STATEMENT OF BASIS

for the issuance of Draft Air Permit # 0573-AOP-R2

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:

Paul Osmon

4. PROCESS DESCRIPTION AND SIC CODE:

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

5. SUBMITTALS: 9/26/00

6. REVIEWER'S NOTES:

This permit modification is 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 source). The permittee has also requested that the testing of the liquid in the peroxide scrubber in Specific Condition No. 24 be changed from a pH test to a hydrogen peroxide concentration test. ADEQ will also modify the permit during this modification to clarify the reporting requirements and identify records that must be included in the semi-annual report specified in General Provision No. 7. The emission limits of the permit will not be changed in this modification.

7. COMPLIANCE STATUS:

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

There are no known active/pending enforcement actions related to this permittee.

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
If so, indicate increases and decreases used in netting for PSD purposes only.

NETTING TABLE							
Emission Source	Pollutant Emission Rate (TPY)						
	PM	PM_{10}	SO_2	VOC	CO	NO_X	Pb
Totals							
Significant Emission Rate	25	15	40	40	100	40	0.6
Subject to PSD?							

C. Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
SN-16	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-R1**	**Air Permit 0573-AOP-R2**	**Change**
PM/PM_{10}	297.0	297.0	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}	175.9	50	Annual	9.32	19%
		150	24-hour	85.61	57%*

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m^3)	Averaging Time	Highest Concentration (µg/m^3)	% of NAAQS
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).

11. 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?
H_2SO_4	1	0.11	16.6	N
NH_3	17	1.87	104.9	N
HNO_3	5.2	0.572	60.8	N

2nd Tier Screening (PAIL)

SCREEN3 air dispersion modeling was not performed on the estimated hourly emissions from the following sources.

ISCST3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m^3) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m^3)	Pass?
H_2SO_4	10	4.9	Yes
NH_3	170	158.3	Yes
HNO_3	52	49.7	Yes

12. 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-01A	Testing	H_2SO_4 - 0.7759 lb/ton	Brinks Mist Eliminator	50%	-
SN-01A	Testing	NO_X - 5.17 lb/ton	None	-	Uncontrolled
SN-01A	Testing	HNO_3 - 3.45 lb/ton	None	-	-
SN-01B	Testing	H_2SO_4 - 0.7759 lb/ton	Brinks Mist Eliminator	50%	-
SN-01B	Testing	NO_X - 5.17 lb/ton	None	-	Uncontrolled
SN-01B	Testing	HNO_3 - 13.79 lb/ton	None	-	-
SN-05	Testing	PM_{10} - 40.0 lb/hr	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-05	Testing	NH_3 - 13.0 lb/hr	Brinks Scrubber	-	-
SN-06	Testing	PM_{10} - 67.0 lb/hr	-	-	Uncontrolled
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 Know-ledge	HNO_3 - 20.0 lb/hr	-	-	yearly testing required
SN-11	Testing	PM_{10} - 15.0 lb/hr	-	-	-
SN-11	Testing	NH_3 - 10.0 lb/hr	-	-	-
SN-12	Process Know-ledge	PM_{10} - 2.0 lb/hr	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	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-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 Know-ledge	PM_{10} - 0.033 lb/ton	baghouse	-	-
SN-19	Process Know-ledge	PM_{10} - 0.0185 lb/ton	none	-	-
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 Know-ledge	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} - 0.02 lb/ton	none	-	-
SN-28	AP-42	PM_{10} - 0.02 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 Know-ledge	NO_X - 1.8 lb/hr	none	-	-
SN-33	Process Know-ledge	HNO_3 - 1.8 lb/hr	none	-	-
SN-34	Process Know-ledge	PM_{10} - 1.6 lb/hr	none	-	-

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-35	Process Know-ledge	PM_{10} - 2.0 lb/hr	baghouse	99%	-

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-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	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
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-22	start-up and shutdown emissions of NOx lb/hr and opacity over limits	see S.C. 41 & 42	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	453,000 tons/12 months	monthly	Y
All KT Plant	production	252,000 tons/12 months	monthly	Y
SN-25	usage of gasoline	40,000 gallons/12 months	monthly	Y

*** 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-06 SN-27 SN-28	25%	Previous permit	daily observation

* - except for startup and shutdown situations covered by S.C. 41 & 42

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-R1

19. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

_____

Thomas Rheaume, P.E.