

## D3 Instructions

This form is used to provide the North Carolina Division of Air Quality (NCDAQ) / Air Quality Analysis Branch (AQAB) modelers with the necessary information to conduct an initial modeling evaluation of facility toxic emissions. This form should only be completed if the NCDAQ / AQAB modelers are requested by the applicant to conduct dispersion modeling. The AQAB modelers will perform screening, and if necessary and where possible, refined modeling. If the model results indicate the facility will be unable to demonstrate compliance with the applicable AAL for one or more pollutants at the requested emission rates, the applicant will be notified and will be required to perform the compliance demonstration using established modeling protocol and modeling analysis requirements as defined in the NCAC 15A 2D .1100 and 15A 2D .0600 and as discussed in the *Guideline for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina*.

Although the information requests in the modeling worksheets are self explanatory, additional comments are provided below.

(1) INTRODUCTION - Provide enough information to allow the modeler to understand the purpose of the new or modified source(s) affected by the proposed changes.

(2) EMISSIONS DATA - Source emissions by pollutant should represent the maximum emissions (expected or desired) after controls and should match the emissions data given in the permit application. These emissions may become permit limits for each pollutant for each source. **Note:** If facility-wide pollutant emission limits are desired, NCDAQ will evaluate compliance assuming all the pollutant emissions are being emitted from the worst case stack, i.e., the emission point which would result in the highest ambient concentrations.

(3) SOURCE DATA - List all the sources which emit pollutants affected by the proposed changes or modifications. Contact AQAB on specific parameters for area and volume sources.

- **Point source** examples include stacks, vents, chimneys, etc..
- **Area source** examples include ponds, storage piles, open pits, etc..
- **Volume sources** are generally a collection or multitude of small sources very close together such as emissions from the doors, windows, roof, and miscellaneous vents of a building or from numerous valves and flanges where defining each source separately as a point source would be difficult or unfeasible. Another example would be a large-diameter storage tank with no lid or top or with a top that has numerous vents along the circumference.
- Based on model input requirements, source emission data should be provided in metric units of measurement; however, if you are unable to provide metric emission characteristics, NCDAQ will convert from English units, as necessary.
- Although UTM coordinates are preferred, source location can also be provided in Latitude / Longitude coordinates.

(4) SITE DATA - Although the site map does not have to be a detailed blue print of the site and may be hand drawn, the map is critical for conducting modeling, screen or refined, and should be drawn

with care to accurately depict the information requested.

(5) **BUILDING DATA** - The building data is used to determine which building, building tier, or structure has the greatest influence on each of the emission sources identified. That structure is then used in the model to evaluate wake effects and downwash which can have a significant impact on offsite pollutant concentrations.

(6) **MISCELLANEOUS DATA** - This section is intended to provide any miscellaneous data pertinent to conducting the modeling exercise for a given facility; however, since modeling details are case-specific, much of this information will be gained through the initial review of this worksheet and communication with your facility point of contact.