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Shawn B. Kendall
Executive Assistant

September 17, 1993

Mr. Bruce R. Nicholson
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, NM 87504-0968

Dear Mr. Nicholson:

Please find attached a copy of the updated Technical Comparison Document for the Hidalgo GEP Stack Height Review Project. This document reflects changes in response to comments received from the Office of Air Quality Planning and Standards, in addition to final monitor siting modeling. In order to aid in your review of the document, the following are the highlights of changes which were made to the Technical Comparison Document.

First, and foremost, the locations of the proposed sites for deployment of the solar-powered SO_2 monitoring heliskids changed significantly based on modeling which included the data from our acoustic sodar. In addition, the monitoring sites have been verified as suitable for deployment of the heliskids through an on-site inspection and preliminary survey. The details of the monitoring sites are contained in Section 7 of the Technical Comparison Document.

Second, and also of significant importance, is the addition of Section 11.2 to the TCD which deals with the potential underprediction of the non-Guideline model. In summary, if the best performing model predicts a network-wide robust highest concentration which is lower than the highest observed robust highest concentration, then the results in application of the model for final compliance studies will be ratioed up to eliminate the underprediction bias.

Based on the modeling with the expanded receptor network which included a fine mesh polar grid, a discontinuity was found in model predictions for CTDMPLUS/ISCST2 near stack top. After a review of the literature and consultation with various members of the model development team, it was decided that an additional alternate model would be entered into the model competition. This alternate model will be a model which consists of operating ISCST2 up to 65 percent of stack top, and allowing CTDMPLUS to predict concentrations down to 65 percent of stack top. This phenomena and a description of the alternate model are included in Section 2.3.

We recognize and acknowledge Bill Cox's lukewarm reaction to the inclusion of the correlational fractional bias for paired in time and space comparison. However, Phelps Dodge wishes to retain the correlational fractional bias in the scientific component of the model score since a good score would indicate a better model, and most current models perform poorly in a paired in time and space comparison. We did, however, add additional justification for the inclusion of the correlational fractional bias in Section 10.3 of the TCD.

The references to the protocol to determine the best performing models have been changed to refer to the *Atmospheric Environment* article by Mr. Cox and Mr. Tikvart (see Section 12.0).

Section 11.1 of the TCD has been substantially modified to explain how the model competition will be performed. In the first pass, all models will be compared to the CTDMPLUS/ISCST2 model which will be the reference model for the study. The recent adoption of CTDMPLUS as an Appendix A guideline model has also changed the tone of and status of RTDM in the Technical Comparison Document. RTDM/ISCST2 will continue to be a candidate model, but will have to show superior performance in comparison to CTDMPLUS/ISCST2 in order to be further considered.

Pursuant to 74-2-11 New Mexico Statutes Annotated, New Mexico AQCR Section 110, New Mexico AQCR 702, Part II, Section E, 40 CFR Section 2.203, and any similar provisions under applicable statutes and regulations, notice is hereby given to New Mexico and USEPA that the enclosed document entitled "MPDM - Version 1.0 - Technical Comparison Document - Comparison and Analysis of Models Applicable to the Phelps Dodge Hidalgo GEP Stack Height Review Project - September 17, 1993" submitted pursuant to Section 123 of the Clean Air Act, is confidential business information of PDC and entitled to confidential treatment. This information is not reasonably available to persons unconnected with the model development effort being undertaken by PDC. PDC has maintained and will continue to maintain the confidentiality of the information contained therein by allowing only its attorneys, employees and contractors who are working specifically on the model development effort to have access to the information. Only authorized NMED and USEPA personnel may also have access to this information.

This model development project is being performed with a view to possible approval by NMED and USEPA; if such approval is not received or requested however, Phelps Dodge intends to preserve its rights to market or otherwise use the information developed. Disclosure of this information is likely to cause substantial harm to the competitive position of Phelps Dodge in making commercial use of this information under those circumstances. As you are aware, if the Mesoscale Puff Dispersion Model is selected as the best performing model and is used in the final review of the emission limit for the Hidalgo smelter, Phelps Dodge intends to make the model and its basic documentation available to the public under a no fee licensing arrangement.

It is our understanding that if New Mexico or USEPA should make a preliminary determination that this document is not entitled to confidential treatment, then NMED and/or USEPA will immediately give Phelps Dodge written notice of such a determination. Please furnish any such notice to:

Mr. Scott A. Crozier
Vice President and General Counsel
Phelps Dodge Corporation
2600 North Central Avenue
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You should also note that Phelps Dodge Corporation has taken the additional step of placing a copyright notice on this sensitive material. The material contained in these documents is not to be duplicated and a notice to that effect has been placed in the document. Additional copies of the material for agency review will be provided upon written request. The request should be sent to my attention and include the name and address of the party(ies) which require the copy(ies). Additionally, no references may be made in context to the techniques or methodologies described in the materials submitted herewith without the express written consent of Phelps Dodge Corporation.

The archeological survey team will be on site to review the proposed monitoring sites during the week of September 20th. Once the archeological clearances and environmental impact analysis have been prepared, the formal request for permission to access the monitoring sites (the majority of which are on BLM land) will be submitted for action by BLM. We will keep you posted as to developments on a regular basis.

I would appreciate any comments or feedback on the final draft of the TCD at your earliest convenience. Also, I would be more than happy to arrange for an aerial survey of the valley and surrounding terrain to review the proposed monitoring sites for you or a member of your staff, or for any representatives from USEPA Region VI and/or OAQPS. If you are interested, I could arrange to pick you up in Albuquerque or El Paso for a flight to the Playas Valley, and would anticipate returning the same day.

Please contact me if you have any questions or concerns with respect to the Technical Comparison Document. Thank you for your continued support and consideration in reviewing this matter.

Sincerely,

Shawn B. Kendall
Project Director
Hidalgo GEP Stack Height Review Project

SBK/la
Enclosure
cc: Mr. Quang Nguyen, USEPA Region VI (with enclosure)
Mr. Joe Tikvart, OAQPS Source Receptor Analysis Branch
Mr. Daniel Godden
Mr. Alex Bealer
Dr. Bruce Egan
Mr. Bob Paine
Mr. Jim Smith
Ms. Chris Viecelli
Dr. Pat Ryan

Ms. Debbie Brinkerhoff (without enclosure)
Ms. Dianne Sales