



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 169

TO FACILITY OPERATING LICENSE NO. DPR-16

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 6, 1994, as supplemented June 21, 1994, the GPU Nuclear Corporation (the licensee/GPUN) submitted a Technical Specification Change Request to amend the Oyster Creek Nuclear Generating Station (OCNGS) Technical Specifications (TS). The licensee proposed to eliminate the scram and main steam line isolation valve (MSIV) closure requirements associated with the main steam line radiation monitors (MSLRM). This request was submitted as the plant specific portion which, in conjunction with the General Electric Licensing Topical Report NEDO-31400A and the NRC's May 15, 1991, Safety Evaluation (SE), formed the basis for the package to be evaluated. The licensee also requested that the following related automatic isolation functions that are associated with the MSLRM scram and MSIV isolation be eliminated: a) Main Steam Line Condenser Drain Valves (MSLCDV), b) Emergency Condenser Drain Valves (ECDV), c) Reactor Recirculation Loop Sample Valve (RRLSV), d) Instrumental Air Valves, and e) Condenser Pump Isolation.

The June 21, 1994, letter provided clarifying information which did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

In the staff's May 15, 1991, SE which accepted the referencing of Topical Report NEDO-31400A for the elimination of the MSIV closure function and scram function of the MSLRM, it was stated that the following three conditions had to be met:

1. The licensee needed to demonstrate that the assumptions with regard to input values, including power per assembly, χ/Q , and decay times, that were made in the generic analysis, bound those for the plant.

2. The licensee must include sufficient evidence, implemented or proposed operating procedures, or equivalent commitments, to provide reasonable assurance that increased significant levels of radioactive materials in the main steam lines will be controlled expeditiously to limit both occupational doses and effluent releases.
3. The licensee shall standardize the MSLRM and offgas radiation monitor alarm setpoint to 1.5 times the nominal N-16 background dose rate at the monitor locations and commit to promptly sample the reactor coolant to determine possible contamination levels in the reactor coolant and the need for additional corrective action, if the MSLRM or offgas radiation monitors or both exceed their alarm setpoints.

The licensee, in response to Condition 1 above, stated in its request and subsequent letter dated June 21, 1994, that the assumptions made in the generic analysis bound those for the OCNGS. The staff has reviewed the licensee's assumptions and data tables for values such as χ/Q and power level per assembly and has concluded that the generic analysis assumptions bound those presented in the OCNGS analysis. The licensee's commitments are acceptable and responsive to Condition 1 of the Topical Report NEDO-31400A.

In the response to Condition 2, the licensee committed to the following:

- a) A control room MSLRM high alarm is provided to alarm at 1.5 times the 100% full power background N-16 level, at this alarm operators are directed per abnormal operating procedures to:
 1. Notify chemistry to take samples of the reactor coolant system (RCS),
 2. Monitor the offgas stack and steam jet air ejector (SJAE) monitors,
 3. Reduce hydrogen injection, and if after 10 minutes if the alarm has not cleared, continue investigations into the problem.
- b) A high SJAE radiation alarm is provided at approximately 2/3 of the high-high alarm level, to alert operators to elevated condenser offgas activity
- c) A high-high SJAE radiation alarm and a timer with a maximum duration of 15 minutes are activated. If the radiation level has not been reduced and still exceeds the setpoint at the end of the timed interval, the condenser offgas system is isolated and the discharge to the delay line is also isolated. The isolation of the offgas system will then result in a reactor trip due to loss of condenser vacuum.

The licensee evaluated these potential release paths in relation to the size of the pipes compared to the main steam lines and determined that the total additional leakage from all the drain and sample valves, if they were open during normal power operations, would increase the leakage by a factor of 1.75%. The MSLCDVs and the ECDVs drain back to the main condenser which the

licensee stated has an undefined leak rate (assumed to be zero). However, the licensee conservatively assumed the leakage to be 100% in its ground release calculations. The χ/Q values for the OCNGS are small enough to result in a smaller off-site dose than the NEDO-31400A model, even with this additional leakage. The condenser vacuum pump is normally secured during normal power operations, as soon as there is enough steam to operate the SJAEs (approximately 10% power). All of these potential release paths will still receive isolation signals on other plant trip signals (e.g., reactor water level Lo Lo and main steam line low pressure) resulting from other design basis accidents. The licensee's assumptions and reasoning are acceptable to the staff.

The licensee's commitments are acceptable and responsive to Condition 2 of the Topical Report NEDO-31400A.

In response to Condition 3, the licensee stated that the OCNGS MSLRM High setpoint of 500 mR/hour satisfies the commitment to set the MSLRM High Alarm setpoint at 1.5 times the 100% full power background N-16 levels. This setpoint takes into account the use of hydrogen water chemistry, the effects of condenser backwashing and changes in the number of recirculation pumps in use.

The licensee's commitments are acceptable and responsive to Condition 3 of the Topical Report NEDO-31400A.

The proposed request would also eliminate the following related automatic isolation functions that are associated with the MSLRM scram and MSIV isolation:

- a) Main Steam Line Condensate Drain Valves
- b) Emergency Condenser Drain Valves
- c) Reactor Recirculation Loop Sample Valves
- d) Instrument Air Valves
- e) Condenser Vacuum Pump Isolation

The licensee has adequately addressed the conditions contained in Topical Report NEDO-31400A, including the OCNGS site specific conditions, and the offsite dose acceptance criteria in SRP 15.4.9. Based on the above, the changes proposed by the licensee are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 22008). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: D. Carter

Date: July 29, 1994