

**From:** Peter Tam  
**To:** Arias, Jesus; Loeffler, Rick; Salamon, Gabor  
**Date:** 07/11/2006 10:25:32 AM  
**Subject:** Monticello; Draft RAI on Meterology for Full-Scope AST Application ( TAC MC8971)

Jay, Rick:

Our reviewer for meterology has developed the following draft RAI questions. Can you discuss these with us in the conference call (about radiological consequences) today? Or would you like to schedule a difference call?

1. Section 4, Atmospheric Dispersion, of the March 7, 2006 NRC Regulatory Issue Summary 2006-04 (RIS 2006-04), Experience with Implementation of Alternative Source Terms, states that valid wind direction data in the ARCON96 format should range from 1E to 360E. Fields of "nines" (e.g., 999) should be used to indicate invalid or missing data. The staff notes that the Monticello hourly meteorological data for the 1998-2002 period generally contains fields of nines to indicate invalid data, but also has some zeros in the wind direction and wind speed fields. Are these data (i.e., the zeros) valid data? RIS 2006-04 further states that the jfds used as input to the PAVAN computer code should have a large number of wind speed categories at the lower wind speeds in order to produce the best results (e.g., Section 4.6 of NUREG/CR-2858, "PAVAN: An Atmospheric Dispersion Program for Evaluating Design Basis Accidental Releases of Radioactive Materials from Nuclear Power Stations," suggests wind speed categories of calm, 0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0 and 10.0 meters per second). What is the wind speed and designation for calm (e.g., less than 0.5 meters per second based upon instrument thresholds)? The staff is attempting to generate a jfd using these categories and is attempting to input valid data only.

2. What wind speed values were used as an input to Midas to define the categories in the Monticello wind speed, wind direction and atmospheric stability joint frequency distributions (jfds) for both the Regulatory Guide 1.21 and non-Regulatory Guide 1.21 tables? For example, if two consecutive categories are defined as 4-7 miles per hour (mph) and 8-12 mph, what is the value defining the lower category (e.g., 7 mph, 7.5 mph, 8 mph)?

3. Please provide the calculations for the atmospheric dispersion factors ( $\chi/Q$  values) used in the Monticello alternative source term license amendment request for new  $\chi/Q$  values. Also, provide a site plan generally drawn to scale and showing true North, with postulated release/receptor pairs highlighted.

4. Which  $\chi/Q$  values were used to model unfiltered inleakage into the control room?

5. Do the accident scenarios and generated  $\chi/Q$  values model the limiting doses considering multiple release scenarios (e.g., including those due loss of offsite power or other single failure)?

6. When assessing meteorological factors that may affect secondary containment drawdown capability, is high wind speed, only, the limiting case (e.g., temperature is not a factor)?

**This e-mail is intended solely to prepare you and others for the proposed conference call. It does not formally convey an NRC staff position, and it does not formally request for additional information.**

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**Creation Date** 07/11/2006 10:25:32 AM

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