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THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
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May 9, 1989

Docket No. 50-423
B13238
Re: 10CFR50.90

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
Containment Integrated Leak Rate Test

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend its operating license, NPF-49, by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit No. 3.

The proposed changes to each Technical Specification section are described below:

1. Table 3.3-6, Radiation Monitoring for Plant Operation

ACTION Statement 26 has been revised to remove the requirements that the containment purge and exhaust isolation area radiation monitors (RE41 and RE42) be operable during the Type A containment integrated leak rate test (ILRT).

During a Type A containment ILRT, the Millstone Unit No. 3 containment is pressurized to the calculated design basis accident containment pressure of 54.1 psia to verify containment leak tightness. The pressurization path is through the purge air supply piping, Containment Penetration Z86. The containment purge and exhaust system is interlocked with radiation monitoring instrumentation located inside containment. Since the radiation monitoring instrumentation is not designed to withstand a pressure of 54.1 psia, they will be removed from containment for the duration of the ILRT. Per Technical Specification 3.3.3.1, the purge and exhaust valves must be isolated with less than minimum radiation monitoring instrumentation channels available. However, opening the purge air supply valve is required to conduct the ILRT and satisfy 10CFR50, Appendix J. Therefore, ACTION Statement 26 has been revised to remove the requirement that those radiation monitors be operable during the containment ILRT.

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2. Table 3.3-11, Fire Detection Instruments; Section 3.7.12.2, Spray and Sprinkler Systems; and Table 3.7-4, Fire Hose Stations

The footnote (**) to Table 3.3-11 has been revised to include a requirement that fire detection instruments in the electrical penetration area, Elevation 24' 6", be operable during the performance of Type A containment ILRT. All other fire detection instruments located within the containment area are not required to be operable during the performance of a Type A containment ILRT.

A footnote is added to Technical Specification Section 3.7.12.2 and Table 3.7-4 which exempts the containment cable penetration area sprinkler system and containment fire hose stations from operability requirements during a Type A containment ILRT. The containment fire protection water system that enters containment at Penetration Z56 must be drained and vented to meet the provisions of the Millstone Unit No. 3 Final Safety Analysis Report (FSAR) Section 6.2.6 and the requirements of 10CFR50, Appendix J.

Safety Assessment

1. Table 3.3-6, Radiation Monitoring for Plant Operation

The purpose of these radiation monitors is to isolate the containment purge valves upon indication of high radiation in the containment. Since the purge valves must be locked closed in Modes 1-4, they can be opened only in Modes 5 and 6. The only event of moderate probability for which they would provide isolation is a fuel-handling accident.

The safety significance of losing the isolation capabilities of these monitors during the performance of ILRT is considered insignificant for the following reasons:

a. During the performance of the ILRT (Mode 5), there will be no personnel within the containment; hence, fuel-handling accidents are impossible.

b. No core alterations (e.g., criticality testing) will be performed during the ILRT; hence, there is no probability of an inadvertent criticality.

c. The only potential for a release of significant activity into the containment would be due to a low probability accident--loss of all shutdown cooling capabilities. The ILRT is planned to be performed at the end of each refueling outage and subsequently at low decay heat. If a loss of shutdown cooling were to occur, sufficient time exists for the operator to isolate Valve 3HVU-V5 prior to core uncovery and thereby prevent a release of significant activity from containment.

d. The ILRT equipment/valve lineup is as shown in the attached Figure 1. During the Type A containment ILRT the outside containment purge valve (3HVU-CTV-32A) is closed and the inside containment purge valve (3HVU-CTV33A) is opened to provide a pressurization/venting path. Manual valve (3HVU-V5) is closed except during the pressurization and venting phase. The valve is not opened until immediately before pressurization, and it is closed immediately following the venting process. During pressurization, all piping outside is closed and is connected to the air compressor which would be at a higher pressure than the containment. During the venting process, the valve (3HVU-V5) provides a direct path to the environment via 3HVU-V8 which is opened for venting, but an individual is stationed at the valve for the entire venting evolution (approximately 8 hours). As described above, the only potential accident which could result in fuel failure would allow sufficient time for this individual to close the valves (3HVU-V5 and V8).

e. Prior to venting and routinely during venting, grab samples are taken of the containment atmosphere and analyzed for radioactivity. Venting would be terminated upon detection of increased containment activity.

f. Other operable radiation monitors in the containment (e.g., RE-04A and 05A) would provide indication of a release of significant activity into the containment.

g. Since the ILRT is planned for the end of refueling outages (typically 30 or more days decay), the inventory of noble gas and iodine available for release from the fuel is significantly less than the T = 0 inventory assumed for LOCA dose calculations. Thus, even for a minor leakage out the venting path, the potential dose consequences would be small.

2. Table 3.3-11, Fire Detection Instruments; Section 3.7.12.2, Spray and Sprinkler Systems; and Table 3.7-4, Fire Hose Stations

In normal plant operation the electrical penetration area inside containment has both an automatic fire suppression system and a smoke detection system in service. These systems provide early detection of a fire condition within the immediate area as well as automatic fire suppression of a fire when the temperature surpasses 165°F (temperature rating of fusible links of sprinkler heads). These features (suppression and detection) have been provided in order to provide an effective barrier between redundant safety trains (cabling) in the event of a fire, thus safeguarding the plant's ability to achieve and maintain shutdown conditions as specified in the Standard Review Plan, Branch Technical Position BTP CMEB9.5-1.

The purpose of this proposed change is to isolate the fire water supply within containment to support the leakage rate testing. By isolating the fire water supply, the penetration area sprinkler system and hose stations within containment will not be available. However, since the smoke detection system located at the electrical penetration area will be in service, early warning of a fire condition will be available. In addition, the plant procedure governing Type A containment leakage rate test has also been revised to address fire protection concerns. The changes to the procedure will require the cancellation of the containment ILRT and the opening of the containment fire water isolation valves if both a smoke detection alarm is received and if any energized component/system operating within containment trips simultaneously for any unknown reason during the test. These two actions (detection alarm and equipment fail) occurring concurrently will provide a high level of assurance that an abnormal condition (fire) may be present. Actions as outlined in plant procedure for this test will reinstate the fire suppression system to the automatic mode in order to control the fire. Therefore, it is concluded from a fire/safety standpoint that an adequate level of fire protection will be maintained during this test.

The safety significance of removing the fire water supply to containment to support this test is considered insignificant for the following reasons:

a. During the performance of the ILRT (Mode 5) there will be no personnel within containment, thus limiting the potential of an accidental fire from occurring within the electrical penetration area.

b. The automatic smoke detection system will be in service (OPERABLE) monitoring the area of concern (electrical penetration area) from a fire protection standpoint. Early detection of a fire condition will alert personnel to an abnormal condition existing and will allow plant personnel to take appropriate actions as necessary to control fire damage.

c. Fire-rated cable wrap of the sprinkler system isolation valve inside containment ensures that the fire water/sprinkler system operation will be available if reactivated.

d. There will be a minimum number of safety systems energized/operating during this test. Therefore, the potential for a cable fire within the electrical penetration area as a result of a hot short is very small.

Significant Hazards Consideration

In accordance with 10CFR50.92, NNECO has reviewed the proposed changes and concluded that they do not involve a significant hazards consideration. The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not

compromised. The proposed changes do not involve a significant hazards consideration because the changes would not:

1. Involve a significant increase in the probability or consequences of an accident previously analyzed.

   The Type A ILRT is performed in Mode 5 with no personnel in containment. There are no design basis accidents which occur in Mode 5 and rely on either containment purge and exhaust radiation monitoring or the inside containment fire detection/suppression equipment. The only accidents which can occur in Mode 5 and require these functions are a loss of shutdown cooling and an inside containment fire.

   As stated in the safety assessment, sufficient time exists following a loss of shutdown cooling for the operator to manually isolate the valves and prevent any releases from containment. Operator action is based on indications of a loss of shutdown cooling event. Thus, the change does not impact the consequences of a loss of shutdown cooling event.

   During depressurization of the containment, grab samples will be obtained to verify that a radioactivity release is not occurring. Thus, it will limit the potential radiological consequences of the ILRT to an acceptable level.

   The fire detection and suppression equipment is credited only in fire scenarios. The change will permit the containment fire water isolation valves to be closed in order to measure containment leakage, but will require the fire detection instrumentation in the electrical penetration area to be operable. The operating fire detection components ensure that the operators will be alerted to a fire inside containment. As stated above, the plant procedure governing the Type A containment ILRT will require the cancellation of the ILRT and the opening of containment water isolation valves if both a smoke detection alarm is received and if any energized component/system operating within the containment trips simultaneously for any unknown reason during the test. Action statements within the containment leakage rate test procedure will allow the plant to take appropriate actions (open fire isolation valves) before any major fire damage occurs. Thus, the change does not impact the consequences of a postulated inside containment fire.

   The containment purge and exhaust radiation monitoring equipment and containment fire detection/suppression system do not have the potential to initiate any previously analyzed accident. Operator action to isolate the purge and exhaust system or unisolate the containment fire water system, based on available indication, will negate the impact on the consequences of having these systems inoperable. For these reasons, the changes to the operability requirements of these systems do not increase the probability or consequence of any previously analyzed accident.

2. Create the possibility of a new or different kind of accident from any previously analyzed. The changes do not alter the way the plant is operated and only affects the containment ILRT. The change does not introduce new failure modes. For these reasons, the change does not have the potential to create a new type of accident from that previously analyzed.

3. Involve a significant reduction in a margin of safety. The changes do not impact any of the protective boundaries. The plant operators will be able to either isolate the containment purge and exhaust system or unisolate the containment fire water system (during the ILRT) based on available instrumentation. Thus, these safety functions will not be impacted by the change. The change does not increase the consequences of any design basis event. For these reasons, the change does not reduce the margin of safety.

Moreover, the Commission has provided guidance concerning the application of standards in 10CFR50.92 by providing certain examples (March 6, 1986, 44FR7751) of amendments that are considered not likely to involve a significant hazards consideration. Although the proposed changes herein are not enveloped by a specific example, the proposed changes would not involve a significant increase in the probability or consequences of an accident previously analyzed. The containment purge and exhaust radiation monitoring equipment and containment fire detection/suppression system do not have the potential to initiate any previously analyzed accident. Operator action to isolate the purge and exhaust system or unisolate the containment fire water system, based on the available indication, will negate the impact on the consequences of having these systems inoperable.

Based upon the information contained in this submittal, there are no significant radiological or nonradiological impacts associated with the proposed action, and the proposed license amendment will not have a significant impact on the quality of the human environment.

The preoperational containment ILRT was conducted in July 1985 at which time the Millstone Unit No. 3 Technical Specifications were not in effect, as Millstone Unit No. 3 did not have an operating license. The upcoming containment ILRT will be conducted for the first time since Millstone Unit No. 3 received its full power operating license in January 1986. Recently, during the final preparation for the subject test, NNECO identified the above-described technical specification changes that are required in order to carry out the containment ILRT.

The upcoming refueling outage is currently scheduled to begin on or about May 13, 1989, and a Type A containment ILRT to be performed during this refueling outage is presently scheduled to commence on June 20, 1989. To support this schedule, the subject amendment would need to be issued within 42 days after the date of this letter. We acknowledge and apologize for the short time available to process this request on a nonemergency basis. It is

noted that the upcoming ILRT will be the first since the Millstone Unit No. 3 Technical Specifications were in effect, and we only recently identified the need for the subject amendment. We will, of course, promptly provide any additional information the Staff may need to respond to this request.

Given the unique nature of the refueling outages, we are unable to predict with certainty when the subject ILRT will commence. We will continue to keep the Staff verbally informed of the progress of the outage.

The Millstone Unit No. 3 Nuclear Review Board has reviewed and approved the proposed amendment and concurred with the above determination.

In accordance with 10CFR50.91(b), we are providing the State of Connecticut with a copy of the proposed amendment.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

E. J. Mroczka
Senior Vice President

cc: W. T. Russell, Region I Administrator
D. H. Jaffe, NRC Project Manager, Millstone Unit No. 3
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me, E. J. Mroczka, who being duly sworn, did state that he is Senior Vice President of Northeast Nuclear Energy Company, a Licensee herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensees herein, and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Notary Public

My Commission Expires March 31, 1993