material information from, any report required under the Clean Air Act. The information provided by Royal Cement may be used by the United States in administrative, civil, or criminal proceedings.

You may, if you desire, assert a business confidentiality claim on behalf of Royal Cement covering part or all of the information provided to EPA in response to this letter. Any such claim for confidentiality must conform to the requirements set forth in 40 C.F.R. Part 2, especially § 2.203. You are advised that certain information may be made available to the public pursuant to 42 U.S.C. § 7414(c) and 40 C.F.R. § 2.301, notwithstanding a claim that such information is entitled to confidential treatment. If no claim of confidentiality is received with your reply, the information may be made available to the public without notice to Royal Cement.

This request for information is not subject to review by the

Letter to Mr. Dimardo  
Page 5

Office of Management and Budget ("OMB") under the Paperwork Reduction Act because it is not an "information collection request" within the meaning of 44 U.S.C. §§ 3502(4) & (11), 3507, 3512, and 3518. Furthermore, it is exempt from OMB review under the Paperwork Reduction Act because it is directed to fewer than ten persons. 44 U.S.C. § 3502(4), (11); 5 C.F.R. § 1320.5(a).

If you have any questions regarding this request, please contact Steve Frey, Air Enforcement Office, at (415) 744-1140, or have your attorney call Allan Zabel, Office of Regional Counsel, at (415) 744-1329.

Thank you for your cooperation in this matter.

Sincerely,



David P. Howekamp  
Director  
Air Division

Enclosures

cc: Mr. Michael Naylor  
Mr. Tom Porta

**Royal Cement Company, Inc.**

PO Box 380  
5501 North Moapa Valley Blvd.  
Logandale, Nevada 89021

(702) 398-3533

11/14  
Mason?  
OK?  
Hand  
RECEIVED  
CCHD-APCD  
1996 NOV 14 A 11:54

November 13, 1996

Mr. Harold Glasser  
Enforcement Supervisor  
Air Pollution Control District  
PO Box 4426  
Las Vegas, NV 89127

**Subject:**

Certified Progress Report; Compliance Plan, Part IV, Title V and Notice of Violation #3100-Revised, Compliance Schedule paragraph F.

Dear Mr. Glasser:

In accordance with the directive in the above referenced documents, the certified progress report is hereby submitted by Royal Cement Company, Inc.

**A. Ambient Monitoring of S02 and NOx:**

Final adjustments and checks were completed by September 15, 1996 to insure satisfactory performance of the NOx and S02 monitors. Royal Cement has placed an order for audit gases and the company is awaiting their shipment. Upon receipt of the subject gases, the audits will be performed.

**B. Certification of the Continuous Opacity Monitor:**

Mr. Philip Sandberg of CEM/Preventative Maintenance, arrived at Royal Cement on September 24 and spent two days conducting maintenance on the kiln and clinker cooler opacity monitors. He was successful in preparing the clinker cooler opacity monitor for the seven day conditioning period and the seven day performance testing period.

Mr. Sandberg found it necessary to have the opacity monitor on the kiln stack returned to the manufacturer for repair. He returned to the plant on October 10 and installed the kiln stack opacity monitor and initiated the seven day conditioning period followed by the seven day performance testing period.



As of this date, Mr. Sandberg is reducing the data from the seven day performance testing period of the clinker cooler and kiln stack opacity monitors. A report of the performance specification test results will be forwarded to the Enforcement Supervisor, APCD, by December 15, 1996.

The Royal Cement Company has been providing progress reports on the COMS on the tenth of each month as required.

**C. Excess NOx and CO Emissions from the Kiln Stack:**

The grates in the clinker cooler have been replaced as of August 29, 1996. The drawings for the repair to improve the thermal efficiency of the cooler were submitted by September 15. Other actions to improve the overall effectiveness of the cooler have been implemented during the initial operating period.

Royal Cement has been negotiating a contract with Carnot of Boulder, Colorado to conduct performance testing on the NOx and CO emissions from the kiln stack. However, it will not be possible to conduct the testing by November 15 as the kiln is currently down for repair of the brick lining. It is expected that this repair will require approximately three weeks from this date. Upon return to the normal operation of the kiln, the emission testing program will be initiated.

**D. Exceedence of Opacity Permissible Level from the Kiln Stack:**

The Silicon Controlled Rectifiers (SCR) and the Current Limitation Reactors (CLR) as replacements for Saturable Reactors have been installed and are in operation. The dual wire weights have been replaced by single wire weights. Both modifications were completed by October 15. Mr. Robert Dotts, who is responsible for the maintenance of the electrostatic precipitators, has noted substantial improvement in their effectiveness.

**E. PM10 Emission from the Clinker Cooler Stack:**

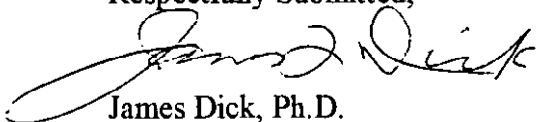
Royal Cement is implementing its maintenance schedule for all baghouses, paying particular attention to the Clinker Cooler Baghouse. A thorough inspection of the Clinker Cooler Baghouse system has been made with fluorescent dye and black light. All seals have been thoroughly checked and defective bags were replaced by Sept. 30, 1996.

**F. Delinquent Payment of Emissions Fees:**

Two payments of \$4,000 each were forwarded to APCD on their respective due dates of October 1 and November 1, 1996.

In the event you require additional information, please contact Dr. James Dick or Mr. Dan DiNardo at 1-702-398-3533.

Respectfully Submitted,



James Dick, Ph.D.  
Director of Environmental Affairs

I certify that the above report is complete and correct as of this date.



Aldo DiNardo                      November 13, 1996  
President

October 28, 1996

Mr. Dan DiNardo  
Royal Cement Co., Inc.  
P.O. Box 380  
Logandale, NV 89021

Subject: Cooler Stack, Opacity Monitor, Certification Testing

Dear Mr. DiNardo,

C.E.M./Preventive Maintenance (CEM/PM) was pleased to perform Calibration Error Determination checks and Response Time checks upon Royal Cement's Lear Siegler Dynatron Opacity Monitor, Model #1100M, s/n 1291 located at the Cooler Outlet stack on September 24, 1996.

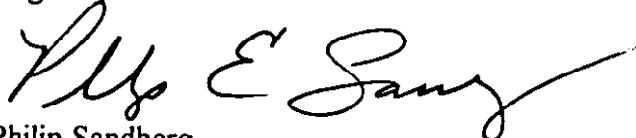
Referencing 40 CFR, Part 60, Appendix B, Specification 1, the Cooler Opacity monitor (s/n 1291) successfully met the Calibration Error Determination Test requirements along with successfully meeting the Response Time Checks.

All data collected was taken from the strip chart recorder per paragraph 7.1.4 of the aforementioned reference.

Applicable Certification Documentation is attached herein.

Thank you for the opportunity to assist with this project. Should you have any questions, please feel free to call.

Regards,

  
Philip Sandberg

**C.E.M. / PREVENTIVE MAINTENANCE**

MAILING - P.O. BOX 42693 • BAKERSFIELD, CA 93384-2693 • TELEPHONE (805) 834-9354 • FACSIMILE (805) 834-9328  
SHIPPING - 4213 SOUTHERN BREEZE DR. • BAKERSFIELD, CA 93313

*C.E.M./Preventive Maintenance*

P.O. Box 42693, Bakersfield, CA 93384  
Phone: 805-834-9354 Fax: 805-834-9328

**Opacity Response Time Determination**

DATE: 09/24/96 BY: P. Sandberg

Analyzer Mfg: LSI-DYNATRON Model #: 1100M S/N: 1291

Facility: ROYAL CEMENT CO. Analyzer Location: COOLER STACK

---

*High Range Filter Value:* Actual Optical Density (Opacity) 74.5  
Path Adjusted Optical Density (Opacity) 74.5

Upscale Response Value (0.95 x filter value) : 70.78 % opacity

Downscale Response Value (0.05 x filter value): 3.73 % opacity

---

---

UPSCALE: 1 2 seconds  
2 2 seconds  
3 2 seconds  
4 2 seconds  
5 2 seconds

DOWNSCALE 1 4 seconds  
2 4 seconds  
3 4 seconds  
4 4 seconds  
5 4 seconds

*Average Response* 3 seconds

**OPACITY MONITOR  
CALIBRATION ERROR DETERMINATION**

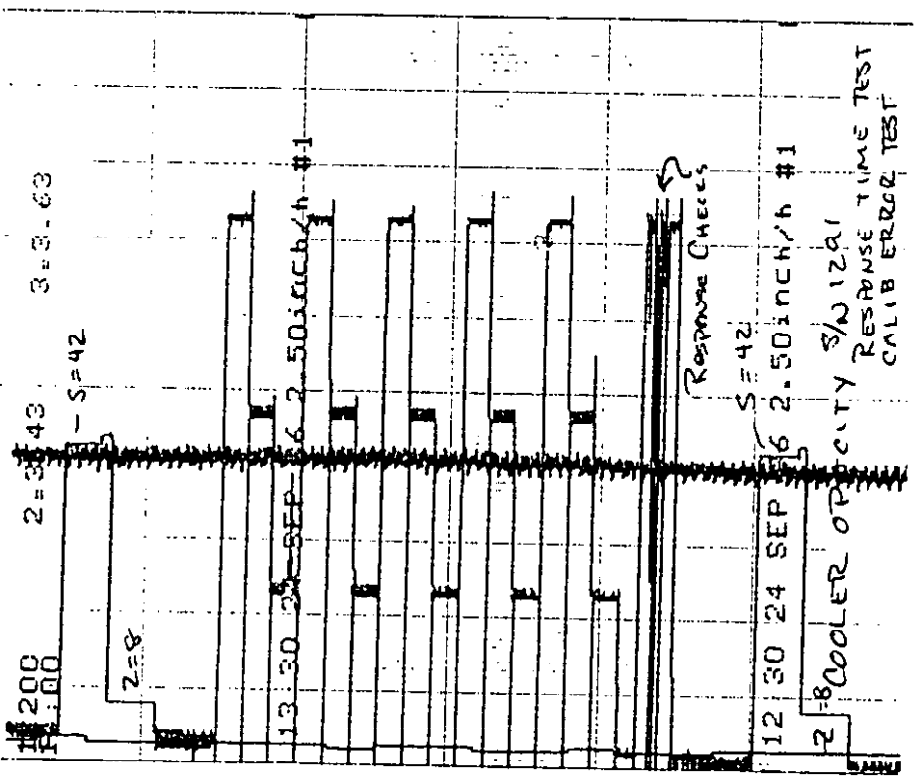
Analyzer Manufacturer LSI-DYNATRON S/N 1291  
 Analyzer Location COOLER STACK - ROYAL CEMENT CO. Date 09/24/96  
 Monitor Pathlength, L1 30.5 Emission Outlet Pathlength, L2 30.5  
 Monitoring System Output Pathlength Corrected? Yes  No

**Calibrated Neutral Density Filter Values**

Range	Actual Optical Density	Opacity	Path Adjusted Optical Density	Opacity
Low		21.3		
Mid		47.6		
High		74.5		

Range	Calibration Filter Value (Path-Adjustment Percent Opacity)	Instrument Reading Opacity, Percent	Arithmetic Difference Opacity Percent		
			Low	Mid	High
1-Low	21.3	23.0	+1.7		
2-Mid	47.6	47.0		-0.6	
3-High	74.5	72.9			-1.6
4-Low	21.3	22.8	+1.5		
5-Mid	47.6	47.0		-0.6	
6-High	74.5	73.0			-1.5
7-Low	21.3	23.0	+1.7		
8-Mid	47.6	47.0		-0.6	
9-High	74.5	72.9			-1.6
10-Low	21.3	23.2	+1.9		
11-Mid	47.6	47.0		-0.6	
12-High	74.5	72.8			-1.7
13-Low	21.3	23.2	+1.9		
14-Mid	47.6	47.0		-0.6	
15-High	74.5	72.8			-1.7

Arithmetic Mean	1.74	0.60	1.62
Confidence Coefficient	0.2077	0.0	0.1039
Calibration Error	1.9477	0.60	1.7239



2=8

2=3 43

12 30 24 SEP 66

S=42

2=8

13 30 25 SEP 66

2=8 COOLER OPACITY S/W 1291

RESPONSE CHECKS

S=42

12 30 24 SEP 66

2=8 COOLER OPACITY S/W 1291

RESPONSE TIME TEST  
CALIB ERROR TEST



CALIBRATION CERTIFICATE  
FOR  
NEUTRAL DENSITY FILTERS

CUSTOMER NAME Steiner Environmental Inc. DATE: 2/23/96  
ADDRESS 4930 Boylan St.  
CITY/STATE/ZIP Bakersfield, CA 93308  
S.O.# \_\_\_\_\_

PHOENIX INSTRUMENTS, INC. HEREBY CERTIFIES THAT THE FOLLOWING NEUTRAL DENSITY FILTERS HAVE BEEN CALIBRATED ON A LABORATORY TRANSMISSOMETER USING N.B.S. TRACEABLE PRIMARY STANDARD FILTERS FOR VERIFICATION.

STANDARDS:

PHOENIX SERIAL NO.	% OPACITY	CALIBRATION DATE
PS- <u>0076</u>	<u>22.2%</u>	<u>12/21/95</u>
PS- <u>0077</u>	<u>49.1%</u>	<u>"</u>
PS- <u>0078</u>	<u>74.9%</u>	<u>"</u>

METHOD A: LIGHT SOURCE ZEROED WITHOUT GLASS SLIDE

NDF SERIAL NO.	OPACITY VALUE AT OPLR = .50	OPACITY VALUE AT OPLR = _____	CAL. DATE	CAL. BY
<u>ND-1345</u>	<u>29.0%</u>	_____	<u>2/23/96</u>	<u>M.L.</u>
<u>ND-1346</u>	<u>52.9%</u>	_____	<u>"</u>	<u>"</u>
<u>ND-1347</u>	<u>77.3%</u>	_____	<u>"</u>	<u>"</u>

METHOD B: LIGHT SOURCE ZEROED WITH GLASS SLIDE

NDF SERIAL NO.	OPACITY VALUE AT OPLR = .50	OPACITY VALUE AT OPLR = _____	CAL. DATE	CAL. BY
<u>ND-1345</u>	<u>21.3%</u>	_____	<u>2/23/96</u>	<u>M.L.</u>
<u>ND-1346</u>	<u>47.6%</u>	_____	<u>"</u>	<u>"</u>
<u>ND-1347</u>	<u>74.5%</u>	_____	<u>"</u>	<u>"</u>

**Royal Cement Company, Inc.**

PO Box 380  
State Route 169, 2 1/2 Miles East of I-15  
Logandale, Nevada 89021

(702) 398-3533

September 25, 1996

→ Royal Cement  
Envt. Affs  
RECEIVED  
CCHD-APCD  
1996 SEP 26 A 11: 12

Mr. Harold Glasser  
Enforcement Supervisor  
Clark County Health District  
625 Shadow Lane  
Las Vegas, NV 89127

via Certified Mail # P 473 567 732

Dear Mr. Glasser:

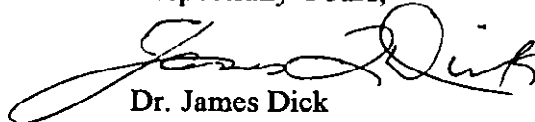
Please find attached two letters, dated September 17, 1996 and September 23, 1996 outlining our calibration and testing programs relating to the continuous opacity monitors and the ambient air monitors.

Mr. McNinch, on September 13, gave me verbal approval to proceed with the COMS testing. I followed up on this discussion with the referenced letter of September 17. In that I have not received a fax confirming the approval, I called Mr. McNinch on September 19, and again was given verbal approval to proceed to calibrate and begin certification of the COMS on or about September 24. The performance specification is underway in accordance with 40CFR60 Appendix B Performance Specification 1.

On September 23, 1996, (see attachment) I forwarded a letter stating that our ambient air monitoring station was in full operation. However, we have had difficulty obtaining audit gases from a vendor and sought either your assistance in this matter or a three week extension from September 25 for the audit. Our contractor, Mr. Robert LaBonte of Southwest Technical Services has been in contact with personnel from APCD pertaining to the problem.

As requested previously, Royal Cement would greatly appreciate written confirmation of your approval of these two actions.

Respectfully Yours,



Dr. James Dick  
Director of Environmental Affairs

XC: Mason McNinch



*Royal Cement Company, Inc.*

*PO Box 380  
State Route 169, 2 1/2 Miles East of I-15  
Logandale, Nevada 89021*

*(702) 398-3533*

September 17, 1996

Mr. Mason McNinch III  
APC Permit Specialist II  
Air Pollution Control Division  
Clark County Health District  
825 Shadow Lane  
Las Vegas, NV 89127

SUBJECT: CERTIFICATION OF THE CONTINUOUS OPACITY MONITORS FOR  
THE KILN AND CLINKER COOLER STACKS

Dear Mr. McNinch:

Per our telephone conversation of September 13, 1996 this to inform you that the Royal Cement Company will initiate a program for the certification of the opacity monitors on the kiln and clinker cooler stacks in accordance with the procedures outlined in 40 CFR 60, Appendix B, Performance Specification 1.

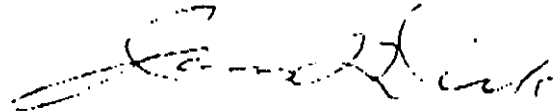
It is our understanding that the above statement meets the requirement of item B.1 of Part IV, Compliance Plan, Title V, that Royal Cement Company, Inc. will deliver a performance specification testing protocol to the Enforcement Supervisor, APCD, prior to the commencement of any portion of the Performance Specification Test.

It is anticipated that, with your concurrence with the above, the performance testing will begin on or about September 24, 1996 but no later than November 2, 1996 pending the operational status of the kiln and clinker cooler during that period. Further, with your approval Mr. Philip Sandberg, C.E.M/Preventive Maintenance will conduct the certification test.

Please advise me of your concurrence with the procedure as outlined above by calling me collect at (970) 884-9211 followed by a letter for the record.

I will follow this FAX with a letter for your file.

Very truly yours,



James L. Dick, PhD  
Director of Environmental Affairs



CLARK COUNTY HEALTH DISTRICT

P.O. BOX 4426 • 625 SHADOW LANE • LAS VEGAS, NEVADA 89127 • 702-383-1276 • FAX 702-383-1443

August 14, 1996

Dr. James L. Dick, Director Environmental Affairs  
116 Pinon Place  
Bayfield, CO 81122

RE: Title V Operating Permit Application  
Royal Cement Company, Inc.  
Source No. A-00154

Dear Dr. Dick:

We received an application for a Title V, Part 70 Operating Permit on May 14, 1996 for the above named facility. Staff met with you and others to discuss the incomplete application and applicable District and US-Environmental Protection Agency requirements. An amended Part V application was received on August 13, 1996. We have reviewed the materials and find the application administratively complete and entitled to the application shield.

The finding of administrative completeness does not imply or suggest application approvability. Pursuant to Section 19.5.2.2, the application shield shall cease to apply if any additional information identified as necessary to further process the application is not received by the deadline specified in a written request.

With this notification of completeness determination, Royal Cement Company is requested to send a copy of the complete application to Ms. Celia Bloomfield, US-EPA, Region IX (if a copy had not been mailed previously).

If you have any questions, please call Edward P. Michalewicz at 702-383-1276.

Sincerely,

CLARK COUNTY HEALTH DISTRICT

Michael H Naylor, Director  
Air Pollution Control Division

MHN/EPM/epm

cc: Celia Bloomfield, US-EPA, Region IX



KLEINFELDER

*transmittal*

Date 8-13-96

File \_\_\_\_\_

Copies 2

To Air Pollution Control Division  
Clark County Health District

Subject \_\_\_\_\_

We are sending  Attached  Under separate cover

The following: 2 copies of Royal Cement Company Inc.  
Title V Permit Application VIA HAND-DELIVERED  
by Dr. JAMES Dick.

Via:

- Messenger
- First Class Mail
- Air
- Express
- United Parcel
- Air Freight
- \_\_\_\_\_

Remarks \_\_\_\_\_

Transmitted:

- As Requested
- For Approval
- For Your Use
- For Review & Comment

By James Dick PhD

***Royal Cement Company, Inc.***

*PO Box 380  
5501 North Moapa Valley Blvd.  
Logandale, Nevada 89021*

*(702) 398-3533*

August 5, 1996

Mr. Ed Michalewicz  
Permit Specialist  
Clark County Health District  
Air Pollution Control Division  
PO Box 4426  
Las Vegas, Nevada 89127

Dear Mr. Michalewicz:

Attached is Royal Cement's Compliance Plan to supplement its Title V Operating Permit Application.

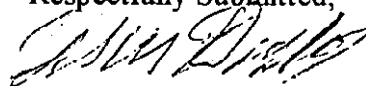
This compliance plan addresses the cause of Royal's Noncompliance, our proposed solutions, which encompass major and minor mechanical modifications to our plant, changes in our process control parameters, and another round of performance testing to provide the APCD the data to judge our compliance status.

Also, effective immediately, we have asked Dr. James Dick, Ph.D., to assume the responsibilities of Director of Environmental Compliance for Royal Cement. Dr. Dick has extensive experience as the Director of Environmental Compliance for the Phelps Dodge Company. His assumption of duties shows Royal's commitment at the highest levels of management to full environmental compliance.

We appreciate the help and patience that APCD has shown us. As you know, we have never written a Title V application.

While Dr. Dick will have most of the day to day contact with your office, please don't ever hesitate to call me if I can be of help.

Respectfully Submitted,



Daniel DiNardo  
Vice - President

***Royal Cement Company, Inc.***

*PO Box 380*

*5501 North Moapa Valley Blvd.*

*Logandale, Nevada 89021*

*(702) 398-3533*

**Compliance Plan for Completion of  
Title V Operating Permit Application**

**A Supplement to Royal Cement's  
Title V Permit Application**

Date: August 5, 1996  
Source Number: A-00154

**Introductory Comments:**

Royal Cement Company, Inc. submitted a Title V application on May 14, 1996. On pages 27 -30, a summary of Royal's compliance status incorrectly listed Royal as in compliance in several aspects of our operating permit.

This was incorrect.

Performance testing performed by Steiner Environmental, Inc., at Royal Cement on March 12, 13, and 14, 1996, (Steiner Report PS-96-3727/Project 7702-96) have raised areas of non-compliance with respect to Royal Cement's Operating Permit.

Every area of non-compliance will be listed, a diagnosis made, based on generally accepted engineering practices in the international cement industry, and Royal Cement's plan to correct that deficiency. Supporting documentation will be made available from Royal's engineering library, if requested.

**Area of Non Compliance:**

NO<sub>x</sub> and CO emissions, as measured from the stack, are in excess of permitted levels.

**Diagnosis:**

*NO<sub>x</sub> in Rotary Cement Kilns:*

The formation of NO<sub>x</sub> in a rotary cement kiln is the result of the coal firing of the kiln. Approximately 80 to 90 % of NO<sub>x</sub> is attributable to coal consumption.<sup>1</sup>

More specifically:

NO formation takes place by means of two mechanisms:

In the first place, thermal NO is formed in the kiln burning zone from the content of nitrogen in the atmosphere. The quantity is determined mainly by the temperature and excess oxygen. In the second mechanism, fuel NO is formed. In this instance, the content of volatiles and nitrogen in the fuel, as well as excess oxygen, are the deciding factors.<sup>2</sup>

In testing of NO<sub>x</sub> emissions of over 20 European cement plants, "there was found to be a dominant relationship between NO discharge, burning zone temperature, and the air excess."<sup>3</sup> Of these variables, Royal has achieved efficiency. The burning zone temperature is regulated by the heat required to produce clinker. It follows that every cement plant will keep the burning zone temperature as low as possible, in order to save fuel and extend the life of the kiln firebrick, both from thermal and physical damage. Excessive oxygen is kept as low as possible in order to preserve fuel. In the performance testing, residual oxygen varied usually between .5 to 2.5 %. .5 % is considered the bottom end of an acceptable limit. If burning zone oxygen goes to 0, an explosion of coal dust may result in the back end of the kiln, with catastrophic consequences.

The unit of measurement of NO<sub>x</sub> as measured at Royal's stack is "Pounds of NO<sub>x</sub> per ton of clinker produced." The lower the coal consumption, every thing else being equal, i.e.,

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<sup>1</sup> Dr. David Lee, Clark County Health District, Air Pollution Control Division. Meeting with Royal Cement, June 3, 1996.

<sup>2</sup> V. Johansen, A.H. Egelov, and A.O. Eriksson, Emission of NO<sub>x</sub> and SO<sub>2</sub> from Cement Clinker Burning. A paper presented in the 7th Technical Session, Third International German Cement Works Congress, Dusseldorf, Germany, 1995.

<sup>3</sup> W. Kreft and R. Schutte, Influence of Nitrogen Oxide Emission of the Operating Parameters of the Cement Burning Process. A paper presented in the 7th Technical Session, Third International German Cement Works Congress, Dusseldorf, Germany, 1995.

the kiln feed rate, the excessive oxygen in the kiln, the atmospheric nitrogen level, and the chemical makeup of the fuel, the lower the NO<sub>x</sub> and CO produced at the stack.

CO formation is mostly a result of carbon formation from coal burning.

*Therefore, the NO<sub>x</sub> and CO level is a measure of combustion efficiency.*

The only available measure to reduce the NO amount is by uniform firing of the kiln. ... Uniform firing of the kiln means:

1. Obviating local temperature peaks in the flame by suitable burner design and setting.
2. Obviating temporal temperature peaks in the flame by achieving uniformity in the combustion process.<sup>4</sup>

Royal Cement believes that at this point in its startup, it exhibits poor combustion efficiency. The kiln is not currently being fired in a uniform manner.

*The effect of the "Clinker Cooler" on combustion efficiency:*

The clinker cooler is the structure, at the discharge end of the kiln, that the clinker drops upon after it leaves the kiln. The clinker is cooled by ambient air, usually three large fans. This air is referred to as Secondary Air. Heat recovery from the clinker is the primary purpose of the clinker cooler. This is usually referred to as the thermal efficiency of the cooler.<sup>5</sup> The air coming out of the first section of the cooler, (the first compartment), is the primary source of air for combustion. It is drawn into the kiln by the ID fan, subject to about -.25 inches of water air pressure at the firing hood. It is a goal of all cement plants to recover as much heat from the clinker and reintroduce it into the kiln as secondary air. Industry averages of secondary air temperature are at least 2,200°f, with 2,600°f to 2,800°f the goal. Currently, Royal's secondary air temperature averages approximately 1,700°f.<sup>6</sup>

*Therefore:*

The low secondary air temperature, by flooding the burning zone with 'cold' air, greatly increases the coal consumption required to maintain the burning zone at 2,650 to 2,900°f.

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<sup>4</sup> A. Schemer, NO<sub>x</sub> Reductions in Rotary Kiln Plants in the Cement Industry. A paper presented in the 7th Technical Session, Third International German Cement Works Congress, Dusseldorf, Germany, 1995.

<sup>5</sup> B. Kohl's, Cement Engineer's Handbook. Bauverlag, GMBH, Berlin, 1983. p. 338.

<sup>6</sup> Kiln and Clinker Cooler emission Tests at Royal Cement Company, Inc., Steiner Environmental, Inc. p. B2 and B3.



**Solution:**

Royal Cement proposes to rebuild its clinker cooler to improve its thermal efficiency. We have developed a rebuild program from our maintenance department which focuses on the mechanical deficiencies in the clinker cooler. These include poor air seals both at the compartment level and the fines level, misaligned drive trains which inhibit the thermal transfer and lower the control of the cooler, and improved instrumentation to track the process variables in order to allow greater control of the secondary air.

These (modifications) should result in the level of NO<sub>x</sub> and CO to permissible levels. Performance testing at the end of this compliance program will provide the data to APCD for its judgment of Royal's compliance status.

**Area of Non Compliance:**

Kiln Stack Opacity exceeds the permissible level.

**Background:**

Because of mechanical problems, Royal Cement was not able to precondition the opacity monitors for fourteen days, as regulations require, prior to the performance tests. We were informed by Jim Steiner of Steiner Environmental that preconditioning could be performed *after* the opacity monitors were calibrated. Royal would simply need to provide the fourteen day preconditioning data when the kiln was back on-line.

Royal Cement was informed by APCD that this is not correct. As a result, the COMS must be confirmed by the 'calibrated eyeball' from the ground. The observer measured opacity from fifteen to thirty-five percent throughout the day.

**Diagnosis:**

Royal Cement believes that the 'calibrated eyeball' was deeply in error, so much so that his or her basic competence to conduct such testing should be questioned.

Royal Cement would like to point out that:

1. Jim Steiner's subcontractor, with many years experience, concluded a flawless calibration of the stack meter, using standards traceable to the NIST.
2. The observer himself noted in his report the sky color ranged "from blue to white to black."<sup>7</sup> He stated "this can effect the stacks visual emissions."<sup>8</sup>
3. The observer was standing at an incorrect angle to the sun.
4. It seems unlikely that Royal Cement could exhibit a stack opacity of twenty five to thirty five percent for any length of time without arousing considerable outcry from the local community.

But, most importantly:

The amount of PM10 measured at the stack was 5.28 pounds per hour. If we convert our unit of measure to ounces of pollutant per minute, such that

$$5.28 \text{ lb./min.} * 16 \text{ oz/lb.} / 60 \text{ min.} = 1.408 \text{ ounces of pollutant emitted per minute.}$$

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<sup>7</sup> Kiln and Clinker Cooler emission Tests at Royal Cement Company, Inc., Steiner Environmental, Inc. p. D-3

<sup>8</sup> *ibid.*

*Conclusion:*

Royal Cement believes strongly that 1.408 ounces of particulate a minute, introduced into a 300 horsepower fan producing 90,000 CFM, could never result in a stack opacity of thirty five percent over several hours. We contend that the observer was incorrect in his assessment.

**Solution:**

Royal Cement proposes to re-test the opacity monitors at the next round of performance testing, with the appropriate fourteen day preconditioning period. Performance testing at the end of this compliance program will provide the data to APCD for its judgment of Royal's compliance status.

*Method 9,*

**Area of Non Compliance:**

Emissions from the clinker cooler exhaust stack exceed the permissible levels of PM 10.

**Diagnosis:**

Royal Cement believes that small holes in a few bags are the likely cause of these leaks. There may also be poor seals between the bags and their supporting framework, allowing unfiltered air to get past. There may also be a leak in the high pressure compartment, allowing ambient air to enter on the clean side of the bags. These are all mechanical problems which should be fairly easy to obviate.

**Solution:**

Royal Cement proposes to thoroughly inspect the baghouse structure. All door seals, duct seals, bag seals, and bag frame seals will be inspected. A fluorescent dye will be introduced into the air stream. An observer with a black light then inspects the clean side of the bags. Damaged bags and seals, not visible to the naked eye, glow under the black light. This allows sure identification of damaged bags. All damaged bags and seals will be replaced. This may take several applications of dye.

Also, the maintenance schedule for all baghouses will be reevaluated to maximize performance of these systems.

Performance testing at the end of this compliance program will provide the data to APCD for its judgment of Royal's compliance status.

### Proposed Compliance Schedule

Royal Cement proposes a multi phased compliance schedule. This is necessary because of the extensive mechanical modifications required at the clinker cooler. The repairs of the baghouse is less daunting.

August 15	Completion of drawings of modifications. Begin repairs of Clinker Cooler Baghouse.
August 30	Gutting of existing clinker cooler Completion of repairs to Clinker Cooler Baghouse.
Sept 15 - September 20	<i>Submit Performance Test Protocol</i> Completion of retrofit.
September 21	Testing and evaluation of mechanical systems.
September 22 - 25	Fire in the kiln.
October 15	Performance testing to provide data to APCD.

#### In case of continued non-compliance:

Royal Cement is confident in its compliance program. We do not expect any problems with the compliance of kiln opacity or clinker cooler baghouse. If the proposed modifications do not lower the NOx and CO to permitted levels, we will continue to refine our combustion processes, and conduct research to determine additional measures and procedures to lower our emissions. Moreover, we will consult with other cement plants with similar kilns, (long, converted dry kilns) to ascertain their methods of compliance.

#### Concluding Remarks:

Royal Cement's goal is full compliance with the appropriate regulations. We hope to work with APCD in order to develop a timely compliance plan that addresses our mutual goals.

# IKN

IKN GmbH - PO BOX 1121 - D-31519 Neustadt

Royal Cement Co. Inc.  
Mr. Aldo R. DiNardo  
P.O.Box 380  
State Route 169, 2.5 Miles East of I15  
Logandale, NV 89021  
UNITED STATES OF AMERICA

IKN GmbH  
Ingenieurbüro-Kunterbau-Neustadt

Mittelstraße 4-5  
D-31535 Neustadt  
Telefon (05032) 895-0  
Fax (05032) 895-95

Germany

Lieferanschrift:  
D-31535 Neustadt, Wacholderweg 3

VAT-Nr. DE 811220040

Cooler Modification

Neustadt, 17.5.1996 /MJ

Dear Aldo,

It took quite a while to prepare the attached drawings and our quote for a cooler modification. I do hope that the drawings will help you to realign your cooler. The normal procedure would be as follows:

1. take out the existing movable frame the fixed grate supports and the side boards
2. adjust the shafts of the mobile frame
3. install the new mobile frame.
4. install the side boards
5. put in the grate supports in rough position
6. fix the grate supports to the stationary side frame and the mobile frame by means of a grate plate on both sides of each grate support for precisely alignment, start with the last row (next to crusher)

In order to get a better cooling effect, longer grate plate life, less stoppages and to save fuel we recommend to install our so called KIDS (Clinker Inlet Distribution System). The KIDS is very successful to maintain the alignment.

Looking forward to hearing from you.

Best regards,

IKN GmbH

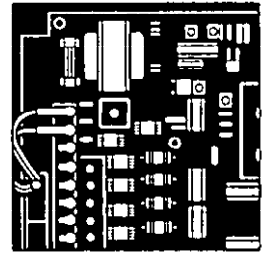


Michael Janzer

enclosures: quote 96037, drawings of a horizontal grate cooler

Dresdner Bank AG (BLZ 250 800 70)  
DRES DE FF 250 Konto 874 800 700  
Volksbank Hannover: eG (BLZ 251 900 00)  
VOHA DE 2H Konto 2550 229 000  
Geschäftsführer:  
Dipl.-Ing. K. v. Wedel HRB 2587

SCR



## SCRs, CLRs & Voltage Dividers

### Improved Power Control

Silicon Controlled Rectifiers (SCR) and Current Limiting Reactors (CLR) are an integral part of your high voltage system. If you are currently operating with a saturable core reactor, SCRs/CLRs can help improve performance by more closely matching line to load. This means an efficient power transfer to the T/R set, better form factors and, ultimately, improved collection efficiency.

PrecipTech can supply these essential components with the correct ratings and necessary features for your application. They can be ordered individually or as a complete retrofit package.

SCRs come complete with heat sinks, snubber circuits and high-speed fuses. SCRs can also be ordered without the firing circuit when used in conjunction with an SQ-Series AVC. Built-in firing circuits on PrecipTech's AVC's allow a direct connection to the gate circuit on the SCR. In this way, the AVC can modulate the firing of the SCR on every half cycle, turning it on *and off* (when crossing zero), and provides even better power input to the precipitator (see box at right). This connection also provides complete optical isolation of the firing pulses. In addition, SCRs fired from our AVC's can run 20° to 30° F cooler.

### Current Limiting Reactors (CLRs)

PrecipTech can also supply high quality CLRs, individually designed to match each precipitator's requirement. Each CLR is designed with a short circuit limit value specified by the customer or, in some cases, precipitator OEM (usually three times rated current). Specific electrical requirements such as taps or NEMA-12, 3R or 4 enclosures are also available.

Proper sizing of the CLR is critical, and can greatly maximize an ESP's efficiency and protect it from damage by preventing excessive current flow. PrecipTech can provide you important information on how to correctly size them for your precipitator. For details, please see our SQ-300 AVC on pages 36-37.

### Voltage Dividers & Meters

Transformer/Rectifier set secondary KV feedback is one of the best troubleshooting tools available to operators of ESPs. Using external voltage dividers and meters supplied by PrecipTech, you can determine, for example, when the ESP is experiencing back corona.

In addition, voltage dividers provide:

- KV metering to determine actual KV the T/R is delivering to the ESP
- KV feedback to operate undervoltage and overvoltage alarms
- Better spark sensing signal since actual load conditions are measured

#### PrecipTech Has Your Answer!

**Q.** Can a control turn off an SCR during the cycle?

**A.** An AVC can turn on the SCRs but only when the line voltage drops to 0 does the SCR turn off. In a 60-cycle system this occurs every half cycle of 8.33 milliseconds. If the spark level is reached with no reduction in current to the precipitator, equipment damage can occur. The CLR prevents this by providing a measure of control and limiting the current until the SCR turns off. The automatic voltage control system, detecting a spark has occurred within a given half cycle, does not turn the SCR on again for an adjustable number of following half cycles to allow time for the sparks to extinguish.

Rec. 8/6/96 - JPM

Em

ROYAL CEMENT COMPANY, INC.  
State Route 169 at I-15  
Logandale, Nevada 89021  
August 2, 1996

Mr. Harold P. Glasser  
Enforcement Supervisor  
Air Pollution Control Division  
625 Shadow Lane, P.O. Box 4426  
Las Vegas, Nevada 89127

Dear Mr. Glasser:

This letter is to provide you with written notice that James L. Dick, PhD, has been given the position of Director of Environmental Affairs as of August 2, 1996. He has been appointed by the Board of Directors of Royal Cement Company, Inc. As you realize, he has recently been attending meetings at your office although he did not have full board authority to resolve any environmental problems that may exist with Royal Cement Company. As of the above date, Dr. Dick does have the full authority to represent Royal Cement Company in this capacity. I hope this will give you assurance that we, the Board of Directors, are giving Dr. Dick our full support.

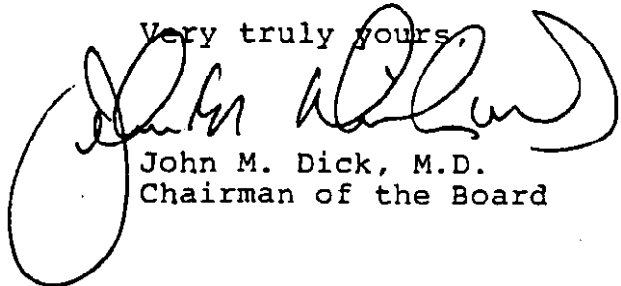
Please address all correspondence, notices and any other environmental concerns directly to Dr. Dick at the Bayfield, CO, address, and also send copies to him by name to the Logandale plant site. Please note the addresses below.

ORIGINALS TO:  
Dr. James L. Dick, Director  
Environmental Affairs  
Royal Cement Company  
116 Los Pinos Place  
Bayfield, Colorado 81122  
(970) 884-9211 (Tel. & Fax.)

COPIES TO:  
Dr. James L. Dick, Director  
Environmental Affairs  
Royal Cement Company  
State Route 169 at I-15  
P.O. Box 380  
Logandale, Nevada 89021  
(702) 398-3533 (Tel. & Fax.)

The curriculum vitae of Dr. James L. Dick is enclosed.

Very truly yours,



John M. Dick, M.D.  
Chairman of the Board

JMD/jam  
Encl.



## MEMORANDUM

**TO:** MICHAEL NAYLOR, DIRECTOR, APCD  
DAVID LEE, ED MICHALEWICZ, MASON MCNINCH

**FROM:** Harold Glasser, Enforcement Supervisor, APCD *HG*

**SUBJ:** Royal Cement

**DATE:** August 5, 1996

According to Dr. John Dick, member of Royal Cement Board of Directors, Dr. Jim Dick has been appointed Director Environmental Affairs for Royal Cement.

All contacts with Royal Cement on Air Pollution Control Division Quality Issues should be made with Dr. Jim Dick at:

**FMH CORPORATION**  
434 PINON CREEK ROAD  
ALBUQUERQUE, NM 87123  
TEL: (505) 299-6419 (N. MEX)  
(303) 884-9211 (COLO)

*Bozfield, CO.*

**345 FISCHER AVENUE**  
COSTA MESA, CA. 92626  
FAX: (714) 545-6619  
TEL: (714) 751-1000

/smb

**Royal Cement Company, Inc.**

PO Box 380  
5501 North Moapa Valley Blvd.  
Logandale, Nevada 89021

(702) 398-3533

RECEIVED  
CCHD-APCD

1996 AUG -2 A 11: 25

July 31, 1996

Mr. Edward Michalewicz  
Clark County Health District  
PO Box 4426  
Las Vegas, NV 89127

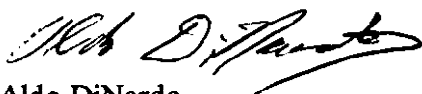
Dear Mr. Michalewicz,

Reference is made to your letters dated May 24, 1996  
and July 26, 1996. Subject; Title V Operating Permit Application, Source  
#A-00154.

Since your letter was faxed to our office at 4:19 P.M.  
Friday, the August 2nd deadline allows us only four days to modify our com-  
pliance plan. I request that the proposed date of August 2, 1996 be changed  
to August 12, 1996 for submitting an approvable compliance plan and com-  
pliance schedule.

At this time we elect not to submit an application to  
modify the existing "Authority to Construct and Operating Permit".

Very Truly Yours,

  
Aldo DiNardo  
President

CLARK COUNTY HEALTH DISTRICT  
625 SHADOW LANE  
LAS VEGAS, NEVADA 89106  
(702) 383-1276  
AIR POLLUTION CONTROL FAX (702) 383-1443



FAX COVER SHEET

COMPANY NAME:	Royal Cement Co., Inc.
CONTACT NAME:	Aldo R. DiNardo
FAX NUMBER:	702-398-3533

SENDER:	Edward P. Michalewicz APCD
DESCRIPTION:	


Number of pages, including cover:	3
Date sent:	7/26/95

If there are any problems with this transmission, please call: (702) 383-1276 during the hours of 8:00 AM TO 4:30 PM Monday through Friday.



CLARK COUNTY HEALTH DISTRICT

P.O. BOX 4426 • 625 SHADOW LANE • LAS VEGAS, NEVADA 89127 • 702-383-1276 • FAX 702-383-1443

July 26, 1996

Mr. Aldo R. DiNardo  
Royal Cement Co., Inc.  
PO Box 380  
Logandale, NV 89021

RE: Title V Operating Permit Application  
Source No. A-00154

Dear Mr. DiNardo:

On July 8, 1996 you met with staff from APCD to discuss various issues related to Royal Cement's Title V permit application. You advised that Royal had equipment breakdowns resulting in shutdown for a better part of the past month. You also advised us that Royal plans on taking steps to resume operation as soon as possible.

Your Title V application was determined to be incomplete for the reasons stated in our letter to you dated May 24, 1996. One issue of concern was the fact that the March 12, 13, and 14, 1996 performance test indicates that emissions exceeded the permitted emission levels. Based on the results of the test, the exceeded NO<sub>x</sub>, CO and PM<sub>10</sub> emissions must be addressed in the compliance plan and a certification of non compliance should be included in the application.

Each regulation with which the facility is not in compliance must be identified in the compliance plan and the compliance schedule shall include the following:

- Identification of each deficiency.
- List of remedial measures to correct each deficiency.
- List of enforceable sequence of actions with milestones leading to compliance.
- Enforceable alternatives in the event proposed corrections do not meet emission limitations.

The compliance schedule shall address all the deficiencies by providing completion dates that commit to emission reductions and

Royal Cement Co., Inc.  
July 26, 1996  
Page 2

regulation compliance. Please submit an approvable compliance plan and compliance schedule by August 2, 1996.

If you have any questions, please call me at 702-383-1276.

Sincerely,

CLARK COUNTY HEALTH DISTRICT

A handwritten signature in cursive script that reads "Edward P. Michalewicz". The signature is written in black ink and is positioned above the typed name.

Edward P. Michalewicz, Permit Specialist  
Air Pollution Control Division

EPM/epm  
cc: Kleinfelder, Inc.

**Royal Cement Company, Inc.**

PO Box 380  
 State Route 169, 2 1/2 Miles East of I-15  
 Logandale, Nevada 89021

(702) 398-3533

*6/18 Shirley*  
*Copy for*  
*Mason*  
*DC Lee*  
*Femi*  
*[Signature]*

June 14, 1996

Mr. Harold Glasser  
 Enforcement Supervisor  
 Clark County Health District  
 625 Shadow Lane  
 Las Vegas, NV 89127

Post-It® Fax Note 7671		Date	# of pages ▶ 2
To	<i>Harold Glasser</i>	From	<i>J. Squire</i>
Co. Dept.	<i>CCHD-APCD</i>	Co.	<i>Kleinfelder</i>
Phone #		Phone #	
Fax #	<i>383-1445</i>	Fax #	

RE: Response to Issues raised at our Meeting of June 3, 1996

Dear Mr. Glasser:

Thank you for meeting with us on Monday, June 3 to discuss the various compliance issues at our facility. We believe the meeting served to clarify several issue and give us a course of action.

We are continuing to work towards a resolution of the issues discussed at the meeting. We have contacted Steiner Environmental regarding the results of the RATA tests for the opacity meters. Steiner Environmental reports these tests were completed with the help of Mr. Brent Anderson, one of our former employees. We are attempting to contact Mr. Anderson regarding the location of the documentation and will forward it as soon as we receive it. We anticipate you will receive the results shortly.

As we discussed at the meeting, the performance test was completed during a period when our equipment was malfunctioning, and we were not able to maintain steady raw material feed to the kiln. For this reason, we believe the emissions from the kiln stack are not representative, and in accordance with 40CFR60.8, cannot be used to issue a notice of violation. Royal Cement recognizes the importance of an accurate performance test. We have contacted four source testing firms who have committed in writing to completing a source test with preliminary results available on or before July 14, 1996. We will be contracting with one of the firms soon, and will notify the district in writing at least one week prior to the test.

The apparent opacity exceedance is based upon a visual tester who was testing on a partly cloudy day, standing less than 120 degrees between the sun and the stack. This test was not reliable and the opacity will be remeasured during the second source test.

We are in the process of hiring an environmental compliance chemist, due to begin employment the fourth week of June, to assist our facility in meeting regulatory

**Royal Cement Company, Inc.***PO Box 380**State Route 169, 2 1/2 Miles East of I-15**Logandale, Nevada 89021**(702) 398-3533*

compliance requirements. The calibration gases for the SOx and NOx monitors have arrived. The monitors will be installed and calibrated on June 26 and 27. Klienfelder will contact the district to review the installation and calibration to ensure it meets district guidelines.

We appreciate the input from Dr. Lee regarding the Title V permit application. As the new source test should be completed prior to July 14, this should allow adequate time to amend the application as necessary to meet all state and federal guidelines. If necessary, a compliance plan will be developed with Dr. Lee's input.

We appreciate the time you and your staff have given to assist us as we continue to comply with the air quality rules and regulations. We will continue to provide correspondence regarding the actions we are taking. If you have any immediate questions, please call me at (702) 398-3533.

Sincerely,

Aldo R. DiNardo  
President



CLARK COUNTY HEALTH DISTRICT

P.O. BOX 4426 • 625 SHADOW LANE • LAS VEGAS, NEVADA 89127 • 702-383-1276 • FAX 702-383-1443

May 24, 1996

Mr. Aldo R. DiNardo  
Royal Cement Co., Inc.  
PO Box 380  
Logandale, NV 89021

RE: Title V Operating Permit Application  
Source No. A-00154

Dear Mr. DiNardo:

Thank you for the Part 70 Permit Application which we received on May 14, 1996, for Royal Cement Co. The Portland cement facility is located along State Route 169, 2.5 miles East of I-15, Logandale, NV.

We have reviewed the application and determined that it is incomplete and unapprovable.

The application is unapprovable because Part III E of the permit application proposes exemptions from Performance Testing and applicable requirements. The proposal is inappropriate as none of these can be exempted because they are applicable requirements under the current laws and regulations.

The application is incomplete because it does not include a compliance plan. Applicable Requirements, Pages 27-30 of the application, states that emissions from the facility do not exceed the established limits. A performance test was conducted on March 12, 13, and 14, 1996 by Steiner Environmental, Inc. The test results show that emissions from the kiln exhaust exceed the emission limits of NO<sub>x</sub>, CO and opacity set forth as the permit conditions in the prevention of significant deterioration (PSD) permit. Emissions from the clinker cooler exhaust also exceeded limits for particulate matter.

These test results indicate that the source must either commit to emission reductions or must apply to modify the existing **Authority to Construct and Operating Permit**. Since Royal Cement Co. is not in compliance with applicable requirements, it is



Royal Cement Co., Inc.  
May 24, 1996  
Page 2


necessary that you submit an approvable compliance plan that includes a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance. Because the application lacks such a plan, it is incomplete.

Please amend the application with necessary corrections and a complete compliance plan. To facilitate your understanding our concerns and assist you in developing a complete and acceptable compliance plan, we direct you to meet with us at our office before June 28, 1996 for a comprehensive discussion of several issues relevant to applicable requirements.

If you have any questions, please call me at 702-383-1276.

Sincerely,

CLARK COUNTY HEALTH DISTRICT



Edward P. Michalewicz, Permit Specialist  
Air Pollution Control Division

EPM/epm

cc: Ed Pike, US EPA, Region IX  
David C. Lee, Supervisor

g:\home\general\ed\part\_70\royal\royal1.doc



May 21, 1996

Royal Cement Company, Inc.  
P. O. Box 380  
Logandale, Nevada 89021

Attention: Mr. Aldo DiNardo, President

**NOTICE OF VIOLATION #3065**

**ROYAL CEMENT COMPANY, INC. IS CHARGED WITH A VIOLATION OF SECTION 16.4.2 (Operating Permits)** of the Clark County Health District Air Pollution Control Regulations for exceeding emission limits at their Portland Cement facility located near Logandale, Nevada.

Subsection 16.4.2 states:

“Violation of the conditions of the permit shall constitute a violation of this section.”

D.1) Emissions from the Stationary Source shall not exceed the following:

Limestone Quarry and Processing Facility

<u>Pollutant</u>	<u>lbs/hour</u>	<u>tons/yr</u>
PM-10	23.7	8.7

Cement Plant

<u>Pollutant</u>	<u>lbs/hour</u>	<u>tons/yr</u>
PM-10	24.1	96.4
Nitrogen Oxides	125.0	480.0
Sulfur Dioxide	16.6	63.9
Carbon Monoxide	8.3	32.0
Lead	0.006	0.022

NV#3065

Page 2

Tuesday, May 21, 1996

- D.2) The PM-10 emission rate from the kiln stack shall not exceed 0.3 pounds per ton of kiln feed.
- D.3) The opacity of emissions from the kiln stack shall not exceed ten (10) percent for more than three (3) minutes in any sixty minute period. The stack opacity monitoring and alarm system must be in operation at all times the kiln is in operation.
- D.4) The PM-10 emissions from the clinker cooler exhaust shall not exceed 0.1 pounds per ton of kiln feed.
- D.8) Nitrogen oxides (NOx) emissions calculated as NO2 from the kiln exhaust stack shall not exceed 5.3 pounds per ton of cement produced.
- D.9) Sulfur dioxide (SO2) emissions from the kiln stack shall not exceed 0.7 pounds per ton of cement produced.

**FACTS ALLEGED:**

1. Operating Permits (Id. No. A-154) with conditions were issued to Royal Cement Co., Inc. to operate a Portland cement facility near Logandale, Nevada, on July 15, 1994.
2. Condition E.1) requires Royal Cement Co., Inc. to conduct a performance test to demonstrate compliance with certain permit emission limitations (see tables 1 and 2).
3. A performance test was conducted on March 12, 13, and 14, 1996 by Steiner Environmental, Inc. (and other sub-contractors).
4. The results of the performance test show that Royal Cement Co., Inc. is not in compliance with emission limitations of Operating Permit Conditions D.1), D.2), D.3), D.4), D.8), and D.9) (see table 1 and 2).

NV#3065

Page 3

Tuesday, May 21, 1996

## CORRECTIVE ACTION ORDER

1. Within five (5) days of receipt of this Notice of Violation #3065, Royal Cement Co., Inc. shall notify Harold Glasser, Enforcement Supervisor, APCD, of which of the following scenarios Royal Cement Co., Inc. has chosen to complete. Notification shall be by certified mail, or hand delivered.

### SCENARIO A

1. On or before the thirty-fifth (35<sup>th</sup>) day of receipt of this Notice of Violation #3065, Royal Cement Co., Inc. shall deliver a Compliance Schedule to the Enforcement Supervisor, APCD. The Schedule shall conform and be subject to the requirements of Section 10, Air Pollution Control Regulations.
2. The length of time to achieve compliance shall not exceed ninety (90) days.
3. A detailed report describing the action(s) taken, milestones achieved, and detailed documentation to support each shall be delivered to the Enforcement Supervisor, APCD, on or before the tenth (10<sup>th</sup>) day from the end of the calendar month. Should the 10th day fall on a weekend day or on a District holiday, then the report shall be due on the next regularly scheduled work day
4. Failure to submit a Schedule, or failure to follow an approved Plan, or failure to successfully complete the Schedule, shall result in the District commencing permit revocation procedures.

### SCENARIO B

1. Within thirty-five (35) days of receipt of this Notice of Violation #3065, Royal Cement Co., Inc. shall submit an application for a modification of a stationary source. A timely application shall be received by APCD on or before the thirty-fifth (35<sup>th</sup>) day of receipt of this Notice of Violation #3065.

NV#3065

Page 4

Tuesday, May 21, 1996

2. Failure to submit a timely application shall result in the proposed penalty being imposed, and the imposition of a mandatory compliance schedule. The compliance schedule shall be issued by the District on the thirty-sixth (36th) day of receipt of this Notice of Violation #3065.

Table 1 Performance Test Results: Emission Rates

	Emission Rates					Status
	Permitted		Test Results			
	LB/Hr	TPY	LB/Hr	TPY	Conc	
Kiln Exhaust Gas Stream						
Total PM	12	46.1	5.31	20.39	0.0264 <sup>a</sup>	PASS
NO <sub>x</sub>	125	480	187.66	720.61	1700.27	FAIL
Total Sulfate	—	—	1.28	4.92	0.0064	—
SO <sub>2</sub>	16.6	63.9	0.05	0.19	0.31	PASS
CO	8.3	32.0	9.39	36.06	139.38	FAIL
Pb	0.006	0.022	0.002	0.01	7.99E-6 <sup>a</sup>	PASS
VOC	—	—	0.002	0.01	0.03	—
Opacity	10%	—	25%	—	—	FAIL
Clinker Cooler Exhaust Gas Stream						
Total PM	3.42	13.13	6.00	23.04	0.0135	FAIL
Opacity	10%	—	5%	—	—	PASS

<sup>a</sup> grains per dry standard cubic foot (gr/dscf), all others: parts per million (ppm)

Table 2 Performance Test Results: Emission Standards (Factors)

	Emission Standard (Factor)		Status
	Permitted (LB/ton)	Test Results (LB/ton)	
Kiln PM	0.3	0.18	PASS
Kiln NO <sub>x</sub>	5.3	7.5	FAIL
Kiln SO <sub>2</sub>	0.7	0.002	PASS
Clinker PM	0.1	0.197	FAIL
Miscellaneous			
Coal	0.8% S, weight	0.5% S, weight	PASS
Kiln Feed Rate	38.1 tons/Hr	30 tons/Hr	PASS

NV#3065

Page 5

Tuesday, May 21, 1996

### PROPOSED SETTLEMENT & PENALTY

The Air Pollution Control Division proposes that you be assessed a penalty of **\$10,000** for violation of the Air Pollution Control Division Regulations. If this amount is acceptable to you, we will place this matter on the Consent Agenda for the next Hearing Board meeting, which is scheduled for **July 18, 1996**. This negotiated amount will not be finalized until it is accepted by the Hearing Board. If this matter is on the Consent Agenda, you do not need to appear. An invoice would be mailed after the Board's action.

A summary of recent enforcement activity with your company is attached.

**COMPLETION OF THE ABOVE CORRECTIVE ACTION ORDER WITHIN THE STATED TIMEFRAME WILL RESULT IN CANCELLATION OF PENALTY.**

### ALTERNATIVE TO PROPOSED SETTLEMENT

If you contest this Notice of Violation or you believe this penalty is too high, you may have your case heard before the Hearing Board. The next meeting is at **1:00 p.m. on July 18, 1996** in the Clemens Room of the Clark County Health District, 625 Shadow Lane, Las Vegas, Nevada. They can decide whether or not there is a violation and what the appropriate penalty should be, if there is a violation. If the Hearing Board determines that there is a violation, they are not bound by the penalty stated above. It could be as high as \$10,000 or as low as zero.

### YOUR RESPONSE

Upon receipt of this Notice of Violation by Certified Mail, please advise Air Pollution Control Division (Mrs. Shirley Busse) as soon as possible of your intentions in order that the Agenda can be properly prepared. If we do not hear

NV#3065

Page 6

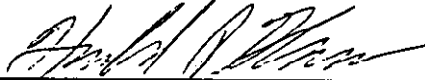
Tuesday, May 21, 1996

from you, we will place this matter on the Regular Agenda for Hearing Board action.

**HEARING BOARD PROCEDURES**

You may appear either in person or with counsel, and you are entitled to introduce evidence or call witnesses to testify on your behalf. Procedural forms are attached and copies of the Air Pollution Control Regulations are available to you at the District Health Department. For additional background information, a copy of the Annotated Agenda for the previous Hearing Board meeting is attached.

*Issued by Michael H. Naylor, Director  
Air Pollution Control Division*



**Harold P. Glasser, Enforcement Supervisor  
Air Pollution Control Division**

Notice Effected by:   
Mason McNinch, APC Permit Specialist

Notice Served by: Certified Mail #P 583 298

/smb

Attachments

CC: Mr. Dan DiNardo

NV#3065

Page 7

Tuesday, May 21, 1996

**ENFORCEMENT ACTIVITY REPORT**

**COMPANY NAME:** ROYAL CEMENT COMPANY, INC.  
**ADDRESS:** P. O. BOX 380  
Logandale, Nevada 89021

**Contact Name:** Mr. Aldo DiNardo, President

**TEL:**

**FAX:**

	<u>DATE</u>	<u>NV#</u>	<u>SECTION</u>	<u>PENALTY</u>
1.	8/11/95	2841	16.4.2	\$600
2.	2/28/96	2973	4.4	Canceled
3.	5/16/96	3053	14.1.5	Pending





**CLARK COUNTY HEALTH DISTRICT**

P.O. BOX 4426 • 625 SHADOW LANE • LAS VEGAS, NEVADA 89127 • 702-383-1276 • FAX 702-383-1443

May 16, 1996

Royal Cement Company, Inc.  
P. O. Box 380  
Logandale, Nevada 89021

Attention: Mr. Aldo DiNardo, President

**NOTICE OF VIOLATION #3053**

**ROYAL CEMENT COMPANY, INC. IS CHARGED WITH A VIOLATION OF SECTION 14.1.5 (New Source Performance Standards)** of the Clark County Health District Air Pollution Control Regulations for failure to provide required information from their Portland Cement facility located near Logandale, Nevada.

Subsection 14.1.5 states:

"Subpart F - Standards of Performance for Portland Cement Plants"

(by reference: 40 CFR § 60.63; Appendix B, Performance Specification 1)

**FACTS ALLEGED:**

1. Operating Permits with conditions were issued to Royal Cement Company, Inc. on July 7, 1994, to operate a Portland cement facility near Logandale, Nevada.
2. Subsection 14.1.5 (40 CFR § 60.63) requires that Continuous Opacity Monitoring System(s) (COMS) be installed on the exhaust of the kiln, and on the exhaust of the clinker cooler.

NV#3053

Page 2

Thursday, May 16, 1996

3. In order to be in compliance with Subsection 14.1.5 (40 CFR § 60.63), a performance specification test must be conducted on each COMS (Subsection 14.1.5 [40 CFR 60, Appendix B, Performance Specification 1] ), and the results of that (those) test reported.
4. The results of the performance specification tests were not included in the performance test report. This information is required in order to determine how well the COMS meet the minimum operational requirements. Depending on the results of these test, the COMS may be accepted or rejected.

<b>CORRECTIVE ACTION ORDER</b>
--------------------------------

- I. Within ten (10) days of receipt of this Notice Of Violation #3053, Royal Cement Company, Inc. shall deliver to the Enforcement Supervisor, APCD, all data, records and information pertaining to the following:
  - A. Apparatus (40 CFR 60, Appendix B, Performance Specification 1, § 3.);
  - B. Installation Specifications (40 CFR 60, Appendix B, Performance Specification 1, § 4.);
  - C. Design and Performance Specifications (40 CFR 60, Appendix B, Performance Specification 1, § 5.);
  - D. Design Specification Verification Procedure (40 CFR 60, Appendix B, Performance Specification 1, § 6.);
  - E. Performance Specification Verification Procedure (40 CFR 60, Appendix B, Performance Specification 1, § 7.); and
  - F. all calculation required by and related to the above.

<b>RECEIPT OF DATA, RECORDS AND INFORMATION WITHIN TEN (10) DAYS OF RECEIPT OF THIS NOTICE OF VIOLATION #3053 WILL RESULT IN CANCELLATION OF PENALTY.</b>
---

NV#3053

Page 3

Thursday, May 16, 1996

### **PROPOSED SETTLEMENT & PENALTY**

The Air Pollution Control Division proposes that you be assessed a penalty of **\$1,000** for violation of the Air Pollution Control Division Regulations. If this amount is acceptable to you, we will place this matter on the Consent Agenda for the next Hearing Board meeting, which is scheduled for **June 13, 1996**. This negotiated amount will not be finalized until it is accepted by the Hearing Board. If this matter is on the Consent Agenda, you do not need to appear. An invoice would be mailed after the Board's action.

A summary of recent enforcement activity with your company is attached.

### **ALTERNATIVE TO PROPOSED SETTLEMENT**

If you contest this Notice of Violation or you believe this penalty is too high, you may have your case heard before the Hearing Board. The next meeting is at **1:00 p.m. on June 13, 1996** in the Clemens Room of the Clark County Health District, 625 Shadow Lane, Las Vegas, Nevada. They can decide whether or not there is a violation and what the appropriate penalty should be, if there is a violation. If the Hearing Board determines that there is a violation, they are not bound by the penalty stated above. It could be as high as \$10,000 or as low as zero.

### **YOUR RESPONSE**

Upon receipt of this Notice of Violation by Certified Mail, please advise Air Pollution Control Division (Mrs. Shirley Busse) as soon as possible of your intentions in order that the Agenda can be properly prepared. If we do not hear from you, we will place this matter on the Regular Agenda for Hearing Board action.

NV#3053

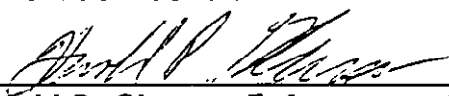
Page 4

Thursday, May 16, 1996

**HEARING BOARD PROCEDURES**

You may appear either in person or with counsel, and you are entitled to introduce evidence or call witnesses to testify on your behalf. Procedural forms are attached and copies of the Air Pollution Control Regulations are available to you at the District Health Department. For additional background information, a copy of the Annotated Agenda for the previous Hearing Board meeting is attached.

*Issued by Michael H. Naylor, Director  
Air Pollution Control Division*

  
\_\_\_\_\_  
**Harold P. Glasser, Enforcement Supervisor  
Air Pollution Control Division**

Notice Effected by:   
\_\_\_\_\_  
Mason McNinch, APC Enforcement Officer

Notice Served by: Certified Mail #P 583 298 793

/smb

Attachments

CC: Mr. Dan DiNardo

CLARK COUNTY HEALTH DISTRICT  
625 SHADOW LANE  
LAS VEGAS, NEVADA 89106  
(702) 383-1276  
AIR POLLUTION CONTROL FAX (702) 383-1443



FAX COVER SHEET

COMPANY NAME:	Kleinfelder
CONTACT NAME:	Brian Dow
FAX NUMBER:	510-484-5838

SENDER:	David C. Lee
DESCRIPTION:	Notification Letter dated Nov. 13, 1995


Number of pages, including cover:	4
Date sent:	May 10, 1996

If there are any problems with this transmission, please call: (702) 383-1276 during the hours of 8:00 AM TO 4:30 PM Monday through Friday.

**Royal Cement Company, Inc.**

*PO Box 380*

*State Route 169, 2 1/2 Miles East of I-15  
Logandale, Nevada 89021*

*(702) 398-3533*

RECEIVED  
CCHD-APCD

1997 FEB 10 P 2: 08

February 10, 1996

Mr. Harold Glasser  
Enforcement Supervisor  
Clark County Health District  
625 Shadow Lane  
Las Vegas, NV 89127

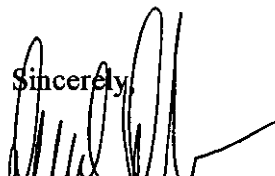
Re: Progress Report # 5, Compliance Plan Part V, Title V, and NOV # 3100 - Revised

Dear Mr. Glasser:

In accordance with the directive contained in Part B, "Certification of the Continuous Opacity Monitors for the Kiln and Clinker Cooler Stacks," paragraph 5, the sixth monthly progress report is hereby submitted:

The continuous opacity monitors are functioning well. The Method 9 procedure, Visual Determination of Opacity, is scheduled to take place on February 20 and 21. The test protocol for this procedure was forwarded to you on February 6.

Please contact us if there are any questions.

Sincerely,  
  
Daniel DiNardo  
Vice President

XC: Mason McNinch



## Clark County Health District

625 Shadow Lane  
Las Vegas, Nevada 89106  
(702) 383-1276

Air Pollution Control Fax (702) 383-1443

*Fax  
Cover  
Sheet*

Company Name: Royal Cement Co., Inc.

Contact Name: Brent Anderson

Fax Number: 702/398-3533

Sender: David C. Lee

Section: APCD

Description: Letter to Royal Cement dated 11/13/95

RE: Part 70 Permit Application

Number of pages, including cover: 4

Date Sent: 1/31/96

If there are any problems with this transmission, please call: (702) 383-1276 during the hours of 8:00AM to 4:30PM Monday through Friday.

**Royal Cement Company, Inc.**

PO Box 380  
State Route 169, 2 1/2 Miles East of I-15  
Logandale, Nevada 89021

(702) 398-3533

RECEIVED  
CCHD-APCD  
1997 JAN 10 A 11: 52

1/12  
Mason,  
1) Are COMS  
OK?  
2) Other CK?

January 8, 1996

Mr. Harold Glasser  
Enforcement Supervisor  
Clark County Health District  
625 Shadow Lane  
Las Vegas, NV 89127

Re: Progress Report # 5, Compliance Plan Part V, Title V, and NOV # 3100 - Revised

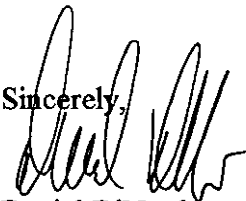
Dear Mr. Glasser:

In accordance with the directive contained in Part B, "Certification of the Continuous Opacity Monitors for the Kiln and Clinker Cooler Stacks," paragraph 5, the fifth monthly progress report is hereby submitted:

The continuous opacity monitors are functioning and results of the Performance Specification Tests were forwarded to your office last month. The Method 9 procedure, Visual Determination of Opacity, will be scheduled as soon as the raw mill is repaired and the plant is back in operation. We faxed notification of the shut down to your office on December 31, 1996.

We are waiting to hear from the APCD office regarding acceptance of the COMS certification. Please contact us if there are any questions.

Sincerely,



Daniel DiNardo  
Vice President

XC: Mason McNinch