



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO THE DELETION OF THE REQUIREMENT
THAT A LIQUID RADIATION MONITOR BE AVAILABLE
DURING LIQUID EFFLUENT DISCHARGES FROM RADWASTE PROCESSING FACILITY
GPU NUCLEAR CORPORATION AND JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK NUCLEAR GENERATING STATION
DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated April 29, 1991, GPU Nuclear Corporation, the licensee for Oyster Creek Nuclear Generating Station (OCNGS), submitted Technical Specification Change Request No. 170 (TSCR NO. 170) of their Provisional Operating License No. DPR-16. The TSCR proposes to delete the requirement of Section 3.15.A, Table 3.15.1, that a liquid effluent radiation monitor be available during liquid effluent discharges from the radwaste processing facility. This proposed change will recognize the primary method of monitoring batch liquid effluent releases from the radwaste facility as the method of double sampling and independent verification of release rates and proper valve alignment. This method is the current provision of Table 3.15.1 Action 110, when the liquid effluent radiation monitor is inoperable.

The change is being requested as a corrective action in response to a notice of violation issued in NRC Inspection Report No. 50-219/90-13. The violation was issued because the liquid effluent radiation monitor and associated hardware are incapable of meeting the operability requirements of Section 3.15.A and have been out of service since 1981 with no reasonable effort made to restore the instrument to operable status. OCNGS has and continues to release liquid effluent from the radwaste processing facilities in compliance with the alternate provision.

Based on the following evaluation, the requested TSCR is denied.

2.0 EVALUATION

The licensee's Technical Specifications Section 3.15.A.1, Table 3.15.1, Item 1(a) requires a radiation monitor to be operable during batch releases via the liquid radwaste effluent line. When the radiation monitor is inoperable, liquid radwaste batch discharges are allowed provided double sampling and independent verification of release rate and valve alignment are performed as specified by Action 110 of Table 3.15.1.

The licensee has used the conditions in Action 110 as their primary method for controlling liquid radwaste batch discharges since 1986 when the Radiological Effluent Technical Specifications went into effect. The monitor, however, has

been inoperable since 1981. The Technical Specifications also require the licensee to "[M]ake every reasonable effort to restore the instrument to OPERABLE status within 30 days... ." This condition was cited as a violation in Inspection Report No. 50-219/90-13 as contrary to the requirement of Section 3.15.A of Technical Specification due to the lack of reasonable effort to restore the inoperable monitor to operable status.

The purpose of the liquid effluent radiation monitor is to monitor and control, as applicable, the releases of radioactive material in liquid effluent during actual or potential releases of liquid effluent. The alarm/trip setpoints for these instruments are calculated and adjusted in accordance with the methodology and parameters in the Offsite Dose Calculation Manual (ODCM) to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The operability and use of this instrument is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50. The key requirements here are for the licensee to be able to monitor a release of liquid effluent and to be able to terminate it if the radiation level exceeds calculated values. The operation of the radiation monitor serves as the final check of the actual release to the environment, confirming that the proper tank was released and that sample measurements and analyses were correctly performed.

The licensee believes that using their current method of releasing liquid effluent by double sampling and independent release rate and valve verification provides greater assurance that 10 CFR Part 20 release limits are maintained rather than relying on "existing unreliable instrumentation." This is a true statement based on having unreliable instrumentation, however, the point is to have and maintain reliable instrumentation. Having reliable instrumentation with alarm/trip setpoints will provide greater assurance that release limits are not exceeded.

The licensee's use of administratively controlling releases has already resulted in Licensee Event Report (LER) No. 87-007, dated March 9, 1987, "Backup Sample Analysis Invalid Due to Personnel Error." This LER documented that through personnel error, the second sample used to verify the release was incorrectly analyzed. The analysis on the second sample was performed using the wrong computer program and showed no activity present. This was a violation of the Technical Specifications. If the personnel error had occurred on the initial sample, it could have resulted in a situation where a high activity batch tank was released which could have resulted in radionuclide concentrations above the limits of 10 CFR Part 20. This situation would only have been detected after the analysis of the second sample was performed, at which time the release would have been completed.

The licensee performed a cost-benefit analysis using criteria from Appendix I to 10 CFR Part 50 that show it is not cost-effective to install a new radiation monitor. However, the licensee has used the criteria inappropriately. A cost-benefit analysis can be performed for "items of reasonably demonstrated technology that, when added to the system

sequentially... can for a favorable cost-benefit ratio effect reductions in dose to the population... ." The criteria is valid when used to determine if it is cost-effective to "add" or "upgrade" equipment to reduce dose, but not when it is used to justify not keeping Technical Specification related equipment.

The licensee maintains that they have an aggressive water management policy, with a goal to achieve zero liquid releases. However, even if they were to achieve this goal, there is no guarantee that it would be maintained. Future conditions at the site could be such that liquid discharges are required.

3.0 CONCLUSION

Based on the above, the staff finds that it cannot accept the licensee's request to delete the Technical Specification requirement, but rather an operational radiation monitor as defined by the station's Technical Specification must be in-place.

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