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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 207 TO FACILITY OPERATING LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

## 1.0 INTRODUCTION

By letter dated July 15, 1993, the Power Authority of the State of New York (PASNY, the licensee) submitted a request for changes to the James A. FitzPatrick Nuclear Power Plant Technical Specifications. The requested changes would eliminate the reactor scram and Main Steam Isolation Valve (MSIV) closure requirements associated with the Main Steam Line Radiation Monitors (MSLRM). The licensee has experienced spurious trips of the MSLRM channels on numerous occasions in the past. Failure of one of the MSLRM was a contributing factor to an automatic reactor scram on May 25, 1993.

The licensee states that elimination of the trip functions will reduce scram frequency, maintain availability of condenser heat sink, eliminate the potential for trips due to hydrogen water chemistry, and increase operator control over radioactive releases. The licensee's proposed change is based on the May 1987 Boiling-Water Reactor (BWR) Owners Group Licensing Topical Report NEDO-31400, "Safety Evaluation for Eliminating the Boiling Water Reactor Main Steam Line Isolation Valve Closure Function and Scram Function of the Main Steam Line Radiation Monitor," and the Standard Review Plan (SRP) 15.4.9, Revision 2, July 1981.

As stated in NEDO-31400, and indicated in FitzPatrick Final Safety Analysis Report (FSAR), the automatic reactor shutdown on the MSLRM trip is not given credit in the analysis of any design basis event for BWRs. The FSAR assumes that only in a control rod drop accident (CRDA) do MSIVs close on the MSLRM trip. However, the SRP 15.4.9 recommends that the radioactive source term is assumed to already have been transferred to the condenser and turbine prior to MSIV closure. The SRP 15.4.9 also states that the plant site and dose mitigating engineered safety features are acceptable with respect to the radiological consequences of a postulated CRDA if the calculated whole-body and thyroid doses at the exclusion area boundaries are within 25 percent of the exposure guideline values of 10 CFR Part 100.

In NEDO-31400, a reevaluation of the role of the MSLRM in the CRDA analysis was performed, confirming that removal of the MSLRM scram/isolation features would not compromise CRDA consequences. The topical report also evaluated the

potential effect on occupational exposure in the event of a sudden release of radioactivity from the fuel and concluded that the elimination of the scram/isolation features would have no adverse effect.

## 2.0 EVALUATION

In a May 15, 1991, Safety Evaluation (SE), the NRC staff accepted the referencing of NEDO-31400 for the elimination of the MSIV closure function and scram function of the MSLRM, as long as the following three conditions were met:

1. The applicant demonstrates that the assumption with regard to input values, including power per assembly, Chi/Q, and decay times, that were made in the generic analysis, bound those for the plant.

2. The applicant includes sufficient evidence, implemented or proposed operating procedures or equivalent commitments, to provide reasonable assurance that increased significant levels of radioactivity in the main steam lines will be controlled expeditiously to limit both occupational doses and environmental releases.

3. The applicant standardizes the MSLRM and offgas radiation monitor alarm setpoint to 1.5 times the nominal $^{16}N$ 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.

In response to Condition 1, the licensee stated that the assumptions made in the generic analysis bound those for FitzPatrick. The NRC staff has reviewed the licensee's assumptions for the values such as Chi/Q and power level per assembly and has concluded that the generic analysis assumptions bound those presented in the FitzPatrick analysis.

In response to Condition 2, the licensee's submittal indicated that they have procedures in place which provide reasonable assurance that the plant is capable of responding to increased radiation levels as detected by the offgas monitor; the Annunciator Response Procedures (ARPs) and an Abnormal Operating Procedure (AOP) currently control the plant response. The licensee states that procedures are in place which ensure that actions are taken to limit occupational doses and environmental releases. The licensee has stated that the Fitzpatrick Operating License permits bypassing of the Offgas Treatment System during plant startup. NEDO-31400 states that this condition is acceptable provided the offgas radiation monitors are being utilized to automatically isolate the offgas process line. The Steam Jet Air Ejector isolation feature conforms with the NEDO-31400 criteria, and precludes a direct release to the environment. In the event the offgas system is isolated, the offgas dose is equivalent to the FSAR design basis scenario

(with MSIV isolation) since in this case the activity is assumed to be transferred to the main condenser, followed by a ground level release. The NRC conditions stipulated in the safety evaluation for the offgas radiation monitor will be implemented as described for Condition 3. The existing procedures will be revised to remain consistent with the commitments and requirements of the requested change.

The NRC staff has reviewed the licensee's commitment and has determined it is acceptable and responsive to Condition 2, which was required to be addressed per Topical Report NEDO-31400.

In response to Condition 3, the licensee has stated that concurrent with the modification of the MSLRM trip, the alarm setpoints on the MSLRM and offgas radiation monitor will be adjusted to less than or equal to 1.5 times the normal full power N-16 background dose rate. This does account for the increased N-16 carryover due to hydrogen water chemistry. The licensee has also stated that prior to modification of the MSLRM trip, the plant procedures will be revised to require prompt sampling of the reactor coolant to determine the need for corrective actions, if the MSLRM or offgas radiation monitors, or both, exceed their alarm setpoints.

In review of the licensee's commitment, the staff has determined that the Condition 3 has been satisfied.

## 3.0 SUMMARY

The NRC staff has reviewed the licensee's submittal and safety analysis and concludes that there are no adverse safety implications associated with removal of the MSLRM scram and MSIV closure function since the licensee has provided reasonable assurance that the offsite radiation exposure levels are within the guidelines of 10 CFR Part 100 and SRP 15.4.9. Therefore, the NRC staff finds that TS changes proposed by the licensee are acceptable.

## 4.0 STATE CONSULTATION

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

## 5.0 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 (58 FR 41513). 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.

## 6.0 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 Contributors:
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Date: March 9, 1994

Docket No. 50-333 March 9, 1994

Mr. William A. Josiger, Acting
Executive Vice President - Nuclear Generation
Power Authority of the State of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Josiger:

SUBJECT: ISSUANCE OF AMENDMENT FOR JAMES A. FITZPATRICK NUCLEAR POWER PLANT (TAC NO. M86978)

The Commission has issued the enclosed Amendment No. 207 to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application transmitted by letter dated July 15, 1993.

The amendment revises the TSs to eliminate the reactor scram and Main Steam Line Isolation Valve closure requirements associated with the Main Steam Line Radiation Monitors. The changes are consistent with Licensing Topical Report NEDO-31400, "Safety Evaluation for Eliminating the Boiling Water Reactor Main Steam Isolation Valve Closure Function and Scram Function of the Main Steam Line Radiation Monitor," dated May 1987.

This license amendment is effective as of the date of its issuance to be implemented prior to startup following the next FitzPatrick refueling outage. Please notify the NRC, in writing, within 30 days of implementing this amendment.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,
Original signed by:

Brian C. McCabe, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 207 to DPR-59
2. Safety Evaluation

cc w/enclosures:
See next page

Distribution:
See attached sheet

*See previous concurrence

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| LA:PDI-1 | PM:PDI-1 | *OGC | D:PDI-1 | | |
| CVogan for | BMcCabe:smm | EHoller | RACapra RAC | | |
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