

F. Emission Modeling Assessment

22. The following information shall be submitted to the Division of Air Quality within 30 days of the execution of this order:

- a. A complete and accurate list of building dimension parameters for all structures located within the Washington Works facility that have an significant impact on the dispersion of C8 emissions. Significant impact shall be determined based on the Industrial Source Complex v.3 model guidance.
- b. A complete and accurate list of DuPont's current permitted allowable as well as actual C8 emission rates in pounds per year for the year 2000 for all sources located within the Washington Works facility. Each emission point shall be listed according to its stack I.D. and corresponding permit number.
- c. For each emission point (stack) emitting C8, the following information shall be supplied:
 - i. Phase of C8 (solid, vapor or aqueous solution) at stack conditions.
 - ii. The particle characterization to be used for modeling including the particle size distribution (microns), the mass fraction of C8 in each particle size category, and the particle density (g/cm^3).
 - iii. For particulate emissions, scavenging coefficients (hr/s-mm) for both liquid and frozen precipitation to be used for wet deposition modeling based upon the particle size distribution and the EPA guidance in 40 CFR Part 51 Appendix W.
 - iv. For gaseous emissions, scavenging coefficients (hr/s-mm) for both liquid and frozen precipitation to be used for wet deposition modeling based upon the particle size distribution and the EPA guidance in 40 CFR Part 51 Appendix W
- d. To the extent that the phases exist, a solid, liquid and vapor phase (T-P) diagram for C8 with respect to pressure and temperature. Estimates of C8's critical properties shall be provided along with measured ranges of phase transition temperatures. The parties understand that a

liquid phase of C8 does not exist and thus the liquid portion of the diagram and a triple point do not exist.

- e. In lieu of a binary phase (T-x-y) diagram representing the vapor-liquid equilibrium between water and C8, the solubility and Krafft Point of C8 in aqueous solutions, measured pK value for C8 dissociation in aqueous solution, and a discussion regarding the volatility of C8 in aqueous solution as a function of pH will be provided. The parties understand that the vapor pressure of C8 above aqueous solutions has never been measured and cannot be practically determined.
- f. Henry's law coefficient for C8 and a discussion of its dependence on pH.
- g. Any carbon adsorption data in the form of isotherms for C8 adsorption.

WVDEP will provide DuPont an opportunity to comment on modeling methodology and assumptions prior to finalizing the modeling results.

Any expenses incurred as a result of accurately supplying the information requested above shall be covered by DuPont.