NORTHEAST UTILITIES
NU
THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

P.O. BOX 270
HARTFORD, CONNECTICUT 06101
(203) 666-6911

September 19, 1979

Docket Nos. 50-245
50-336

Director of Nuclear Reactor Regulation
Attn: Mr. D. L. Ziemann, Chief
Operating Reactors Branch #2
Mr. R. Reid, Chief
Operating Reactors Branch #4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

References: (1) W. G. Counsil to D. L. Ziemann and R. Reid, dated February 13, 1979.
(2) W. G. Counsil to D. L. Ziemann and R. Reid, dated March 13, 1979.
(3) W. G. Counsil to D. L. Ziemann and R. Reid, dated June 29, 1979.

Gentlemen:

Millstone Nuclear Power Station, Unit Nos. 1 and 2
Radiological Effluent Technical Specifications
and Offsite Dose Calculation Manual

A meeting was held on July 18, 1979 between representatives of Northeast Nuclear Energy Company (NNECO) and the NRC Staff to review the Millstone Nuclear Power Station, Unit Nos. 1 and 2, proposed Radiological Effluent Technical Specifications (RETS) and Offsite Dose Calculation Manual (ODCM) which had been submitted with References (2) and (3), respectively.

As a result of that meeting, revisions, as requested by the Staff, have been incorporated into the Technical Specifications for Millstone Unit No. 1 and Millstone Unit No. 2 and the ODCM and are included herewith as Enclosures 2, 3, and 4, respectively. Supplemental data has been added to the ODCM as requested. A number of technical, administrative, and clarity changes have been made to the proposed Technical Specifications for each unit, based on discussions and comments during the meeting. It should be noted that all changes in the Technical Specifications and ODCM from the original submittals have been identified by double margin bars.

Additionally, the NRC Staff requested specific information in several areas of concern. Our responses to these concerns are contained in Enclosure 1. Also, the Staff requested that we submit a Process Control Program (PCP) for solid

1021 228 A009 S 40/40

7909250442

waste. PCP's for Millstone Unit Nos. 1 and 2 are provided herewith as Enclosures 5 and 6 respectively.

Because the documents being submitted herewith update information provided in References (2) and (3), the fee forwarded with Reference (2), pursuant to 10CFR170, is applicable to this submittal. Accordingly, no fee payment is enclosed.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil

W. G. Counsil
Vice President

Attachments

By: W. F. Fee

W. F. Fee
Vice President

DOCKET NOS. 50-245
50-336

ENCLOSURE 1

MILLSTONE NUCLEAR POWER STATION, UNIT NOS. 1 AND 2

ADDITIONAL INFORMATION RELATING TO NRC CONCERNS

SEPTEMBER, 1979

~~7909250~~

(1) UNIT 2 WASTE GAS DECAY TANK CURIE LIMITATION

The specification requiring an upper limit on curies allowed in any one Waste Gas Decay Tank (WGDT) has not been included in the Technical Specifications. The limit would be 16,000* curies. As shown in the calculation below, it would be physically impossible to operate within the Technical Specifications and reach this curie limit. Thus, it seems unnecessary to include the limit in the specifications.

Calculation:

The source of noble gases fed to the WGDT's is the Reactor Coolant System (RCS) which is limited by the Safety Technical Specifications to a specific activity limit of $100/\bar{E}$.

A typical MP2 analysis (October 12, 1978) yielded the following:

RCS	Noble Gas Activity	=	8.62E-02 uCI/gm
RCS	Specific Activity	=	2.34E-01 uCi/gm
RCS	Specific Activity Limit	=	112 uCi/gm

This means that at the RCS specific activity limit, noble gas activity would be:

$$\frac{112 \text{ uCi/gm}}{2.34\text{E-01 uCi/gm}} \times 8.62 \text{ E-02 uCi/gm} = 41.3 \frac{\text{uCi}}{\text{gm}}$$

Multiplying by the volume of the primary coolant system (2.34 E08 [illegible]) this yields 9.65E09 uCi or 9650 Ci.

With less than 10,000 Ci available in the Primary Coolant System, it would be impossible to exceed the 16,000 Ci per WGDT limit, especially in view of the fact that degassing the RCS requires at least two WGDT's.

The foregoing represents a worse case MP2 RCS noble gas inventory during actual plant operation is only 20 Ci, or 1/800 of the WGDT limit.

---

* This is the limit specified in the present Environmental Technical Specifications. Using the methodology given in NUREG-0133, the actual limit would be much higher as it would be close to 100,000 Ci.

(2) UNIT 1 AND 2 -- LLD FOR SERVICE WATER GRAB SAMPLES

The specified LLD for service water grab samples required to be taken if the monitor is inoperable is 5×10^{-7} uCi/ml as opposed to the standard Technical Specification requirement of 1×10^{-7} uCi/ml.

NNECO feels that this higher LLD is required because of the fact that MP1 or 2's service water supply is salt water. Salt water limits the amount of sample which can be boiled down to about 100 ml. This small volume makes it next to impossible to achieve an LLD of 1×10^{-7} uCi/ml.

NNECO does not feel that the use of this higher LLD would be of any consequence to the general public. Since the only source of service water contamination would be the closed cooling water, the chances of reaching an activity level of 1×10^{-7} uCi/ml are minimal as it would require both extremely high activity levels in the closed cooling water and a large leakage rate into the service water.

Also, analyzing to 5×10^{-7} ensures that releases are well below 10CFR20 limits.

(3) UNIT 2 TRITIUM SAMPLING WITH REFUELING CANAL FLOODED

The MP2 Technical Specifications require a weekly sampling frequency for gaseous tritium releases during periods when the refueling cavity is flooded. This is less restrictive than the Standard Technical Specification requirement for daily sampling.

NNECO feels that weekly samples will provide adequate determination of tritium release concentrations. This is justified by the following:

1. The use of RBCCW as a cooling source maintains the refueling cavity water at a fairly constant temperature. Thus, the release of tritium from the pool water is both constant and relatively low.

2. Previous health physics tritium samples from the refueling floor indicate that the tritium levels remain relatively low and constant during the period when the refueling cavity is flooded.

   For example, during the 1979 refueling outage, while the cavity was flooded, the tritium concentration on the refueling floor ranged from approximately 3×10^{-8} uCi/cc to 1×10^{-7} uCi/cc.

(4) UNIT 2 TURBINE BUILDING SUMP RADIATION MONITOR

NNECO will install a radiation monitor on the Unit 2 turbine building sumps which will have the capability to provide for automatic termination of releases. In anticipation of such, the requirements for such a monitor have been incorporated into the proposed Technical Specifications. The expected completion date for this modification is the end of the next scheduled refueling outage.

(5) UNIT 2 SGBD AND TURBINE BUILDING SUMP COMPOSITE SAMPLERS

NNECO will install composite samplers on the steam generator blowdown line and turbine building sump line. In anticipation of such, the requirements for composite samplers have been incorporated into the proposed Technical Specifications. The expected completion date for this modification is the end of the next scheduled refueling outage.

(6) UNIT 2 WASTE GAS SYSTEM OXYGEN MONITOR

Unit 2 presently has an installed oxygen monitor on the waste gas system. However, operation of the monitor has been unsatisfactory and would not meet the operability requirements of the proposed specifications. For this reason, NNECO has decided to purchase and install a completely new oxygen monitor. In anticipation of this new monitor, the requirements for the monitor have been incorporated into the Technical Specifications. The expected completion date for this modification is the end of the next scheduled refueling outage.

(7) UNIT 2 STEAM GENERATOR FLASH TANK STEAM RELEASES

Steam releases from the Unit 2 Steam Generator flash tank are discharged to the environment through a roof top vent. Due to the nature of these releases and the relatively low concentration of radioactivity, the steam is discharged without monitoring or sampling.

NNECO has no intention to install monitoring or sampling capabilities on this effluent path for the following reasons:

1. Radioactive releases at typical operating conditions are so low as to not be detectable by monitoring or sampling and are inconsequential with regard to offsite doses.

2. If operating at Technical Specification limits on leakage rates, calculations indicate that iodine releases may be of significance from this pathway (approximately 5 mrem per year). If it were practical to sample a steam release for iodine, it would be detectable. However, due to the physical difficulties of sampling steam, it is allowable to calculate the iodine releases per NUREG-0133.

Thus, calculations would be performed in lieu of sampling and monitoring should any significant iodine levels be detected in the Steam Generator blowdown.

3. In essence, releases from the flash tank vent are being monitored by the Steam Generator Blowdown Monitor since there is a direct correlation between the level of radioactivity in each stream. Any unexpected increase in the flash tank vent releases would be detected and could be isolated by either the blowdown monitor or condenser air ejector monitor.

(8) SOLID RADWASTE

Process Control Programs for Unit 1 and Unit 2 have been developed and the requirements for their use have been incorporated into the Technical Specifications. They include the controls used for the solidification of liquid radwaste and for dewatering spent resins.

At the present time, a major plant modification, which would permit resin solidification, is under study. The proposed modification is still in preliminary design stages. No final cost estimates have been developed, nor has budget approval been obtained. Thus, at the present time, NNECO has no firm commitment nor commitment date for the solidification of spent resins.