

MEMORANDUM

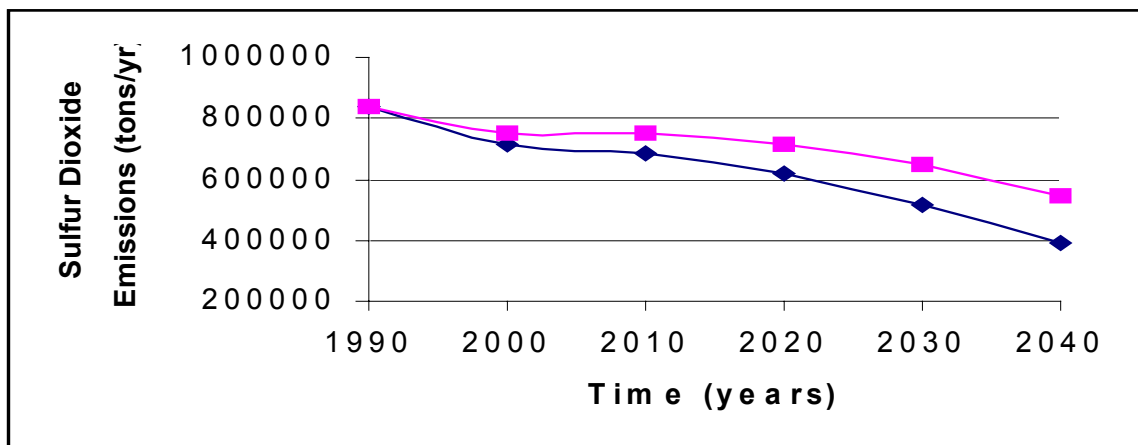
March 4, 1999

From: Pat Ryan
To: Mike George, Arizona Department of Environmental Quality
Shawn Kendall, Phelps Dodge Corporation
Subject: WRAP Emissions Inventory and BFS True-Up:
Includes Pechan-Avanti controls for other point sources

Dear Mr. George and Mr. Kendall

The following gives a preliminary¹ finding with regards to the WRAP baseline 1990 point source emission inventory of sulfur dioxide and the IAS baseline forecast projections for the years 2000, 2010, 2020, 2030, and 2040. The projections presented incorporate Pechan-Avanti controls on point sources that had been modeled as uncontrolled in the IAS. Total point source emissions for the regions (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming) are predicted to decline by slightly more than 50% from 1990 to 2040 (Figure 1). This compares to a predicted decline of 35% from 1990 to 2040 as reported in the April 1, 1998 document.

Figure 1. Total point source emissions for the region (squares – April 1, 1998 IAS update,



diamonds – current preliminary IAS update)

The issue of what effect group BART could have on sulfur dioxide emissions from point sources in the region has also been examined in a rough manner. The premise used for

¹ Cross checking of IAS inputs for accuracy as well as spot-checking results projected by the IAS by source category is ongoing. The completion of this analysis is expected to take another week. Emissions reported in the final analysis could differ from those obtained to date, but likely by less than 1%. Thus, the basic shape of the curves in Figures 1 and 2 are expected to be no different in this and in the final analysis report.

this analysis was as follows. When the IAS was used to examine emissions throughout the region, it assumed new source technology controls for coal-fired plants of 0.02 lb SO₂/MMBtu. As I understand it, this control level was derived by Argonne National Laboratory based on the fact that the majority of coal-fired units in existence in the west would retire between 2020 and 2040. As related to me, this control technology level is equivalent to roughly a 98% capture efficiency.

On the other hand, group BART could require these same coal-fired plants to achieve controls equal to 0.1 lb SO₂/MMBtu now. Assuming a further retrofit to these units would be unlikely in the future, the long-term effect on sulfur dioxide emissions in the region assuming group BART was calculated using the IAS after changing the control level for coal-fired plants to 0.1 lb SO₂/MMBtu. The long term effect (2040) as illustrated in Figure 2 would be to allow substantially higher sulfur dioxide emissions from point sources in 2040 than currently predicted in the IAS. *Near term projections as shown in Figure 2 are not meaningful, since in the near term, emissions in the region would drop faster with group BART than as projected and illustrated using this preliminary analysis.*

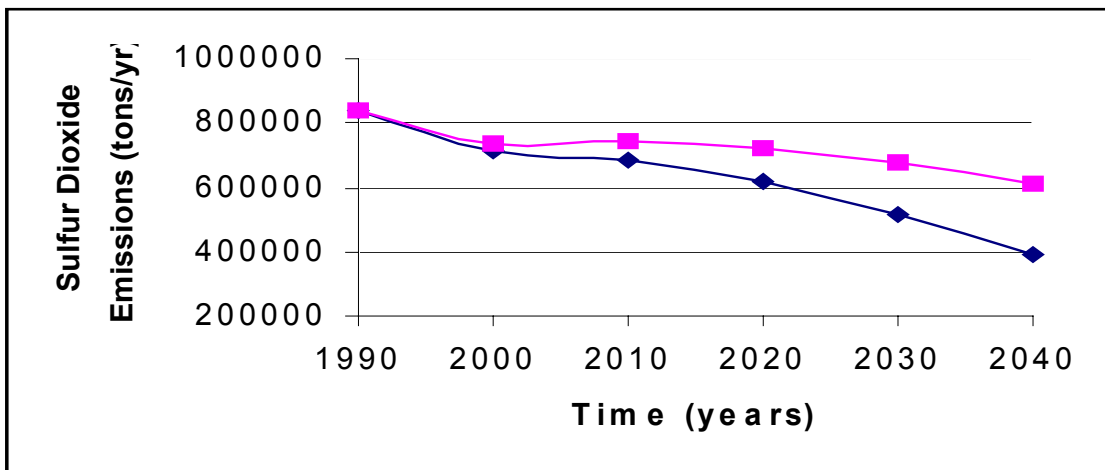


Figure 2. Effect of group BART on projected IAS total point source emissions for the region (squares – 90% control efficiency on utility coal-fired plants, diamonds – current preliminary IAS update incorporating 98% control efficiency). Near term projections (2000-2030) are not meaningful.

Sincerely,

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Ryan Consulting

cc: Lyle Nelson, SCE
Kirsten King, State of Colorado