NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-15

December 31, 1979

Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Our letters dated November 26, 1979, December 19, 1979 and December 20, 1979 document our compliance with NUREG-0578 Recommendations 2.1.1, 2.1.2, 2.1.3.a, 2.1.5.c, 2.1.7.a, 2.1.7.b, 2.1.9, 2.2.1.a, 2.2.1.b, 2.2.1.c, 2.2.2.a, and 2.2.2.c. Attached are the design details and the status of the outstanding commitments to the Recommendations of NUREG 0578 for Nine Mile Point Unit 1.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

Donald P. Dise
Vice President - Engineering

FEF:jk

dupe 8001070389

Exhibit 2

NUREG 0578 RECOMMENDATION
2.1.8.b - INCREASED RANGE OF RADIATION MONITORS

POSITION

The requirements associated with this recommendation should be considered as advanced implementation of certain requirements to be included in a revision to Regulatory Guide 1.97, "Instrumentation to Follow the Course of an Accident," which has already been initiated, and in other Regulatory Guides, which will be promulgated in the near-term.

1. Noble gas effluent monitors shall be installed with an extended range designed to function during accident conditions as well as during normal operating conditions; multiple monitors are considered to be necessary to cover the ranges of interest.

   a. Noble gas effluent monitors with an upper range capacity of 10^5 Ci/cc (Xe-133) are considered to be practical and should be installed in all operating plants.

   b. Noble gas effluent monitoring shall be provided for the total range of concentration extending from normal condition (ALARA) concentrations to a maximum of 10^5 Ci/cc (Xe-133). Multiple monitors are considered to be necessary to cover the ranges of interest. The range capacity of individual monitors should overlap by a factor of ten.

2. Since iodine gaseous effluent monitors for the accident condition are not considered to be practical at this time, capability for effluent monitoring of radioiodines for the accident condition shall be provided with sampling conducted by absorption on charcoal or other media, followed by onsite laboratory analysis.

3. In-containment radiation level monitors with a maximum range of 10^8 rad/hr shall be installed. A minimum of two such monitors that are physically separated shall be provided. Monitors shall be designed and qualified to function in an accident environment.

RESPONSE

By January 1, 1980 the following provisional steps will be taken:

The existing in-line stack monitors are capable of detecting 50 Ci/sec. or approximately 0.55 uCi/cc (Xe-133) with normal ventilation flow of 180,000 $ft.^3$/minute. These monitors have read out and alarm capability in the main control room. Quantification of higher level noble gas releases will be provided by means of a portable gamma survey instrument. This instrument will be installed such that it will monitor a portion of the sample line to the existing stack monitors. This line comes from an isokinetic probe in the main stack.

RESPONSE (cont.)

Background radiation will be shielded by means of a lead cave built around the detector. The instrument has an upper limit of at least 1000 R/hr. It will be calibrated with a Xe-133 source such that the reading can be related from R/hr. to uCi/sec stack release rate. Since all station effluents are discharged via the stack, the effluents monitored in this line are representative of the stack discharge. Until the Xe-133 calibration can be accomplished, the existing stack monitor calibration dependence data will be utilized to establish a calibration factor.

Readings on the interim monitor will be taken locally and the results verbally communicated to the main control room. This method would be used only in a case where the existing monitors were off-scale (high). Communication will be by means of a headset and will be taken approximately every fifteen minutes, when required.

The in-line monitors are powered from redundant AC power sources. These monitors are not presently powered from emergency sources. Power to the interim monitors will be from a DC battery source, capable of eight consecutive days of continuous readout.

By January 1, 1981 the following modifications will be performed:

1. A high range effluent monitor will be installed. This monitor will either extend the range of the existing in line monitors or will provide for monitoring the entire range from normal concentrations (ALARA) to the upper range defined in NUREG 0578 (or equivalent). The range of this monitor will consider dilution from ventilation sources that would be operating during an accident. Power to the monitor will be from a vital instrument bus. This monitor will meet the requirements of Regulatory Guide 1.97.

2. Presently, charcoal canisters and particulate filters are taken to the lab and are analyzed by GeLi spectrometer. This method will continue to be used under accident conditions. If necessary, remote handling tools and lead pigs will be used. Canisters will be purged of noble gas in the hot lab ventilation hood to reduce interference with iodine analysis. Collection times will also be reduced, if necessary, to control the amount of activity on the canisters and filters.

   The charcoal canister and filter are located in the sample line to the stack monitors. Samples are representative of the main stack discharge through an isokinetic probe in the stack.

   Continuous in line monitoring capability of iodine and particulates is being considered. These types of monitors will become available and may be part of the high range monitor addition.

3. Two independent containment radiation monitors will be installed. These monitors will be installed in existing spare penetrations sleeves of the containment. The detectors will be located in sleeves which will extend into the free space of the containment, thus increasing the detectors reliability.

RESULTS (cont.)

The detectors will meet the requirements of Regulatory Guide 1.97, including seismic and environmental qualifications. The range will be up to 10^8 R/hr and power will be provided from a vital instrument bus. Display will be continuous with recording capability in the control room.