

**TECHNICAL REVIEW AND EVALUATION FOR SIGNIFICANT REVISION #63081 TO
OPERATING AIR QUALITY PERMIT #53649
FREEPORT MCMORAN SAFFORD, INC.**

I. INTRODUCTION

This Significant Permit Revision No. 63081 to Operating Permit No. 53649 authorizes Freeport McMoRan Safford Inc. (FMSI) to:

- A. Revise the voluntarily accepted limit for hourly emissions of sulfur dioxide from the acid plant;
- B. Add a rolling 12-month SO₂ emission limit of 90 tons per year for acid plant;
- C. Add a stand by start up diesel fueled boiler of 9 MMBtu per hour capacity operating for 200 hours per year;
- D. Replace one existing secondary crusher with a new secondary crusher;
- E. Include three existing ammonium nitrate prill bins in the permit equipment list; and
- F. Correct the date of manufacture for the 35 kW propane emergency generator.

II. EMISSIONS

The facility wide PTE with these changes along with the existing PTE is tabulated in the Table 1 below.

Table 1: Facility wide PTE

Pollutants	Operating Permit #53649	After SPR #63081	Increase
	tons per year		
PM/ PM ₁₀ / PM _{2.5}	78.95	79.12	0.17
NO _x	86.43	86.56	0.13
SO ₂	53.07	94.67	41.60
CO	26.31	26.34	0.03
VOC	4.01	4.01	0.00
H ₂ SO ₄	8.98	8.98	0.00

It can be seen that the emission of all criteria pollutants post this significant revision is below the major source threshold of 100 tons per year.

III. APPLICABLE REQUIREMENTS

There are no new applicable requirements.

IV. MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

There are no new requirements for monitoring, recordkeeping, and reporting.

V. AIR DISPERSION MODELING ANALYSIS

This permit action includes a revision to the voluntarily requested SO₂ emission limit for the acid plant from 11.05 pounds per hour to 100 pounds per hour on rolling 24-hour basis. Any emission limits based on averaging times longer than 1 hour must provide adequate assurance that the proposed revisions will comply with the 1-hour SO₂ National Ambient Air Quality Standards (NAAQS).

In order to demonstrate compliance with the Acid Plant emission limit on a rolling 24-hour basis rather than on an hourly basis, FMSI reviewed the emissions data representing the distribution of emissions that is expected from the Acid Plant scrubber on an hourly basis as well as on a rolling 24-hour basis. FMSI then determined the 99th percentile value of the 1-hour average emission dataset and the 99th percentile value of the 24-hour average emission dataset, respectively. The ratio of the two 99th percentile values was calculated as 0.84. Therefore, the limit of 100 pounds per hour on rolling 24-hour basis reflects comparable stringency to the 1-hour average emission limit of 119 pounds per hour (100/0.84).

Using the emission rate of 119 pounds per hours for the Acid Plant Scrubber in combination with other sources within the facility, ADEQ performed additional dispersion modeling to assess the ambient impacts from the facility's emissions of SO₂. The results are shown in Table 2. As indicated in Table 2, the facility's emissions will not cause or contribute to an exceedance of the NAAQS for SO₂.

Table 2: NAAQS Modeling Analysis Results

Pollutant	Averaging Time Period	Modeled Concentration (µg/m ³)	Background Concentration (µg/m ³)	Total Concentration (µg/m ³)	NAAQS (µg/m ³)	Exceeds NAAQS?
SO ₂	1 hour	139.3	16.3	155.6	196	No