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Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
Washington, D.C. 20555

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
METEOROLOGICAL MONITORING SYSTEM SOFTWARE
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

This is to advise you of a change in our commitments regarding meteorological and dose assessment software. This change is necessitated by the failure of a vendor-supplied software package to perform its intended function. The commitments contained herein are intended to replace in entirety the meteorology-related commitments contained in our letters of December 29, 1981, January 9, 1981, and November 1, 1984. (The unrelated evaluation of control room habitability included in our January 9, 1981, submittal is unaffected by these changes.) The proposed changes to our commitments regarding meteorological software have been discussed with Mr. W. Snell, in the U.S. NRC Region III Office by telephone several weeks ago.

A. Historical Development

As you are aware, various post-TMI requirements led us to the procurement of a new plant process computer for Point Beach. The new computer was to be supplied by Electronic Associates, Inc. (EAI). While the new computer system was being designed, we contracted with Energy Impact Associates (EIA) to provide Class A meteorological software to be installed on the new computer.

By our letter dated October 1, 1984, we informed you that the contract with EAI for the new plant computer system was terminated "because EAI was unable to meet the terms and conditions of the contract for reasons not attributable to Wisconsin Electric." Work on the meteorological software by EIA continued through this period with the expectation that it would be used on a new computer system. The meteorological software design report prepared by EIA was submitted to you by our letter of November 1, 1984,

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Our letter of January 17, 1985, informed you of a new contract with Combustion Engineering for a new plant process computer system and provided a schedule for installation of the computer and associated systems. At this time the EIA meteorological software was temporarily shelved to await installation on the new computer. Consistent with the schedule in our January 17, 1985, letter, that installation was to be complete 3 months after the fall 1987 Unit 2 outage, i.e., approximately February 1988.

Early in in 1987, we began work on the installation of the meteorological software and encountered serious problems with the product. Resolution was hampered by inadequate documentation. In a telephone discussion with EIA, we determined that the principals involved with our contract were no longer with the firm, that EIA was no longer in the Class A meteorological software business, and that technical information pertaining to our software was likely to have been purged from EIA files. By late summer, we concluded that further efforts to salvage the package were not warranted.

B. CURRENT STATUS

The installation of all meteorological hardware has been completed as originally planned. Three meteorological towers are currently in operation: the main or primary tower, the backup tower and an inland tower. Data from all three towers is available in the control room and on the plant process computer. Data is archived for 2 weeks at 10 minute intervals, and selected data is saved in the form of strip charts. A more complete description of the meteorological hardware is provided in Attachment 1.

Offsite dose assessmment at Point Beach has been provided by our MAD (Meteorological and Dose Assessment) program since 1982. The MAD program uses manual entry of basic meteorological data and either manual entry of radiological data or use of internally stored source terms. In the course of emergency exercises and drills at Point Beach, this program has been shown to be very satisfactory. It is versatile, fast, and reliable. Reasonable agreement with both NRC and State of Wisconsin dose predictions has been demonstrated. It was originally intended that the dose assessment methodology used in MAD was to be used in conjunction with the Class A meteorological model to be developed by EIA.

The meteorological model of the MAD program is a straight line Gaussian function which yields results consistent with accident analyses and other studies performed for Point Beach. In

calculating off-center isopleths, a meander factor of one-half of a 22.5° sector is conservatively assumed in either direction.

The program runs on a time-based case basis. Any change in meteorological or radiological conditions constitutes a new case. Past cases can be edited to incorporate better data or corrections, and predictions incorporate doses received in past cases as well as doses estimated for future times. When all releases are secured, the program performs an estimate of population doses received in all sectors.

The MAD program is available on a dedicated IBM PC-AT maintained in our EOF. A backup is resident on the corporate mainframe which is also accessible from the EOF.

C. PROPOSED CHANGES

1. The existing MAD program will be permanently available at the EOF for use by the Rad Con/Waste Manager or his designated assistant(s) during emergencies and emergency drills and exercises. While manual entry of meteorological data will be continued, it should be noted that both meteorological and radiological monitoring system data will be available on the display screens located in the EOF. Only field data and laboratory analyses need to be transferred to the EOF by telephone or high speed telecopier. The MAD program is already available in the EOF. Display of radiological monitoring system data is also available in the EOF. Display of meteorological data will be available in the EOF by the end of February, 1988.

2. MADCR (Meteorological And Dose assessment program for Control Room), an abbreviated version of the MAD program, will be installed on the plant process computer system to facilitate prompt initial emergency classification by operating personnel. The primary differences between MADCR and MAD are as follows:

   (a) MADCR will calculate only a single case consisting of existing conditions and dose rates as well as a prediction of the estimated 8-hour dose;

   (b) By user selection MADCR will be capable of using real-time meteorology;

   (c) By user selection, MADCR will be capable of using real-time radiological monitoring system data, internally stored source term data, or manually entered radiological data.

MADCR will be available on the plant process computer system by the end of February 1988.

3. The only unique meteorological characteristic in the vicinity of Point Beach is the lake breeze phenomenon. A subroutine is being developed to recognize the occurrence of a lake breeze and conservatively account for potentially increased concentrations, i.e., effectively decreased diffusion, due to the recirculation associated with a lake breeze. This refinement to the MAD and MADCR programs will be implemented by December 1988.

With these proposed changes to our earlier commitments, we expect to be able to meet the milestone specified in our January 17, 1985, letter, i.e., 3 months following completion of the fall 1987 Unit 2 refueling outage (end of February 1988). The final refinement to account for the lake breeze phenomena will be added by the end of December 1988.

Please feel free to contact us if you need any further information.

Very truly yours,

C. W. Fay
Vice President
Nuclear Power

Copies to Resident Inspector
Region III

ATTACHMENT I
POINT BEACH NUCLEAR PLANT
METEOROLOGICAL HARDWARE DESCRIPTION

Point Beach Nuclear Plant has three meteorological towers. Tower 1, a 35 meter tower, is located south of the plant approximately one-half mile. Tower 2, a 10 meter tower, is located 1/4 mile north and west of the plant. Tower 3, also a 10 meter tower, is approximately 8 miles inland, west of Point Beach. The instrumentation on each of hte towers is as follows:

Tower 1. (Main)	Wind speed	35 meters
	Wind direction	35 meters
	Wind speed	10 meters
	Wind direction	10 meters
	Temperature	10 meters
	Delta T between	10 and 35 meters
	Sigma Theta	10 meters
Tower 2. (Backup)	Wind speed	10 meters
	Wind direction	10 meters
	Sigma Theta	10 meters
	Precipitation	ground level
Tower 3. (Inland)	Wind speed	10 meters
	Wind direction	10 meters
	Sigma Theta	10 meters
	Ambient temp.	10 meters

Each of these parameters is transmitted to the control room where it is recorded on strip chart recorders. Most parameters are also sent to the plant process computer. Real time access is available by specific point identification on the plant process computer. Those parameters which relate directly to the dispersion of plant gaseous effluent are displayed on a plant process computer screen.