RESPONSE TO COMMENTS

El Dorado Chemical Company
DRAFT PERMIT #0573-AOP-R11
AFIN: 70-00040

On June 17, 2010, the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period HSG Environmental Consultants, on the behalf of El Dorado Chemical Company, submitted comments, data, views or arguments on the draft permitting decision. The Department's response to these issues follows.

Issue #1:

Section II: Introduction

Process Description - Mixed Acid Plant: The oleum concentration in the first and second sentences should be revised to ≤ 30% to be consistent with the emissions calculations included in the Title V renewal application.

Response #1:

The permit has been updated accordingly.

Issue #2:

Section IV: Specific Conditions

Specific Condition 1: Delete the compliance demonstration reference to Specific Condition 3. A correlation between the opacity limit and the NO_x emission limit has not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #2:

The permit has been updated accordingly.

Issue #3:

SN-29 - Source Description: Add "the" after "A portion of..." in the first sentence to correct the grammatical error.

Response #3:

The permit has been updated accordingly.

Issue #4:

Specific Condition 12: Add references to Specific Conditions 6, 21, and 37 to include the record keeping requirements as part of the compliance demonstrations.

Response #4:

The permit has been updated accordingly.

Issue #5:

SN-42 - Source Name: Revise the source name on the page header from "Cooling Tower" to "East and West Nitric Acid Plant Cooling Tower" for clarification purposes and to be consistent with the source name listed in Specific Conditions 13 and 14.

Response #5:

The permit has been updated accordingly.

Issue #6:

Specific Conditions 13 and 14: Delete the compliance reference to Specific Condition 15. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #6:

The permit has been updated accordingly.

Issue #7:

Specific Condition 16: Add a reference to Specific Condition 15 to indicate that TDS sampling is also the compliance demonstration requirement for the opacity limit.

Response #7:

The permit has been updated accordingly.

Issue #8:

Specific Condition 17: Delete the compliance demonstration reference to Specific Condition 18. A correlation between the opacity limit and the NO_x emission limit has not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit

Response #8:

The permit has been updated accordingly.

Issue #9:

Specific Conditions 23 and 24: Delete the compliance reference to Specific Condition 25. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #9:

The permit has been updated accordingly.

Issue #10:

Specific Condition 26: Add a reference to Specific Condition 25 to indicate that TDS sampling is also the compliance demonstration requirement for the opacity limit.

Response #10:

The permit has been updated accordingly.

Issue #11:

SN-22 - Source Description: The first sentence in the third paragraph of the source description contains a typographical error. After "Nitric Acid Plant" the reference should be "40 CFR", not "4o CFR".

Response #11:

The permit has been updated accordingly.

Issue #12:

Specific Condition 33: Delete the compliance demonstration reference to Specific Condition 35. A correlation between the opacity limit and the NO_x emission limit has not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit

Response #12:

The permit has been updated accordingly.

Issue #13:

SN-39 - Source Name: Revise the source name on the page header from "Cooling Tower" to "DSN Plant Cooling Tower" for clarification purposes and to be consistent with the source name listed in Specific Conditions 39 and 40.

Response #13:

The permit has been updated accordingly.

Issue #14:

Specific Conditions 39 and 40: Delete the compliance reference to Specific Condition 41. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #14:

The permit has been updated accordingly.

Issue #15:

Specific Condition 42: Add a reference to Specific Condition 41 to indicate that TDS sampling is also the compliance demonstration requirement for the opacity limit.

Response #15:

The permit has been updated accordingly.

Issue #16:

SN-07 - Source Description: The sulfuric acid concentration in the first sentence in the second paragraph should be revised to 93% - 99% for accuracy.

Response #16:

The permit has been updated accordingly.

Issue #17:

Specific Conditions 43 and 45: Delete the compliance demonstration reference to Specific Condition 45. Correlations between the opacity limit and the SO_2/H_2SO_4 emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit

Response #17:

The permit has been updated accordingly.

Issue #18:

SN-30 - Source Description: Delete "A portion of" from the first sentence for accuracy. All of the sulfuric acid produced at EDCC is loaded into rail cars or trucks for shipment.

Response #18:

The permit has been updated accordingly.

Issue #19:

SN-46 - Source Name: Revise the source name on the page header from "Cooling Tower" to "Sulfuric Acid Plant Cooling Tower" for clarification purposes and to be consistent with the source name listed in Specific Conditions 50 and 51.

Response #19:

The permit has been updated accordingly.

Issue #20:

Specific Conditions 50 and 51: Delete the compliance reference to Specific Condition 52. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #20:

The permit has been updated accordingly.

Issue #21:

Specific Condition 53: Delete " ... particulate matter emissions" after "SN-46's..." in the second sentence and add "requirements in Specific Conditions #50, #51, and #52 of this permit.", such that this condition is consistent with other similar language in the permit. A reference to Specific Condition 52 should be added to indicate that TDS sampling is also the compliance demonstration requirement for the opacity limit.

Response #21:

The permit has been updated accordingly.

Issue #22:

SN-05, SN-17, and SN-41 - Source Description: Revise the third sentence in the first paragraph of the source description to correct a typographical error; the phrase "associate prill tower" should be "the associated prill tower".

Response #22:

The permit has been updated accordingly.

Issue #23:

Specific Conditions 54 and 55: Delete the compliance references to Specific Condition 56. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #23:

The permit has been updated accordingly.

Issue #24:

Specific Condition 54: For SN-05, delete compliance demonstration references to Specific Conditions 62 and 66, as these conditions are related to SN-41 only. For SN-41, add a compliance demonstration reference to Specific Condition 62, as it establishes the proper surrogate monitoring parameter(s) for this source.

Response #24:

The permit has been updated accordingly.

Issue #25:

Specific Condition 55: For SN-05, delete compliance demonstration references to Specific Conditions 62, as this condition is related to SN-4l only. For SN-41, add a compliance demonstration reference to Specific Condition 62, as it establishes the proper surrogate monitoring parameter(s) for this source.

Response #25:

The permit has been updated accordingly.

Issue #26:

Specific Condition 62: Delete the existing scrubber parameters and revise this condition to read as follows:

> "Within 90 days of permit issuance, the permittee shall develop a scrubber operating parameter using a maximum conductivity value based on its relationship to measured particulate matter emissions rates. Should the maximum conductivity value be exceeded, the permittee will take immediate action, as necessary, to ensure proper scrubber operation and efficiency. Daily operational logs shall be used to document exceedances of the conductivity threshold value and that an appropriate response was made."

EDCC has determined, based on operational experience, that continuously monitoring conductivity is the most reliable, real-time indicator for scrubber performance. Current operational practice includes investigation and process/scrubber system adjustment whenever the conductivity level of the scrubber system exceeds an established threshold value. Specific review of other system variables (e.g., flow rate, pH, and pressure drop) indicates that these parameters are not reliable for monitoring scrubber system performance. Additionally, periodic sampling of inlet and outlet concentration becomes unnecessary as the proposed conductivity monitoring is a more timely indicator of changes in scrubber efficiency.

Response #26:

After further discussions with the facility, it was also determined that monitoring of conductivity would not ensure the proper operation of the composite sampling system for SN-41. EDCC proposed the development and implementation of a Quality Assurance / Quality Control (QA/QC) Plan. Specific Condition 62 has been revised to read as follows:

> "The permittee shall develop and implement a Quality Assurance / Quality Control (QA/QC) Plan within 90 days of permit issuance. The QA/QC Plan shall be developed similar to the QA QC Plans generated for CEMS applications at the plant. The QA/QC Plan shall include items such as calibration of equipment, preventive maintenance, data recording, reporting requirements, etc. If the Department requests a review of the QA/QC Plan, the permittee will make the QA/QC Plan available for review. The permittee must keep a copy of the QA/QC Plan at the source's location and retain all previous versions of the QA/QC Plan for five years. [Regulation 19, §19.304 and §19.705, and A.C.A. 8-4-203 as referenced by 8-4-304 and 8-4-311]"

Issue #27:

Specific Condition 63: The hard-wired emission factor for the E2 Plant sources (SN-05 and SN-06), used to demonstrate compliance with the 281 ton/yr particulate emissions

limit listed in Plantwide Condition 7, was changed in the draft permit from 0.967 lb of PM_{10} per ton of ammonium nitrate produced to 1.48 lb of PM_{10} per ton of ammonium nitrate produced.

We request that the hard-wired emission factor listed in Specific Condition 63 be revised back to 0.9671b of PM_{10} per ton of ammonium nitrate produced, which is the hard-wired emission factor that was established with the Major Modification Application dated June 24, 2005 and approved with the issuance of Permit No. 573-AOP-R6.

Response #27:

The permit has been updated accordingly.

Issue #28:

Specific Conditions 67 and 68: Delete the compliance reference to Specific Condition 56. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit. Delete the compliance demonstration reference to Specific Condition 62 and add a compliance demonstration reference for Specific Condition 61, as it relates to proper operation of SN-05 (the control unit for SN-06). Add Specific 58 as a compliance demonstration reference to Specific Condition 67 only, as it relates to PM_{10} testing at SN-05 (the control unit for SN-06).

Response #28:

The permit has been updated accordingly.

Issue #29:

SN-19 - Source Name: Revise the source name on the page header from "Barometric Tower" to "E2 Plant Barometric Tower" for clarification purposes and to be consistent with the source name listed in Specific Conditions 70 and 71.

Response #29:

The permit has been updated accordingly.

Issue #30:

Specific Conditions 70 and 71: Delete the compliance reference to Specific Condition 72. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #30:

The permit has been updated accordingly.

Issue #31:

SN-28 - Source Name: Revise the source name on the page header from "HDAN Loading" to "E2 Plant HDAN/LDAN Loading" for clarification purposes and to be consistent with the source name listed in Specific Conditions 73 and 74.

Response #31:

The permit has been updated accordingly.

Issue #32:

SN-28 - Source Description: Revise the source name in the description from "HDAN" to "E2 Plant HDAN/LDAN" to be consistent with actual operational practice.

Response #32:

The permit has been updated accordingly.
Issue #33:

Specific Conditions 73 and 74: Delete the compliance reference to Specific Condition 75. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #33:

The permit has been updated accordingly.

Issue #34:

SN-34 - Source Name: Revise the source name on the page header from "Solution Reactor" to "E2 Plant Solution Reactor" for clarification purposes and to be consistent with the source name listed in Specific Conditions 76 and 77.

Response #34:

The permit has been updated accordingly.

Issue #35:

Specific Conditions 76 and 77: Delete the compliance reference to Specific Condition 78. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #35:

The permit has been updated accordingly.

Issue #36:

Specific Conditions 79 and 80: Delete the compliance reference to Specific Condition 81. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #36:

The permit has been updated accordingly.

Issue #37:

SN-15, SN-18, and SN-21 - Source Name: Revise the source name on the page header from "Baghouse and Scrubbers" to "KT Plant Dryer/Cooler, Baghouse and Scrubber" for clarification purposes and to be consistent with the source name listed in Specific Conditions 85 and 86.

Response #37:

The permit has been updated accordingly.

Issue #38:

Specific Conditions 85 and 86: Delete the compliance references to Specific Condition 87. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #38:

The permit has been updated accordingly.

Issue #39:

Specific Condition 90: The test requirement for SN-15 should be revised to the following to be consistent with the similar requirement for SN-21.

> "The permittee shall have a third party stack test once every 5 years the NH3 emissions from SN-15 using a method approved in advance by the Department to capture ammonia, and the NH3 emissions shall be less than the permitted emission rates specified in Specific Condition #86. The permittee shall maintain the approved method with the permit. "

Response #39:

SN-15 testing has been updated to be consistent with the requirements for SN-21.

Issue #40:

KT Plant: The specific condition listing the hard-wired emission factor for the KT Plant Sources that are required to comply with the 281 ton/yr particulate emissions limit listed in Plantwide Condition 7 of the permit has been removed. This condition is Specific Condition 74 in the current permit (Permit No. 573-AOP-R10). We request that this condition be added back to the permit. Also, please refer to Attachments A and B of this letter for information regarding the establishment of the hard-wired emission factor with the issuance of Permit No. 573-AOP-R6.

Response #40:

The permit has been updated accordingly.

Issue #41:

SN-27 - Source Name: Revise the source name on the page header from "LDAN Loading" to "KT Plant LDAN Loading" for clarification purposes and to be consistent with the source name listed in Specific Conditions 92 and 93.

Response #41:

The permit has been updated accordingly.

Issue #42:

Specific Conditions 92 and 93: Delete the compliance reference to Specific Condition 94. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #42:

The permit has been updated accordingly.

Issue #43:

SN-43 - Source Name: Revise the source name on the page header from "Cooling Tower" to "KT Plant Cooling Tower" for clarification purposes and to be consistent with the source name listed in Specific Conditions 95 and 96.

Response #43:

The permit has been updated accordingly.

Issue #44:

Specific Conditions 95 and 96: Delete the compliance reference to Specific Condition 97. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #44:

The permit has been updated accordingly.

Issue #45:

Specific Condition 98: Delete " ... particulate matter emissions" after "SN-43's..." in the second sentence and add "requirements in Specific Conditions #95, #96, and #97 of this permit.", such that this condition is consistent with other similar language in the permit. A reference to Specific Condition 97 should be added to indicate that TDS sampling is also the compliance demonstration requirement for the opacity limit.

Response #45:

The permit has been updated accordingly.

Issue #46:

SN-44 - Source Description: The oleum concentration in the first and second sentences should be revised to $\leq 30\%$ to be consistent with the most recent permit modifications/emissions calculations.

Response #46:

The permit has been updated accordingly.

Issue #47:

Specific Conditions 99 and 100: Delete the compliance reference to Specific Condition 101. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #47:

The permit has been updated accordingly.

Issue #48:

Specific Condition 106: The compliance test requirement for SO_2 should be changed to SO_3 to be consistent with the regulated pollutant.

Response #48:

The permit has been updated accordingly.

Issue #49:

Specific Conditions 108 and 109: Delete the compliance reference to Specific Condition 110. Correlations between the opacity limit and the PM/PM_{10} emission limits have not been established. Due to this technical limitation, it has not been the ADEQ's practice in the past to use opacity to demonstrate compliance with mass limits in the permit.

Response #49:

The permit has been updated accordingly.

Issue #50:

Specific Condition 110: This condition imposes a 5% opacity limit on the natural gas fired boilers and requires that compliance with the opacity limit be demonstrated by Plantwide Condition 10, which is a daily visual observation. For sources that only fire natural gas, the ADEQ has typically not required visual observations to demonstrate compliance, but rather added a condition to the permit which prohibits the use of other fuels - this consistent with other permits issued by the ADEQ. We request that the visual observation requirement be deleted, and replaced with the requirement that fuel usage is limited to natural gas only.

Response #50:

The permit has been updated accordingly.

Issue #51:

Section VI: Plantwide Conditions

Plantwide Condition 10: Remove SN-16A and SN-16B from this condition as sources for which daily observations of opacity are required (see Comment 50 above). Add SN-44 to the list of sources that are required to conduct daily observations of opacity.

Response #51:

The permit has been updated accordingly.

Issue #52:

Section VII: Insignificant Activities

Ammonia Flare: Correct listing to indicate that there are two flares in operation.

Response #52:

The permit has been updated accordingly.

Issue #53:

Sulfuric Acid Cooling Tower: Delete from the list, as the cooling tower has been added to the permit as a designated source.

Response #53:

The permit has been updated accordingly.

ADEQ

ARKANSAS
Department of Environmental Quality

November 24, 2010

Brent Parker, Environmental Manager
El Dorado Chemical Company
P.O. Box 231
El Dorado, AR 71730

Dear Mr. Parker:

The enclosed Permit No. 0573-AOP-R11 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 10/1/2009.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. 0573-AOP-R11 for the construction, operation and maintenance of an air pollution control system for El Dorado Chemical Company to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

The applicant or permittee and any other person submitting public comments on the record may request an adjudicatory hearing and Commission review of the final permitting decisions as provided under Chapter Six of Regulation No. 8, Administrative Procedures, Arkansas Pollution Control and Ecology Commission. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201. If you have any questions about filing the request, please call the Commission at 501-682-7890.

Sincerely,

Mike Bates
Chief, Air Division

ADEQ
OPERATING
AIR PERMIT

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

Permit No. : 0573-AOP-R11
Renewal # 2
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:

November 24, 2010 AND November 23, 2015

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Mike Bates
Chief, Air Division

November 24, 2010
Date

Table of Contents

List of Acronyms and Abbreviations

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
CFR	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO_x	Nitrogen Oxide
PM	Particulate Matter
PM_{10}	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

SECTION I: FACILITY INFORMATION

PERMITTEE:	El Dorado Chemical Company
AFIN:	70-00040
PERMIT NUMBER:	0573-AOP-R11
FACILITY ADDRESS:	4500 North West Avenue El Dorado, AR 71730
MAILING ADDRESS:	P.O. Box 231 El Dorado, AR 71730
COUNTY:	Union County
CONTACT NAME:	Brent Parker
CONTACT POSITION:	Environmental Manager
TELEPHONE NUMBER:	870-863-1403
REVIEWING ENGINEER:	Joseph Hurt
UTM North South (Y):	Zone 15: 3680583.92 m
UTM East West (X):	Zone 15: 529356.41 m

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 is the second Title V Renewal for the facility. With this modification the facility requested to:

1. Update emission limits for SN-25, SN-28, SN-30, SN-33, SN-40, and SN-44. Revisions to SN-28 and SN-33 are due to rounding. Revisions to SN-25 are due to updates to the TANKS software. Revisions to SN-30 are due to revisions based on actual production capabilities. Revisions to SN-40 are due to previous calculation errors. Revisions to SN-44 are due to a reduction in oleum concentration.
2. Remove Specific Conditions # 44 and # 46 which required EDCC to install, test, and operate SO_2 removal technology in accordance with Consent Administrative Order, LIS 03-175. The unit has been installed.
3. Limit the Oleum concentration to a maximum of 30%. The lower limit is due to Occupational Safety and Health Administration (OSHA) issues and transportation regulations.
4. Correct various compliance mechanisms to add consistency and clarification.

EDCC also submitted a Prevention of Significant Deterioration (PSD) application to revise the Best Available Control Technology (BACT) limit at SN-41. The facility shall retain the BACT limit for the scrubber at 0.054 lb particulate per ton of Ammonium Nitrate (AN) solution for normal operations based on a 30-day rolling average. The facility now has a startup and shutdown BACT limit for the scrubber which was set at 0.223 lb particulate per ton of AN solution. The facility is not requesting to increase annual emissions from SN-41.

With this renewal, the total permitted emission changes include increases of 0.1 tpy of PM/PM_{10}, 0.4 tpy of VOC, and 0.1 tpy of NO_x, and a decrease of 6.4 tpy of SO_2.

Process Description

EDCC manufactures nitric acid (various strengths ranging from 48% to 98.5%), sulfuric acid (93.0% and 98.0% strengths), high density grade ammonium nitrate (nitrogen fertilizer for agricultural use) and low density grade ammonium nitrate (Class C explosive for mining and construction industries when slurried with diesel fuel at off-site service centers).

East and West Nitric Acid Plants

The East and West Nitric Acid Plants produce weak nitric acid at concentrations ranging from 52% to 58%. These nitric acid plants employ the DuPont single (high) pressure process designed and built in 1962 by C&I Girdler. Therefore, the East and West Nitric Acid 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.

Liquid ammonia is received through a pipeline or by truck from intermediate storage and enters a surge tank, where the liquid ammonia level is controlled. The surge tank aids in maintaining a steady flow and controls the ammonia pressure. Purge valves remove oil, water, and inert gases from the ammonia before it exits the bottom of the surge tank through two lines. The ammonia is then delivered through a level control valve to a vaporizer, where the ammonia is vaporized. The ammonia vapor is transferred to the mixer pipe, where it is mixed with preheated air through a series of nozzles. The mixture is maintained at approximately 10% (by volume) ammonia gas. The air and ammonia mixture enters into the top of a converter, where combustion occurs on a platinum catalyst gauze. The temperature of the gas leaving the platinum catalyst is between 1,660 and 1,750° F. At this point, the ammonia is being oxidized to nitrogen oxide(s) and water vapor.

The process gas is then cooled prior to the absorption process. The process gas passes through absorption columns at the East and West Nitric Acid Plants. Product acid (52% to 58% nitric acid) is retried from the bottom of each absorption column and pumped to two 250 ton capacity stainless steel tanks. The tanks share a common vent stack with a water seal at the bottom.

The unabsorbed tail gas, which consists of nitrogen oxides, exits the top of the absorption columns and is passed through Selective Catalytic Reduction (SCR) Units before being vented to the atmosphere through a stack (SN-08 for the West Nitric Acid Plant and SN-09 for the East Nitric Acid Plant). The SCR Units reduce nitrogen oxide emissions by reacting ammonia with nitrogen oxide to form nitrogen gas and water vapor.

Fugitive nitrogen oxide emissions (SN-33) from the production, handling, mixing, blending, decoloration, and storage of nitric acid are generated through leaks in flanges, valve packing, etc. Also, nitric acid mist emissions (SN-29) occur due to the loading of nitric acid into rail cars and trucks.

DM Weatherly Nitric Acid Plant (DMW Plant)

The DM Weatherly Nitric Acid Plant (SN-13) produces weak nitric acid at a concentration of about 61% - 67% by the oxidization of ammonia in the presence of a catalyst in a similar process to the East and West Nitric Acid Plants. This nitric acid plant was originally installed at the American Cyanamid Company facility at Hannibal, Missouri and was relocated to the El Dorado Chemical in 1990. Therefore, 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).

Liquid ammonia from the intermediate storage is passed through a set of filters into the ammonia feed vaporizer. Any particulates in the vapor are removed in the ammonia filter. A magnetic filter removes iron residue from the ammonia vapor. The clean ammonia vapor is directed to an ammonia super heater and heated to approximately 330° F. The hot/clean ammonia is conveyed into a Koch ammonia/air mixer, where the process of converting and oxidizing ammonia to nitric acid is initiated. The oxidation of the ammonia is completed as gases pass through a converter

elbow. From the converter, the process gas is passed through a series of heat recovery units and then to the absorption column.

The absorption column is divided into three zones. Zone I is the lower part of the column, where the majority of the absorption of nitrogen dioxide to produce the largest amount of nitric acid occurs. Zone II contains a low nitrogen oxide concentration and oxidizes nitric oxide to nitrogen dioxide. Zone III, the upper zone (accounts for approximately 100 feet of the 154 foot column height) of the column, absorbs in condensate low concentrations of nitrogen dioxide, which lowers the nitrogen oxide emissions and allows the plant to produce a consistent 61% - 67% strength nitric acid stream.

The reaction gas stream exiting the top of the absorption tower ("tail/expander gas") is directed through a mist separator and tail gas preheater. The tail gas is routed through a series of heaters/preheaters before being routed to the No. 1 and No. 2 economizers. The economizer's exit stream (consisting of nitrogen, excess oxygen, and unabsorbed nitrogen oxides) is released to the atmosphere through a 50 foot stack (SN-13). The stack is equipped with a nitrogen oxide continuous emission monitoring system (CEMS) as required by 40 CFR Part 60, Subpart G.

Fugitive nitrogen oxide emissions (SN-33) from the production, handling, mixing, blending, decoloration, and storage of nitric acid are generated through leaks in flanges, valve packing, etc. Also, nitric acid mist emissions (SN-29) occur due to the loading of nitric acid into rail cars and trucks.

Nitric Acid Vent Collection System

In October of 1997, a packed tower hydrogen peroxide scrubber was installed to control nitrogen oxide emissions. The top portion of the packed tower treats nitrogen oxide emissions from the weak nitric acid storage vents (Tanks 49, 50, and 51). The bottom section of the packed tower treats the nitrogen oxide emissions present in the blend acid tanks (Tanks 43, 44, 45, and 46) bleaching air stream. The overheads from the packed tower are routed through a Venturi Scrubber for additional treatment before being vented to the atmosphere (SN-10). The strong nitric acid storage tank vents (Tanks 47, 48, 66, 67, 68, 69, 70 and 71) are still directed to the Venturi Scrubber (i.e. the vents bypass the new scrubber).

Hoechst-UHDE Direct Strong Synthesis Nitric Acid Plant (DSN Plant)

The DSN Plant produces strong nitric acid (≥ 98% strength) directly from ammonia oxidation utilizing technology developed by Hoescht-UHDE in the 1970's. This process is unique in that concentrated nitric acid is produced from the dehydration of weak (56% - 65%) nitric acid. The UHDE Plant takes advantage of low and high pressures and low temperatures at appropriate points in the process for optimum efficiency. The DSN Plant is more technically complicated than traditional nitric acid plants. However, this process produces concentrated nitric acid without the dehydration step; thus, eliminating a major air emissions source.

Anhydrous ammonia is vaporized using waste process heat mixed with atmospheric air. An induced draft carries the ammonia/air mixture across a catalyst. The ammonia reacts with the oxygen in the air to produce nitric oxides while releasing a large amount of heat.

A waste heat boiler and cooler condenser remove most of the heat and water generated during the ammonia oxidation reaction. Very little nitric acid is produced during this step, because it occurs at a very low pressure. The resulting condensed steam contains approximately 3% nitric acid. Portions of this stream are used in the UHDE process to provide the necessary amount of water for the formation of nitric acid. The excess weak acid is fed to the existing Weak Nitric Acid Plant absorbers.

Upon exiting the cooler condenser, the process gas stream is compressed before being fed to the primary oxidation tower. This tower provides further gas cooling and residence time for the oxidation of nitric oxide to nitrogen dioxide. Some weak acid is formed in the process and is fed to the UHDE reactors. Nitric oxide gas that remains is oxidized in the next stage of the process through the use of concentrated acid. This reaction occurs quickly and converts nearly all of the remaining nitric oxide to nitrogen dioxide.

In the first step, the process gas is chilled and the nitrogen dioxide dimerizes to nitrogen tetroxide. The process gas passes through an absorption column, where the nitrogen tetroxide readily dissolves in concentrated nitric acid. Over 99.3% of the nitrogen oxides generated during ammonia oxidation are removed from the process gas at this stage.

The spent process gas is directed to a final absorption column, which relies on the conventional absorption process. Some of the weak acid formed in the cooled condenser is used in this column. The process gas exiting the absorber has approximately 99.88% of the nitrogen oxides removed. At this state, the process gas containing nitrogen oxides is vented to the atmosphere (SN-22). This stack is equipped with a CEMS to monitor nitrogen oxide emissions.

The second stage of this process involves the separation of nitrogen tetroxide from the concentrated acid, so that it can be fed to the reactor. This step is conducted in a steam-heated bleacher and condensers. The concentrated acid is heated with steam from the waste heat boilers in the bleach reboilers. The nitrogen tetroxide dissociates back to the nitrogen dioxide, which is not as readily soluble in concentrated nitric acid. The evolved nitrogen dioxide goes from the bleacher to the condensers, where it again dimerizes and liquefies into pure nitrogen tetroxide.

The liquid nitrogen tetroxide is directed to a mix tank along with weak nitric acid produced in the DSN Plant. The two components are mixed in exact proportions to accomplish the desired reaction. The mix tank provides the necessary concentrations of nitrogen tetroxide and water. The oxygen is provided from an air separation plant. Excess oxygen, vaporized nitrogen oxides, and inerts are returned back into the process with secondary air. The resulting concentrated acid product is bleached with any nitrogen dioxide given off returning to the condenser. The concentrated nitric acid product is cooled and directed to existing storage tanks.

Fugitive nitrogen oxide emissions (SN-33) from the production, handling, mixing, blending, decoloration, and storage of nitric acid are generated through leaks in flanges, valve packing, etc. Also, nitric acid mist emissions (SN-29) occur due to the loading of nitric acid into rail cars and trucks.

Sulfuric Acid Plant

The Sulfuric Acid Plant (SN-07), originally constructed in 1949 when Lion Oil Company operated the facility, is a single absorption contact process of the Chemco design. The plant was later modified by Monsanto (Leonard). The plant has been upgraded over the years to include emissions control systems, updated acid cooling technology, and process control equipment. The principal steps in the manufacturing of sulfuric acid are as follows.

The raw material used to initiate the sulfuric acid manufacturing process is elemental (Bright) molten sulfur. The elemental sulfur is delivered to EDCC by rail car or tank truck. The sulfur is unloaded into a heated pit and pumped to a 2,000 ton heated sulfur storage tank (SN-23). The sulfur storage tank is equipped with a control valve, which allows molten sulfur to back flow into the pump pit.

The molten sulfur is pumped from the heated pit to the Sulfuric Acid Plant for the combustion step. While the sulfur is being pumped from the heated pit, atmospheric air is passed through an electric drive blower and sent to a packed tower, where ambient moisture is removed by a recirculating 98% sulfuric acid stream. The predried air is preheated to 420° F in a heat exchanger by waste heat from the first stage of the converter. The air enters the sulfur burner, where sulfur is sprayed into the air and is burned forming sulfur dioxide.

In the conversion step of the process, the sulfur dioxide in the gas stream is combined with some of the remaining oxygen to form sulfur trioxide. A waste heat reboiler located at the exit of the sulfur burner cools the gas exiting the sulfur burner. The sulfur dioxide is converted to sulfur trioxide in the converter, which consists of four layers of catalyst. The gas temperature increases as additional heat is evolved during the conversion process. The sulfur dioxide has the possibility of only partially converting to sulfur trioxide if the gas temperature increases. Therefore, the gases are cooled in three different places in the converter. The gases are cooled in a heat exchanger (which preheats the combustion air) after passing through the first layer of catalyst. Dry air from the 98% drying tower cools the gases as they pass through the second, third, and fourth catalyst layers before exiting the converter.

An economizer (i.e., heat exchanger) cools the gas leaving the converter. The cooling fluid is the incoming water used in the waste heat boiler. The sulfur trioxide made in the converter will not combine directly with water but must be combined indirectly through absorption with 93% sulfuric acid. Under this condition, the sulfur trioxide readily unites with water in the sulfuric acid. This operation is carried out in the absorption tower, where the sulfur trioxide is scrubbed out of the gas stream with 93% sulfuric acid. The gas stream exiting the absorption tower contains inert atmospheric nitrogen, excess oxygen, unreacted sulfur dioxide, and entrained

sulfuric acid mist that is routed to the Brinks' Mist Eliminator, which captures sulfuric acid mist prior to the gases being exhausted to the atmosphere through a stack (SN-07).

The 93% sulfuric acid leaves the drying tower, where 98% sulfuric acid is weakened by water vapor removed from atmospheric air. The 93% sulfuric acid is strengthened by sulfur trioxide absorption. There is not enough atmospheric moisture in the air to supply all of the water required for combination with sulfur trioxide to form sulfuric acid. Before it is again pumped to the top of the towers, the absorbing acid is diluted with condensate to the desired strength for efficient sulfur trioxide absorption. This diluted acid is fed at the inlet of the cooler.

Stronger acid from the absorbing tower fortifies the acid from the drying tower, with the makeup being drawn off as product. All dilution condensate is added to the 93% sulfuric acid system. Due to the continuous formation of the greater than 98% sulfuric acid, the volume of acid in the circulation system is proportional to the amount of acid produced. A constant level is maintained by continuously removing 98% sulfuric acid from the pump tank. The removed acid is the production of the plant.

A portion of the sulfuric acid product is loaded into rail cars or trucks. Loading losses (SN-30) (occurring as sulfuric acid vapors) are displaced to the atmosphere by the liquid being loaded into rail cars or trucks.

E2 Ammonium Nitrate Plant

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 (HDAN, fertilizer grade) or low density ammonium nitrate (LDAN, explosive grade). However, when the KT Ammonium Nitrate Plant was built in 1989, the production of LDAN at the E2 Plant was discontinued.

HDAN production requires the reaction of weak nitric acid with ammonia to produce an ammonium nitrate solution. The ammonium nitrate is concentrated to a strength greater than 99% for high density prills.

Weak nitric acid from one of the weak nitric acid plants (East and West Nitric Acid Plants and the DMW Plant) and ammonia are reacted in three ammonium nitrate neutralizers (reactors) piped in parallel. After the neutralization 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 neutralizer overheads, E2 lower concentrator exhaust, and the auxiliary concentrator exhaust are routed to the E2 Plant Chemical Steam Scrubber (SN-41), while the emissions from the E2 prill tower shrouds are routed to the E2 Plant Brinks Scrubber (SN-05).

The ammonium nitrate solution passes through 2 concentration steps (emissions controlled by SN-41). The concentrated ammonium nitrate solution then flows to storage or to the E2 plant prill towers. At each of the prill towers, the concentrated ammonium nitrate solution is broken

into droplets by the prill plate and falls countercurrent to cooling air forming prills. The air is pulled through the towers by the E2 ammonium nitrate prill tower fans (SN-06). The prills are further cooled and screened when they exit the prill towers. The air from the cooling process is vented to the Pease-Anthony (Venturi) Scrubber, which is then routed to SN-05 for additional control. The cooled prills are loaded directly onto rail cars or trucks through a common conveyor system (SN-28).

KT Ammonium Nitrate Plant

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 (East and West Nitric Acid Plant and the DM Weatherly Plant) 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 polypropylene 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 ambient 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 flow ability. 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 are 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).

Mixed Acid Plant

The Mixed Acid Plant consists of mix tanks and storage tanks. The mix tanks and the storage tanks utilize a continuously operated scrubber that has 99.5% efficiency for controlling hexavalent sulfur. Periodically, the scrubber is used to bring product into specification, being replaced with fresh scrubber solution during scrubber operation.

EDCC manufactures mixed acid by mixing ≤ 30% oleum (concentrated sulfuric acid) and/or 98% sulfuric acid with 98% nitric acid. The ≤ 30% oleum is purchased from a vendor and delivered to EDCC by railcar or tanker truck, while the 98% sulfuric acid will come from EDCC's Sulfuric Acid Plant, and the 98% nitric acid will come from EDCC's Nitric Acid Plant. The manufactured mixed acid is stored in the product storage tank or the mixing tank until it is loaded into a railcar or tanker truck. Air emissions from the tanks, the unloading of oleum, and the loading/unloading of the mixed acid into tank cars and/or trucks will be routed to the scrubber (SN-44) prior to being released to the atmosphere.

Natural Gas Fired Boilers

Boilers No. 2 (SN-16A) and No. 4 (SN-16B) are used to supply steam throughout the nitric acid plants, the ammonium nitrate plants, and the sulfuric acid plant. Both boilers are natural gas fired units with identical design heat inputs of 145 million Btu per hour. Emissions from the boilers occur due to the combustion of natural gas. Due to 1990 PSD permitting issues, only one of the steam generating units is allowed to be operated at any one time. However, both steam-generating units will be in operation when the active boiler (for example, Boiler No. 2) is being taken off-line and the other boiler (for example, Boiler No. 4) is being brought on-line. It takes approximately 24 hours for the inactive boiler to warm up and for the unit transition to effectively occur.

Prevention of Significant Deterioration (PSD)

Air Permit 0573-AOP-R3 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. Air Permit 0573-AOP-R6 authorized an increase in production at the E2 Plant to the maximum potential rate, which resulted in a significant increase in PM_{10} emissions and the facility went through a PSD review for the PM_{10} emissions. The R6 permit did not address emissions from startup and shutdown. The facility is now requesting to add the emissions from startup and shutdown for the third neutralizer. In this application, BACT and ambient air impact analyses were conducted for PM_{10}. The facility is not requesting to increase annual emissions from SN-41.

Best Available Control Technology (BACT) Analysis

Step 1: Identify All Control Technologies

A search of the RBLC 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. The following list includes types of control equipment generally used to control particulate matter emissions. These types of control equipment will be evaluated for BACT.

1. Electrostatic Precipitator (ESP)
2. Filter/Mist Eliminator
3. Scrubber
4. Baghouse
5. Multicyclone
6. Cyclone

Step 2: Eliminate Technically Infeasible Options

Electrostatic Precipitator: An ESP removes particles from an air stream by imparting an electrical charge to the particles then passing them through a force field that causes them to migrate to an oppositely charged plate where they are collected. An ESP will typically provide a control efficiency of approximately 95%.

> An ESP is not technically feasible for this process due to the high moisture content of the chemical steam exiting the neutralizer.

Filter/Mist Eliminator: A filter/mist eliminator system is designed to remove moisture from the exit gas stream, which then passes through filter(s) to control the entrained particulate matter. The effected gas stream at EDCC was previously routed to this type of control device (i.e. SN-05) but was not considered adequate for ammonia control from this source. A permit modification was submitted to ADEQ on June 29, 2004 indicating that a scrubber was more suitable for overall emissions control. There is 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.

> Designing a filter/mist eliminator system for the exhaust conditions at the SN-41 scrubber stack is not reasonable.

Baghouse: A baghouse collects particles by filtering air through a fabric filter media, typically configured in long, vertically-suspended sock-like configurations (bags). A baghouse will typically provide a control efficiency of 80% to 95%.

> A baghouse is not technically feasible for this process because the exit gas exists as chemical steam.

Multicyclone/Cyclone: A multicyclone places a large number of small cyclones in parallel. The efficiency of this control device typically ranges from 65% to 90%. Cyclone separators are particulate treatment devices that remove solids from the air stream by centrifugal force. The particles are removed by centrifugal force driving them to the wall of the collector before the gas exits the cyclone and then by gravity settling them to the bottom where particulates are discharged.

A cyclone is not technically feasible for this process due to the high moisture content of the chemical steam exiting the neutralizer.

Scrubber: A scrubber is a device that collects particles by saturating the dirty gas stream with liquid drops. The liquid drops separate the flow of the particle-laden gas. The fine particles adhere to the liquid drops when contacted. The liquid drops allow collection of smaller particles (0.5 microns). The efficiency of this control device typically ranges from 80% to 95%. The E2 Plant neutralizers are currently controlled by a chemical steam scrubber. Emissions guidance specific to agricultural fertilizer manufacturing provides a range for controlled air emissions from ammonium nitrate neutralizers of 0.004 to 0.44 lb of particulate matter per ton of AN solution.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

Filter/Mist Eliminator: A representative production based particulate emission factor for filter/mist eliminator system(s) is 0.026 lb/ton AN.

Scrubber: The production based particulate emission factor for the scrubber currently in use at EDCC is 0.054 lb/ton AN.

Step 4: Evaluate Most Effective Controls and Document Results

Filter/Mist Eliminator: This type of system was identified as a particulate matter control device for the AN neutralizers at the Terra Nitrogen - Port Neal Complex in Iowa. The Terra Nitrogen permit identified a particulate emission rate of 1.5 lb/hr (6.6 ton/yr) exiting the AN Neutralizer stack (EPID-08). If EDCC were to install this same control technology, the result would be an additional reduction in emissions of approximately 7.9 ton/yr (when compared to the proposed emission rate of 14.5 ton/yr). To determine the economic feasibility of a change in control technology, EDCC contacted Monsanto Environmental Control Systems, Inc. (MECS) and obtained a cost estimate of $1.7 to $2.2 million for a Brink Mist Eliminator System that corresponds to the process conditions at EDCC. The following table summarizes the cost associated with installing a filter/mist eliminator system at EDCC based on the minimum capital cost of $1.7 million spread over a 10 year period at 8% interest with a 10% annual operating cost:

Control Technology	Emissions Reduction (ton/yr)	Cost Impacts			
		Installation Capital Cost	Annualized Capital Cost	Annual Operating Cost	Cost Effectiveness ($/ton)
Filter/Mist Eliminator	7.9	$1,700,000	$253,300*	$170,000	$53,583**

* - Annualized Capital Cost = ($1,700,000) x ($A/P_{8\%, 10}$) where ($A/P_{8\%, 10}$) is 0.149
** - Cost Effectiveness = ($253,300 + $170,000) / 7.9 ton/yr

As demonstrated in the above table, it is cost prohibitive for EDCC to install a filter/mist eliminator system to achieve the additional 7.9 ton/yr reduction in particulate emissions.

Step 5: Select BACT

According to the above analyses, the control devices with the highest level of control for particulate matter emissions from the neutralizers are filter/mist eliminator systems and scrubbers. To replace the current system with a filter/mist eliminator, EDCC would have to absorb a large capital cost only to control an additional 7.9 ton/yr of particulate matter and ammonia emissions would increase. EDCC currently operates a chemical steam scrubber (SN-41) as a control device for the neutralizers at the E2 Plant for both particulate and ammonia.

Therefore, a scrubber is chosen as BACT for the neutralizers. EDCC conducted an engineering study (see Permit Appeal Resolution executed August 15, 2005) to establish the BACT-level particulate limits for this source. As a result of the testing, EDCC has established a permitted emission rates of 3.3 lb/hr of PM_{10} (30-day rolling average) and 13.7 lb/hr of PM_{10} (daily 24-hr average) at SN-41. Based on a maximum production rate of 61.5 ton/hr of AN solution, the BACT limit for the scrubber is 0.054 lb particulate per ton of AN solution for normal operations based on a 30-day rolling average. The startup and shutdown BACT limit for the scrubber is 0.223 lb particulate per ton of AN solution.

Ambient Air Impact Analysis

Significance Analysis

The significance analysis considers only the emissions associated with the proposed changes along with other creditable contemporaneous changes at the facility to determine if the proposed project's emissions will have a significant impact on the surrounding area. A "significant" impact occurs when the modeled ambient concentration resulting from the modeled emission rates exceeds an applicable Modeling Significance Level (MSL). The following table summarizes the applicable MSLs and Monitoring De Minimis Concentrations for PM_{10} in micrograms per cubic meter ($\mu g/m^3$) as modeled under the entire Startup and Shutdown BACT limit.

Averaging Period	Year of Maximum Impact	Location of Maximum		Maximum-Modeled Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m^3$)
		UTM East (m)	UTM North (m)			
24-Hour	2008	527,883.54	3,681270.11	2.54469	5	10
Annual	2007	527,883.54	3,681,369.92	0.36237	1.0	--

Class I and Additional Impact Analysis

An additional impact analysis is completed based on existing air quality, the quantity of emissions, and the sensitivity of local soils, vegetation, and visibility in the project's area of impact. The additional impact analysis consists of three parts: (1) growth, (2) soils and vegetation impacts, and (3) visibility impairment. Each of these analyses is presented in this section.

The purpose of the growth analysis is to predict the amount of new growth likely to occur to support the proposed project under review and to estimate the emissions that will result from the associated growth. First, an assessment is made regarding the amount of residential growth the proposed project will bring to the area. This depends on the size of the available work force, the number of new employees, and the availability of housing in the area. Associated commercial and industrial growth consists of new sources providing goods and services to the new employees and to the new source itself. Once these anticipated growth effects have been considered, an estimate of the air pollutant emissions that would likely result from the associated growth is made. The assessment of additional growth issues and the estimates of emissions increases are conducted based on several types of EPA guidance.

Analysis of the impact of air emissions on soils and vegetation is based on an inventory of the soils and vegetation types found in the impact area. This inventory includes all vegetation of any commercial or recreational significance. For most types of soil and vegetation, ambient

concentrations of criteria pollutants below the secondary NAAQS do not result in harmful effects.

The visibility impairment analysis considers the impacts that occur within the impact area of the modified source. The visibility analysis considers issues similar to the Class I area visibility analysis requirements. The visibility impairment analysis consists of a determination of the visual quality of the area based on an evaluation of historical data.

Growth Analysis

The purpose of the growth analysis is to predict quantitatively the amount of new growth likely to occur to support the source or modification under review and to estimate the emissions that will result from the associated growth. First, an assessment is made regarding the amount of residential growth the modified source will bring to the area. This depends on the size of the available work force, the number of new employees, and the availability of housing in the area. Associated commercial and industrial growth consists of new sources providing goods and services to the new employees and to the modified source itself. Once these anticipated growth effects have been considered, an estimate of the air pollutant emissions that would likely result from the associated growth is made.

The modification at SN-41 at EDCC does not effect operation of existing equipment located at the facility. This will result in no additional construction equipment necessary and a no effect on the local residential growth in the area. Due to the location of the facility and the surrounding industrial park, residential areas are not concentrated and thus have no impact on air pollutant emissions in the area. This modification will result in no increase in traffic. Thus, the anticipated industrial, commercial, and residential growth in the local area due to this project is expected to be negligible.

Soil and Vegetation Analysis

Analysis of the impact of air emissions on soils and vegetation is based on an inventory of the soils and vegetation types found in the impact area. This inventory includes all vegetation of any commercial and recreational significance. For most types of soil and vegetation, ambient concentrations of criteria pollutants below the secondary NAAQS do not result in harmful effects.

This modification does not result in an actual increase in emissions and therefore will not cause additional impact to soil or vegetation. Additionally, as demonstrated in the Ambient Air Impact section, the maximum ambient air impact from the proposed modification is below the secondary NAAQS value. Therefore, any impact to the soil and vegetation as a result of the proposed modification is expected to be negligible.

Visibility Analysis

EPA prescribes the use of its *Workbook for Plume Visual Impact Screening and Analysis* for conducting a visibility impairment analysis. EPA outlines three levels of screening procedures. If the criteria for the first, most conservative, screening level are met, no further analysis is required.
The VISCREEN model is recommended for the first level (Level 1) screen. If predicted values from the VISCREEN model are greater than the standardized screening values, the emissions are judged to have the potential for visibility impairment. If the potential for visibility impairment is indicated, the next level analysis, Level 2 analysis, is required. The results of the Level 1 visibility analysis for this permit application are below the standardized screening criteria; thus, no additional analysis is required. The following tables summarize the VISCREEN results.

Maximum visual impacts inside Class I Area

Background	Delta E		Contrast	
	Critical	Plume	Critical	Plume
Sky	2.00	0.034	0.05	0.000
Sky	2.00	0.007	0.05	0.000
Terrain	2.00	0.013	0.05	0.000
Terrain	2.00	0.003	0.05	0.000

Maximum visual impacts outside Class I Area

Background	Delta E		Contrast	
	Critical	Plume	Critical	Plume
Sky	2.00	0.041	0.05	0.001
Sky	2.00	0.008	0.05	0.000
Terrain	2.00	0.017	0.05	0.000
Terrain	2.00	0.004	0.05	0.000

These results indicate that no visibility impairment will result from the proposed sources described in this application.

Class I Area Impact Analysis

Class I areas are areas of special national or regional natural, scenic, recreational, or historic value for which the PSD regulations provide special protection. Results of the first level of

screening indicated that no adverse impact from the pumps project is expected. The permittee utilized VISCREEN to assess the impact on the nearest Class I area, Caney Creek. The facility is approximately 70 km from Caney Creek. Additionally, the modeled PM_{10} concentrations approximately 40 km from the facility do not exceed the minimum significance levels outlined in the following table.

Averaging Period	Year of Maximum Impact	Maximum- Modeled Concentration 10 km from facility ($\mu g/m^3$)	Minimum Significance Level ($\mu g/m^3$)
24-Hour	2008	0.226	0.3
Annual	2007	0.04	0.2

Therefore, it is presumed this project will have no adverse affect on any Class I area.

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective January 25, 2009
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective July 18, 2009
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective January 25, 2009
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 subject to 40 CFR 60 Subpart H (Standards of Performance for Sulfuric Acid Plants).
40 CFR Part 64, Compliance Assurance Monitoring

Emission Summary

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 Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	172.0	334.1
		PM_{10}	172.0	334.1
		SO_2	600.2	401.9
		VOC	18.5	4.9
		CO	24.0	52.3
		NO_X	592.3	2410.3
HAPs		Hexane*	0.60	1.20
Air Contaminants **		HNO_3	16.90	67.70
		H_2SO_4	2.90	12.58
		NH_3	157.80	438.10
		SO_3	0.05	0.18
SN-02	Emissions routed to SN-41			
SN-03	Emissions routed to SN-41			
SN-04	Emissions routed to SN-41			
SN-05	Ammonium Nitrate E2 Brinks Scrubber	PM PM_{10} NH_3**	14.1 14.1 8.50	281.0[1] 281.0[1] 37.30
SN-06	E2 Ammonium Nitrate Prill Tower Fans	PM PM_{10}	67.0 67.0	281.0[1] 281.0[1]
SN-07	Sulfuric Acid Plant	SO_2 H_2SO_4**	600.0 2.82	401.5 12.35
SN-08	West (Weak) Nitric Acid Plant	NO_x NH_3**	200.1 40.00	876.5 62.20
SN-09	East (Weak) Nitric Acid Plant	NO_x NH_3**	200.1 40.00	876.5 62.20

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-10	Nitric Acid Concentrator Vents	NO_x HNO_3**	19.5 3.40	85.5 10.80
SN-13	DM Weatherly Nitric Acid Plant	NO_x	50.1	210.0
SN-14	KT LDAN Prill Tower	PM PM_{10}	44.2 44.2	281.0[1] 281.0[1]
SN-15	KT Plant Dryer/Cooler	PM PM_{10} NH_3**	17.0 17.0 18.00	281.0[1] 281.0[1] 75.60
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 0.30	281.0[1] 281.0[1] 0.4 3.5 52.3 174.2 1.20
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	
SN-17	E2 HDAN Plant Cooling Train	Exhaust from Pease Anthony Scrubber is routed to SN-05		
SN-18	KT Plant Clay Baghouse	PM PM_{10}	1.0 1.0	281.0[1] 281.0[1]
SN-19	E2 Plant Barometric Tower	PM PM_{10} NH_3**	0.5 0.5 4.10	281.0[1] 281.0[1] 17.70
SN-20	Emissions routed to SN-41			
SN-21	KT Plant Brinks Scrubber	PM PM_{10} NH_3**	3.0 3.0 30.00	281.0[1] 281.0[1] 126.00
SN-22	UHDE Direct (Strong) Nitric Acid Plant	NO_x HNO_3**	40.5 10.00	177.4 42.00

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-25	Gasoline Storage Tank (2000 Gallon)	VOC	16.9	1.4
SN-26	Ammonium Nitrate (90% Solution) Storage	NH_3**	1.60	0.90
SN-27	KT Plant LDAN Loading	PM PM_{10}	0.6 0.6	2.6 2.6
SN-28	E2 Plant HDAN/LDAN Loading	PM PM_{10}	1.1 1.1	4.8 4.8
SN-29	Nitric Acid Loading	HNO_3**	1.30	5.50
SN-30	Sulfuric Acid Loading	H_2SO_4**	0.03	0.05
SN-31	Frick Ammonia Compressors	NH_3**	0.50	2.00
SN-32	Ammonia Storage/Distribution	NH_3**	1.30	5.70
SN-33	Nitric Acid Production Fugitives	NO_x HNO_3**	2.0 2.00	8.5 8.50
SN-34	E2 Plant Solution Reactor	PM PM_{10}	0.9 0.9	3.0 3.0
SN-35	Magnesium Oxide Silo Baghouse	PM PM_{10}	2.0 2.0	8.8 8.8
SN-37	Car Barn Scrubber	Source removed in 2008, emissions now routed to SN-10		
SN-38	DM Weatherly Nitric Acid Plant Cooling Tower	PM PM_{10}	1.5 1.5	6.3 6.3
SN-39	DSN Plant Cooling Tower	PM PM_{10}	2.3 2.3	9.8 9.8
SN-40	Ammonium Nitrate Solution Loading	NH_3**	3.80	4.70
SN-41	E2 Plant Chemical Steam Scrubber (30-day rolling average)	PM PM_{10} NH_3**	3.3 3.3 10.00	14.5 14.5 43.80
SN-41	E2 Plant Chemical Steam Scrubber (daily 24-hr average)	PM PM_{10} NH_3**	13.7 13.7 10.00	-- -- --

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
SN-42	East and West Nitric Acid Plant Cooling Tower	PM PM_{10}	0.3 0.3	1.2 1.2
SN-43	KT Plant Cooling Tower	PM PM_{10}	0.4 0.4	1.4 1.4
SN-44	Mixed Acid Plant Scrubber	NO_x SO_3** H_2SO_4** HNO_3**	0.4 0.05 0.05 0.20	1.7 0.18 0.18 0.90
SN-46	Sulfuric Acid Plant Cooling Tower	PM PM_{10}	0.2 0.2	0.7 0.7

1 - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition No. 7.
*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.
**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

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 Air 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 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.

Permit 0573-AOP-R6 was issued on April 13, 2006. This modification included the installation of a new Mixed Acid Plant Scrubber (SN-44), revision of the language of stack testing for SN-05, removal of stack testing requirements for SN-06, clarification of permit requirements and revision of control equipment monitoring parameters in the permit issued on April 12, 2005 and the agreed upon changes in the Permit Appeal Resolution (PAR). This modification also incorporated hard-wired emission factors for the E2 and KT plants, and a PSD application to increase the ammonium nitrate production limit of the E2 Plant to the maximum equipment potential. Plantwide condition #7 was revised to 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 was 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.

Permit 0573-AOP-R7 was issued on February 16, 2007. This modification included the routing of the exhaust from Pease Anthony (Venturi) Scrubber on the E2 HDAN Plant Cooling Train (SN-17) to the Ammonium Nitrate E2 Brinks Scrubber (SN-05) for additional control, the removal of the particulate matter stack testing requirements for SN-17, and the revision of the PM_{10} hard-wired emission factor for the E2 Plant.

Permit 0573-AOP-R8 was issued on August 26, 2008. This permitting action included the following revisions:

> Production capacity increase at SN-07 to 550 ton/day (200,750 ton/year);
> Addition of a SSMP for SN-07, SN-08, SN-09, SN-13, SN-22, and SN-41;
> Addition of ammonia emissions at SN-08 and SN-09;
> Installation of an additional auxiliary air compressor at the East and West Nitric Acid Plant process area and at the DM Weatherly Nitric Acid Plant; and
> Removed the Car Barn Scrubber (SN-37) and route the nitric acid emissions to Nitric Acid Vent Collection System (SN-10).

The permitted emissions decreases included 2,115.5 tpy of SO_2, 20.45 tpy of Sulfuric Acid Mist. The permitted emissions increases included 124.4 tpy of Ammonia and 0.7 tpy of Nitric Acid. There were no permitted NO_X emission changes with the installation of the auxiliary air compressors.

Permit 0573-AOP-R9 was issued on February 17, 2009. This minor modification authorized the installation of the sulfuric acid cooling tower (SN-46). This mechanically induced, cross-flow draft cooling tower is an integral part of the double absorption process required by CAO LIS 03-175 (December 31, 2003). The potential emissions increase from this modification was 0.7 tpy of PM/PM_{10}.

Permit 0573-AOP-R10 was issued on October 26, 2009. With this modification the facility requested:

1. Revisions to particulate matter (PM/PM_{10}) monitoring requirements (Specific Condition # 61) for the E2 Plant Chemical Steam Scrubber (SN-41) based on the Environmental Protection Agency's (EPA's) position on condensable PM in the recently released New Source Review (NSR) implementation rule for $PM_{2.5}$.
2. Relocation of the Ammonium Nitrate (AN) Solution Loading facility (SN-40).
3. Removal of the obsolete Sampling Method for SN-41 (Appendix D) from the permit.
4. Revisions to the PM/PM_{10} stack testing requirements (Specific Condition # 67 and added Specific Condition # 68) for the KT LDAN Dryer/Cooler (SN-15) based on EPA's current position on condensable PM.
5. Corrections to compliance demonstration references for various specific conditions related to the E2 Ammonium Nitrate Plant, KT Ammonium Nitrate Plant, Natural Gas Fired Boilers, and the Magnesium Oxide Silo Baghouse.

The modification authorized all of the above requests except for #1. Revisions to a BACT limit requires PSD review, as such the BACT limit remained until the facility submits a PSD application. There were no permitted emission changes with the modification.

The facility submitted an Administrative Amendment on August 28, 2009 to implement Ammonia offloading operations to the Insignificant Activities list. The Ammonia offloading operations were added during the comment period for permit 0573-AOP-R10.

SECTION IV: SPECIFIC CONDITIONS

East and West Regular Nitric Acid Plants

SN-08 and SN-09
East and West Nitric Acid Plant

Source Description

The East and West Nitric Acid Plants produce weak nitric acid at concentrations ranging from 52% to 58%. The West Nitric Acid Plant (SN-08) and East Nitric Acid Plant (SN-09) each utilize a C&I Girdler single pressure process to produce weak nitric acid. Therefore, the East and West Nitric Acid 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. The air emissions from these processes are the tail gases from the absorption columns. The absorption columns employ bleaching air to oxidize nitrogen oxide to nitrogen dioxide. The amount of bleaching air used in the process controls the oxygen in the tail gases. The tail gases, which consist of nitrogen oxides, are passed through Selective Catalytic Reduction (SCR) Units before being vented to the atmosphere. The SCR units remove nitrogen oxide emissions by reacting ammonia with nitrogen oxide to form nitrogen gas and water vapor.

The uncontrolled emissions from SN-08 and SN-09 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned sources are regulated under the CAM Rule because it meets the following criteria: (1) the units are subject to emission limitations for NO_x, (2) the sources are equipped with a control device, and (3) the units have potential pre-control emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for these sources. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limits at these sources.

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 annual emission limits for SN-08 and SN-09 are demonstrated by compliance with Specific Conditions # 4, # 5, and # 6 and satisfactory operation of the SCR Units. [Regulation 19, §19.501 et seq., 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

2. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the lb/hr limit for ammonia for SN-08 and SN-09 will be demonstrated by comparison of the limit to the result of the test conducted pursuant to Specific Condition # 7. Compliance with the ton per year limit will be demonstrated by complying with the lb/hr limit. [Regulation 18, §18.801, 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
08	West Nitric Acid Plant	NH_3	40.00	62.20
09	East Nitric Acid Plant	NH_3	40.00	62.20

3. 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 Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

4. 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 the emission rate limits in Specific Condition # 1. [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]

5. 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]

6. 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 # 5 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 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

7. The permittee shall test SN-08 and SN-09 for ammonia emissions. This test shall be conducted within 180 days after the issuance of Air Permit 0573-AOP-R8 and every five years thereafter. Test method CTM-027 or an equivalent method approved by the Department shall be used. 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 #2. This unit shall be operated at 90% or more of rated capacity when the tests are completed. The 5-year testing cycle shall commence after the issuance of Air Permit 0573-AOP-R8 in accordance with Plantwide Condition # 3. [Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-29
Nitric Acid Loading

Source Description

A portion of the nitric acid produced at EDCC is loaded into rail cars or trucks. Loading losses occur as vapors and are displaced to the atmosphere by the liquid being loaded into the rail cars or trucks.

Specific Conditions

8. 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 Conditions # 9 and # 10. [Regulation 18, §18.801, 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
29	Nitric Acid Loading	HNO_3	1.30	5.50

9. 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]

10. The permittee shall keep records of the nitric acid shipped by truck and by rail from the facility. 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 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
Production Fugitive Emissions

Source Description

Fugitive emissions from the production, handling, mixing, blending decoloration, and storage of nitric acid are generated due to leaks in flanges, valve packings, etc. resulting in the release of nitrogen oxides and nitric acid mist. EDCC has nitrogen trioxide specifications for weak and strong nitric acid ranging from 0.06% to 0.15%.

Specific Conditions

11. 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 # 5, # 6, # 20, # 21, # 36, and # 37. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
33	Nitric Acid Plants Fugitive Emissions	NO_x	2.0	8.5

12. 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 # 5, # 6, # 20, # 21, # 36, and # 37. [Regulation 18, §18.801, 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
33	Nitric Acid Plants Fugitive Emissions	HNO_3	2.00	8.50

SN-42
East and West Nitric Acid Plant Cooling Tower

Source Description

EDCC currently operates a cooling tower as part of the East and West Nitric Acid Plant operations.

Specific Conditions

13. 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 annual emission limits for SN-42 is demonstrated by compliance with Specific Condition # 16. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

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

14. 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 # 16. [Regulation 18, §18.801, 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

15. The permittee shall not exceed 20% opacity from the West Nitric Acid Plant and the East Nitric Acid Plant Cooling Tower as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-42 is demonstrated by compliance with Specific Condition # 16. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

16. 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 # 13, # 14, and # 15 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]

DM Weatherly Nitric Acid Plant

SN-13
DMW Nitric Acid Plant

Source Description

The DMW Nitric Acid Plant (SN-13) produces weak nitric acid (56%-65% strength) by oxidizing ammonia in the presence of a platinum catalyst. The major contributor to air emissions from this process is the absorption column tail gas. In the absorption column, nitrogen dioxide is absorbed into condensate with nitric acid exiting the absorption column. The efficiency of this process determines the amount of nitrogen oxides released to the atmosphere in the tail gas.

This nitric acid plant was originally installed at the American Cyanamid Company facility at Hannibal, Missouri and was relocated to the El Dorado Chemical in 1990. Therefore, 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 uncontrolled emissions from SN-13 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for NO_x, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limit at this source.

Specific Conditions

17. 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 # 19, # 20, and # 21. [Regulation 19, §19.501 et seq. 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

18. 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 for SN-13 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

19. 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 exceed 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)]

20. 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]

21. 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 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

22. 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 # 19. [NSPS 40 CFR 60 Subpart G]

SN-38
DMW Nitric Acid Plant Cooling Tower

Source Description

EDCC operates a cooling tower as part of the DMW Nitric Acid Plant.

Specific Conditions

23. 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 Condition and # 26. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

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

24. 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 # 26. [Regulation 18, §18.801, 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

25. The permittee shall not exceed 20% opacity from the DM Weatherly Nitric Acid Plant Cooling Tower as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-38 is demonstrated by compliance with Specific Condition # 26. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

26. 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 # 23, # 24, and # 25 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]

Nitric Acid Vent Collection System

SN-10
Nitric Acid Vent Collection System

Source Description

In October of 1997, a packed tower hydrogen peroxide scrubber was installed to control nitrogen oxide emissions. The top portion of the packed tower treats nitrogen oxide emissions from the weak nitric acid storage vents (Tanks 49, 50, and 51). The bottom section of the packed tower treats the nitrogen oxide emissions present in the blend acid tanks (Tanks 43, 44, 45, and 46) bleaching air stream. The nitric acid loading system vents (SN-29) are also collected and routed to the packed tower. The overheads from the packed tower are routed through a Venturi Scrubber for additional treatment before being vented to the atmosphere through a stack designated as SN-10. The strong nitric acid storage tank vents (Tanks 47, 48, 66, 67, 68, 69, 70 and 71) are routed directly to the Venturi Scrubber (i.e. bypass the packed tower). Overall nitrogen oxide and visible emissions are reduced due to these pollution control devices.

With the issuance of Air Permit 0573-AOP-R8, the Car Barn Scrubber (previously permitted as SN-37) was removed as a source. The nitric acid fumes resulting from the cleaning and pressure checking of rail cars (conducted in the Car Barn) are now routed to SN-10 for control.

The uncontrolled emissions from SN-10 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for NO_x, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limit at this source.

Specific Conditions

27. 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 # 32. [Regulation 19, §19.501 et seq. 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

28. 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 # 32. [Regulation 18, §18.801, 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
10	Nitric Acid Vent Collection System	Nitric Acid	3.40	10.80

29. The permittee shall not exceed 20% opacity from the Nitric Acid vent collection system (SN-10) as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-10 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

30. 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 # 27. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are below the limits specified in Specific Condition # 27. 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]

31. 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 # 28. Upon failure of a stack test, the permittee shall stack test annually until two consecutive years are below the limit specified in Specific Condition # 28. 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]

32. 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 including 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]

Hoescht-UHDE Direct Strong Nitric Acid Plant

SN-22
UHDE Direct Strong Nitric Acid Plant

Source Description

The DSN Plant produces strong nitric acid (i.e., greater than 98% strength) directly from ammonia oxidation technology designed by Hoechst-UHDE. This process is unique when compared to the other nitric acid plants at EDCC, in that weak nitric acid is rehydrated to produce strong nitric acid product. The DSN Plant produces concentrated nitric acid without the dehydration step, thereby, eliminating a major contributor of air emissions.

Air emissions from the DSN Plant occur due to the passing of the process gas through an absorption column. In this unit, dinitrogen tetroxide is dissolved in nitric acid, which assists in the removal of over 99.3% of the nitrogen oxides generated during the oxidation of ammonia earlier in the UHDE process. The spent process gas is fed to a final absorption column, which is heavily dependent on the conventional absorption process. The process gas exiting the absorber removes approximately 99.88% of the nitrogen oxides.

This plant was originally permitted to comply with the NSPS for Nitric Acid Plants (40 CFR 60, Subpart G), which limits nitrogen oxide emissions to 3.0 lb NO_x/ton of nitric acid produced. A CEMs unit was installed to continuously measure the NO_x emissions from the exhaust gas to comply with this emission limit. NSPS Subpart G only applies to Nitric Acid Plants that produce nitric acid between 30% and 70% concentration. Therefore, NSPS Subpart G does not apply to this plant. However, EDCC continues to operate the CEMs to monitor NO_x emissions using the 3.0 lb/ton emission limit.

The uncontrolled emissions from SN-22 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for NO_x, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of NO_x that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the NO_x emission limit at this source.

Specific Conditions

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 normal operation. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions # 36, and # 37, and the CEM required by Specific Condition 38. [Regulation 19, §19.501 et seq. 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

34. 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 Conditions # 36 and # 37. [Regulation 18, §18.801, 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
22	UHDE Direct (Strong) Nitric Acid Plant	HNO_3	10.00	42.00

35. The permittee shall not exceed 10% opacity from the UHDE Direct (Strong) Nitric Acid Plant (SN-22) as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-22 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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 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). 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 # 33. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and A.C.A. §8-4-311]

SN-39
DSN Plant Cooling Tower

Source Description

EDCC operates a cooling tower as part of the UHDE DSN Plant.

Specific Conditions

39. 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 Condition and # 42. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
39	DSN Plant Cooling Tower	PM_{10}	2.3	9.8

40. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition will be verified by compliance with Specific Condition and # 42. [Regulation 18, §18.801, 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

41. The permittee shall not exceed 20% opacity from the DSN Plant Cooling Tower (SN-39) as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-39 is demonstrated by compliance with Specific Condition # 42. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

42. 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 requirements in Specific Conditions # 39, # 40, and # 41 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]

Sulfuric Acid Plant

SN-07
Sulfuric Acid Plant

Source Description

The Sulfuric Acid Plant (SN-07), originally constructed in 1949 when Lion Oil Company operated the facility, is a single absorption contact process of the Chemco design. The plant was later modified by Monsanto (Leonard). The plant has been upgraded over the years to include emissions control systems, updated acid cooling technology, and process control equipment.

The Sulfuric Acid Plant (SN-07) manufactures sulfuric acid at 93% - 99% strength through the combustion of sulfur to form sulfur dioxide, the use of oxygen to convert the newly formed sulfur dioxide to sulfur trioxide, and then finally the double absorption of sulfur trioxide with water to form sulfuric acid.

The Sulfuric Acid Plant is subject to 40 CFR 60 Subpart H (Standard of Performance for Sulfuric Acid Plants), which limits sulfur dioxide (SO_2) and sulfuric acid mist (H_2SO_4) emissions to 4.0 lbs per ton of 100% acid production and 0.15 lbs per ton of 100% acid production, respectively.

The uncontrolled emissions from SN-07 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for SO_2, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of SO_2 that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the SO_2 emission limit at this source.

Specific Conditions

43. The permittee shall not exceed the emission rates set forth in the following table. Compliance of SO_2 with this Specific Condition is demonstrated by compliance with Specific Conditions # 46 and # 47. Compliance of SO_2 is also demonstrated by the CEM required in Specific Condition # 47c. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
07	Sulfuric Acid Plant	SO_2	600.0	401.5

44. The permittee shall not exceed the emission rates set forth in the following table. Compliance of sulfuric acid mists with this Specific Condition is demonstrated by compliance with Specific Conditions # 46 and # 47. [Regulation 18, §18.801, 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
07	Sulfuric Acid Plant	H_2SO_4	2.82	12.35

45. The permittee shall not exceed 10% opacity from the Sulfuric Acid Plant (SN-07) as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-07 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

46. The permittee shall not manufacture in excess of 200,750 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 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]

47. Sulfuric Acid Plant (SN-07) is subject to and shall comply with applicable provisions of 40 CFR Part 60, Subpart H – *Standards of Performance for Sulfuric Acid Plants.* Applicable provisions of Subpart H include, but are not limited to, the following: [Regulation 19, §19.304 and 40 CFR §60.80]

    a. The permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H_2SO_4. [Regulation 19, §19.304 and 40 CFR §60.82]
    b. The permittee shall not cause to be discharged into the atmosphere from any affected facility any gases which:
    (1) Contain acid mist, expressed as H_2SO_4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H_2SO_4.
    (2) Exhibit 10 percent opacity, or greater.
    [Regulation 19, §19.304 and 40 CFR §60.83]
    c. A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under §60.13(d), shall be sulfur dioxide (SO_2). Method 6C shall be used for conducting monitoring system performance evaluations under §60.13(c). The span value shall be set at 1000 ppm of sulfur dioxide. [Regulation 19, §19.304 and 40 CFR §60.84(a)]
    d. The permittee shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The

conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999–AP–13) and calculating the appropriate conversion factor for each eight-hour period as follows:
CF=k[(1.000–0.015r)/(r–s)]
where:
CF=conversion factor (kg/metric ton per ppm, lb/ton per ppm).
k=constant derived from material balance. For determining CF in metric units, k=0.0653. For determining CF in English units, k=0.1306.
r=percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Department's approval.
s=percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under §60.84(a). [Regulation 19, §19.304 and 40 CFR §60.84(b)]

e. The owner or operator shall record all conversion factors and values under §60.84(b) from which they were computed (i.e., CF, r, and s). [Regulation 19, §19.304 and 40 CFR §60.84(c)]

f. Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO_2 monitor shall be as specified in §60.84(b). The span value for CO_2 (if required) shall be 10 percent and for O_2 shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:
$Es=(CsS)/[0.265-(0.126\ \%O_2)-(A\ \%CO_2)]$
where:
Es=emission rate of SO_2, kg/metric ton (lb/ton) of 100 percent of H_2SO_4 produced.
Cs=concentration of SO_2, kg/dscm (lb/dscf).
S=acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H_2SO_4 produced.
$\%O_2$=oxygen concentration, percent dry basis.
A=auxiliary fuel factor,
=0.00 for no fuel.
=0.0226 for methane.
=0.0217 for natural gas.
=0.0196 for propane.

=0.0172 for No 2 oil.
=0.0161 for No 6 oil.
=0.0148 for coal.
=0.0126 for coke.
$\%CO_2$= carbon dioxide concentration, percent dry basis.
[Regulation 19, §19.304 and 40 CFR §60.84(d)]

g. For the purpose of reports under §60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under §60.82. [Regulation 19, §19.304 and 40 CFR §60.84(e)]
h. The permittee shall comply with the test methods and procedures in 40 CFR §60.85. [Regulation 19, §19.304 and 40 CFR §60.85]

SN-30
Sulfuric Acid Loading

Source Description

The sulfuric acid produced at EDCC is loaded into rail cars or trucks. Loading losses occuring as vapors are displaced to the atmosphere by the liquid being loaded into the rail cars or trucks.

Specific Conditions

48. 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 # 49. [Regulation 18, §18.801, 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
30	Sulfuric Acid Loading	H_2SO_4	0.03	0.05

49. The permittee shall not load in excess of 200,750 tons of sulfuric acid (100% acid equivalent) per rolling 12-month total. 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 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-46
Sulfuric Acid Plant Cooling Tower

Source Description

The Sulfuric Acid Plant cooling tower uses a combination of river water and cooling system condensation water to cool the heat generated by the sulfuric acid production process.

Specific Conditions

50. 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 # 53. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
46	Sulfuric Acid Plant Cooling Tower	PM_{10}	0.2	0.7

51. 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 # 53. [Regulation 18, §18.801, 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
46	Sulfuric Acid Plant Cooling Tower	PM	0.2	0.7

52. The permittee shall not exceed 20% opacity from the Sulfuric Acid Plant Cooling Tower (SN-46) as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-46 is demonstrated by compliance with Specific Condition # 53. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

53. The permittee shall test and record the total dissolved solids of the cooling water on a weekly basis when SN-46 is operating. Results less than 1,560 ppm total dissolved solids will demonstrate compliance with SN-46's requirements in Specific Conditions # 50, # 51, and # 52 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]

E2 Ammonium Nitrate Plant

SN-05, SN-17, and SN-41
Scrubbers

Source Description

The Ammonium Nitrate E2 Plant Brinks Scrubber (SN-05) controls emissions from the air stream from the shroud of the E2 Ammonium Nitrate Prill Tower Fans (SN-06), the intermediate ammonium nitrate storage tanks, and the E2 Plant Chemical Condensate Tank. The E2 Plant Brinks Scrubber (SN-05) is actually two scrubbers, one for each prill tower. EDCC has the ability to shut down one scrubber and the associated prill tower. When one scrubber is shut down, EDCC will not operate the associated prill tower while the scrubber is not operating.

The prills are 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). With the issuance of permit 0573-AOP-R7, emissions from the Pease Anthony Scrubber (SN-17) on the E2 HDAN Plant Cooling Train were routed to SN-05 for additional control.

The E2 Plant Chemical Steam Scrubber (SN-41) controls particulate matter and ammonia emissions from the three E2 Plant Neutralizers (formerly SN-02 and SN-03, and a third neutralizer added in 2002), the Ammonium Nitrate Low Concentrator (formerly SN-04), and the E2 Auxiliary Ammonium Nitrate Concentrator (formerly SN-20).

The uncontrolled emissions from SN-05 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for PM_{10}, (2) the source is equipped with a control device, and (3) the unit has potential pre-control emissions of PM_{10} that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the PM_{10} emission limit at this source.

Specific Conditions

54. 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, # 59, # 60, and # 61, and the reporting required in Plantwide Condition 7. Compliance with the emission limits for SN-41 is demonstrated by compliance with Specific Conditions # 61, # 62, # 64, # 65, and # 66. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
05	Ammonium Nitrate E2 Brinks Scrubber	PM_{10}	14.1	*
17	E2 HDAN Plant Cooling Train	Exhaust from Pease Anthony Scrubber is routed to SN-05		
41	E2 Plant Chemical Steam Scrubber	PM_{10}	13.7 (daily 24-hr average)	14.5
		PM_{10}	3.3 (30-day rolling average)	

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

55. 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 # 57, # 59, # 60, and # 61, and the reporting required in Plantwide Condition # 7. Compliance with the emission limits for SN-41 is demonstrated by compliance with Specific Conditions # 61 and # 62. [Regulation 18, §18.801, 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
05	Ammonium Nitrate E2 Brinks Scrubber	NH_3 PM	8.50 14.1	37.30 *
17	E2 HDAN Plant Cooling Train	Exhaust from Pease Anthony Scrubber is routed to SN-05		
41	E2 Plant Chemical Steam Scrubber	PM	13.7 (daily 24-hr average)	14.5
		PM	3.3 (30-day rolling average)	
		NH_3	10.00	43.80

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

56. The permittee shall not exceed 20% opacity from SN-05 and 15% opacity from 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 Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

57. The permittee shall have a third party test once every five years the NH_3 emissions from SN-17's exhaust prior to the inlet of SN-05 using an approved method. The NH_3 emissions from SN-17 shall be less than 5.0 lb/hr. Upon failure of a test, the permittee shall test annually until two consecutive years are less than 5.0 lb/hr. 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]

58. 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]

59. 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]

60. 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 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

61. The E2 plant brinks scrubber (SN-05), the E2 Plant HDAN Cooling Train Pease/Anthony Scrubber (SN-17), and the E2 Plant Chemical Steam Scrubber (SN-41) 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 12 a.m. to 12 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 shall be recorded every 4 hours 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.

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 - 6.0
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]

62. The permittee shall develop and implement a Quality Assurance / Quality Control (QA/QC) Plan within 90 days of permit issuance. The QA/QC Plan shall be developed similar to the QA QC Plans generated for CEMS applications at the plant. The QA/QC Plan shall include items such as calibration of equipment, preventive maintenance, data recording, reporting requirements, etc. If the Department requests a review of the QA/QC Plan, the permittee will make the QA/QC Plan available for review. The

permittee must keep a copy of the QA/QC Plan at the source's location and retain all previous versions of the QA/QC Plan for five years. [Regulation 19, §19.304 and §19.705, and A.C.A. 8-4-203 as referenced by 8-4-304 and 8-4-311]

63. The permittee shall calculate PM_{10} emissions for Plantwide Condition #7 from the E2 Plant Brinks Scrubber (SN-05), and the E2 Prill Tower (SN-06) using a total emission factor of 0.967 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 7. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

64. The 30-day rolling average PM_{10} emissions 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 # 66. [Regulation 19, §19.901 and 40 CFR Part 52 Subpart E]

65. The daily 24-hour average PM_{10} emissions from SN-41 shall not exceed 0.223 pound per ton of ammonium nitrate produced at the neutralizers. Compliance is demonstrated by compliance with the PM_{10} testing requirement of Specific Condition # 66. [Regulation 19, §19.901 and 40 CFR Part 52 Subpart E]

66. The permittee shall continue to conduct continuous sampling of the stack gas at SN-41 to produce two 12-hr composite samples each day to demonstrate compliance with the limits in Specific Conditions # 54 and # 65. The permittee shall maintain a 30-day rolling average of the PM_{10} emissions at SN-41 to demonstrate compliance with the limits in Specific Conditions # 54 and # 64.

Each 12-hour composite sample shall be analyzed using Method EDCC-330.2 (to determine ammonia concentration) and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography" (to determine nitrate concentration). EDCC's analysis procedure for ammonia shall be consistent with Method 4500-NH_3 from "Standard Methods for the Examination of Water and Wastewater, 19th Edition". The data from the analyses shall be entered into an Excel spreadsheet on a daily basis to calculate the mass concentrations of ammonia (as NH_3) and condensable particulate (as NH_4NO_3) in the vapor stream leaving SN-41. Total vapor flow from process equipment controlled by SN-41 (i.e., Auxiliary Concentrator, E2 Low Concentrator, Fresh Neutralizer, Off-Gas Neutralizer, and the #4 Neutralizer) shall be assumed to be at maximum rates for initial calculations/compliance demonstration purposes. Should spreadsheet results indicate an exceedance of the permitted rate for ammonia/particulate matter, EDCC shall calculate the actual total vapor flow rate by mass balance around the operations that feed vapors to SN-41 to verify compliance, based on the following:

- The vapor stream from the Auxiliary Concentrator will be considered to be at its maximum rate if the unit is in operation.
- The vapor stream from the Low Concentrator will be calculated based on the measured prill production rate and solution concentrations.
- Vapor flow from the neutralizers will be calculated based on the acid and ammonia feed rates and the acid and product solution concentrations.

The permittee shall maintain an emission inventory spreadsheet for particulate matter and ammonia emissions from SN-41. The spreadsheet shall contain each 12-hour composite sample result and shall be used to maintain a daily, 24-hour average result to demonstrate compliance with the lb/hr emission limits and a 12-month rolling total to demonstrate compliance with the annual emission limits. A valid 12-hour period is defined as beginning at 8:00 a.m. and at 8:00 p.m. This information shall be submitted in accordance with General Provision 7.

[Regulation 19, §19.702 and §19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

SN-06
Ammonium Nitrate Prill Tower Fans

Source Description

The E2 Ammonium Nitrate Prill Tower Fans (SN-06) are composed of three fans located in each of the two independent ammonium nitrate prill towers (North and South). E2 Plant prilling operations are accomplished by valving a 99% ammonium nitrate solution from a head tank through a prill plate. The prill plate breaks up the solution stream into droplets that fall through one of the two towers. An air stream is pulled through the tower shrouds to remove the majority of the ammonium nitrate emissions generated as the solution is broken into droplets at the prill plates. The air stream from inside the shroud is exhausted through the Brinks Scrubber (SN-05) to control particulate emissions.

Specific Conditions

67. 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-06 is demonstrated by compliance with Specific Conditions # 58, # 59, # 60, and # 61, and the reporting required in Plantwide Condition # 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
06	E2 Ammonium Nitrate Prill Tower Fans	PM_{10}	67.0	*

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

68. 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-06 is demonstrated by compliance with Specific Conditions # 59, # 60, and # 61, and the reporting required in Plantwide Condition # 7. [Regulation 18, §18.801, 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
06	E2 Ammonium Nitrate Prill Tower Fans	PM	67.0	*

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

69. The permittee shall not exceed 25% opacity from SN-06 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-06 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-19
E2 Plant Barometric Tower

Source Description

A wooden structure operating similar to a cooling tower is used to create a "barometric leg" for the high concentrator (located at the top of the E2 Plant Prill Tower) to concentrate ammonium nitrate from 95% strength to greater than 99%. The high concentrator operates under a vacuum and non-condensables are pulled through the barometric leg to this dedicated barometric tower (SN-19). The barometric tower uses weak ammonium nitrate (~20%) process water as the circulation media. Particulate matter emissions occur as a result of particulate entrained in the water vapor mist that is emitted (sprayed) from the tower. Ammonia emissions also occur due to the water containing ammonium nitrate in solution.

Specific Conditions

70. 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-19 is demonstrated by compliance with Specific Conditions # 59 and # 60. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
19	E2 Plant Barometric Tower	PM_{10}	0.5	*

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

71. 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-19 is demonstrated by compliance with Specific Conditions # 59 and # 60. [Regulation 18, §18.801, 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
19	E2 Plant Barometric Tower	PM	0.5	*
		NH_3	4.10	17.70

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

72. The permittee shall not exceed 15% opacity from SN-19 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-19 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-28
E2 Plant HDAN/LDAN Loading

Source Description

E2 Plant HDAN/LDAN produced at the E2 Plant is loaded in to rail cars or trucks. Particulate emissions occur as the HDAN/LDAN is being loaded into the rail cars or trucks.

Specific Conditions

73. 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-28 is demonstrated by compliance with Specific Conditions # 56, # 59, and # 60. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
28	E2 Plant HDAN/LDAN Loading	PM_{10}	1.1	4.8

74. 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-28 is demonstrated by compliance with Specific Conditions # 56, # 59, and # 60. [Regulation 18, §18.801, 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
28	E2 Plant HDAN/LDAN Loading	PM	1.1	4.8

75. The permittee shall not exceed 25% opacity from SN-28 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-28 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-34
E2 Plant Solution Reactor

Source Description

A 35% nitric acid/magnesium oxide solution is created by reacting 56% nitric acid with magnesium oxide through agitation. Approximately 0.5% of the magnesium oxide is contained in the final ammonium nitrate product. Each batch takes two and a half hours to make 6.77 tons of nitric acid/magnesium oxide solution. This solution reactor, which does not contain any pollution control equipment, has the capability of producing eight batches of E2 solution a day while the E2 Ammonium Nitrate Plant is running at its maximum rate. The solution leaves the reactor, where it is filtered to remove any excess magnesium oxide and other trace particulates, and is stored in a heated tank as 35% solution. The solution is pumped from the tank to the top of the E2 Prill Tower (SN-06), where it is mixed with 95% ammonium nitrate solution prior to the High Concentrator.

Specific Conditions

76. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on maximum capacity. The 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 Conditions # 59 and # 60. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

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

77. The permittee shall not exceed the emission rates set forth in the following table. The pounds per hour emission rate limits are based on maximum capacity. The 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 Conditions # 59 and # 60. [Regulation 18, §18.801, 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
34	E2 Plant Solution Reactor	PM	0.9	3.0

78. The permittee shall not exceed 20% opacity from SN-34 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-34 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

KT Ammonium Nitrate Plant

SN-14
LDAN Prill Tower

Source Description

To be sold in final product form, LDAN at the KT Plant is prilled in a prilling tower. A 97% ammonium nitrate solution is mixed with a proprietary additive in a head tank. The prilling operation is accomplished by dispersing the ammonium nitrate solution downward in the tower through a spray nozzle. Long residence times and low air rates contribute to the production of high quality prills, which generate lower particle fines and therefore, lower particulate matter emissions. Four fans control the temperature of the prills leaving the bottom of the prilling tower. This air cools and solidifies the ammonium nitrate droplets into solid prills. The air stream and entrained particles are vented to the atmosphere through chimneys on top of the tower.

Specific Conditions

79. 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 is demonstrated by compliance with Specific Conditions # 82, # 83, # 84, and # 85, and the reporting required in Plantwide Condition # 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
14	KT LDAN Prill Tower	PM_{10}	44.2	*

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

80. 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 is demonstrated by compliance with Specific Conditions # 82, # 83, # 84, and # 85, and the reporting required in Plantwide Condition # 7. [Regulation 18, §18.801, 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
14	KT LDAN Prill Tower	PM	44.2	*

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

81. The permittee shall not exceed 15% opacity from SN-14 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-14 is demonstrated by

compliance with Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

82. 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 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311 and 40 CFR 70.6]

83. 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 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

84. 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. PM_{10} emission rates measured during this testing shall be less than the permitted emission rates specified in Specific Condition # 79. 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 # 79. By using EPA Reference Method 5, the permittee will assume all collected particulate is PM_{10}. This unit shall be operated at 90% or more of rated capacity when the stack test is performed. 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]

85. 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-15, SN-18, and SN-21
KT Plant Dryer/Cooler, Baghouse, and Scrubber

Source Description

Prills exiting the bottom of the KT LDAN Prill Tower (SN-14) are conveyed to a predryer and dryer. The predryer and dryer exhaust air streams are drawn by a common fan concurrent to the direction of the prill and blown to a wet scrubber. The scrubber efficiency is increased by injecting a portion of the scrubbing solution into the fan system. The wet scrubber exhaust, which contains ammonia and particulate mater, is vented directly to the atmosphere through a stack designated as SN-15.

An external coating of high melting point organic material and talc is added to the LDAN to improve the storage and flow of the final product. The talc is stored in an enclosed silo that pneumatically feeds into a bulk talc hopper. Both the silo and the hopper are equipped with a baghouse (SN-18) to minimize particulate matter emissions. The silo baghouse only operates when the talc is being blown into the silo during the unloading of talc when delivered to the plant. The baghouse at the hopper operates when talc is being added to the LDAN. The baghouses do not operate at the same.

During LDAN production at the KT Plant, ammonium nitrate solution exits a neutralizer and is pumped into a 50 ton solution storage tank. The ammonium nitrate solution (composed of 95% ammonium nitrate and 5% water) is in molten form at this stage in the process. In the storage tank, the ammonium nitrate solution is blended with "recycled" ammonium nitrate solution, which has been concentrated in the auxiliary concentrator. The ammonium nitrate must be concentrated to 97.5% prior to prilling operations. For this to occur, the ammonium nitrate solution is transferred from the 50 ton tank to a dehydrator. The dehydrator air is blown through the solution to remove excess water. The exhaust stream from the dehydrator is directed to the Brinks Scrubber (SN-21) prior to being vented to the atmosphere.

The uncontrolled emissions from SN-15, SN-18, and SN-21 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix D. Per §64.2(a), the aforementioned sources are regulated under the CAM Rule because it meets the following criteria: (1) the units are subject to emission limitations for PM_{10}, (2) the sources are equipped with a control device, and (3) the units have potential pre-control emissions of PM_{10} that exceed the applicable major source threshold. In accordance with §64.3, EDCC has developed a CAM Plan for these sources. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the PM_{10} emission limits at these sources.

Specific Conditions

86. 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-15 is demonstrated by compliance with Specific Conditions # 82, # 83, # 85, # 89, # 90, and # 92, and the reporting required in Plantwide Condition # 7. Compliance with the emission limits for SN-18 is demonstrated by compliance with Specific Conditions # 82, # 83, and # 92, and the reporting required in Plantwide Condition # 7. Compliance with the emission limits for SN-21 is demonstrated by compliance with Specific Conditions # 82, # 83, # 85, # 89, and # 92, and the reporting required in Plantwide Condition # 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
15	KT Plant Dryer/Cooler	PM_{10}	17.0	*
18	KT Plant Clay Baghouse	PM_{10}	1.0	*
21	KT Plant Brinks Scrubber	PM_{10}	3.0	*

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

87. 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-15 is demonstrated by compliance with Specific Conditions # 82, # 83, # 85, # 91, and # 92, and the reporting required in Plantwide Condition # 7. Compliance with the emission limits for SN-18 is demonstrated by compliance with Specific Conditions # 82, # 83, and # 92, and the reporting required in Plantwide Condition # 7. Compliance with the emission limits for SN-21 is demonstrated by compliance with Specific Conditions # 82, # 83, # 85, # 91, and # 92, and the reporting required in Plantwide Condition # 7. [Regulation 18, §18.801, 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
15	KT Plant Dryer/Cooler	NH_3 PM	18.00 17.0	75.60 *
18	KT Plant Clay Baghouse	PM	1.0	*
21	KT Plant Brinks Scrubber	NH_3 PM	30.00 3.0	126.00 *

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.

88. The permittee shall not exceed 5% opacity from SN-18, 10% opacity from SN-21, and 20% opacity from SN-15, 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 Plantwide Condition # 10. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

89. 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. 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 # 86. 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 # 86. By using EPA Reference Method 5, 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-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]

90. The permittee shall have a third party stack test the Condensable PM_{10} emissions from SN-15 using EPA Reference Method 5 with the inclusion of back-half sampling train for particulate within 90 days of promulgation of the pending EPA Reference Method 202. Within 180 days of the promulgation of the pending EPA Reference Method 202, the permittee shall submit a permit application to remove this condition and incorporate Method 202 testing back into SN-15 testing requirements specified in Specific Condition # 89. [Regulation 19, §19.702 and 40 CFR Part 52, Subpart E]

91. 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 # 87. The permittee shall maintain the approved method with the permit. 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 specified in Specific Condition # 87. 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 # 87. 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 # 87. 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]

92. The KT brinks scrubber (SN-21), the KT Plant Dryer/Cooler Scrubber (SN-15), and the KT Plant Clay Baghouse (SN-18) 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. 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 12 a.m. to 12 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 shall be recorded every 4 hours 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 parameter to be outside the range, 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 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. [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
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)
		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

93. 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 # 7. [Regulation 19, §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-27
KT Plant LDAN Loading

Source Description

LDAN produced at the KT Plant is loaded into rail cars or trucks. Particulate emissions occur as the LDAN is being loaded into the rail cars or trucks.

Specific Conditions

94. 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 is demonstrated by compliance with Specific Conditions # 82 and # 83. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	Lb/hr	tpy
27	KT Plant LDAN Loading	PM_{10}	0.6	2.6

95. 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 is demonstrated by compliance with Specific Conditions # 82 and # 83. [Regulation 18, §18.801, 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
27	KT Plant LDAN Loading	PM	0.6	2.6

96. The permittee shall not exceed 10% opacity from SN-27 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-27 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 19, §19.503 and 40 CFR 52, Subpart E]

SN-43
KT Plant Cooling Tower

Source Description

EDCC operates a cooling tower as part of the KT Ammonium Nitrate Plant. The cooling tower is used to cool the process acid.

Specific Conditions

97. 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 is demonstrated by compliance with Specific Condition # 100. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
43	KT Plant Cooling Tower	PM10	0.4	1.4

98. 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 is demonstrated by compliance with Specific Condition # 100. [Regulation 18, §18.801, 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
43	KT Plant Cooling Tower	PM	0.4	1.4

99. The permittee shall not exceed 20% opacity from SN-43 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-43 is demonstrated by compliance with Specific Condition # 100. [Regulation 19, §19.503 and 40 CFR 52, Subpart E]

100. 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 # 97, # 98, and # 99 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]

Mixed Acid Plant

SN-44
Mixed Acid Plant Scrubber

Source Description

EDCC manufactures mixed acid by mixing ≤ 30% oleum (concentrated sulfuric acid) and/or 98% sulfuric acid with 98% nitric acid. The ≤ 30% oleum is purchased from a vendor and delivered to EDCC by railcar or tanker truck, while the 98% sulfuric acid will come from EDCC's Sulfuric Acid Plant, and the 98% nitric acid will come from EDCC's Nitric Acid Plant. The manufactured mixed acid is stored in the product storage tank or the mixing tank until it is loaded into a railcar or tanker truck. Air emissions from the tanks, the unloading of oleum, and the loading/unloading of the mixed acid into tank cars and/or trucks will be routed to the scrubber (SN-44) prior to being released to the atmosphere.

This scrubber is not subject to CAM because the scrubber is not used to control the NO_x emissions from this source.

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 # 104 - 109. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
44	Mixed Acid Plant Scrubber	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 Conditions # 104 - 109. [Regulation 18, §18.801, 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
44	Mixed Acid Plant Scrubber	SO_3	0.05	0.18
		H_2SO_4	0.05	0.18
		HNO_3	0.20	0.90

103. The permittee shall not exceed 20% opacity from SN-44 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-44 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 19, §19.503 and 40 CFR 52, Subpart E]

104. 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]

105. The permittee shall not use Oleum in excess of 30% in strength (SO_3 concentration). [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 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]

107. 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 19, §19.705, A.C.A. 8-4-203 as referenced by 8-4-304 and 8-4-311, and 40 CFR 70.6]

108. The permittee shall have a third party stack test SN-44 once every five years for HNO_3, H_2SO_4, SO_3, 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. 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]

109. 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. 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 12 a.m. to 12 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 parameter to be outside the range, 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 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

Natural Gas Fired Boilers

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

Source 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 MMBtu/hr. 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

110. 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 the maximum capacity of one boiler. Compliance with this Specific Condition is demonstrated by compliance with Specific Conditions # 113 and # 114. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

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

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.
** - SO_2, VOC, CO, and NO_x annual emissions are bubbled together for SN-16A and SN-16B.

111. 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 # 113 and # 114. [Regulation 18, §18.801, 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
16A	Boiler No. 2	PM	1.1	*
		Hexane	0.3	1.20
16B	Boiler No. 4	PM	1.1	*
		Hexane	0.3	**

* - Included in a Plantwide limit of 281.0 tpy shown in Plantwide Condition 7.
** - Hexane annual emissions are bubbled together for SN-16A and SN-16B.

112. The permittee shall not exceed 5% opacity from SN-16A and SN-16B as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-16A and SN-16B are demonstrated by compliance with Specific Condition # 113. [Regulation 19, §19.503 and 40 CFR 52, Subpart E]

113. The permittee shall burn only pipeline quality natural gas in Boiler No. 2 (SN-16A) and Boiler No. 4 (SN-16B). [Regulation 19, §19.705, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

114. 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 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 7. [Regulation 19, §19.705 and 40 CFR Part 52, Subpart E]

Miscellaneous Operations

SN-25
Gasoline Storage Tank

Source Description

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

Specific Conditions

115. 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 # 116 and # 117. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	tpy
25	Gasoline Storage Tank (2000 Gallon)	VOC	16.9	1.4

116. 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]

117. 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 7. [Regulation 19, §19.705 and 40 CFR 52, Subpart E]

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

Source Description

Six above ground storage tanks (SN-26) are used to store 90% ammonium nitrate solution for prilling operations. Four (4) of the tanks are 650,000 gallons, and two (2) of the tanks are 1,200,000 gallons for a total storage of 5,000,000 gallons. Air emissions occur due to steam line heaters degrading the ammonium nitrate solution to ammonia.

Specific Conditions

118. The permittee shall not exceed the emission rates set forth in the following table. The pound per hour emission rate limit is based on maximum capacity and tons per year emission rate limits are based on compliance with Specific Conditions # 59 and # 60. [Regulation 18, §18.801, 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
26	Ammonium Nitrate Storage Tanks	NH_3	1.60	0.90

SN-31
Frick Ammonia Compressors

Source Description

Fugitive emissions occur from the handling of ammonia in the Frick Compressor Building. Standard Organic Chemical Manufacturing Industry (SOCMI) emission factors for compressors, pumps, valves, and flanges in ammonia service were used to estimate the fugitive ammonia emissions from the Frick Compressor Building.

Specific Conditions

119. 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 A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
31	Frick Ammonia Compressors	NH_3	0.50	2.00

SN-32
Ammonia Storage/Distribution Losses

Source Description

Fugitive emissions occur from the handling and distribution of ammonia. Standard Organic Chemical Manufacturing Industry (SOCMI) emission factors for compressors, pumps, valves, and flanges in ammonia service were used to estimate the fugitive ammonia emissions from the Ammonia Storage/Distribution.

Specific Conditions

120. 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 A.C.A. §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	tpy
32	Ammonia Storage/Distribution Losses	NH_3	1.30	5.70

SN-35
Magnesium Oxide Silo Baghouse

Source 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

121. 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 # 59. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition # 60. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

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

122. 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 # 59. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition # 60. [Regulation 18, §18.801, 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
35	Magnesium Oxide Silo Baghouse	PM	2.0	8.8

123. The permittee shall not exceed 5% opacity from SN-35 as measured by EPA Reference Method No. 9. Compliance with the opacity limit for SN-35 is demonstrated by compliance with Plantwide Condition # 10. [Regulation 19, §19.503 and 40 CFR 52, Subpart E]

SN-40
Ammonium Nitrate Solution Loading

Source Description

EDCC ships ammonium nitrate solution to customers via trucks. The content of the solution ranges from 83% to 90% ammonium nitrate. Ammonia emissions occur as a result of the loading of the trucks.

Specific Conditions

124. 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 # 125 and # 126. [Regulation 18, §18.801, 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
40	Ammonium Nitrate Solution Loading	NH_3	3.80	4.70

125. The permittee shall not load more than 468,660 tons per rolling 12-month total of ammonium nitrate solution into railcars and/or trucks. [Regulation 18, §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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

SECTION V: COMPLIANCE PLAN AND SCHEDULE

El Dorado Chemical Company 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.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall 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. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]

3. The permittee must test any equipment scheduled for testing, unless otherwise 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:

    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.

    [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]

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-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 281.0 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 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 7. [Regulation 19, §19.901 and 40 CFR Part 52, Subpart E]

9. The permittee shall maintain and employ the Startup, Shutdown, and Malfunction Plan for SN-07, SN-08, SN-09, SN-22, SN-13, and SN-41 as required by Air Permit 0573-AOP-R8. If the Department requests a review of the SSM, the permittee will make the SSM available for review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. The SSMP shall include requirements to record any downtime, malfunction, startup, or shutdown. Any deviations from a permit requirement shall be reported to the Department in accordance with General Provision #8 with the exception that exceedences to which procedures exist in the SSM Plan may be reported as part of the semi-annual reporting. The Department reserves the right to review any such exceedences in accordance with provisions of §19.601. [Regulation 18, §18.801 and §18.1004, Regulation 19 §19.601, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

10. Daily observations of the opacity from SN-05 thru SN-10, SN-13 thru SN-15, SN-18, SN-19, SN-21, SN-22, SN-27, SN-28, SN-34, SN-35, SN-41, and SN-44 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 and shall include:

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; and
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, 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]

Title VI Provisions

11. The permittee must 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 placem ent 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 ma y modify, remove, or interfere with the required warning statement except as described in §82.112.

12. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
b. Equipment used during t he 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. Per sons 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.

13. 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.

14. 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.

15. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

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 October 1, 2009.

Description	Category
Molten Sulfur Storage Tank (formerly SN-23)	Group B, No. 21
Diesel Storage Tank (500 Gallon) (formerly SN-24)	Group A, No. 3
Diesel Storage Tank (500 Gallon) (formerly SN-36)	Group A, No. 3
Diesel Storage Tank (2,000 Gallon) (formerly SN-45)	Group A, No. 3
80 HP Emergency Fire Pump Engine	Group A, No. 13
2 x Ammonia Flares	Group A, No. 13
Air Liquide Cooling Tower	Group A, No. 13
Sulfur Unloading/Storage	Group A, No. 13
Ammonia Offloading	Group A, No. 13

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)]

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.

    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.

    [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

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:

    Arkansas Department of Environmental Quality
    Air Division
    ATTN: Compliance Inspector Supervisor
    5301 Northshore Drive
    North Little Rock, AR 72118-5317

    [40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

8. The permittee shall 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 Regulation19, § 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 shall 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 by the initial and full reports required in 8a.

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

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; and
e. 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]

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:

a. Such an extension does not violate a federal requirement;
b. The permittee demonstrates the need for the extension; and
c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Regulation 18, §18.314(A), Regulation 19, §19.416(A), Regulation 26, §26.1013(A), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:

    a. Such a request does not violate a federal requirement;
    b. Such a request is temporary in nature;
    c. Such a request will not result in a condition of air pollution;
    d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
    e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
    f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18, §18.314(B), Regulation 19, §19.416(B), Regulation 26, §26.1013(B), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:

    a. The request does not violate a federal requirement;
    b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
    c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18, §18.314(C), Regulation 19, §19.416(C), Regulation 26, §26.1013(C), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

APPENDIX A

NSPS 40 CFR 60, Subpart G - *Standards of Performance for Nitric Acid Plants*

(2) Method 5 shall be used to determine the particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas.

The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30.0 dscf) for the kiln and at least 60 minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.

(3) Suitable methods shall be used to determine the kiln feed rate (P), except fuels, for each run. Material balance over the production system shall be used to confirm the feed rate.

(4) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6666, Feb. 14, 1989, as amended at 65 FR 61753, Oct. 17, 2000]

§ 60.65 Recordkeeping and reporting requirements.

(a) Each owner or operator required to install a continuous opacity monitoring system under § 60.63(b) shall submit reports of excess emissions as defined in § 60.63(d). The content of these reports must comply with the requirements in § 60.7(c). Notwithstanding the provisions of § 60.7(c), such reports shall be submitted semiannually.

(b) Each owner or operator monitoring visible emissions under § 60.63(c) shall submit semiannual reports of observed excess emissions as defined in § 60.63(d).

(c) Each owner or operator of facilities subject to the provisions of § 60.63(c) shall submit semiannual reports of the malfunction information required to be recorded by § 60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, 42 U.S.C. 7411, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.

[53 FR 50364, Dec. 14, 1988]

§ 60.66 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

[53 FR 50364, Dec. 14, 1988]

Subpart G—Standards of Performance for Nitric Acid Plants

§ 60.70 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each nitric acid production unit, which is the affected facility.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977]

§ 60.71 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Nitric acid production unit* means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

(b) *Weak nitric acid* means acid which is 30 to 70 percent in strength.

§ 60.72 Standard for nitrogen oxides.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid.

(2) Exhibit 10 percent opacity, or greater.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975]

§ 60.73 Emission monitoring.

(a) The source owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides (NO_X). The pollutant gas mixtures under Performance Specification 2 and for calibration checks under § 60.13(d) of this part shall be nitrogen dioxide (NO_2). The span value shall be 500 ppm of NO_2. Method 7 shall be used for the performance evaluations under § 60.13(c). Acceptable alternative methods to Method 7 are given in § 60.74(c).

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/ton per ppm). The conversion factor shall be reestablished during any performance test under § 60.8 or any continuous monitoring system performance evaluation under § 60.13(c).

(c) The owner or operator shall record the daily production rate and hours of operation.

(d) [Reserved]

(e) For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are defined as any 3-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous 1-hour periods) as measured by a continuous monitoring system exceed the standard under § 60.72(a).

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975; 50 FR 15894, Apr. 22, 1985; 54 FR 6666, Feb. 14, 1989]

§ 60.74 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the NO_X standard in § 60.72 as follows:

(1) The emission rate (E) of NO_X shall be computed for each run using the following equation:

$$E=(C_s Q_{sd})/(P K)$$

where:

E=emission rate of NO_X as NO_2, kg/metric ton (lb/ton) of 100 percent nitric acid.

C_s=concentration of NO_X as NO_2, g/dscm (lb/dscf).

Q_{sd}=volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P=acid production rate, metric ton/hr (ton/hr) or 100 percent nitric acid.

K=conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 7 shall be used to determine the NO_X concentration of each grab sample. Method 1 shall be used to select the sampling site, and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Four grab samples shall be taken at approximately 15-minute intervals. The arithmetic mean of the four sample concentrations shall constitute the run value (C_s).

(3) Method 2 shall be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas. The measurement site shall be the same as for the NO_X sample. A velocity traverse shall be made once per run within the hour that the NO_X samples are taken.

(4) The methods of § 60.73(c) shall be used to determine the production rate (P) of 100 percent nitric acid for each

run. Material balance over the production system shall be used to confirm the production rate.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For Method 7, Method 7A, 7B, 7C, or 7D may be used. If Method 7C or 7D is used, the sampling time shall be at least 1 hour.

(d) The owner or operator shall use the procedure in § 60.73(b) to determine the conversion factor for converting the monitoring data to the units of the standard.

[54 FR 6666, Feb. 14, 1989]

Subpart H—Standards of Performance for Sulfuric Acid Plants

§ 60.80 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each sulfuric acid production unit, which is the affected facility.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977]

§ 60.81 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Sulfuric acid production unit* means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(b) *Acid mist* means sulfuric acid mist, as measured by Method 8 of appendix A to this part or an equivalent or alternative method.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 20794, June 14, 1974]

§ 60.82 Standard for sulfur dioxide.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H_2SO_4.

[39 FR 20794, June 14, 1974]

§ 60.83 Standard for acid mist.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain acid mist, expressed as H_2SO_4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H_2SO_4.

(2) Exhibit 10 percent opacity, or greater.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975]

§ 60.84 Emission monitoring.

(a) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under § 60.13(d), shall be sulfur dioxide (SO_2). Method 8 shall be used for conducting monitoring system performance evaluations under § 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of sulfur dioxide.

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the

APPENDIX B

Continuous Emission Monitoring Systems Conditions

Arkansas Department of Environmental Quality

CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised August 2004

PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other that Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.

- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

Continuous Opacity Monitoring System (COMS) - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

Back-up CEMS (Secondary CEMS) - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Excess Emissions - Any period in which the emissions exceed the permit limits.

Monitor Downtime - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Out-of-Control Period - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the RATA, RAA, or CGA which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

Primary CEMS - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

Relative Accuracy (RA) - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

Span Value – The upper limit of a gas concentration measurement range.

SECTION II

MONITORING REQUIREMENTS

A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.

B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.

C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.

D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded.

E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.

F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.

G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.

H. All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

SECTION III

NOTIFICATION AND RECORD KEEPING

A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.

B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.

C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.

D. Except for Part 75 CEMs, each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. Part 75 CEMs shall submit this information semi-annually and as part of Title V six (6) month reporting requirement if the facility is a Title V facility.

E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.

F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.

G. Except for Part 75 CEMs, quarterly reports shall be used by the Department to determine compliance with the permit. For Part 75 CEMs, the semi-annual report shall be used.

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.

B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.

C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS/COMS
   a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
2. Calibration drift determination and adjustment of CEMS/COMS
   a. Out-of-control period determination
   b. Steps of corrective action
3. Preventive maintenance of CEMS/COMS
   a. CEMS/COMS information
      1) Manufacture
      2) Model number
      3) Serial number
   b. Scheduled activities (check list)
   c. Spare part inventory
4. Data recording, calculations, and reporting
5. Accuracy audit procedures including sampling and analysis methods
6. Program of corrective action for malfunctioning CEMS/COMS

D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

RATA

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O_2 & CO_2)	> 1.0 % O2 or CO2
Flow	> 20% Relative Accuracy

CGA

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O_2 & CO_2)	> 15% of average audit value or 5 ppm difference

RAA

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O_2 & CO_2)	> 15% of the three run average or > 7.5 % of the applicable standard

F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.

G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

APPENDIX C

NSPS 40 CFR 60, Subpart H – *Standards of Performance for Sulfuric Acid Plants*

run. Material balance over the production system shall be used to confirm the production rate.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For Method 7, Method 7A, 7B, 7C, or 7D may be used. If Method 7C or 7D is used, the sampling time shall be at least 1 hour.

(d) The owner or operator shall use the procedure in § 60.73(b) to determine the conversion factor for converting the monitoring data to the units of the standard.

[54 FR 6666, Feb. 14, 1989]

Subpart H—Standards of Performance for Sulfuric Acid Plants

§ 60.80 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each sulfuric acid production unit, which is the affected facility.

(b) Any facility under paragraph (a) of this section that commences construction or modification after August 17, 1971, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977]

§ 60.81 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Sulfuric acid production unit* means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(b) *Acid mist* means sulfuric acid mist, as measured by Method 8 of appendix A to this part or an equivalent or alternative method.

[36 FR 24877, Dec. 23, 1971, as amended at 39 FR 20794, June 14, 1974]

§ 60.82 Standard for sulfur dioxide.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H_2SO_4.

[39 FR 20794, June 14, 1974]

§ 60.83 Standard for acid mist.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain acid mist, expressed as H_2SO_4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H_2SO_4.

(2) Exhibit 10 percent opacity, or greater.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975]

§ 60.84 Emission monitoring.

(a) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under § 60.13(d), shall be sulfur dioxide (SO_2). Method 8 shall be used for conducting monitoring system performance evaluations under § 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of sulfur dioxide.

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the

concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

$$CF=k[(1.000-0.015r)/(r-s)]$$

where:

CF=conversion factor (kg/metric ton per ppm, lb/ton per ppm).
k=constant derived from material balance. For determining CF in metric units, k=0.0653. For determining CF in English units, k=0.1306.
r=percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Administrator's approval.
s=percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under paragraph (a) of this section.

(c) The owner or operator shall record all conversion factors and values under paragraph (b) of this section from which they were computed (i.e., CF, r, and s).

(d) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO_2, O_2, and CO_2 (if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO_2 monitor shall be as specified in paragraph (b) of this section. The span value for CO_2 (if required) shall be 10 percent and for O_2 shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:

$$E_s=(C_s\ S)/[0.265-(0.126\ \%O_2)-(A\ \%CO_2)]$$

where:

E_s=emission rate of SO_2, kg/metric ton (lb/ton) of 100 percent of H_2SO_4 produced.
C_s=concentration of SO_2, kg/dscm (lb/dscf).
S=acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H_2SO_4 produced.
$\%O_2$=oxygen concentration, percent dry basis.
A=auxiliary fuel factor,
=0.00 for no fuel.
=0.0226 for methane.
=0.0217 for natural gas.
=0.0196 for propane.
=0.0172 for No 2 oil.
=0.0161 for No 6 oil.
=0.0148 for coal.
=0.0126 for coke.
$\%CO_2$= carbon dioxide concentration, percent dry basis.

NOTE: It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following table for such conversions:

From—	To—	Multiply by—
g/scm	kg/scm	10^{-3}
mg/scm	kg/scm	10^{-6}
ppm (SO_2)	kg/scm	2.660×10^{-6}
ppm (SO_2)	lb/scf	1.660×10^{-7}

(e) For the purpose of reports under § 60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under § 60.82.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975; 48 FR 23611, May 25, 1983; 48 FR 4700, Sept. 29, 1983; 48 FR 48669, Oct. 20, 1983; 54 FR 6666, Feb. 14, 1989; 65 FR 61753, Oct. 17, 2000]

§ 60.85 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the SO_2 acid mist, and visible emission standards in §§ 60.82 and 60.83 as follows:

(1) The emission rate (E) of acid mist or SO_2 shall be computed for each run using the following equation:

$E=(CQ_{sd})/(PK)$

where:

E=emission rate of acid mist or SO_2 kg/metric ton (lb/ton) of 100 percent H_2SO_4 produced.

C=concentration of acid mist or SO_2, g/dscm (lb/dscf).

Q_{sd}=volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).

P=production rate of 100 percent H_2SO_4, metric ton/hr (ton/hr).

K=conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 8 shall be used to determine the acid mist and SO_2 concentrations (C's) and the volumetric flow rate (Q_{sd}) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

(3) Suitable methods shall be used to determine the production rate (P) of 100 percent H_2SO_4 for each run. Material balance over the production system shall be used to confirm the production rate.

(4) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine the O_2 concentration and, if required, CO_2 concentration.

(ii) The SO_2 or acid mist emission rate is calculated as described in § 60.84(d), substituting the acid mist concentration for C_s as appropriate.

[54 FR 6666, Feb. 14, 1989]

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

§ 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Hot mix asphalt facility* means any facility, as described in § 60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.93 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.92 as follows:

APPENDIX D

Compliance Assurance Monitoring (CAM) Plans

COMPLIANCE ASSURANCE MONITORING

E2 Plant Brinks Scrubber

I. E2 Plant Brinks Scrubber Background

A. Emissions Unit

Description:	E2 Plant Brinks Scrubber (2 scrubbers)
Identification:	SN-05
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Particulate Matter:	14.1 lb/hr
Opacity:	20%
Monitoring Requirements:	Scrubber liquid pH, flow rate, gas pressure drop

C. Control Technology: Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquid pH
2. Minimum scrubber liquid flow rate for each scrubber
3. Minimum gas pressure drop for each scrubber

B. Measurement Approach

The scrubber liquid pH, flow rate and the gas pressure drop will be measured and recorded daily.

C. Indicator Range

1. Scrubber liquid range of 0.5 – 6.0
2. The minimum scrubber liquor flow rate is 225 gal/min for each scrubber.
3. The minimum gas pressure drop is 2.5" H_2O for each scrubber.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices (flow meter and pressure drop indices) will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, flow rate and the gas pressure drop will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A scrubber is used to control some of the particulate matter emissions generated in the E2 Plant. The scrubber has a maximum gas flow rate of 100,000 ft^3/min.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH, flow rate and gas pressure drop were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the particulate emission standard. The scrubber liquor flow rate indicates that there is adequate liquor flow to ensure sufficient liquid to gas contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. Monitoring the pH of the scrubber liquid indicates if the scrubber liquid is performing sufficiently. Likewise, the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. The minimum scrubber liquor flow rate, the scrubber liquid pH, and the minimum gas pressure drop is monitored to ensure that the scrubber is operating properly. When the scrubber is operating properly, the particulate emissions from the exhaust of the E2 Plant Brinks Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Subsequent stack testing has confirmed that the indicator levels are appropriate. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

COMPLIANCE ASSURANCE MONITORING

Sulfuric Acid Plant

I. Sulfuric Acid Plant Background

A. Emissions Unit

Description:	Sulfuric Acid Plant
Identification:	SN-07
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Sulfur Dioxide:	600.0 lb/hr
Monitoring Requirements:	Sulfur dioxide (SO_2) emissions

C. Control Technology

An absorption tower is considered a control/production device per BACT clearinghouse.

II. Monitoring Approach

A. Indicator

SO_2 hourly emissions

B. Measurement Approach

Continuously monitor SO_2 emissions

C. Indicator Range

600.0 lb/hr on a 3-hour average basis

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor SO_2 emissions using a CEMS.
Collection Procedure:	CEMS device

II. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A control device (an absorption tower) is used to control SO_2 emissions generated in the Sulfuric Acid Plant.

B. Rationale for Selection of Performance Indicator

The post-control SO_2 emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

COMPLIANCE ASSURANCE MONITORING

West Nitric Acid Plant

I. West Nitric Acid Plant Background

A. Emissions Unit

Description:	West Nitric Acid Plant
Identification:	SN-08
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Nitrogen Oxide:	200.1 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions

C. Indicator Range

200.1 lb/hr on a 3-hour average basis

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A SCR unit is used to control nitrogen oxide emissions generated in the West Nitric Acid Plant.

B. Rationale for Selection of Performance Indicator

The post-control NO_x emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

COMPLIANCE ASSURANCE MONITORING

East Nitric Acid Plant

I. East Nitric Acid Plant Background

A. Emissions Unit

Description:	East Nitric Acid Plant
Identification:	SN-09
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Nitrogen Oxide:	200.1 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Selective Catalytic Reduction (SCR) Unit

II. Monitoring Approach

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions

C. Indicator Range

200.1 lb/hr on a 3-hour average basis

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A SCR unit is used to control nitrogen oxide emissions generated in the East Nitric Acid Plant.

B. Rationale for Selection of Performance Indicator

The post-control NO_x emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

COMPLIANCE ASSURANCE MONITORING

Nitric Acid Vent Collection System Scrubber

I. Nitric Acid Vent Collection System Scrubber Background

A. Emissions Unit

Description:	Nitric Acid Concentrator Hydrogen Peroxide Scrubber
Identification:	SN-10
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Nitrogen Oxide:	19.5 lb/hr
Monitoring Requirements:	Hydrogen peroxide concentration (%) in the chemical condensate circulated at the scrubber outlet.

C. Control Technology

Hydrogen peroxide scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

Hydrogen peroxide concentration (%) in the chemical condensate.

B. Measurement Approach

Sample, test and record daily the hydrogen peroxide concentration of the chemical condensate.

C. Indicator Range

> 0%

COMPLIANCE ASSURANCE MONITORING

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Lab QA/QC procedures will be followed.
Monitoring Frequency and Data:	The chemical condensate will be sampled and tested daily to determine the hydrogen peroxide concentration.
Collection Procedure:	A sample of the chemical condensate is collected manually and tested for hydrogen peroxide concentration. The test data is recorded manually in the log book.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A scrubber is used to control nitrogen oxide (NO_x) emissions generated by the Nitric Acid Vent Collection System. The scrubber has a maximum gas flow rate of 1,000 ft^3/min.

B. Rationale for Selection of Performance Indicator

The concentration of hydrogen peroxide in the chemical condensate was selected as the performance indicator because it is indicative of operation of the scrubber in a manner necessary to comply with the NO_x emission standard. When the scrubber is operating properly, the NO_x emissions from the exhaust of the Nitric Acid Vent Collection System Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameter was selected based on vender recommendations, as influenced by site specific design considerations. Subsequent stack testing has confirmed that the indicator levels are appropriate. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

COMPLIANCE ASSURANCE MONITORING

DMW Nitric Acid Plant

I. DMW Nitric Acid Plant Background

A. Emissions Unit

Description:	DMW Nitric Acid Plant
Identification:	SN-13
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Nitrogen Oxide:	50.1 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Refrigerated absorber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions

C. Indicator Range

1. 3 lb/ton of 100% acid on 3-hour average
2. 50.1 lb/hr on 3-hour average for startup, shutdown, malfunction events

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device

II. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A control device (refrigerated absorber) is used to control nitrogen oxide emissions generated in the DMW Nitric Acid Plant.

B. Rationale for Selection of Performance Indicator

NO_x emissions are above major source thresholds after control; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the permit limits. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

COMPLIANCE ASSURANCE MONITORING

KT Plant Dryer/Cooler Scrubber

IV. KT Plant Dryer/Cooler Scrubber Background

A. Emissions Unit

Description:	KT Plant Dryer/Cooler Scrubber
Identification:	SN-15
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Particulate Matter:	17.0 lb/hr
Monitoring Requirements:	Scrubber liquor pH, liquid flow rate, and amperage

C. Control Technology

Scrubber

V. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquor pH
2. Minimum liquid flow rate
3. Minimum amperage

B. Measurement Approach

The scrubber liquor pH, the liquid flow rate, and the amperage shall be measured and recorded daily.

C. Indicator Range

1. The scrubber liquor pH range is 0.5 – 4.5.
2. The minimum scrubber liquor flow rate is 80 gal/min.
3. The minimum amperage is 290 amps.

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquor pH, flow rate will be measured and recorded daily. The scrubber amperage will be measured and recorded daily.
Collection Procedure:	Monitoring device.

VI. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A wet scrubber with a mist eliminator is used to control the particulate matter emissions generated by the KT Plant Dry/Cooler. The scrubber has a maximum gas flow rate of 48,000 ft^3/min.

B. Rationale for Selection of Performance Indicator

The scrubber liquor pH and flow rate were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the particulate emission standard. The scrubber liquor flow rate indicates that there is adequate liquor flow to ensure sufficient liquid to gas contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. Monitoring the pH of the scrubber liquid indicates if the scrubber liquid is performing sufficiently. Likewise, the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. The minimum scrubber liquor flow rate, the scrubber liquid pH, and the minimum gas pressure drop is monitored to ensure that the scrubber is operating properly. When the scrubber is operating properly, the particulate emissions from the exhaust of the KT Plant Dryer/Cooler Scrubber will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

COMPLIANCE ASSURANCE MONITORING

KT Plant Clay Baghouse

I. KT Plant Clay Baghouse

A. Emissions Unit

Description:	KT Plant Clay Baghouse
Identification:	SN-18
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Particulate Matter:	1.0 lb/hr
Monitoring Requirements:	Gas pressure drop across the baghouse

C. Control Technology

Baghouse

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

Gas pressure drop

B. Measurement Approach

The gas pressure drop across the baghouse will be measured and recorded daily.

C. Indicator Range

0.5" H_2O – 8.0" H_2O

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Preventative maintenance inspection will be performed once per year.
Monitoring Frequency and Data:	The gas pressure drop across the baghouse will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A baghouse is used to control of the particulate matter emissions generated by the KT Plant.

B. Rationale for Selection of Performance Indicator

The gas pressure drop across the baghouse was selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. The gas pressure drop across the baghouse indicates the amount of particle build up on the filter media. A freshly cleaned baghouse will have an estimated gas pressure drop of 0.5" H_2O. When the gas pressure drop reaches 8.0" H_2O, the filter media will be cleaned. When the baghouse is operating properly, the particulate emissions from the KT Plant Clay Baghouse will not exceed permitted limits.

C. Rationale for Selection of Indicator Level

The indicator parameter was selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

COMPLIANCE ASSURANCE MONITORING

KT Brinks Scrubber

I. KT Brinks Scrubber

A. Emissions Unit

Description:	KT Brinks Scrubber
Identification:	SN-21
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Particulate Matter:	3.0 lb/hr
Monitoring Requirements:	Scrubber liquid pH, liquid gas pressure to top spray nozzles, and gas pressure drop across unit

C. Control Technology

Scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

1. Scrubber liquor pH
2. Liquid gas pressure to top spray nozzles
3. Minimum gas pressure drop across unit

B. Measurement Approach

The scrubber liquor flow rate and gas pressure drop will be measured and recorded daily.

C. Indicator Range

1. The scrubber liquor pH range is 0.5 – 4.5.
2. The liquid gas pressure to top spray nozzles range is 80 – 100 psig.
3. The minimum gas pressure drop across unit is 2.5" H_2O.

COMPLIANCE ASSURANCE MONITORING

D. QIP Threshold

The QIP threshold is nine excursions in a six month reporting period.

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	Not Applicable
QA/QC Practices and Criteria:	Calibration of the monitoring devices will be performed once per year.
Monitoring Frequency and Data:	The scrubber liquid pH, liquid gas pressure to top spray nozzles, and gas pressure drop across unit will be measured and recorded daily.
Collection Procedure:	Monitoring device.

III. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A Brinks scrubber is used to control particulate matter emissions generated by the KT Plant. The scrubber has a maximum gas flow rate of 8,835 acfm.

B. Rationale for Selection of Performance Indicator

The scrubber liquid pH, liquid gas pressure to top spray nozzles, and gas pressure drop across unit were selected as the performance indicators because they are indicative of operation of the scrubber in a manner necessary to comply with the particulate emission standard. The scrubber liquor pH indicates that scrubber liquor is performing properly to scrub particulate from the gas prior to it being exhausted to the atmosphere. Likewise, the liquid gas pressure to top spray nozzles and the gas pressure drop indicates that there is sufficient air flow to support gas to liquid contact to scrub particulate from the gas prior to it being exhausted to the atmosphere. The selected performance indicators will be monitored daily to ensure that the scrubber is operating properly. When the scrubber is operating properly, the particulate emissions from the exhaust of the KT Plant Brinks Scrubber will not exceed permitted limits.

COMPLIANCE ASSURANCE MONITORING

C. Rationale for Selection of Indicator Level

The indicator parameters were selected based on vender recommendations, as influenced by site specific design considerations. Daily monitoring is considered adequate to demonstrate compliance considering that post-control potential to emit is less than major source thresholds.

COMPLIANCE ASSURANCE MONITORING

UHDE DSN Plant

I. USHE DSN Plant Background

A. Emissions Unit

Description:	UHDE DSN Plant
Identification:	SN-22
Facility:	EDCC

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	573-AOP-R9, Title V Permit
Emission Limits:	
Nitrogen oxide:	40.5 lb/hr
Monitoring Requirements:	Nitrogen oxide (NO_x) emissions

C. Control Technology

Cryogenic Absorber

II. Monitoring Approach

The key elements of the monitoring approach are presented below:

A. Indicator

NO_x hourly emissions

B. Measurement Approach

Continuously monitor NO_x emissions

C. Indicator Range

40.5 lb/hr

D. QIP Threshold

Excursions will be handled in accordance with the QA/QC Plan for the CEMS.

COMPLIANCE ASSURANCE MONITORING

E. Performance Criteria

Data Representativeness:	Measurements are being made at the emission point.
Verification of Operational Status:	CEMS is in place and operating, verification is not applicable.
QA/QC Practices and Criteria:	Calibration of the CEMS will be performed in accordance with the QA/QC plan.
Monitoring Frequency and Data:	Continuously monitor NO_x emissions using a CEMS.
Collection Procedure:	CEMS device.

II. Justification

A. Background

EDCC operates a chemical manufacturing plant in El Dorado, Arkansas. A control device (cryogenic absorber) is used to control NO_x emissions generated in the UHDE DNS Plant.

B. Rationale for Selection of Performance Indicator

NO_x emissions are above major source thresholds; therefore, emissions will be continuously monitored using a CEMS to demonstrate compliance with the permit limits.

C. Rationale for Selection of Indicator Level

The selected indicator is the hourly permit limit. Post-control potential to emit is greater than major source thresholds; therefore, continuous monitoring is conducted to demonstrate compliance.

CERTIFICATE OF SERVICE

I, Cynthia Hook, hereby certify that a copy of this permit has been mailed by first class mail to El Dorado Chemical Company, P.O. Box 231, El Dorado, AR, 71730, on this 24th day of November, 2010.

Cynthia Hook, AAII, Air Division