STATEMENT OF BASIS

for the issuance of Draft Air Permit # 0573-AOP-R4

1. PERMITTING AUTHORITY:

   Arkansas Department of Environmental Quality
   8001 National Drive
   Post Office Box 8913
   Little Rock, Arkansas 72219-8913

2. APPLICANT:

   El Dorado Chemical Company
   4500 North West Avenue
   El Dorado, Arkansas 71730

3. PERMIT WRITER:

   Siew Low

4. PROCESS DESCRIPTION AND SIC CODE:

   SIC Description: Nitrogenous Fertilizers; Industrial Inorganic Chemicals
   SIC Code: 2873; 2819

5. SUBMITTALS: February 12, 2003, March 26, 2003.

6. REVIEWER'S NOTES: This modification includes the installation of a new car barn scrubber (SN-37). Nitric acid emissions from cleaning and pressure checking rail cars are being rerouted from the nitric acid concentrator vents (SN-10) to the new scrubber (SN-37) at the car barn.

7. COMPLIANCE STATUS: The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues.

   This facility is currently under an active CAO.

8. APPLICABLE REGULATIONS:

   A. Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N) N
Has this facility underwent PSD review in the past (Y/N) N Permit # _____
Is this facility categorized as a major source for PSD? (Y/N) Y

$ 100 tpy and on the list of 28 (100 tpy)? (Y/N) Y
$ 250 tpy all other (Y/N) _____

B. PSD Netting

Was netting performed to avoid PSD review in this permit? (Y/N) N

C. Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
SN-13	NO_x	NSPS Subpart G

9. EMISSION CHANGES:

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	**Air Permit 0573-AOP-R3**	**Air Permit 0573-AOP-R4**	**Change**
PM/PM_{10}	297.1	297.1	0
SO_2	2520.4	2520.4	0
VOC	2.7	2.7	0
CO	25.4	25.4	0
NO_X	3002.2	3002.2	0
H_2SO_4	66.6	66.6	0
NH_3	404.1	404.1	0
HNO_3	242.0	242.0	0

10. MODELING:

A. Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}	175.0	50	Annual	9.33	19%
		150	24-hour	85.61	57%*
SO_2	600.1	80	Annual	11.25	14%
		1,300	3-hour	468.1	36%
		365	24-hour	123.8	34%
NO_X	790.1	100	Annual	18.65	19%
VOC	0.7	0.12	1-hour (ppm)	NA	0%
CO	25.4	10,000	8-hour	NA	0%
		40,000	1-hour	NA	0%

* - Background (47 Fg/m^3) plus modeled (85.6 Fg/m^3) equals 132.6 Fg/m^3 which does not exceed the NAAQS (150 Fg/m^3).

B. Non-Criteria Pollutants

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The PAER was deemed by the Department to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
HNO_3	5.2	0.572	4.3	Y

11. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-05	Testing	PM_{10} - 13.0 lb/hr, 0.96 lb of PM_{10} per ton of ammonium nitrate produced.	Brinks Scrubber	-	-
SN-05	Testing	NH_3 - 45.7 lb/hr	Brinks Scrubber	-	-
SN-06	Testing	PM_{10} - 67.0 lb/hr, 0.96 lb of PM_{10} per ton of ammonium nitrate produced.	-	-	Uncontrolled. Maximum prill production rate is 54 tons/hour.
SN-07	Testing	SO_2 - 600 lb/hr	Brinks Mist Eliminator	-	-
SN-07	Testing	H_2SO_4 - 7.5 lb/hr	Brinks Mist Eliminator	-	-
SN-08	Testing	NO_X - 200 lb/hr	Refrigeration SCR	- 75%	Controlled
SN-09	Testing	NO_X - 200 lb/hr	Refrigeration SCR	- 75%	Controlled
SN-10	AP-42	NO_X - 10.0 lb/ton	best operation	-	-
SN-10	Process Knowledge	HNO_3 - 20.0 lb/hr	-	-	yearly testing required
SN-11	Testing Process	PM_{10} - 15.0 lb/hr, NH_3 - 10.0 lb/hr PM_{10} - 2.0 lb/hr	-	-	Permittee shall not operate this source. See Specific Condition 67.

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-12	Knowledge		baghouse	-	-
SN-13	NSPS	3.0 lb/ton of acid	refrigerated absorption	-	-
SN-14	Testing	PM_{10} - 30.0lb/hr	none	-	-
SN-15	Testing	PM_{10} - 17.0 lb/hr	none	-	-
SN-15	Testing	NH_3 - 18.0 lb/hr	none	-	-
SN-16A	AP-42	PM_{10} - 5.0 lb/MMSCF SO_2 - 0.6 lb/MMSCF VOC - 1.7 lb/MMSCF CO - lb/MMSCF NO_X - 550.0 lb/MMSCF	none	-	-
SN-16B	AP-42	PM_{10} - 5.0 lb/MMSCF SO_2 - 0.6 lb/MMSCF VOC - 1.7 lb/MMSCF CO - lb/MMSCF NO_X - 550.0 lb/MMSCF	none	-	-
SN-17	Testing	PM_{10} - 20.0 lb/hr	Pease-Anthony Scrubber	-	
SN-17	Testing	NH_3 - 5.0 lb/hr	Pease-Anthony Scrubber	-	-
SN-18	Process Knowledge	PM_{10} - 0.033 lb/ton	Baghouse	-	-
SN-21	Testing	PM_{10} - 0.1 lb/ton	Brinks Scrubber	-	-
SN-21	Testing	NH_3 - 1.0 lb/ton	Brinks Scrubber	-	-

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-22	CEM	NO_X - 3.0 lb/ton	cryogenic absorption	-	-
SN-22	Process Knowledge	HNO_3 - 10.0 lb/hr	cryogenic absorption	-	-
SN-25	TANKS3	VOC	none	-	-
SN-26	TANKS3	NH_3	none	-	-
SN-27	AP-42	PM_{10} - 0.0001 lb/ton	none	-	-
SN-28	AP-42	PM_{10} - 0.0001 lb/ton	none	-	-
SN-29	AP-42	HNO_3 - 0.53 lb/1000 gallons	none	-	-
SN-30	AP-42	H_2SO_4 - 0.0334 lb/1000 gallons	none	-	-
SN-31	SOCMI	NH_3 - 0.5 lb/hr	none	-	-
SN-32	SOCMI	NH_3 - 1.3 lb/hr	none	-	-
SN-33	Process Knowledge	NO_X - 1.8 lb/hr	none	-	-
SN-33	Process Knowledge	HNO_3 - 1.8 lb/hr	none	-	-
SN-34	Process Knowledge	PM_{10} - 1.6 lb/hr	none	-	-
SN-35	Process Knowledge	PM_{10} - 2.0 lb/hr	baghouse	99%	-
SN-37	Process knowledge	3 gal HNO_3/car x 2 car/day,	scrubber	80%	-

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
		37.65 lb HNO_3/car x efficiency x 1 vent period/106 minutes.			

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
SN08 & SN-09	NOx	7E	Yearly	Necessary for efficiency check on SCR's
SN08 & SN-09	NOx	approved method	monthly	Necessary for efficiency check on SCR's
SN-10	NOx	7E	Yearly	Necessary for efficiency check on Venturi & Packed Tower Scrubber
SN-10	HNO_3	approved method	Yearly	Necessary for efficiency check on Venturi & Packed Tower Scrubber
SN-01A & SN-01B	NOx	7E	Yearly	Necessary for efficiency check on operation of the sulfuric acid concentrators
SN-01A & SN-01B	HNO_3 H_2SO_4	approved method	Yearly if operated	Necessary for efficiency check on operation of the sulfuric acid concentrators
SN-07	SO_2	6C	Yearly	Necessary for efficiency check on operation of the sulfuric acid plant
SN-07	H_2SO_4	8	Yearly	Necessary for efficiency check on operation of the sulfuric acid plant

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
SN-05, SN-06, SN-11, SN-14, SN-15, SN-17, & SN-21	PM_{10}	5	Yearly	Necessary to prove that PSD has not been triggered.
SN-05, SN-11, SN-15, & SN-22	NH_3	approved method	Yearly	Necessary to prove adherence to the non-criteria pollutant strategy.

14. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
SN-13, SN- 22	NOx emission rate	CEM	Continuously	Y
SN-07***	SO_2 emission rate	CEM	Continuously	Y
SN-10	chemical condensate solution hydrogen peroxide concentration		Daily	N

*** Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)**
**** Indicates whether the parameter needs to be included in reports.**
***** Applicable if the plant is operated at a rate greater than 300 tpd**

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
SN-08 SN-09	weak nitric acid production	292,320 tons/12 months	monthly	Y
SN-13	weak nitric acid production	140,000 tons/12 months	monthly	Y
SN-22 SN-10 Facility	concentrated nitric acid production	SN-22 - 118,260 tons/12 months; SN-10 - 62,900 tons/12months; facility - 126,056 tons/12 months	monthly	Y
SN-10	Scrubber parameter	hydrogen peroxide concentration	daily	N
SN-22	start-up and shutdown emissions of NOx lb/hr and opacity over limits	see S.C. 30 & 31	daily	Y
SN-29	nitric acid shipped	200,000 tons/12 months	monthly	Y
SN-07	daily production	300 TPD w/o CEM 360 TPD w/ CEM	daily	Y
SN-30	sulfuric acid shipped	126,000 tons/12 months	monthly	Y
All E2 Plant	Production	228,071 tons/12 months	Monthly	Y
SN-05	Scrubber liquid flow rate Gas pressure drop across unit Scrubber liquid pH	450 gal/min (minimum) 2.5 in. H_2O (minimum) 0.5 – 4.5	daily	N
All KT plant	production	252,000 tons/12 months	monthly	Y

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
SN-25	usage of gasoline	40,000 gallons/12 months	monthly	Y
SN-37	minimum gas pressure	10 in. H_2O (minimum)	daily	N

*** Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)**
**** Indicates whether the item needs to be included in reports**

16. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
SN-08 SN-09	10%	Compliance assurance for SCR operation	daily observation
SN-13	10%	NSPS limit	daily observation
SN-10	20%	Previous permit	daily observation
SN-01A SN-01B	10%	Previous permit	daily observation
SN-22	10%*	Previous permit	daily observation
SN-07	15%	Previous permit	daily observation
SN-12 SN-18	5%	Department Guidance	daily observation
SN-21	10%	Previous permit	daily observation
SN-14 SN-17 SN-19	15%	Previous permit	daily observation
SN-05 SN-11 SN-15	20%	Previous permit	daily observation

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
SN-06 SN-27 SN-28	25%	Previous permit	daily observation

* - except for startup and shutdown situations covered by S.C. 30 & 31

17. DELETED CONDITIONS:

The following Specific Conditions were included in the previous permit, but deleted for the current permitting action.

Former SC	Justification for removal
	None

18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

List all active permits for this facility which are voided/superseded/subsumed by issuance of this permit.

Permit #
0573-AOP-R3

19. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

_____
Lyndon Poole, P.E.