



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

AUG 19 1988

MEMORANDUM

SUBJECT: Review of Modeling Protocol for Champion International Corporation
Canton, North Carolina

FROM: Joseph A. Tikvart, Chief *J. Tikvart*
Source Receptor Analysis Branch, TSD (MD-14)

TO: Bruce P. Miller, Chief
Air Programs Branch, Region IV

At your request, the Model Clearinghouse has reviewed the Champion International Corporation SO₂ PSD modeling protocol and provided initial comments by telephone to Lew Nagler on July 22, 1988. Some changes to the draft letter from Region IV to the Director, North Carolina Regional Air Pollution Control, were made by Lew and forwarded to us and additional comments were discussed with Lew on August 2, 1988.

With respect to the draft letter, our main concern was on Comment No. 6. At this point there does not appear to be a valid justification for a model performance evaluation study, especially given the current monitoring situation and lack of a comprehensive protocol. We pointed out that there was no demonstration that the three existing monitors were sufficient or located to monitor estimated maximum concentrations by the models proposed for the emission limit setting process. The 14m meteorological tower may well not be located suitably for such a study, as pointed out by Lew in his Comment No. 2. The modeling protocol to establish emission limits for the source generally follows the "Guideline on Air Quality Modeling (Revised)" and Supplement A, and we agree with Lew's proposed modifications.

With regard to technical items in the modeling protocol it is not clear whether any meteorological data from the 10m tower at the Hi-Vu site will be used in the modeling study. This should be clarified better than now on page A-12. Since the data base for modeling has already been prepared, for January-December 1987, we assume the Region/State has checked the data for conformance with the requirements in the EPA Ambient Monitoring Guidelines (May 1987). Were any Hi-Vu site data used? Missing data should not necessarily be treated as "calm". The guidance in Section 6.5.3 on missing data in the "On-Site Meteorological Program Guidance for Regulatory Modeling Application" should be used. The protocol for handling measured wind speeds less than 1.0m/s does not conform to guidance. Wind speeds below 1.0m/s

but above the instrument threshold should not be considered calm. The wind direction should be used, if the speed is above the threshold for the vane, and the wind speed input to the dispersion model as 1.0m/s. Note Section 9.3.4.2 in the modeling guideline. In addition, we assume the preprocessor, WESMET, has been checked to ensure equivalence with EPA's preprocessor programs. In Table 4 the value for the parameter PRO20 should be 1, i.e., stack-tip downwash should be used as noted on page 5-9 of Supplement A to the revised modeling guideline.

With regard to the use of the 14m tower data in RTDM, we have some technical reservations as to whether those data are free from surface effects and would be representative of wind flow at stack top of 84m even though both are at the same mean sea level elevation. The Model Clearinghouse records indicate that we have previously discussed the use of COMPLEX I for this source. In a discussion on July 9, 1986 you indicated that two other alternatives to the use of COMPLEX I were being considered by the Company: (1) RTDM, with or without a performance evaluation; and (2) monitoring in lieu of modeling. The Clearinghouse indicated at that time that these two alternatives would pose a multitude of problems and we suggested the COMPLEX I option be pursued. However, at this point in time and considering the commitments you have made, we are willing to leave it to your judgement whether to accept the use of the 14m tower data in RTDM.

We have no specific comments on the proposed performance evaluation described in the protocol because it is much too sketchy and premature. Considerably more work needs to be done by the company in this regard.

If you have any questions regarding these comments please contact Jim Dicke (FTS 629-5682) or Dean Wilson (FTS 629-5683).

cc: D. deRoeck, NPPB (MD-15)
J. Dicke, SRAB (MD-14)
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FY88 MODEL CLEARINGHOUSE MEMORANDA

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11/5/87	V	Koch Refinery Model Evaluation
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5/24/88	I	S.D. Warren Paper Company PSD Analysis
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