

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1527-AOP-R4

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Alcoa Industrial Chemicals
4701 Alcoa Road
Bauxite, Arkansas 72011

3. PERMIT WRITER:

Shawn Hutchings

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Industrial Inorganic Chemicals
SIC Code: 2819

5. SUBMITTALS: November 7, 2001

6. REVIEWER'S NOTES:

Alcoa Industrial Chemicals (Alcoa) is a manufacturer of various forms of alumina. This permit modification is allowing Alcoa to return to its original feed rate of aluminum fluoride in sources 405EP0133 and 405EP0233. This will increase hourly emissions of hydrogen fluoride, but Alcoa requested the same annual limits for these sources. Recordkeeping was added to show compliance with the ton per year limit. A plantwide condition was inadvertently removed in a previous permit. This condition allowed for testing of some sources every two years. This condition was replaced.

The reason for the HF emission change is that Alcoa tested and calculated an emission factor for the HF emissions which were higher than the one used to determine the permitted emission rates. Alcoa then requested a permit modification to account for the new emission factor. They modified the permit to have the same ton per year and pound per hour limits by lowering the feed rate limits in the permit. Alcoa later submitted an application for this permit which asked for the permit to be written at the original feed rate and emission limits increased taking into account the higher emission factor. Even though this increase was higher than the significant level for fluoride emissions, it was not subject to PSD review.

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 current enforcement actions against the facility.

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 # N/A

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) y

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]
046BL01 046BL02 046BL03 046BL04 046BL05	fuel record keeping only	NSPS Part Dc
451BH011 451BH015	PM, Opacity	NSPS Subpart UUU

9. EMISSION CHANGES:

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

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1527-AOP-R3	Air Permit 1527-AOP-R4	Change
PM/PM ₁₀	706.5	706.5	0
SO ₂	42.2	42.2	0
VOC	51.7	51.7	0
CO	117.0	117.0	0
NO _x	492.8	492.8	0
HCl	459.6	459.6	0
HF	109.1	109.1	0

10. MODELING:

A. Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

B. Non-Criteria Pollutants

Modeling for the new HF emission rate was performed in the permit application. The results are shown in the following table.

Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
HF	25	20	Yes

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)
405EP0133 and 405EP0233	HF emissions based on emission factor from testing	915 lb / ton aluminum flouride fed	none		
All others see previous SOBs					

12. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
405EP0133 and 405EP0233	HF		semi annual	Carried over the semi annual HF testing from previous permits.
All others see previous SOBs				

13. 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.

No monitoring requirements or CEMS were added to the permit in this modification.

14. 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)**
405EP 0133 and 405EP 0233	Aluminum fluoride feed rate	127lb/hr	daily	Y
405EP 0133 and 405EP 0233	Annual HF emission	109.1 TPY	monthly	Y

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

** Indicates whether the item needs to be included in reports

15. OPACITY

No opacity limits were altered in this permit.

16. DELETED CONDITIONS:

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

No conditions were deleted from the previous permits.

17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

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

Permit #
1527-AOP-R3

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Thomas Rheaume, P.E.