

*Determining a Backup Source of Meteorological Data
for Dispersion Characteristics (Wind and Stability)*

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The Clinton Power Station is required by the Nuclear Regulatory Commission to monitor instantaneous and time averaged meteorological conditions. The Clinton Power Station currently has a primary meteorological monitoring tower and a separate on site back-up meteorological monitoring tower. The primary tower utilizes the change of temperature with height (delta T) to determine stability. Only wind speed and wind direction are measured at the backup tower. Sigma theta is calculated from the wind monitoring equipment on the back-up tower. In the event that data is unavailable from the primary tower, sigma theta calculated at the backup tower would be used for stability class determination. Clinton was seeking relief to a previous commitment to regulatory quality by determining a proven and reliable source for backup meteorological data which would provide an accurate stability classification, and allow for the elimination of the back-up meteorological monitoring tower (specifically the abandonment or removal of the 10 meter wind speed and 10 meter wind direction sensors which provide a sigma theta stability classification).

In an effort to find a suitable backup source of wind speed, wind direction and stability class, data from several nuclear facilities to the north of Clinton as well as data from four airports surrounding the Clinton Power Station were studied. Several methods for estimating stability at Clinton were considered including delta T, sigma theta and wind speed in combination with season, time of day and cloud cover. Wind data from six locations were utilized to determine the best source of backup wind data for the Clinton Power Station.