Mail Message

From: Kent Tosch
To: gbur1@comcast.net
CC: Karen Tuccillo, Paul Schwartz, Jill Lipoti
Date: Friday - July 22, 2005 2:05 PM
Subject: Re: Thank you very much , we have a few more questions.

Edith,

Thank you for your recent email regarding the use of a smoke dispersion test at the stack height to determine the accuracy of the dispersion model results around Oyster Creek Nuclear Generating Station. To the best of our knowledge, there has been no actual smoke dispersion test performed on the stack release point of the facility, due to the non-complex (flat) terrain in the area. According to the NRC guidelines, special considerations for doing smoke dispersion, balloon or other types of tests require complex flow patterns in a nonuniform terrain. Dispersion characteristics of the site were determined using 5-year historic meteorological data from the site's tower, located onsite. Specific information on guideline for a meteorological program at a nuclear power plant can be found in Safety Guide 23 (Regulatory Guide 1.23) through the USNRC website electronic library at http://www.nrc.gov.

The meteorogical parameters used in dispersion modeling consist of wind speed and direction, along with ambient temperature. Meteorological instruments are placed at the stack height (380-feet) as well as close to the ground (33-feet). The change in temperature between the 380-feet instrumentation and the 33 feet are important in determining how stable the air mass is at the site. The wind speed, wind direction and change in temperature are the inputs to determine downwind transport.

These meteorogical data along with the radioactive release data (source term) are inputted in a dispersion model. The Bureau of Nuclear Engineering utilizes the RASCAL (Radiological Assessment System for Consequence Analysis) model to assess air dispersion and dose. RASCAL was developed for use by US Nuclear Regulatory Commission (NRC) and is used throughout the United States. RASCAL computes power reactor source terms, airborne transport of activity, and the resulting doses. The results allow easy comparison to EPA protective action guidelines. Information on RASCAL may be obtained from the NRC website as well as the Oak Ridge National Laboratory (http://www.ornl.gov/), where the model is tested.

Kent

>>> "Edith" <gbur1@comcast.net> 07/10/05 3:46 PM >>>
Hi Kent,

Was a smoke dispersion test performed at the stack height to determine the accuracy of the dispersion model results? If so, can you provide a test basis and a summary
of the test results comparing the computer results with test results.

Can you identify the parameters used in thesispersion model?
Edith\ Gbur