

April 20, 1993

To: Dean Wilson  
Subject: Comments on the ENSR-Phelps Dodge Project  
From: Bill Cox

B.11

The criteria for model selection compares each competing model with the "the most technically sound model" which they have determined to be MPDM (page 11-1). They propose to use MPDM unless the MCM calculation of at least some other model is statistically superior to MPDM. Question: I thought that comparisons had to be made against a reference model--a model I assumed was other than the model being proposed. Have I missed something?

ENSR apparently follows the EPA approach for model comparison fairly closely with the exception of (1) weighting assigned to monitoring stations and (2) inclusion of a 3-hour fractional correlation statistic. I personally am luke-warm to the 3-hour correlation statistic (see page 10-8) and don't see that it has any particular value. If they wish to include it, I'm not sure we should necessarily object; however, I do believe that they could present a more cogent argument for it.

They should include the Atmospheric Environment reference in addition to the EPA reference for comparing models. It is:

Cox, William M. and Tikvart, J.A. (1990). A Statistical Procedure for Determining the best Performing Air Quality Simulation Model. Atmospheric Environment, 24A