ADEQ
OPERATING
AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation #26:

Permit #: 0573-AOP-R6

IS ISSUED TO:
El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730
Union County
AFIN: 70-00040

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

April 12, 2005 and April 11, 2010

AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Mike Bates
Chief, Air Division

Date Amended

Table of Contents

List of Acronyms

A.C.A.	Arkansas Code Annotated
CFR	Code of Federal Regulations
CO	Carbon Monoxide
AFIN	Arkansas Facility Identification Number
HAP	Hazardous Air Pollutant
lb/hr	Pound per hour
MVAC	Motor Vehicle Air Conditioner
NO_x	Nitrogen Oxide
PM	Particulate matter
PM_{10}	Particulate matter smaller than ten microns
SNAP	Significant New Alternatives Program
SO_2	Sulfur dioxide
NH_3	Ammonia
SSM	Startup, Shutdown, and Malfunction Plan
tpy	Ton per year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
RPM	Round Per Minute
scfm	Standard Cubic Feet Per Minute
Psig	Pounds Per Square Inch Gauge

SECTION I: FACILITY INFORMATION

PERMITTEE:	El Dorado Chemical Company
AFIN:	70-00040
PERMIT NUMBER:	0573-AOP-R6
FACILITY ADDRESS:	4500 North West Avenue El Dorado, AR 71731
COUNTY:	Union
CONTACT NAME:	Wes Morgan, Environmental Manager
TELEPHONE NUMBER:	(870) 863-1400
REVIEWING ENGINEER:	Siew Low
UTM North-South (Y):	3681.5 km N
UTM East-West (X):	529.1 km E
	Zone 15

SECTION II: INTRODUCTION

Summary of Permit Activity

El Dorado Chemical Company (EDCC) owns and operates a chemical manufacturing facility located at 4500 North West Avenue in El Dorado, Arkansas. This permitting action includes

1. A minor modification to install a new Mixed Acid Plant Scrubber (SN-44).
2. Revise the language of stack testing for SN-05, remove stack testing requirements for SN-06, clarify permit requirements and revise control equipment monitoring parameters in the permit issued on April 12, 2005 and the agreed upon changes in the Permit Appeal Resolution (PAR).
3. Incorporate hard-wired emission factors for the E2 and KT plants.
4. PSD application to increase the ammonium nitrate production limit of the E2 Plant to the maximum equipment potential.

Plantwide condition #7 is revised have the following language: "… does not include the quantity of condensable particulate measured through the back-half sampling train procedure of EPA Reference Method 5…". This is because the back-half sampling train procedure of Reference Method was not available when this condition was first put in the permit for PSD netting offset purposes.

Process Description

This facility manufactures nitric acid (strengths from 48.0% to 98.5%), sulfuric acid (93.0% and 98.0%), and high and low density grades of ammonium nitrate.

Emissions from this facility are particulate matter, sulfur dioxide, volatile organic compounds, carbon monoxide, nitrogen oxides, sulfuric acid, nitric acid, and ammonia.

Prevention of Significant Deterioration

Air Permit 0573-AOP-R3 issued on February 20, 2003 authorized the installation of a third neutralizer. The addition of the third neutralizer debottlenecked ammonium nitrate production at the E2 plant, and EDCC took a production limit to avoid PSD review at that time. The E2 Plant production increase proposed in EDCC's latest application, to the maximum potential rate, results in a significant increase in PM/PM_{10} emissions, and the facility is now required to undergo PSD review for these pollutants. In this application, BACT and ambient air impact analyses were conducted for PM/PM_{10}.

Best Available Control Technology

For a PSD permit, the applicant must perform a "top-down" BACT analysis for each new unit and for each affected emission unit that is undergoing a physical change or a change in the method of operation. The "top-down" PSD BACT analysis must satisfy two criteria under the Clean Air Act. First, the permit application must consider the most stringent technologies available. Second, if the applicant proposes less stringent controls, it must demonstrate, using objective data, that the most stringent controls are not achievable due to source specific energy, environmental, or economic impacts, and the permitting authority must exercise its informed judgment before accepting this determination. The PSD "top-down" BACT analysis consists of the following five steps:

1. Identify all control technologies.
2. Eliminate technically infeasible options.
3. Rank remaining control technologies by control effectiveness.
4. Evaluate most effective controls and document results.
5. Select BACT.

As a part of this PSD application, a BACT analysis was conducted for the PM/PM_{10} emissions from the third neutralizer as the third neutralizer is the only source physically modified/installed.

BACT Analysis for PM/PM_{10} Emissions from the Third Neutralizer

A search of existing control technologies was conducted to identify control technologies for the control of particulate matter emissions from ammonium nitrate neutralizers. The search resulted in only one facility with particulate matter control technologies associated with ammonium nitrate neutralizers.

From the analysis, the control devices with the highest level of control for particulate matter emissions from the neutralizers are filter/mist eliminators, scrubbers, and condensers. For EDCC to replace the current system which is a chemical steam scrubber (SN-41) with a filter/mist eliminator is not technically reasonable. The reason is the neutralizers and evaporators generate steam. There is no air, and no particulate matter in the steam from the neutralizers. There is however ammonia and nitric acid present in the vapor stream. When the steam is condensed within the stack or after it leaves the stack at SN-41, the ammonia and nitric acid vapors can recombine to form solid ammonium nitrate in the air. The solid ammonium nitrate or particulate matter is all condensable. A filter/mist eliminator (e.g. a Brinks mist eliminator will) not control ammonia or nitric acid. Therefore, designing a filter/mist eliminator system for the exhaust conditions at the SN-41 scrubber stack is not reasonable.

As for condensing the steam coming off SN-41 using a condenser with cooling water from a cooling tower (thereby controlling particulate matter), it is technically feasible. However, the

conservative cost estimate would be above $25,000 per ton of particulate matter reduced. Therefore, this option is ruled out based on economic considerations.

The E2 chemical steam scrubber is both a product recovery and air pollution control device. It collects emissions from the auxiliary concentrator, the low concentrator, and the three neutralizers. The scrubber controls the emissions by adding nitric acid. As the product of the recovery process, there is a 40% ammonium nitrate solution coming out of the scrubber. Since the reaction between ammonia and nitric acid is extremely exothermic, the emissions from the scrubber are in the form of vapor/steam.

Following is a table of BACT limits for SN-41.

BACT Limit	SN-41
lb PM_{10}/hr	3.3
lb PM_{10}/ton of production at neutralizers	0.0054

Ambient Air Impact Analysis

An air dispersion modeling analysis is a required part of a PSD permit application. The air dispersion modeling analysis is used to demonstrate that the emissions resulting from a proposed modification will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or surpass a PSD Increment.
The US EPA requires that PSD modeling be performed in two stages: the significance analysis and the full impact analysis. The significance analysis considers the net emissions change associated with PSD affected emission units to determine if the increased emissions will have a significant impact on the surrounding area. If the results of the significance analysis are below the corresponding Modeling Significance Levels, the full impact analysis is not required.

Significance Modeling Results

PM_{10} significance modeling results indicate that the maximum 24-hour average ground level PM_{10} concentrations exceed the modeling significance level for all five years modeled. As a result, a full modeling analysis was required to determine whether or not there is a possible impact to the NAAQS or PSD Increment standards.

The overall area to be taken into account for NAAQS and PSD Increment modeling is the standard 50 kilometer radius plus the impact radius for each pollutant. A summary of the significance modeling results for PM_{10} are displayed in the following table:

Pollutant	Avg. Period	Max. Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	Max. Area of Impact Radius (km)	Total Area to be Modeled (km)
PM_{10}	Annual	1.41	1	1.0	51
	24-Hour	16.4	5	2.6	53

Ambient Air Monitoring Analysis

Ambient monitoring modeling was performed for PM_{10}. The modeling results were compared with the appropriate de minimis monitoring levels to determine whether ambient monitoring is required at the facility.

The net emissions increase for PM_{10} was modeled for an averaging period of 24- hours. The following table summarizes the results of the ambient monitoring modeling analysis.

Year	**Averaging Period**	**Maximum Concentration ($\mu g/m^3$)**	**Ambient Monitoring De Minimis Level ($\mu g/m^3$)**
1996	24-Hour	12.1	10
1997	24-Hour	16.4	10
1998	24-Hour	13.9	10
1999	24-Hour	13.1	10
2000	24-Hour	15.9	10

The results indicate that the maximum 24-hour average ground level PM_{10} concentrations exceed the monitoring de minimis levels for each of the five years. However, the net emissions increase that was modeled was based on the increase of an annual production limit with an actual-to-potential analysis conducted in relation to a bubbled tpy limit that was not increased. Additionally, the short term emission rates were not increased as a result of this permit modification. Therefore, this project would not result in an increase in the amount of particulate concentrations over a 24-hour period and thus ambient monitoring is not required for PM_{10}.

NAAQS Modeling Analysis

NAAQS modeling was performed for PM_{10} on a 24-hour and annual basis. All of the sources located at EDCC along with other sources within the radius of impact (2.6 kilometers) plus 50 kilometers were modeled. Using concentrations compiled during 2004 from the ambient monitor in El Dorado, the annual average background PM concentration is 12 $\mu g/m^3$ and the second highest average 24-hour background concentration is 24 $\mu g/m^3$ which are added to the modeled results for comparison with the NAAQS. The following table summarizes the results.

PM_{10} Maximum Annual NAAQS Modeling Results

Averaging Period	Modeled Concentration ($\mu g/m^3$)	Modeled Concentration + Background ($\mu g/m^3$)	NAAQS Limit ($\mu g/m^3$)
Annual	15.2	27.2	50

PM_{10} High-4th-High 24-Hour NAAQS Modeling Results

Averaging Period	Modeled Concentration ($\mu g/m^3$)	Modeled Concentration + Background ($\mu g/m^3$)	NAAQS Limit ($\mu g/m^3$)
24-Hour	108.5	132.5	150

The results from the area of impact grid show that the NAAQS is not exceeded along the property boundary or within a fine grid around EDCC. This demonstrates that the modification at EDCC does not result in a NAAQS exceedance.

PSD Increment Modeling Analysis

PSD Increment Modeling was performed for PM_{10} on an annual and 24-hour basis. All of the sources located at EDCC along with other sources within the radius of impact (2.6 kilometers) plus 50 kilometers were modeled. The model was run with a discrete grid placed around EDCC in order to provide concentrations along the property and extending out to the area of impact radius. In order to determine emission rates for increment modeling, the most recent actual emissions for EDCC as well as available sources within the 52 kilometer radius around EDCC were obtained. The minor source baseline date in Union County is March 2, 1999. The emission inventory for EDCC from 2004 was subtracted from the emission inventory data from 1999 to obtain the facility's emissions increment since the baseline date.

The air quality dispersion results for PM_{10} for the annual and 24-hour averaging period are provided below.

PM_{10} Annual PSD Increment Modeling Results

Year	Averaging Period	Maximum Concentration ($\mu g/m^3$)	PSD Class II Limit ($\mu g/m^3$)
1996	Annual	5.0	17
1997	Annual	4.4	17
1998	Annual	5.2	17
1999	Annual	4.9	17
2000	Annual	4.6	17

PM_{10} 24-Hour High-2nd-High PSD Increment Modeling Results

Year	Averaging Period	Maximum Concentration ($\mu g/m^3$)	PSD Class II Limit ($\mu g/m^3$)
1996	24-Hour	27.5	30
1997	24-Hour	26.4	30
1998	24-Hour	27.9	30
1999	24-Hour	25.6	30
2000	24-Hour	21.6	30

The results from the area of impact grid show that the PSD increment is not exceeded along the property boundary or within a fine grid around EDCC. This demonstrates that the modification at EDCC has not consumed PM increment and should thus be allowed to proceed.

The results do indicate that the maximum concentration for four of the five years is above 80% of the PSD Increment. Because the short-term increment is above 80% of the PSD Increment, Arkansas Regulation 19 requires an analysis of the area in relation to increment consumption. Specifically, §19.904(C) (4) states the following:

> Where air quality impact analyses required under this part indicate that the issuance of a permit for any major stationary source or for any major modification would result in the consumption of more than fifty percent (50%) of any available annual increment or eighty percent (80%) of any short term increment, the person applying for such a permit shall submit to the Department an assessment of the following factors:
>
> (i) Effects that the proposed consumption would have upon the industrial and economic development within the area of the proposed source; and
> (ii) Alternatives to such consumption, including alternative siting of the proposed source or portions thereof

Therefore, the following information addresses the two factors required under Regulation 19.

In regards to the assessment of the effects that the proposed consumption would have upon the industrial and economic development within the area of the proposed source, there are two primary reasons that there should be no impact whatsoever on any future development in the area.

> The first reason that there will be no impact on future development is due to the conservative nature of the PSD Increment model performed. Due to the absence of baseline data for the area, a conservative approach was taken in constructing the model by utilizing the permitted emissions for all sources within 50 kilometers (excluding EDCC). By using the permitted emissions data for the increment model, the resulting

concentrations were very conservative because they do not take into account any decreases in emissions that may have taken place since the baseline date (March 2, 1999). Additionally, the model did not take into account that for many sources, the actual emission levels in 2004 were similar to actual emissions at the time of the baseline date.

Secondly, the locations of the highest concentrations occur directly south of the facility along the EDCC property line. As one moves south away from the property line, the concentration drops from the maximum. This is due to the area of impact radius established for the project which does not currently contain any other emission contributions. In the event that a facility was to construct 0.5 km to the south of EDCC, the new facility would have 70% of the increment in which to utilize for construction and operation (this 70% is still based on the conservative model discussed above). Therefore, this project at EDCC will have no impact on future industrial and economic development in the area.

In terms of the second consideration of alternative location of the proposed source or portions, the nature of this project does not allow for an alternate site. Specifically, the project was based strictly on an increase in annual production and not a physical modification. This resulted in an actual-to-potential analysis for equipment that is not being physically modified.

Class I Impact Analysis

PSD Increment modeling was performed to determine the impact of the project on Class I areas in the region. To perform the analysis, the Calpuff model was used to evaluate the long range 24-hour particulate concentrations as well as a long range visibility analysis. Specifically, the Breeze Calpuff v.1.3.20 was used to develop concentration data while Earth Tech's Calpost Graphical User Interface was used to process the results and develop visibility data.

The meteorological data used was obtained from surface observations at Shreveport, Louisiana with a five year span from 1996 to 2000. The anemometer height at the surface station in Shreveport is 10 meters. The meteorological data used for upper air in the model was obtained from Shreveport, LA.

The four Class I areas in or around Arkansas that were included in the analysis and each area's approximate distance from EDCC are the Upper Buffalo Wilderness (300 kilometers), the Caney Creek Wilderness (180 kilometers), the Hercules-Glades Wilderness in Missouri (370 kilometers), and the Mingo Wilderness in Missouri (460 kilometers). The following tables provide the particulate concentrations obtained at each of the four Class I areas for the five years evaluated.

Caney Creek Wilderness 24-Hour Modeling Results

Year	Pollutant	Maximum Concentration ($\mu g/m^3$)	PSD Class I Limit ($\mu g/m^3$)
1996	PM_{10}	1.65	8
1997	PM_{10}	1.57	8
1998	PM_{10}	3.89	8
1999	PM_{10}	4.05	8
2000	PM_{10}	2.11	8

Upper Buffalo Wilderness 24-Hour Modeling Results

Year	Pollutant	Maximum Concentration ($\mu g/m^3$)	PSD Class I Limit ($\mu g/m^3$)
1996	PM_{10}	1.16	8
1997	PM_{10}	1.13	8
1998	PM_{10}	0.74	8
1999	PM_{10}	0.92	8
2000	PM_{10}	0.74	8

Hercules-Glades Wilderness 24-Hour Modeling Results

Year	Pollutant	Maximum Concentration ($\mu g/m^3$)	PSD Class I Limit ($\mu g/m^3$)
1996	PM_{10}	1.16	8
1997	PM_{10}	0.64	8
1998	PM_{10}	0.59	8
1999	PM_{10}	0.68	8
2000	PM_{10}	0.56	8

Mingo Wilderness 24-Hour Modeling Results

Year	Pollutant	Maximum Concentration ($\mu g/m^3$)	PSD Class I Limit ($\mu g/m^3$)
1996	PM_{10}	0.41	8
1997	PM_{10}	0.38	8
1998	PM_{10}	0.22	8
1999	PM_{10}	0.33	8
2000	PM_{10}	0.32	8

Class I Visibility Analysis Modeling Results

Year	Class I Area	Maximum Change in Visibility (%)	Cumulative Analysis <10%?
1996	Caney Creek Wilderness	0.8	YES
1997	Caney Creek Wilderness	1.2	YES
1998	Caney Creek Wilderness	1.2	YES
1999	Caney Creek Wilderness	1.0	YES
2000	Caney Creek Wilderness	0.7	YES

To obtain cumulative results for concentrations and visibility, the most recent actual emissions for sources within 52 kilometers of EDCC were used in the model. The results provided in the above tables demonstrate that the modification at EDCC does not contribute to adverse impacts at any of the four Class I areas.

Summary

EDCC proposed increase production rate of E2 plant to equipment maximum potential results in an actual-to-potential air emission increase that exceeds significant modeling limits. As a result, NAAQS, PSD Increment analysis, Class I Impacts, and Visibility modeling were performed for PM_{10} on a 24-hour basis. The modeled results indicate that within the area of impact radius of the EDCC facility, there is no threat to the federal standards. The results show that none of the federal PSD limits or NAAQS is violated.

Regulations

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective February 15, 1999
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective December 19, 2004
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective September 26, 2002
EDCC is classified as a PSD major stationary source pursuant to 40 CFR 52.21
The DM Weatherly Nitric Acid Plant (SN-13) is subject to New Source Performance Standards 40 CFR 60 Subpart G, ‘60.70 through ‘60.74 (*Standards of Performance for Nitric Acid Plants*)
The Sulfuric Acid Plant (SN-07) is **NOT** subject to 40 CFR 60 Subpart H (Standards of Performance for Sulfuric Acid Plants) because it has not been modified after the effective date of the Subpart (August 17, 1971).

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			Lb/hr	tpy	
Total Allowable Emissions		PM PM_{10} SO_2 VOC CO NO_x HNO_3 H_2SO_4 NH_3 *Hexane*	181.9 181.9 601.7 18.5 12.0 592.0 20.0 9.1 85.6 0.6	333.3 333.3 2526.8 4.5 52.3 2410.2 75.3 39.6 309.6 1.2	
SN-01A	DELETED SOURCE – 2001				
SN-01B	DELETED SOURCE – 2001				
SN-02	DELETED SOURCE – now routed to SN-41				
SN-03	DELETED SOURCE – now routed to SN-41				
SN-04	DELETED SOURCE – now routed to SN-41				
SN-05	Ammonium Nitrate E2 Brinks Scrubber	PM PM_{10} NH_3	13.0 13.0 3.5	* * 15.4	45
SN-06	E2 Ammonium Nitrate Prill Tower Fans	PM PM_{10}	67.0 67.0	* *	45
SN-07	Sulfuric Acid Plant	SO_2 H_2SO_4	600.0 7.5	2520.0 32.9	40
SN-08	West (Weak) Nitric Acid Plant	NO_x	200.1	876.5	22
SN-09	East (Weak) Nitric Acid Plant	NO_x	200.1	876.5	22
SN-10	Nitric Acid Concentrator Vents	NO_x HNO_3	19.5 2.3	85.5 10.1	31
SN-11	DELETED SOURCE – SOURCE REMOVED				

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			Lb/hr	tpy	
SN-12	DELETED SOURCE – SOURCE REMOVED				
SN-13	DM Weatherly Nitric Acid Plant	NO_x	50.1	210.0	27
SN-14	KT LDAN Prill Tower	PM PM_{10}	44.2 44.2	* *	52
SN-15	KT Plant Dryer/Cooler	PM PM_{10} NH_3	17.0 17.0 18.0	* * 75.6	52
SN-16A	Boiler No. 2	PM PM_{10} SO_2 VOC CO NO_x *Hexane*	1.1 1.1 0.1 0.8 12.0 39.8 0.3	* * 0.4 3.5 52.3 174.2 1.2	59
SN-16B	Boiler No. 4	PM PM_{10} SO_2 VOC CO NO_x *Hexane*	1.1 1.1 0.1 0.8 12.0 39.8 0.3		59
SN-17	E2 HDAN Plant Cooling Train	PM PM_{10} NH_3	21.6 21.6 5.0	* * 21.9	45
SN-18	KT Plant Clay Baghouse	PM PM_{10}	1.0 1.0	* *	52
SN-19	E2 Plant Barometric Tower	PM PM_{10} NH_3	0.5 0.5 4.1	* * 17.7	45
SN-20	DELETED SOURCE – now routed to SN-41				
SN-21	KT Plant Brinks Scrubber	PM PM_{10}	3.0 3.0	* *	52

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			Lb/hr	tpy	
		NH_3	30.0	126.0	
SN-22	UHDE Direct (Strong) Nitric Acid Plant	NO_x HNO_3	40.5 10.0	177.4 42.0	34
SN-23	Molten Sulfur Storage Tank	Insignificant Source – Group B21			
SN-24	Diesel Storage Tank (500 Gallon)	Insignificant Source – Group A3			
SN-25	Gasoline Storage Tank (2000 Gallon)	VOC	16.9	1.0	61
SN-26	Ammonium Nitrate (90% Solution) Storage	NH_3	1.6	0.9	62
SN-27	KT Plant LDAN Loading	PM PM_{10}	0.6 0.6	2.6 2.6	52
SN-28	E2 Plant HDAN/LDAN Loading	PM PM_{10}	1.1 1.1	4.7 4.7	52
SN-29	Nitric Acid Loading	HNO_3	1.3	5.5	38
SN-30	Sulfuric Acid Loading	H_2SO_4	0.1	0.3	44
SN-31	Frick Ammonia Compressors	NH_3	0.5	2.0	63
SN-32	Ammonia Storage/Distribution	NH_3	1.3	5.7	64
SN-33	Nitric Acid Production Fugitives	NO_x HNO_3	1.9 1.9	8.4 8.4	39
SN-34	E2 Plant Solution Reactor	PM PM_{10}	0.9 0.9	3.0 3.0	65
SN-35	Magnesium Oxide Silo Baghouse	PM PM_{10}	2.0 2.0	8.8 8.8	66
SN-36	Diesel Storage Tank (1000 Gallon)	Insignificant Source – Group A3			
SN-37	Car Barn Scrubber	HNO_3	4.3	2.8	67
SN-38	DM Weatherly Nitric Acid Plant Cooling Tower	PM PM_{10}	1.5 1.5	6.3 6.3	27

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			Lb/hr	tpy	
SN-39	DSN Plant Cooling Tower	PM PM_{10}	2.3 2.3	9.8 9.8	34
SN-40	Ammonium Nitrate Solution Loading	NH_3	1.6	0.6	68
SN-41	E2 Plant Chemical Steam Scrubber	PM PM_{10} NH_3	3.3 3.3 10.0	14.5 14.5 43.8	45
SN-42	East and West Nitric Acid Plant Cooling Tower	PM PM_{10}	0.3 0.3	1.2 1.2	22
SN-43	KT Plant Cooling Tower	PM PM_{10}	0.4 0.4	1.4 1.4	52
SN-44	Mixed Acid Plant Scrubber	SO_2 NO_x H_2SO_4 HNO_3	1.5 0.4 1.5 0.2	6.4 1.7 6.4 0.9	69

$*$ - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No.7.
Italic indicates HAP. HAP emissions are included in the VOC total.

SECTION III: PERMIT HISTORY

The chemical plant located at 4500 North West Avenue in El Dorado, Arkansas and currently owned and operated by El Dorado Chemical Company has equipment that dates back to 1944 to the initial facility built by the U.S. Army Corps of Engineers and operated for the U.S. Government by Lion Oil Company.

Permit No. 122-A was issued July 13, 1972 to Monsanto Company for additional absorption trays and refrigeration to reduce the opacity from the East and West regular nitric acid plants (SN-08 and SN-09). Existing plants at that time and their date of installations were: Boilers (1944), Sulfuric Acid Plant (1949), the E2 Ammonium Nitrate Plant (1950), and East and West Nitric Acid Plants (1962).

Permit No. 123-A was issued July 13, 1972 to Monsanto Company to tie the Nitric Acid Concentrators exhausts into an existing fume scrubber to reduce opacity.

Permit No. 124-A was issued July 13, 1972 to Monsanto Company to install mist eliminators on the Ammonia Nitrate neutralizers and concentrators to reduce particulate matter emissions.

Permit No. 168-A was issued June 22, 1973 to Monsanto Company to install a wet scrubber to reduce the particulate matter emission from the ammonium nitrate prilling towers.

Permit No. 0573-A was issued to Monsanto Agricultural Products Company on August 8, 1979 for the installation of a mist eliminator for the emissions of the sulfuric acid plant to lower the emission factor from this equipment below 0.5 lb acid mist / ton of 100 percent acid produced, as required by Section 111(d) of the Clean Ar Act.

Permit No. 0573-AR-1 was issued on September 23, 1983 when El Dorado Chemical, Inc. purchased the facility from Monsanto Company. All previous permits for this facility were rescinded. Permit Limits for SN-1 thru SN-10 were established in pounds per hour (not tpy) and the opacity limits for all sources except SN-8 and SN-9 (nitric acid plants) were established at 40%.

Permit No. 0573-AR-2 was issued on March 23, 1984 for the conversion of the E2 ammonium nitrate plant to allow some of its production to be low density product in addition to the high density product it was already producing.

Permit No. 0573-AR-3 was issued on September 11, 1989 for the expansion of the facility by adding the DM Weatherly nitric acid plant (subject to NSPS 40 CFR Part 60 Subpart G) and the KT ammonium nitrate plant and its associated prill tower. Emissions netting occurred with the issuance of this permit to avoid PSD review. The PSD trigger limits were established in this permit for particulate matter (203 tpy) and NO_x (8076 tpy).

Permit No. 0573-AR-4 was issued on June 6, 1991 reflecting the stack testing results required by the previous permit. Additionally, comprehensive inventories on production and air emissions record keeping were started on particulate matter and NO_x to insure that the annual emission limits due to PSD offsetting were not exceeded. The 1988/1989 (two years prior to 0573-AR-3) average actual emissions were recalculated and the PSD trigger limits were re-established at 281 tpy for particulate matter and 8202 tpy for NO_x.

Permit No. 0573-AR-5 was issued on November 7, 1991 to further incorporate stack testing results obtained since the previous permit was issued.

Permit No. 0573-AR-6 was issued on March 15, 1993 to install a scrubber on the KT Prill Plant and a secondary ammonium nitrate concentrator in the Low Density Ammonium Nitrate Plant. This lowered the ammonia and particulate matter emissions from the KT Ammonium Nitrate Plant.

Permit No. 0573-AR-7 was issued on September 6, 1994 for a facility expansion to install the UHDE Concentrated Nitric Acid Plant with an increase in NO_x emissions of 149.9 tpy. This Plant was incorrectly listed as being subject to NSPS 40 CFR Part 60 Subpart G when the permit was issued. The operation of the sulfuric acid concentrators (SN-01A and SN-01B) and the nitric acid concentrator (SN-10) with 288.1 tpy average actual NO_x emissions over the previous 5 years (314.5 tpy permitted NO_x emissions) were scheduled to cease six months after the plant start-up.

The UHDE Concentrated Nitric Acid Plant did not have a smooth startup when operation started in July, 1995. The permittee applied for a variance October 5, 1995 requesting continued operation of SN-01A, SN-01B, and SN-10 through July 1, 1996 while the concentrated nitric acid plant went through extended debugging.

A series of three Consent Administrative Orders were issued (CAO LIS No. 95-183, CAO LIS No. 95-183-001, CAO LIS No. 95-183-002) after the variance expired allowing the continued operation of SN-01A, SN-01B, and SN-10. These documents also required permitting of additional sources at the facility, installation of emission control equipment improvements by the permittee, and a thorough PSD review of all changes at the facility. The major emission control improvement was the installation of Selective Catalytic Reduction (SCR) units on SN-08 and SN-09. This resulted in a permitted reduction of 5,124 tpy NO_x for these two sources, and an actual emission reduction in excess of 2,700 tpy NO_x. A demister was also installed on the emissions from the North and South Sulfuric Acid Concentrator (SN-01A and SN-01B) which reduced sulfuric acid mist emissions by at least 50%.

Permit No. 0573-AOP-R0 was issued to El Dorado Chemical Company on October 21, 1999. This permit allowed a small capacity increase for the UHDE DSN Plant (SN-22) resulting in a 27.5 tpy increase in the NO_x emission limit for that source. The permittee was also granted an option of

installing a CEM on the Sulfuric Acid Plant (SN-07) and after the completion of the CEM, a daily production increase to 360 tons. Emission limits for the permit were: PM/PM_{10} - 297.0 tpy, SO_2 - 2520.4 tpy, VOC - 2.7 tpy, CO - 25.4 tpy, NO_x. - 3002.5 tpy, HNO_3 - 242.3 tpy, H_2SO_4 - 66.6 tpy, and NH_3 - 404.1 tpy.

Permit No. 0573-AOP-R1 was issued to El Dorado Chemical Company on June 29, 2000. This permit modification was issued to resolve the appeal filed regarding the initial Title V permit. Primary changes are in the short term compliance mechanism in several of the Specific Conditions and the required testing Specific Conditions regarding opacity. One small source (SN-19) was deleted from the initial permit resulting in a 1.0 lb/hr reduction in the hourly particulate limits and no change in the yearly limit. Emission limits for the permit were: PM/PM_{10} - 297.0 tpy, SO_2 - 2520.4 tpy, VOC - 2.7 tpy, CO - 25.4 tpy, NO_x. - 3002.5 tpy, HNO_3 - 242.3 tpy, H_2SO_4 - 66.6 tpy, NH_3 - 404.1

Permit No. 0573-AOP-R2 was issued to El Dorado Chemical Company on December 3, 2001. This permit modification was issued to change the quantitative opacity observations for SN-27 and SN-28 from EPA Method 9 to EPA Method 22 (because both sources are non-point sources). The testing of the liquid in the peroxide scrubber in Specific Condition No. 24 was changed from a pH test to a hydrogen peroxide concentration test. ADEQ also modified the permit to clarify the reporting requirements and identify records that must be included in the semi-annual report specified in General Provision No. 7. The emission limits of the permit did not change in this modification.

Permit No. 0573-AOP-R3 was issued on February 20, 2003. This modification included the installation of a new ammonium nitrate transfer system to handle the finished ammonium nitrate product from the KT Ammonium Nitrate Plant, the installation of the new ammonium nitrate neutralizer in the E2 Ammonium Nitrate Plant, and the use of a "hard wired" PM_{10} emission factor in demonstrating compliance with the Plantwide Applicability Limit for sources SN-01 through SN-21. Emissions of PM/PM_{10} at SN-27 increased from 2.6 tpy to 2.7 tpy, as a result of the installation of a new ammonium nitrate transfer system (SN-27) at the KT Ammonium Nitrate Plant. Emissions of ammonia at SN-05 increased from 40.0 lb/hr to 45.7 lb/hr, as a result of the simultaneous operation of three ammonium neutralizers in the E2 Ammonium Nitrate Plant. The annual ammonia emissions remained the same. Additionally, there was no modification to the Prill Tower with this change. The increase in PM_{10} actual emissions was 14.8 ton/year at SN-05 and SN-06, which was less than the 15.0 ton/year threshold for PSD significance level. In the ammonia dispersion modeling submitted with this application, the facility did not include ammonia emissions from SN-11. SN-11 was prohibited from operation until stack testing was performed at this unit. The air dispersion modeling results showed the maximum ambient impacts did not exceed any 1/100 TLV concentrations at any modeled receptor. Plantwide PM_{10} emissions remained the same as listed in Permit #0573-AOP-R2.

Permit 0573-AOP-R4 was issued on June 30, 2003. This modification included the installation of

a car barn scrubber (SN-37). Nitric acid emissions from cleaning and pressure checking rail cars were rerouted from the nitric acid concentrator vents (SN-10) to the scrubber (SN-37) at the car barn. There were no changes in plantwide nitric acid emissions.

Permit 0573-AOP-R5 was issued on April 12, 2005. This Title V air permit renewal included the installation of a new chemical steam scrubber (SN-41) at the E2 Plant, permitting four existing cooling towers (SN-38, SN-39, SN-42, and SN-43) and existing ammonium nitrate solution loading (SN-40), and revising the stack testing requirements for the Nitric Acid Vent Collection System (SN-10), Sulfuric Acid Plant (SN-07), E2 HDAN Plant Cooling Train (SN-17), KT Plant Dryer/Cooler (SN-15), and the KT Plant Brinks Scrubber (SN-21). Emission rates were re-evaluated to reflect updated emission factors and additional stack test data. Maximum potential operation hours at SN-08 and SN-09 were increased from 8400 hours per year to 8760 hours per year. Emission rates for the two boilers (SN-16A and SN-16B) were updated using USEPA AP-42 emission factors. Two sources (SN-11 and SN-12) were removed. The E2 Plant Barometric Tower (SN-19), at one time deleted from permit, was incorporated back into the permit.

SECTION IV: SPECIFIC CONDITIONS

SN-09, SN-08, and SN-42
East and West Regular Nitric Acid Plants

Source Description

The East and West Regular Nitric Acid Plants (SN-09 and SN-08) produce weak nitric acid at concentrations ranging from 52% to 58%. These nitric acid plants employ the DuPont single (high) pressure process. They were designed and built in 1962 by C&I Girdler. These plants are not subject to NSPS 40 CFR 60 Subpart G (New Source Performance Standard for Nitric Acid Plants) since they were constructed prior to August 17, 1971 and have had no process design or capacity modifications since installed.

Liquid ammonia (NH_3) is received from a pipeline and placed in pressurized storage at a pressure of 65 psig, or in an atmospheric storage tank. Ambient air is compressed and preheated to approximately 125 psig and 475 ^{o}F. A mixture of approximately ten percent ammonia and the hot air are reacted over a platinum gauze catalyst where the ammonia is oxidized to nitrogen oxide(s) and water vapor. The nitrogen oxides are then absorbed into water in a cooled absorption process forming nitric acid (HNO_3). The tail gases from the refrigerated absorption process then pass through Selective Catalytic Reduction (SCR) Units. The SCR Units were installed in 1996. These SCR Units remove most of the remaining nitrogen oxides by reacting them with ammonia in the presence of a catalyst to form elemental nitrogen and water. The tail gases are then vented to the atmosphere (East Regular Nitric Acid Plant through SN-09 and the West Regular Nitric Acid Plant through SN-08). The Cooling Tower (SN-42) is part of the West and East Nitric Acid Plant.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity. Compliance with the emission limits for SN-08 and SN-09 is demonstrated by compliance with Specific Conditions 3, 4, 5, 6, 8, 9 and satisfactory operation of the SCR Units. Compliance with the emission limits for SN-42 is demonstrated by compliance with Specific Condition 10. [Regulation 19, §19.501 et seq., effective December 19, 2004 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
08	West Nitric Acid Plant	NO_x	200.1	876.5
09	East Nitric Acid Plant	NO_x	200.1	876.5
42	East and West Nitric Acid Plant Cooling Tower	PM_{10}	0.3	1.2

2. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the emission limits for SN-42 is demonstrated by compliance with Specific Condition 10. [Regulation 18, §18.801, effective February 15, 1999, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
42	East and West Nitric Acid Plant Cooling Tower	PM	0.3	1.2

3. The permittee shall not operate either the west nitric acid plant or the east nitric acid plant without its associated SCR unit operating and fully functional except during start up and shut down of each plant. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system for measuring NO_x emissions from the West Nitric Acid Plant and the East Nitric Acid Plant. The CEM shall be installed, operated, maintained, and reports submitted per ADEQ's Continuous Emission Monitoring Systems Conditions, August 2004 Revision (listed as Appendix B in the back of this permit). Non-overlapping 3-hour averages, starting at midnight each calendar day, shall be used to demonstrate compliance with Specific Condition 1. Until the NO_x CEMS is installed and operational, the permittee shall meet the conditions shown in the following table. In the event that an hourly average temperature is outside the specified range, the permittee shall take immediate action to identify the cause of the temperature excursion, implement corrective action, and document that the temperature was back within the permitted range following corrective action. [Regulation 19, 19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, 40 CFR Part 52, Subpart E]

SN	Description	Parameter	Units	Operation Limits
08	West Nitric Acid Plant SCR Unit	Inlet Temperature	^{O}F	450 (minimum)
		Outlet Temperature	^{O}F	800 (maximum)
09	East Nitric Acid Plant SCR Unit	Inlet Temperature	^{O}F	450 (minimum)
		Outlet Temperature	^{O}F	800 (maximum)

4. Until the NO_x CEMS is installed and operational, the permittee shall keep records of the inlet and outlet temperatures at SN-08 and SN-09. These records shall contain the average hourly temperatures measured and recorded from the temperature probes and electronic data loggers at each inlet and outlet monitor at SN-08 and SN-09. The average hourly temperature measurements shall consist of 4 or more data values equally spaced over each hour in accordance with 40 CFR 64.3(b)(4)(ii). These records shall be kept on site and made available to Department personnel upon request. The permittee shall submit a summary of the temperature data including all information as required in General Provision #8, if applicable. [Regulation 19, 19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and

§8-4-311, 40 CFR 70.6, 40 CFR 64.3(b)(4)(ii), 40 CFR Part 52, Subpart E, and Regulation 40 CFR Part 51, Appendix P]

5. The permittee may exceed the NO_x hourly emission limits for West Nitric Acid Plant and the East Nitric Acid Plant in Specific Condition 1 for up to 2 hours during any routine start-up and shutdown of either unit if the emission rate does not exceed 400 lbs per hour NO_x during these events. The permittee shall keep records of all events where the hourly emission rates exceed the emission limit in Specific Condition No. 1. These records shall detail the reason for each event, its duration, and the hourly NO_x emissions. These records shall be updated within 48 hours of each event, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19, §19.705, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

6. The permittee shall not exceed 10% opacity from the West Nitric Acid Plant and the East Nitric Acid Plant as measured by EPA Reference Method No. 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Specific Condition 7. [Regulation 18, §18.501, effective February 15, 1999, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

7. Daily observations of the opacity from SN-08 and SN-09 shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation
b. If visible emissions which appeared to be above the permitted limit were detected
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, Regulation 19, §19.705 and 40 CFR Part 52 Subpart E]

8. The permittee shall not manufacture in excess of 835 tons 100% acid equivalent per day, and 304,775 tons 100% acid equivalent per rolling 12 month total of weak nitric acid through the east and west nitric acid plants. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

9. The permittee shall keep records of the production manufactured in the east and west nitric acid plants. These records shall identify any day during which acid in excess of the quantities specified in Specific Condition No. 8 was produced, and shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19, §19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

10. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-42 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-42's requirements in Specific Conditions No. 1 and 2 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

SN-13 and SN-38
DM Weatherly Nitric Acid Plant

Source Description

The DM Weatherly Nitric Acid Plant (SN-13) produces weak nitric acid at a concentration of about 61% - 67%. This nitric acid plant was originally installed at the American Cyanamid Company facility at Hannibal, Missouri and was relocated to the El Dorado Chemical location in 1990. This plant is subject to NSPS 40 CFR 60 Subpart G (New Source Performance Standard for Nitric Acid Plants) since it was constructed or modified after August 17, 1971 and produces weak nitric acid (between 30% and 70 % strength). The cooling tower (SN-38) is part of the DM Weatherly Nitric Acid Plant.

The DM Weatherly Nitric Acid Plant produces nitric acid by the oxidation of ammonia in the presence of a catalyst in a similar process to the east and west nitric acid plants. The refrigerated absorption system on this unit is lengthier than those on the east and west nitric acid plants allowing this unit to meet the requirements of NSPS 40 CFR Subpart G which limits nitrogen oxide emissions to 3.0 pounds per ton of 100 percent acid production.

Specific Conditions

11. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity. Compliance with this Specific Condition will be verified by compliance with Specific Conditions No. 13, 14, and 17. [Regulation 19, §19.501, NSPS 40 CFR Subpart G, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
13	DM Weatherly Nitric Acid Plant	NO_x	50.1	210.0
38	DM Weatherly Nitric Acid Plant Cooling Tower	PM_{10}	1.5	6.3

12. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition No. 13. [Regulation 18, §18.801, effective February 15, 1999, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	Tpy
38	DM Weatherly Nitric Acid Plant Cooling Tower	PM	1.5	6.3

13. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-38 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-38's requirements in Specific Conditions No. 11 and 12 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

14. The permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring nitrogen oxides emissions from the DM Weatherly Nitric Acid Plant (§60.73(a)). The CEM shall be installed, operated, maintained, and reports submitted per ADEQ's Continuous Emission Monitoring Systems Conditions, August 2004 Revision (listed as Appendix B in the back of this permit). The span value shall be 500 ppm of NO_2. The permittee shall establish a conversion factor for converting this reading to pounds NO_2 per ton of 100 percent acid produced (§60.73(b)). An hourly value shall be computed by the system for each hour the plant is operating. The permittee shall keep records of daily production rates and hours of operation (§60.73(c)). The permittee shall report to the Department as excess emissions any 3-hour period which the average emissions (arithmetic average of any 3 consecutive hours) from the facility exceed 3.0 pounds per ton of 100 per cent acid production (§60.73(e)). During periods of start up, shut down, malfunction events, compliance with the limits shall be demonstrated using a CEM to measure the NO_X concentration and flow monitor. The permittee shall report any 3-hour period in which the NO_X emissions (arithmetic average of any 3 consecutive hours) from the facility exceeds 50.1 lb/hr. [NSPS 40 CFR 60 Subpart G (New Source Performance Standard for Nitric Acid Plants) (listed as Appendix A in the back of this permit)]

15. The permittee shall not exceed 10% opacity from the DM Weatherly Nitric Acid Plant as measured by EPA Reference Method No. 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Specific Condition No. 16. [Regulation 18§18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

16. Daily observations of the opacity from this source shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to

determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation
b. If visible emissions which appeared to be above the permitted limit were detected
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18, §18.1004, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, Regulation 19, §19.705, and 40 CFR Part 52 Subpart E]

17. The permittee shall not manufacture in excess of 140,000 tons 100% acid equivalent per rolling 12 month total of weak nitric acid through the DM Weatherly Nitric Acid Plant. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

18. The permittee shall keep records of the production manufactured in the DM Weatherly Nitric Acid Plant. These records shall contain each months total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19, §19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

19. The DM Weatherly Nitric Acid Plant (SN-13) must continuously have nitrogen oxide emissions that do not exceed 3.0 pounds per ton of 100 percent acid production. Compliance with this condition is demonstrated by Specific Condition No. 14. [NSPS 40 CFR 60 Subpart G]

SN-10
Nitric Acid Vent Collection System

Source Description

The top portion of the Nitric Acid Vent Collection System scrubber collects and treats nitric oxide emissions from the weak nitric acid storage vents (Tanks 49, 50, and 51). The bottom section of the new scrubber accumulates and handles nitrogen oxide emissions present in the Blend Acid Tanks bleaching air stream. The nitric acid loading system vents from rail car and truck loading is also processed through the nitric acid vent collection system control devices. The overheads from the new scrubber are routed to the Venturi/Brinks Scrubber for additional treatment before being vented to the atmosphere. The strong nitric acid storage tank vents (Tanks 47, 48, 66, 67, 68, 69, 70 and 71) are still directed to the Brinks/Venturi Scrubber (i.e. the vents bypass the new scrubber). Overall nitrogen oxide and visible emissions are reduced due to these pollution control devices.

Specific Conditions

20. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity. Compliance with this Specific Condition will be verified by proper operation of the Venturi and Packed Tower Scrubber and compliance with Specific Condition No. 26. [Regulation 19, §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
10	Nitric Acid Vent Collection System	NO_x	19.5	85.5

21. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rates are based on maximum capacity. Compliance with this Specific Condition will be verified by proper operation of the Venturi and Packed Tower Scrubber and compliance with Specific Condition No. 26. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
10	Nitric Acid Vent Collection System	Nitric Acid	2.3	10.1

22. The permittee shall not exceed 20% opacity from the Nitric Acid vent collection system as

measured by EPA Reference Method No. 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Specific Condition No. 23. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

23. Daily observations of the opacity from SN-10 shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation
b. If visible emissions which appeared to be above the permitted limit were detected
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, Regulation 19, §19.705 and 40 CFR Part 52 Subpart E]

24. The permittee shall have a third party stack test once every five years the nitrogen oxides emissions from the nitric acid vent collection system using EPA Method 7E and the nitrogen oxides emissions shall be less than the hourly limit specified in Specific Condition No. 20. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are below the limits specified in Specific Condition 20. The facility will conduct rail car/truck loading and/or acid blending operations at normal operational rates when the stack test is performed. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

25. The permittee shall have a third party stack test once every five years the nitric acid emissions from the nitric acid vent collection system using an approved method and the nitric acid emissions shall be less than the hourly limit specified in Specific Condition No. 21. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are below the limit specified in Specific Condition 21. The equipment which the nitric acid vent collection system serves as a pollution control device shall be operating at normal capacity when the testing is performed. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

26. The permittee shall not operate the nitric acid vent collection system without a functional hydrogen peroxide scrubber and a Venturi and Packed Tower Scrubber. The permittee shall sample, test and record daily the hydrogen peroxide concentration of the chemical condensate circulated at the scrubber outlet. These records shall be updated by the fifteenth of the month following which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. The permittee shall submit a summary of data include all information as required in the General Provision #8 if applicable. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

SN-22 and SN-39
Hoescht-UHDE Direct Strong Nitric Acid Plant

Process Description

This plant produces strong nitric acid (≥98% strength) directly from ammonia oxidation utilizing technology designed by Hoescht-UHDE. This process plant uses multistage oxidation processes and low and high pressures and temperatures instead of the simple process used in older plants. The elimination of the dehydration process utilized in older simpler plants greatly reduces the pollutants produced per ton of output. The cooling tower (SN-39) is part of the UHDE DSN Plant.

This plant was originally built at the United States Army Arsenal in Joliet, Illinois in the 1970s. This plant was purchased by El Dorado Chemical Company and installed at their facility in 1994. This facility was listed as being subject to NSPS 40 CFR Subpart G (New Source Performance Standard for Nitric Acid Plants) when it was originally permitted. This is in error because the facility produces ≥98% strength nitric acid and Subpart G applies only to plants that produce nitric acid in between 30% and 70% concentration.

This permit contains an increase in pollutant limits of 27.5 tpy of NO_x due to permitting the plant for full time operation and slightly higher production rates. This is a less than significant PSD increase.

Specific Conditions

27. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on normal operation. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions No. 29, 30, 31, 32, and 36, and the CEM required by Specific Condition No. 38. [Regulation 19, §19.501 of Regulation 19 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
22	UHDE Direct (Strong) Nitric Acid Plant	NO_X	40.5	177.4
39	DSN Plant Cooling Tower	PM_{10}	2.3	9.8

28. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition 29. [Regulation 18 §18.801, effective February 15, 1999, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	Tpy
39	DSN Plant Cooling Tower	PM	2.3	9.8

29. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-39 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-39's PM/ PM_{10} emission limits in Specific Conditions No. 27 and 28 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

30. The permittee may exceed the NO_x hourly emission limit in Specific Condition No. 27 for up to 2 hours during any routine start-up and shutdowns of the unit if the emission rate does not exceed 100 lbs per hour NO_x during these events. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

31. The permittee is allowed up to four non-routine (i.e. emergency) shutdowns events per year of up to 2 hours duration where hourly NO_x emissions from the UHDE Direct (Strong) Nitric Acid Plant do not exceed 150 lbs per hour. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

32. The permittee shall keep records of all events where the hourly emission rates exceed the emission limit in Specific Condition No. 27. These records shall detail the reason for each event, its duration, and the hourly NO_x emissions. These records shall be updated within 48 hours of each event, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

33. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on maximum capacity. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition No. 36. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
22	UHDE Direct (Strong) Nitric Acid Plant	HNO_3	10.0	42.0

34. The permittee shall not exceed 10% opacity from the UHDE Direct (Strong) Nitric Acid Plant as measured by EPA Reference Method No. 9. Compliance with the opacity limit set

forth in this Specific Condition will be shown by compliance with Specific Condition No. 35. The permittee is allowed to have start-up and shutdown opacities in excess of 10% for up to 2 hours provided that the limits of Specific Conditions No. 30 and 31 are not exceeded. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

35. Daily observations of the opacity from this source shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation
b. If visible emissions which appeared to be above the permitted limit were detected
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18, 18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311,

Regulation 19, §19.705 and 40 CFR Part 52 Subpart E]

36. The permittee shall not manufacture in excess of 118,260 tons 100% acid equivalent per rolling 12 month total of concentrated nitric acid through the UHDE Direct (Strong) Nitric Acid Plant (SN-22). [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

37. The permittee shall keep records of the concentrated nitric acid production manufactured in the UHDE Direct (Strong) Nitric Acid Plant (SN-22). These records contain each months total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

38. The permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring nitrogen oxides emissions from the UHDE Direct (Strong) Nitric Acid Plant. The CEM shall be installed, operated, maintained, and reports submitted per ADEQ's Continuous Emission Monitoring Systems Conditions, August 2004 Revision (listed as Appendix B in the back of this permit). The pound per hour of nitrogen oxides quantity shall be computed as described in ADEQ's Continuous Emission Monitoring Systems Conditions, August, 2004 Revision. The nitrogen oxides emission shall be less than hourly limit specified in Specific Condition 27. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN-29
Nitric Acid Loading

Process Description

Mist emissions occur due to the loading of nitric acid into rail cars or trucks.

Specific Conditions

39. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour emission rate limit is based on engineering estimates. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition No. 40. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
29	Nitric Acid Loading	HNO_3	1.3	5.5

40. The permittee shall not load in excess of 200,000 tons of nitric acid (100% acid equivalent) per rolling 12 month total. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

41. The permittee shall keep records of the nitric acid shipped by truck and by rail from the facility. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN-33
Nitric Acid Plants Non-stack Emissions

Process Description

Non-stack nitrogen oxide and nitric acid emissions occur at leaks in flanges, valve packing, etc. as nitric acid is produced, handled, mixed, blended, decolored, and stored.

Specific Conditions

42. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on facility maximum capacity. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions No. 8, 17, and 36. [Regulation 19, §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
33	Nitric Acid Plants Non-stack Emissions	NO_x	1.9	8.4

43. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on facility maximum capacity. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions No. 8, 17, and 36. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
33	Nitric Acid Plants Non-stack Emissions	HNO_3	1.9	8.4

SN-07
Sulfuric Acid Plant

Process Description

The Sulfuric Acid Plant (SN-07) was originally constructed in 1949 and is a single absorption contact process of the Chemico design. There are three principal steps in the manufacturing process for sulfuric acid. First, elemental sulfur is removed from a storage tank and burned to form sulfur dioxide. Second, the sulfur dioxide is further oxidized utilizing a reactor with a vanadium pentoxide catalyst to form sulfur trioxide. Third, the sulfur trioxide is absorbed with water to form a 93-99% sulfuric acid solution. The gas stream exiting the absorption tower contains nitrogen, oxygen, un-reacted sulfur dioxide and entrained sulfuric acid mist. This stream enters a Brinks' Mist Eliminator, which captures some of the sulfuric acid mist, prior to the gases being exhausted to the atmosphere through a stack (SN-07).

This plant is not subject to 40 CFR 60 Subpart H (Standards of Performance for Sulfuric Acid Plants) because it has not been modified after the effective date of the Subpart (August 17, 1971).

The facility has accepted a voluntary limit of less than 300 tons 100% acid equivalent per day production in all previous permits to avoid the installation of a CEM as required in 40 CFR Part 51, Appendix P. This permit allows the facility the option of either continuing to limit its production to equal to or less than 300 tons 100% acid equivalent per day or to install the CEM and then increase its production up to 360 tons 100% acid equivalent per day (the original capacity of the installation).

Specific Conditions

44. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on facility maximum capacity. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition No. 49. Compliance is also demonstrated by the CEM required in Specific Condition No. 46. [Regulation 19, §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-07	Sulfuric Acid Plant	SO_2	600.0	2520.0

45. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition is demonstrated by compliance with Specific

Conditions No. 47, 49, and 50. The pounds per hour and tons per year emission rate limits are based on facility maximum capacity. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-07	Sulfuric Acid Plant	H_2SO_4	7.5	32.9

46. The permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring sulfur dioxide emissions from the Sulfuric Acid Plant. The CEM shall be installed, operated, maintained, and reports submitted per ADEQ's Continuous Emission Monitoring Systems Conditions, August 2004 Revision (listed as Appendix B in the back of this permit). Non-overlapping 3-hour averages, starting at midnight each calendar day, shall be used to demonstrate compliance with the pound per hour emission limit in Specific Condition #44. [40 CFR Part 51, Appendix P]

47. The permittee shall not exceed 15% opacity from the Sulfuric Acid Plant as measured by EPA Reference Method No. 9. Compliance with the opacity limit set forth in this Specific Condition will be shown by compliance with Specific Condition No. 48. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

48. Daily observations of the opacity from this source shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation
b. If visible emissions which appeared to be above the permitted limit were detected
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.
[Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, Regulation 19, §19.705 and 40 CFR Part 52 Subpart E]

49. The permittee shall not manufacture in excess of 131,400 tons of 100% sulfuric acid per rolling 12 month total through the sulfuric acid plant. These records shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

50. The permittee shall have a third party stack test once every five years sulfuric acid emissions from the sulfuric acid plant using EPA Method 8 and the sulfuric acid emissions shall be less than 0.5 pounds of sulfuric acid mist emissions per ton of 100% sulfuric acid production. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are less than 0.5 pounds of sulfuric acid mist emissions per ton of 100% sulfuric acid production. The unit shall be operated at 90% or more of rated capacity (324 tpd when equipped with a CEM) when the stack test is performed. [Regulation 19, §19.803(B)]

51. The Sulfuric Acid Plant (SN-07) shall not exceed 0.5 pounds of sulfuric acid mist emissions per ton of 100% sulfuric acid production. Compliance with this limit shall be demonstrated by Specific Conditions No. 49 and 50. [Regulation 19, §19.803(A)]

52. The permittee shall install and operate SO_2 removal technology at the Sulfuric Acid Plant (SN-07) which actually reduces SO_2 emissions to be equal to or less than the 40 CFR Part 60, Subpart H standard of 4.0 pounds of SO_2 per ton of acid produced on a 100% H_2SO_4 basis by February 10, 2010. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311, and ADEQ Consent Administrative Order, LIS 03-175, dated December 31, 2003]

SN-30
Sulfuric Acid Loading

Process Description

Mist emissions occur due to the loading of sulfuric acid into rail cars or trucks.

Specific Conditions

53. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on engineering estimates and production. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition No. 54. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
30	Sulfuric Acid Loading	H_2SO_4	0.1	0.3

54. The permittee shall not load in excess of 131,400 tons of sulfuric acid (100% acid equivalent) per rolling 12 month total. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

55. The permittee shall keep records of the sulfuric acid shipped by truck and by rail from the facility. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN-05, SN-06, SN-11, SN-12, SN-17, SN-19, SN-28, SN-41, and SN-45
E2 Ammonium Nitrate Plant

Process Description

The E2 Ammonium Nitrate Plant has been in operation at El Dorado Chemical Company since the 1950s. It was modified in the early 1980s to allow for the production of either high density ammonium nitrate (fertilizer grade) or low density ammonium nitrate (industrial grade).

Both grades require the reaction of weak nitric acid with ammonia to produce an ammonium nitrate solution. Prior to being prilled, the ammonium nitrate is concentrated to strength greater than 99% for high density prills and 97% for low density prills.

Weak nitric acid and ammonia are reacted in three ammonium nitrate neutralizers (reactors) piped in parallel. After the reaction, the ammonium nitrate solution (approximately 90% concentration) is fed to a sealed tank where a pH analyzer adds enough ammonia to complete the reaction with the excess nitric acid. The emissions from the E2 prill towers shroud, intermediate ammonium nitrate storage tanks, and the E2 chemical condensate tank overheads are processed through the E2 Plant Brinks mist eliminator (SN-05). The Brinks mist eliminator has a pre-filter for larger particles and 84 filter cartridges constantly wetted by spray nozzles for the reduction of particulate matter emissions.

The ammonium nitrate solution passes through 2 concentration steps (controlled by SN-05). A cooling tower is used to create a “barometric leg” (SN-19) for the High Concentrator to concentrate ammonium nitrate from 95% to about 99% concentration. The concentrated ammonium nitrate solution then flows to the E2 plant prilling towers. The ammonium nitrate concentrated solution is broken into droplets by the prill plate and falls countercurrent to cooling air forming prills. The air is pulled through the tower by the E2 ammonium nitrate prill tower fans (SN-06) and E2 Plant Brinks mist eliminator (SN-05). The prills are further cooled and screened when they exit the prill tower. The air from the cooling process is vented to the Pease-Anthony (Venturi) Scrubber (SN-17). The cooled prills are loaded directly onto rail cars or trucks through a common conveyor system (SN-28).

The chemical steam scrubber (SN-41) is used to control emissions from the three E2 Plant neutralizers (formerly SN-02 and SN-03, and a third neutralizer added with 0573-AOP-R3), the ammonia nitrate low concentrator (formerly SN-04), and the E2 Auxiliary Ammonium Nitrate Concentrator (formerly SN-20).

A particulate matter emission limit bubble was established with the issuance of Permit No. 0573-AR-2 at 281.0 tpy PM. This PM bubble is continued with this permit for the sources listed in Permit No. 0573-AR-3.

Specific Conditions

56. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity, and stack testing results. Compliance with the emission limits for SN-05 is demonstrated by compliance with Specific Conditions 58, 63, 64 , 66, 67, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-06 is demonstrated by compliance with Specific Conditions 58, 64, 67, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-17 is demonstrated by compliance with Specific Conditions 59, 61, 64, 67, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-19 is demonstrated by compliance with Specific Condition 64 and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-28 is demonstrated by compliance with Specific Conditions 58 and 64. Compliance with the emission limits for SN-41 is demonstrated by compliance with Specific Conditions 59, 68, 69, and 70. [Regulation 19 §19.501, §19.901, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-05	Ammonium Nitrate E2 Brinks Scrubber	PM_{10}	13.0	*
SN-06	E2 Ammonium Nitrate Prill Tower Fans	PM_{10}	67.0	*
SN-11	DELETED SOURCE – SOURCE REMOVED			
SN-12	DELETED SOURCE – SOURCE REMOVED			
SN-17	E2 HDAN Plant Cooling Train	PM_{10}	21.6	*
SN-19	E2 Plant Barometric Tower	PM_{10}	0.5	*
SN-28	E2 Plant HDAN/LDAN Loading	PM_{10}	1.1	4.7
SN-41	E2 Plant Chemical Steam Scrubber	PM_{10}	3.3	14.5

* - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No.7

57. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour limits are based on engineering estimates, maximum capacity, and stack testing results. Compliance with the emission limits for SN-05 is demonstrated by compliance with Specific Conditions 58, 64 , 66, 67, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-06 is demonstrated by compliance with Specific Conditions 58, 64, 67, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-17 is

demonstrated by compliance with Specific Conditions 59, 61, 62, 64, 67, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-19 is demonstrated by compliance with Specific Condition 64 and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-28 is demonstrated by compliance with Specific Conditions 58 and 64. Compliance with the emission limits for SN-41 is demonstrated by compliance with Specific Conditions 59, 68, 69, and 70. [Regulation 18, §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-05	Ammonium Nitrate E2 Brinks Scrubber	NH_3	3.5	15.4
		PM	13.0	*
SN-06	E2 Ammonium Nitrate Prill Tower Fans	PM	67.0	*
SN-11	DELETED SOURCE – SOURCE REMOVED			
SN-12	DELETED SOURCE – SOURCE REMOVED			
SN-17	E2 HDAN Plant Cooling Train	NH_3	5.0	21.9
		PM	21.6	*
SN-19	E2 Plant Barometric Tower	PM	0.5	*
		NH_3	4.1	17.7
SN-28	E2 Plant HDAN/LDAN Loading	PM	1.1	4.7
SN-41	E2 Plant Chemical Steam Scrubber	PM	3.3	14.5
		NH_3	10.0	43.8

* - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No.7.

58. The permittee shall not exceed 20% opacity from SN-05, and 25% opacity from SN-06 and SN-28 as measured by EPA Reference Method No. 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Specific Condition No. 60. [Regulation 18, §18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

59. The permittee shall not exceed 15% opacity from SN-17 and SN-41 as measured by EPA Reference Method No. 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Specific Condition No. 60. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

60. Daily observations of the opacity from SN-05, SN-06, SN-17, SN-28, and SN-41 shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee

shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation
b. If visible emissions which appeared to be above the permitted limit were detected
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, Regulation 19, §19.705 and 40 CFR Part 52 Subpart E]

61. The permittee shall have a third party stack test the PM_{10} emissions once every five years for SN-17. Testing for SN-17 shall be conducted using EPA Reference Method 5 with inclusion of back-half sampling train particulate. Upon a failure of a stack test, the permittee shall stack test annually until two consecutive years are less than the permitted emission rates specified in Specific Condition No. 56. By using EPA Reference Method 5 with inclusion of back-half sampling train particulate, the permittee will assume all

collected particulate is PM_{10}. These units shall be operated at 90% or more of rated capacity when the stack tests are completed. For SN-17, 90% of rated capacity is defined as:

a. The 90% of the rated capacity of the prill towers will be on an ammonia nitrate production basis.
b. The product exit temperature at the prill towers at the time of test must be less than $275^{O}F$.

[Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

62. The permittee shall have a third party stack test once every five years the NH_3 emissions from SN-17 using an approved method and the NH_3 emissions shall be less than the permitted emission rates specified in Specific Condition No. 57. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are less than the permitted emission rates specified in Specific Condition No. 57. The units shall be operated at least at 90% of rated capacity when the stack test is completed. For SN-17, 90% rated capacity is defined as:

a. The 90% of the rated capacity of the prill towers will be on an ammonium nitrate production basis.
b. The product exit temperature at the prill towers at the time of test must be less than $275^{O}F$.

[Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

63. The permittee shall have a third party analyze the PM_{10} emissions from SN-05 once every five years. Analysis for SN-05 shall be conducted using a method approved in advance by the Department. If the analysis predicts PM_{10} emissions may exceed 13.0 lb/hr, then an audit shall be conducted by an independent third party to evaluate the operating condition of SN-05 and shall recommend any maintenance and/or repairs needed. A copy of the audit report shall be forwarded directly to the Department by the auditor within fifteen (15) days of the completion of the audit. Any necessary maintenance and/or repairs shall be performed by the permittee as expeditiously as possible. The permittee shall repeat the emissions analysis within thirty (30) days after completion of any maintenance and/or repairs. The permittee shall submit the compliance analysis results to the Department with thirty (30) days after completing the analysis. The unit shall be operated at 90% or more of rated capacity when the analysis is conducted. For SN-05, 90% of rated capacity is defined as:

a. The 90% of the rated capacity of the prill towers will be on an ammonium nitrate production basis.
b. The product exit temperature at the prill towers at the time of test must be less than $275^{O}F$.

[Regulation 19 §19.702 and 40 CFR Part 52, Subpart E]

64. The permittee shall not manufacture in excess of 473,040 tons of ammonium nitrate prill through the E2 Ammonium Nitrate Plant during any consecutive 12-month period. [Regulation 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

65. The permittee shall keep records of the ammonium nitrate prill production in the E2 Ammonium Nitrate Plant. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19 §19.705 and 40 CFR Part 52, Subpart E]

66. The E2 plant brinks scrubber, the E2 Plant HDAN Cooling Train Pease/Anthony scrubber, and the E2 Plant Chemical Steam Scrubber shall be kept in good working condition at all times. SN-05 and SN-17 shall meet the conditions shown in the following table when the plant is operating. The monitoring parameters for SN-05 and SN-17 shall be measured and recorded daily. All hourly data recorded during a calendar day shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 8 a.m. to 8 a.m. where at least 67% of the data or at least 16 hourly readings collected in the 24-hour period when the plant is operating must be recorded. All data recorded once per 12-hour shift when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parametric exceedance, implement corrective action, and document that the parameter was back inside the range following corrective action by the end of the next 24-hour period. The results shall be kept on site and be made available to Department personnel upon request. The permittee shall submit a summary of data including all information as required in the General Provision #8 if applicable. Within 12 months of final permit issuance, stack testing consistent with the requirements in Specific Conditions 61, 62, and 63 must be conducted to verify the operational limits in the following table are appropriate for compliance purposes. The results of the monitoring parameter verification shall be submitted with the required test report.

SN	Description	Parameter	Units	Operation Limits
05	E2 plant brinks scrubber	Scrubber Liquid Flow Rate for Each Scrubber	gal/min	225 (minimum)
		Gas Pressure Drop Across Unit for Each Scrubber	in. H_2O	2.5 (minimum)
		pH	-	0.5-4.5
17	E2 Plant HDAN Cooling Train Pease/Anthony Scrubber	Scrubber Liquor pH	-	0.5 - 6.0
		Scrubber Liquid Flow Rate (dual scrubbers)	gal/min	120 (minimum per scrubber)
		Amperage	amps	100 (minimum)

[Regulation 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

67. The permittee shall calculate PM_{10} emissions for Plantwide condition #7 from the E2 Plant Brinks Scrubber (SN-05), E2 Prill Tower (SN-06), and E2 Plant HDAN Cooling Train Pease/Anthony Scrubber (SN-17) using a total emission factor of 1.10 lb of PM_{10} per ton of ammonium nitrate produced. These records shall be updated by the fifteenth of the month following the month which the records represent. These records shall be kept on site and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7**.** [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

68. PM_{10} emission from SN-41 shall not exceed 0.054 pound per ton of ammonium nitrate produced at the neutralizers. Compliance is demonstrated by compliance with the PM_{10} testing requirement of Specific Condition #70. [Regulation 19, §19.901 and 40 CFR Part 52 Subpart E]

69. The permittee shall conduct a continuous engineering study as in the protocol in Appendix C for SN-41 for up to 12 months or until sufficient data is collected in a shorter time frame to verify the PM/PM_{10} emission limits in Specific Condition 56 and 57, and establish the monitoring parameters/values necessary to demonstrate continuous compliance. The study period will end as agreed upon by both the permittee and the Department. The purpose of the study is to optimize the process at SN-41 and reduce the particulate matter emissions from SN-41. Within 30 days of the end of the study period, the permittee shall submit a complete study report containing the results of the study, any deviation from the study plan approved by the ADEQ on January 3, 2006, an assessment of the accuracy of the PM/PM_{10} emission limits, and proposed monitoring parameters/values to demonstrate continuous compliance with permit limits and conditions. Within 60 days of the end of the study

period, the permittee shall submit a permit modification application to revise the PM/PM_{10} emission limits (if applicable) in the permit and incorporate accurate monitoring parameters/values for compliance demonstration purposes. Following the end of the study and until such time as a revised permit can be issued by the Department, the permittee shall operate SN-41 according to the limits contained in Specific Conditions 56 and 57 and monitoring conditions contained in the study report and modification application. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

70. After the completion of the engineering studying required in Specific Condition No. 69, the permittee shall test the NH_3 and PM/PM_{10} emissions once every five years for SN-41. Testing for SN-41 shall be conducted using the sampling protocol in Appendix C. The permittee will assume all collected particulate is PM_{10}. Upon a failure of a stack test, the permittee shall stack test annually until two consecutive years are less than the permitted emission rates specified in Specific Conditions No. 56 and 57. This unit shall be operated at 90% or more of rated capacity when the tests are completed. The 90% of rated capacity shall be defined at 90% of the maximum capacity of the E2 Plant neutralizers (maximum capacity is 61.5 ton/hr and 90% of rated capacity is 55.4 tons/hr). The 5-year testing cycle shall commence within 12 months after the completion of the study. [Regulation 19, §19.702, §19.705, and 40 CFR Part 52, Subpart E]

SN-14, SN-15, SN-18, SN-21, SN-27, and SN-43
KT Ammonium Nitrate Plant

Process Description

The Kaltenbach Thuring Ammonium Nitrate Plant manufactures low-density ammonium nitrate for industrial blasting customers. This plant was originally installed at American Cyanamid Corporation in Hannibal, Missouri and was purchased and relocated to El Dorado Chemical Company in 1989.

Weak Nitric Acid from one of the weak nitric acid plants (SN-08, SN-09, or SN-13) and anhydrous ammonia are heated and fed to the neutralizer (reaction vessel). The highly exothermic reaction of these two chemicals forms ammonium nitrate and steam. The ammonium nitrate solution exits the neutralizer to a pump tank and the steam condensate is used in the nitric acid plants as an absorption medium. The ammonium nitrate solution is concentrated in the dehydrator to 97% concentration by blowing heated air through the solution. The concentrated ammonium nitrate solution is then pumped to the KT Plant Prilling Tower (SN-14). The overheads dehydrator stream is directed to the Brink's Scrubber (SN-21) prior to being vented to the atmosphere.

The Brink's Scrubber (SN-21) has 32 elements which have an absorption medium continuously sprayed on them to increase their effectiveness for removing both solids and vapors.
The KT Plant Prilling Tower (SN-14) allows droplets of concentrated ammonium nitrate solution to flow for 150 feet countercurrent to cold air. The droplets crystallize forming solid prills. Air and entrained particulates exit the top of the tower.

The solid prills are removed from the prilling tower and are sent to the predryer and dryer where heated air is used to remove the remaining moisture. The exhaust air streams from the predryer and dryer are processed through a Ducon type wet scrubber (SN-15) equipped with a mist eliminator. The prills are cooled (SN-21) and coated with a wax and talc coating to improve flowability. The cooler air is fed to the Brinks Scrubber for particulate removal. The talc is stored in an enclosed silo which pneumatically feed in the bulk talc hopper. The silo and hopper is equipped with a baghouse (SN-18) to control particulate matter emissions. The finished product ammonium nitrate prill stream exits the coater by a discharge elevator into product loading bins. The product is unloaded into either rail cars or trucks (SN-27).

The Cooling Tower (SN-43) is part of the KT Ammonium Nitrate Plant. The cooling tower is used to condense chemical steam from the neutralizers.

A particulate matter emission limit bubble was established with the issuance of Permit No. 0573-AR-4 at 281.0 tpy PM. This PM bubble is continued with this permit for the sources listed in Permit No. 0573-AR-4.

Specific Conditions

71. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on maximum capacity. Compliance with the emission limits for SN-14 is demonstrated by compliance with Specific Conditions 73, 76, 78, 82, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-15 is demonstrated by compliance with Specific Conditions 74, 76, 78, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-18 is demonstrated by compliance with Specific Conditions 73, 78, 80, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-21 is demonstrated by compliance with Specific Conditions 73, 76, 78, 80, 82, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-27 is demonstrated by compliance with Specific Conditions 74 and 78. Compliance with the emission limits for SN-43 is demonstrated by compliance with Specific Condition 81. [Regulation 19 §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-14	KT LDAN Prill Tower	PM_{10}	44.2	*
SN-15	KT Plant Dryer/Cooler	PM_{10}	17.0	*
SN-18	KT Plant Clay Baghouse	PM_{10}	1.0	*
SN-21	KT Plant Brinks Scrubber	PM_{10}	3.0	*
SN-27	KT Plant LDAN Loading	PM_{10}	0.6	2.6
SN-43	KT Plant Cooling Tower	PM_{10}	0.4	1.4

* - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No.7

72. The permittee shall not exceed the emission rates set forth in the following table. The emission limits are based on maximum capacity. Compliance with the emission limits for SN-14 is demonstrated by compliance with Specific Conditions 73, 76, 78, 82, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-15 is demonstrated by compliance with Specific Conditions 74, 76, 77, 78, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-18 is demonstrated by compliance with Specific Conditions 73, 78, 80, and the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-21 is demonstrated by compliance with Specific Conditions 73, 76, 77, 78, 80, 82, and

the reporting required in Plantwide Condition No. 7. Compliance with the emission limits for SN-27 is demonstrated by compliance with Specific Conditions 74 and 78. Compliance with the emission limits for SN-43 is demonstrated by compliance with Specific Condition 81. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-14	KT LDAN Prill Tower	PM	44.2	*
SN-15	KT Plant Dryer/Cooler	NH_3 PM	18.0 17.0	75.6 *
SN-18	KT Plant Clay Baghouse	PM	1.0	*
SN-21	KT Plant Brinks Scrubber	NH_3 PM	30.0 3.0	126.0 *
SN-27	KT Plant LDAN Loading	PM	0.6	2.6
SN-43	KT Plant Cooling Tower	PM	0.4	1.4

* - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No.7

73. The permittee shall not exceed 5% opacity from SN-18, 10% opacity from SN-21, and 15% opacity from SN-14, as measured by EPA Reference Method No. 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Specific Condition No. 75. [Regulation 18 §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

74. The permittee shall not exceed 20% opacity from SN-15 as measured by EPA Reference Method No. 9, and 25% opacity from SN-27 as measured by EPA Reference Method No. 9. Compliance with the opacity limits set forth in this Specific Condition will be shown by compliance with Specific Condition No. 75. [Regulation 19§19.503 and 40 CFR 52, Subpart E]

75. Daily observations of the opacity from SN-14, SN-15, SN-18, SN-21, and SN-27 shall be conducted by a person trained, but not necessarily certified, in EPA Reference Method 9. If emissions which appear to be in excess of the permitted level are observed, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, which may include shutting down and restarting the unit, the permittee shall conduct another observation of the opacity from this source. If the opacity observed does not appear to be in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit. If visible emissions which appear to be in excess of the permitted level are

still observed, a 6-minute visible emissions reading shall be conducted by a person certified in EPA Reference Method 9 to determine if the opacity is less than the permitted level. If the opacity observed is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted opacity limit and 19.705 of Regulation #19. If no Method 9 reading is conducted despite emissions appearing to be in excess of the permitted level after corrective action has been taken, the permittee shall be considered out of compliance with the permitted opacity limit and 19.705 of Regulation #19 for that day. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated daily, kept on site, and made available to Department personnel upon request.

a. The date and time of the observation.
b. If visible emissions which appeared to be above the permitted limit were detected.
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations. For observations made on weekends or holidays, the report may be prepared by a member of the environmental compliance staff who may not have actually observed the emissions. This report will be based upon an interview with the person who actually observed the emissions conducted by a member of the environmental compliance staff who is certified in EPA Reference Method 9. This report must be completed on or before the next business day.

[Regulation 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, Regulation 19 §19.705 and 40 CFR Part 52 Subpart E]

76. The permittee shall have a third party annually stack test the PM_{10} emissions from SN-14 using a method approved in advance by the Department and the permittee shall maintain the approved method with the permit. The permittee shall have a third party stack test once every five years the PM_{10} emissions from SN-15 using EPA Reference Method 5 with the inclusion of back-half sampling train for particulate. The permittee shall have a third party stack test once every five year for the PM_{10} emissions from SN-21 using a method approved in advance by the Department and the permittee shall maintain the approved method with the permit. PM_{10} emission rates measured during this testing shall be less than the permitted emission rates specified in Specific Condition No. 71. For SN-14, if the stack test passes three consecutive years of annual testing, the permittee shall stack test once every three years. Upon failure of a stack test, the permittee shall stack test annually until three consecutive years yield results less than the permitted emission rates specified in

Specific Condition 71. For SN-15 and SN-21, upon failure of a stack test, the permittee shall stack test annually until two consecutive years yield results less than the permitted emission rates specified in Specific Condition No. 71. By using EPA Reference Method 5 with inclusion of back-half sampling train for particulate, the permittee will assume all collected particulate is PM_{10}. These units shall be operated at 90% or more of rated capacity when the stack tests are performed. For SN-14, SN-15, and SN-21, 90% of rated capacity is defined as:

a. 90% of the rated capacity of the prill tower on an ammonium nitrate production basis.
b. The product exit temperature at the prill tower at the time of the test must be less than 180^{O}F.
c. The moisture content of the product exiting the dryer must be less than 0.1%.

[Regulation 19 §19.702 and 40 CFR Part 52, Subpart E]

77. The permittee shall have a third party annually stack test the NH_3 emissions from SN-21 using a method approved in advance by the Department to capture ammonia, and the NH_3 emissions shall be less than the permitted emission rates specified in Specific Condition No. 72. The permittee shall maintain the approved method with the permit. The permittee shall have a third party stack test once every five years the NH_3 emissions from SN-15 using a EPA Method 5 modified to simultaneously capture ammonia, and the NH_3 emissions shall be less than the permitted emission rates specified in Specific Condition No. 72. For SN-21, if the stack tests pass three consecutive years of annual testing, the permittee shall perform stack test once every three years. Upon failure of a stack test, the permittee shall stack test annually until three consecutive years yield results less than the permitted emission rates specify in Specific Condition 72. For SN-15, upon failure of a stack test, the permittee shall stack test annually until two consecutive years are less than the permitted emission rates specified in Specific Condition No. 72. The units shall be operated at 90% or more of rated capacity when the stack tests are performed. The 90% of rated capacity is defined as:

a. For SN-15, 90% of the rated capacity during NH_3 testing is defined as:
    i. 90% of the rated capacity of the prill tower on an ammonium nitrate production basis.
    ii. The product exit temperature at the prill tower at the time of the test must be less than 180^{O}F.
    iii. The moisture content of the product exiting the dryer must be less than 0.1%.
b. For SN-21, 90% of rated capacity during NH_3 testing is defined as:
    i. 90% of the rated capacity of the prill tower on an ammonium nitrate production basis.

ii. Maximum input rate to dehydrator (i.e. ammonium nitrate solution) is 105 gpm; therefore, 90% would be 94.5 gpm.
iii. The product exit temperature at the prill tower at the time of the test must be less than 180^{O}F.
iv. The moisture content of the product exiting the dryer must be less than 0.1%.

[Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

78. The permittee shall not manufacture in excess of 252,000 tons of ammonium nitrate per rolling 12 month total through the KT Ammonium Nitrate Plant. [Regulation 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

79. The permittee shall keep records of the ammonium nitrate production manufactured in the KT Ammonium Nitrate Plant. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19 §19.705 and 40 CFR Part 52, Subpart E]

80. The KT brinks scrubber, the KT Plant Dryer/Cooler Scrubber, and the KT Plant Clay Baghouse shall be kept in good working condition at all times and shall meet the conditions shown in the following table when the plant is operating. The monitoring parameters for SN-15, and SN-18, and SN-21 shall be measured and recorded daily. In the event that a daily parameter is outside the range, the permittee shall take immediate action to identify the cause of the parameter to be outside the range, implement corrective action, and document that the parameter was back inside the range following corrective action. The results shall be kept on site and be available to Department personnel upon request. The permittee shall submit a summary of data including all information as required in the General Provision #8 if applicable. Within 12 months of final permit issuance, stack testing consistent with the requirements in Specific Conditions 76 and 77 must be conducted to verify that the operational limits in the following table are appropriate for compliance demonstration purposes. The results of the monitoring parameter verification shall be submitted with the required test report.

SN	Description	Parameter	Units	Operation Limits
15	KT Plant Dryer/Cooler Scrubber	Scrubber Liquor pH	-	0.5 – 4.5
		Liquid Flow Rate (combination of fan and ductwork)	gal/min	80 (minimum)

SN	Description	Parameter	Units	Operation Limits
		Amperage	amps	290 (minimum)
18	KT Plant Baghouse	Gas Pressure Drop	in. H_2O	0.5 - 8.0
21	KT Brinks Scrubber	Liquid Gas Pressure to Top Spray Nozzles	psig	80 - 100
		Gas Pressure Drop Across Unit	in. H_2O	2.5 (minimum)
		pH	-	0.5 – 4.5

[Regulation 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

81. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-43 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-43's requirements in Specific Conditions No. 71 and 72 of this permit. The results shall be kept on site and made available to Department personnel upon request. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

82. The permittee shall calculate PM_{10} emissions for Plantwide Condition #7 from the KT LDAN Prill Tower (SN-14), the KT Plant Dryer/Cooler (SN-15), and the KT Plant Brinks Scrubber (SN-21) using a total emission factor of 1.13 lb of PM_{10} per ton of ammonium nitrate produced at the KT Plant. These records shall be updated by the fifteenth of the month following the month which the records represent. These records shall be kept on site and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-16A and SN-16B
Natural Gas Fired Boilers

Process Description

Boilers No. 2 (SN-16A) and No. 4 (SN-16B) are used to supply steam throughout the various plants at the facility. Both units are fired only with natural gas and each has a design heat input of 145 million Btu per hour. One boiler can provide steam adequately for the entire facility and only one boiler is allowed to be in operation per the netting this facility underwent in 1990 to avoid PSD (except when they are being switched). It requires about 24 hours for an inactive boiler to warm-up and to take the plant loads. Both boilers will be operated during these switching periods.

Since the boilers at this facility were constructed in 1944, New Source Performance Standards 40 CFR 60 Subparts D, Da, Db, and Dc are not applicable.

Specific Conditions

83. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on engineering estimates and the maximum capacity of each boiler and the tons per year emission rate limits are based on maximum capacity of one boiler. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions No. 85. [Regulation 19 §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-16A	Boiler No. 2	PM_{10} SO_2 VOC CO NO_x	1.1 0.1 0.8 12.0 39.8	∗ 0.4 3.5 52.3 174.2
SN-16B	Boiler No. 4	PM_{10} SO_2 VOC CO NO_x	1.1 0.1 0.8 12.0 39.8	

∗ - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No.7

84. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on engineering estimates and the maximum capacity of each boiler and the tons per year emission rate limits are based on maximum capacity of one boiler. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions No. 85. [Regulation §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-16A	Boiler No. 2	PM	1.1	*
		Hexane	0.3	1.2
SN-16B	Boiler No. 4	PM	1.1	
		Hexane	0.3	

* - included in a plantwide limit of 281.0 tpy shown in Plantwide Condition No. 7

85. The permittee shall keep records of the operating hours when both boilers are operating. The permittee shall not operate the two (2) boilers simultaneously for more than 240 hours per year. These records shall be updated by the fifteenth of the moth following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No.7. [Regulation 19 §19.705 and 40 CFR Part 52, Subpart E]

SN-25
Gasoline Storage Tank

Process Description

This 2,000 gallon aboveground storage tank (SN-25) is used to fuel facility vehicles and equipment.

Specific Conditions

86. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions No. 87 and 88. [Regulation 19 §19.705, A.C.A. §8-4-203 as 6referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

SN	Description	Pollutant	lb/hr	tpy
25	Gasoline Storage Tank (2000 Gallon)	VOC	16.9	1.0

87. The permittee shall not use in excess of 40,000 gallons of gasoline per rolling 12 month total. [Regulation 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

88. The permittee shall keep records of the gasoline usage through the gasoline storage tank. These records shall contain each month's total and a rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. This information shall be submitted in accordance with General Provision No. 7. [Regulation 19 §19.705 and 40 CFR 52, Subpart E]

SN-26
Ammonium Nitrate (90% Solution) Storage Tanks

Process Description

Six above ground storage tanks (SN-26) are used to store 90% ammonium nitrate solution for prilling operations. Air emissions occur due to steam line heaters degrading the ammonium nitrate solution to ammonia.

Specific Conditions

89. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour is based on maximum capacity and tons per year emission rate limits are based on compliance with Specific Condition No. 64. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
26	Ammonium Nitrate Storage Tanks	NH_3	1.6	0.9

SN-31
Frick Ammonia Compressors

Process Description

Non-stack emissions occur from the handling of ammonia in the Frick Compressor Building (SN-31).

Specific Conditions

90. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on maximum capacity. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
31	Frick Ammonia Compressors	NH_3	0.5	2.0

SN-32
Ammonia Storage/Distribution Losses

Process Description

Non-Stack emissions are released from compressor, pumps, flanges, and valves in the ammonia storage and distribution systems (SN-32).

Specific Conditions

91. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on maximum capacity. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
32	Ammonia Storage/Distribution Losses	NH_3	1.3	5.7

SN-34
E2 Plant Solution Reactor

Process Description

A 35% E2 solution is created by reacting weak nitric acid with magnesium oxide through agitation. Approximately 0.5% of the magnesium nitrate is contained in the final ammonium nitrate product. The solution reactor (SN-34) has the capability of producing seven batches of E2 solution a day while the Ammonium Nitrate Plant is running at its maximum rate.

Specific Conditions

92. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour are based on maximum capacity. Tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition No. 64. [Regulation 19 §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-34	E2 Plant Solution Reactor	PM_{10}	0.9	3.0

93. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour are based on maximum capacity. Tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition No. 64. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-34	E2 Plant Solution Reactor	PM	0.9	3.0

SN-35
Magnesium Oxide Silo Baghouse

Process Description

The magnesium oxide silo baghouse (SN-35) pneumatically receives magnesium oxide powder from semi-truck transport or railcar. The baghouse is situated on top of the silo structure which is approximately 50 feet tall.

Specific Conditions

94. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant as limited by Specific Condition No. 64. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition No. 64. [Regulation 19 §19.501 and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
SN-35	Magnesium Oxide Silo Baghouse	PM_{10}	2.0	8.8

95. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on yearly throughput through the E2 Ammonium Nitrate Plant as limited by Specific Condition No. 64. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition No. 64. [Regulation §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-35	Magnesium Oxide Silo Baghouse	PM	2.0	8.8

SN-37 Car Barn Scrubber

Process Description

The car barn is used to pressure test, inspect, and repair used rail cars to ensure that no leaks exist. The rail cars are tested at 50 psig. The rail car is depressurized and either the railcar passes the pressure test and is removed from the area, or it fails the test and is thoroughly water washed, repaired, and tested again. When this pressure is released, nitric acid emissions result due to residuals inside the tank. Nitric acid emissions are controlled by car barn scrubber. The scrubber utilizes hot clean condensate water that is recirculated through the system. Once the circulating media reaches a 5% acid concentration, the water is flushed out of the system and fresh condensate is introduced.

Specific Conditions

96. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour and tons per year emission rate limits are based on maximum capacity. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition No. 97. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-37	Car Barn Scrubber	Nitric Acid	4.3	2.8

97. The Car Barn Scrubber shall be kept in good working condition when in use. The scrubber shall maintain a minimum gas pressure drop of 0.36 psi across the unit when the scrubber is operating. The pressure shall be measured and recorded when the scrubber is turned on before operation begins, and the results shall be kept on site and made available to Department personnel upon request. [Regulation 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-40 Ammonium Nitrate Solution Loading

Process Description

Ammonium nitrate solution is shipped to customers via railcars or trucks. The content of the solution ranges from 83% to 90% ammonium nitrate. Ammonium emissions occur as a result of the loading of the trucks.

Specific Conditions

98. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition No. 99. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Air Contaminant	lb/hr	tpy
SN-40	Ammonium Nitrate Solution Loading	NH_3	3.8	1.4

99. The permittee shall not load more than 468,660 tons per rolling 12 month total of ammonium nitrate solution into railcars and/or trucks.

100. The permittee shall keep records of the amount of ammonium nitrate solution loaded into railcars and/or trucks. These records shall contain each month's total and the rolling total for the previous 12 months. These records shall be updated by the fifteenth of the month following the month which the records represent. These records shall be kept on site, made available to the Department personnel upon request, and submitted in accordance with General Provision No.7.

SN-44 Mixed Acid Plant Scrubber

Process Description

The Mixed Acid Plant manufactures mixed acid by mixing 15% - 65% Oleum and/or 98% Sulfuric Acid with 98% Nitric acid. Emissions from SN-44 are controlled by a scrubber.

Specific Conditions

101. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition through compliance with Specific Conditions # 103 - 108. [Regulation 19, §19.501 et seq., and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
SO_2	1.5	6.4
NO_x	0.4	1.7

102. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition Nos. 103 - 108 . [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
HNO_3	0.2	0.9
H_2SO_4	1.5	6.4

103. The permittee shall offload no more than 394,200 tons of Oleum into the Oleum Storage Tank per consecutive 12 month period. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

104. The permittee shall not use Oleum in excess of 65% in strength. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

105. The permittee shall not produce more than 219,000 tons of mixed acid per consecutive 12 month period. [Regulation 19, §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

106. The permittee shall maintain monthly records of the amount of Oleum offloaded into the Oleum Storage Tank, the percent strength of the Oleum, and the amount of mixed acid produced. These records shall be updated on monthly basis, kept on site, and made available to Department personnel upon request. An annual total and each month's individual total shall be submitted to the Department in accordance with General Provision 7. [Regulation No. 19 §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

107. The permittee shall have a third party stack test SN-44 once every five years for HNO_3, H_2SO_4, SO_2, and NO_X emissions using an approved method, and the emissions shall be less than the hourly limit specified in Specific Conditions 101 and 102. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are below the permitted emission rates specified in Specific Conditions 100 and 101. During stack testing, the mixed acid plant shall be operating at a rate greater than or equal to 90% capacity. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

108. The Mixed Acid Scrubber shall be kept in good working condition at all times. The following monitoring parameters for SN-44 shall be measured and recorded daily. The results shall be kept on site and made available to Department personnel upon request. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Parameter	Units	Operation Limits
44	Mixed Acid Plant Scrubber	Scrubber Liquid Flow Rate	gal/min	5.0 (minimum)
		Gas Pressure Drop Across Unit	in. H_2O	10 - 35
		Scrubber liquid pH	-	0.5 – 7.5

SECTION V: COMPLIANCE PLAN AND SCHEDULE

El Dorado Chemical Company (EDCC) will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis. Per ADEQ Consent Administrative Order, LIS-05-150, EDCC's letter dated November 4, 2005 to ADEQ, and ADEQ's letter dated January 20, 2006 to EDCC, EDCC will install and operate CEM system to measure NO_x emissions from SN-08 and SN-09 within six months of January 20, 2006.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee must notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

2. The Director may cancel all or part of this permit if the construction or modification authorized herein is not begun within 18 months from the date of the permit issuance or if the work involved in the construction or modification is suspended for a total of 18 months or more. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]

3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

4. The permittee must provide: [Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

    a. Sampling ports adequate for applicable test methods;
    b. Safe sampling platforms;
    c. Safe access to sampling platforms; and
    d. Utilities for sampling and testing equipment.

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

7. The permittee must complete a monthly production/emission inventory spreadsheet for particulate emissions from sources SN-05, SN-06, SN-14, SN-15, SN-16A/B, SN-17, SN-18, SN-19, and SN-21 (those listed in the permit in 1989) in order to keep track of the monthly particulate emissions from these sources. The permittee shall not exceed the 12 month rolling total of 281 tons that was accepted for PSD offsetting in 1989. The Plantwide PM limit of 281.0 ton/year does not include the quantity of condensable particulate measured through the back-half sampling train procedure of EPA Reference Method 5. An exceedance of this 12 month rate shall constitute a violation of PSD regulations. The permittee shall notify this Department immediately if the 12 month rolling total limit is exceeded. [Regulation 19, §19.901 et seq., and 40 CFR Part 52, Subpart E]

8. The permittee must submit a 12 month summary of the monthly particulate emissions in accordance with General Provision No. 7. [Regulation 19, §19.901 et seq., and 40 CFR Part 52, Subpart E]

PERMIT SHIELD LANGUAGE

9. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in item A of this condition:

   A. The following have been specifically identified as applicable requirements based upon information submitted by the permittee in an application dated June 24, 2005.

Source No.	Regulation	Description
Facility	Arkansas Regulation 19	Compilation of Regulations of the Arkansas State Implementation Plan for Air Pollution Control
Facility	Arkansas Regulation 26	Regulations of the Arkansas Operating Air Permit Program
SN-13	NSPS 40 CFR Subpart G	New Source Performance Standard for Nitric Acid Plants
Facility	40 CFR 52.21	Prevention of Significant Deterioration ∗

∗ - The facility had a significant increase of nitrogen oxides and particulate emissions where restrictions in operations were taken to avoid a “net emissions increase” when Permit No. 0573-AR-4 was issued. The facility had a significant increase of nitrogen oxide emissions when Permit No. 0573-AR-7 was issued where restrictions in operations were taken to avoid a “net emissions increase”. There has not been a significant increase for any pollutant during the history of the facility that has not been “netted out”.

B. The following requirements have been specifically identified as not applicable, based upon information submitted by the permittee in an application dated June 24, 2005.

Description of Regulation	Regulatory Citation	Affected Source	Basis for Determination
New Source Performance Standard for Nitric Acid Plants	NSPS 40 CFR Subpart G	SN-08 SN-09	Built prior to August 17, 1971
New Source Performance Standard for Nitric Acid Plants	NSPS 40 CFR Subpart G	SN-22	Produces nitric acid at greater than 70% concentration
Emission Guidelines and Compliance Times for Sulfuric Acid Production Units.	NSPS 40 CFR Subpart Cd	SN-07	Built prior to August 17, 1971
Standards of Performance for Sulfuric Acid Plants	NSPS 40 CFR Subpart H	SN-07	Built prior to August 17, 1971
Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	NSPS 40 CFR Subpart D	SN-16A SN-16B	Built prior to August 17, 1971
Standards of Performance for Electricity Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978	NSPS 40 CFR Subpart Da	SN-16A SN-16B	Built prior to September 18, 1978
Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	NSPS 40 CFR Subpart Db	SN-16A SN-16B	Built prior to June 19, 1984
Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	NSPS 40 CFR Subpart Dc	SN-16A SN-16B	Built prior to June 9, 1989
New Source Performance Standards for Storage Vessels for Petroleum Liquids	NSPS 40 CFR Subpart K	Facility	No storage tanks have a capacity greater than 40,000 gallons
New Source Performance Standards for Storage Vessels for Petroleum Liquids	NSPS 40 CFR Subpart Ka	Facility	No storage tanks have a capacity greater than 40,000 gallons
New Source Performance Standards for Volatile Organic Liquid Storage Vessels	NSPS 40 CFR Subpart Kb	Facility	No storage tanks have a capacity greater than 75 m^3.
National Emission Standards for Hazardous Air Pollutants	NESHAP 40 CFR 63	Facility	None of the specified HAPs are manufactured, processed, or used.
National Emission Standards for Hazardous Air Pollutants	NESHAP 40 CFR 63	Facility	No currently established NESHAPs for the chemicals

Description of Regulation	Regulatory Citation	Affected Source	Basis for Determination
			manufactured.

C. Nothing shall alter or affect the following:

Provisions of Section 303 of the Clean Air Act;

The liability of an owner or operator for any violation of applicable requirements prior to or at the time of permit issuance;

The applicable requirements of the acid rain program, consistent with section 408(a) of the Clean Air Act; or

The ability of the EPA to obtain information under Section 114 of the Clean Air Act.

Title VI Provisions

10. The permittee shall comply with the standards for labeling of products using ozone depleting substances. [40 CFR Part 82, Subpart E]

    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
    c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

11. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:

    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)
e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

12. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

13. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

    The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

14. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program.

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated June 24, 2005.

Source No.	Description	Category
SN-23	Molten Sulfur Storage Tank	Insignificant Source - Group B21
SN-24	Diesel Storage Tank (500 Gallon)	Insignificant Source - Group A3
SN-36	Diesel Storage Tank (500 Gallon)	Insignificant Source - Group A3
-	Air Liquide Cooling Tower	Insignificant Source - Group A13

SECTION VIII: GENERAL PROVISIONS

1) Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 CFR 70.6(b)(2)]

2) This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective August 10, 2000]

3) The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]

4) Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]

5) The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

    a. The date, place as defined in this permit, and time of sampling or measurements;
    b. The date(s) analyses performed;
    c. The company or entity performing the analyses;
    d. The analytical techniques or methods used;

e. The results of such analyses; and
f. The operating conditions existing at the time of sampling or measurement.

6) The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(b)]

7) The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
Post Office Box 8913
Little Rock, AR 72219

8) The permittee will report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

a) For all upset conditions (as defined in Regulation 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:

i. The facility name and location
ii. The process unit or emission source deviating from the permit limit,
iii. The permit limit, including the identification of pollutants, from which deviation occurs,
iv. The date and time the deviation started,
v. The duration of the deviation,
vi. The average emissions during the deviation,
vii. The probable cause of such deviations,

viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

b. For all deviations, the permittee will report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a. above. The semi-annual report must include all the information as required in the initial and full report required in 8a.

[40 CFR 70.6(a)(3)(iii)(B), Regulation 26, §26.701(C)(3)(b), Regulation 19, §19.601 and §19.602]

9) If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

10) The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]

11) It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]

12) The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and

reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]

13) This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]

14) The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]

15) The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]

16) No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]

17) If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]

18) The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]

19) Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]

20) The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]

a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21) The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]

a. The identification of each term or condition of the permit that is the basis of the certification;
b. The compliance status;
c. Whether compliance was continuous or intermittent;
d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit;
e. and such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.

22) Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]

a) The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
b) The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
c) The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,
d) The ability of EPA to obtain information from a source pursuant to §114 of the Act.

23) This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

El Dorado Chemical Company
E2 Ammonium Nitrate Plant Chemical Steam Scrubber (SN-41)
Study Plan Summary

The permittee was required by Permit Appeal Resolution LIS 05-150 (Order and Agreement, Paragraph 3 and Appendix B, Specific Condition 57) to pursue an engineering study and associated testing to establish particulate matter (PM/PM_{10}) emission limits for the E2 Plant Chemical Steam Scrubber (SN-41). The study was completed on December 13, 2005, and PM/PM_{10} limits were established as indicated in Specific Conditions 56 and 57.

Following issuance of Permit 0573-AOP-R6, the permittee will continue the engineering study for a period of up to one year to verify the PM/PM_{10} emission limits and monitoring parameters for SN-41. The study shall be conducted using those methodologies included in the revised study plan submitted to the ADEQ on November 14, 2005 and approved on January 3, 2006. The PM/PM_{10} emission rate (in pounds per hour) and monitoring parameters for SN-41, including Flow Rate to the Top Tray of Scrubber, Conductivity of Stack Gas, and pH of Stack Gas, shall be measured and recorded daily (i.e., with the exception of those periods when data cannot be collected due to sampling/monitoring equipment failure, process upsets, lack of laboratory assistance, or other credible causes) consistent with the approved study plan and the requirements in Specific Conditions 56 and 57.

All hourly data recorded during the 24-hour period shall be averaged to demonstrate compliance with the daily limit. A valid daily period is defined as the period from 8 a.m. to 8.am., where at least 67% of the data or at least 16 hourly readings in the 24-hour period collected when the plant is operating are recorded. All data recorded once per 12-hour shift when the plant is operating shall be averaged to demonstrate compliance with the daily limit. In the event that a PM/PM_{10} pound per hour emission rate is outside the range, the permittee shall take immediate action to identify the cause of the exceedance, implement corrective action, and document that the emission rate was back inside the permitted limit following corrective action by the end of the next 24-hour period. For this study plan compliance purposes only, if the PM/PM_{10} emission rate observed at the end of the next 24-hour period following the completion of corrective action is not in excess of the permitted level, then no further action is needed, and the permittee will be considered in compliance with the permitted limit.
If observed opacity is in excess of the limit in Specific Condition 59 during the study, compliance with the permitted limit shall be demonstrated as required by Specific Condition 60.