



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 15 TO FACILITY OPERATING LICENSE NO. NPF-37,
AMENDMENT NO. 15 TO FACILITY OPERATING LICENSE NO. NPF-66,
AMENDMENT NO. 6 TO FACILITY OPERATING LICENSE NO. NPF-72
AND AMENDMENT NO. 6 TO FACILITY OPERATING LICENSE NO. NPF-75
COMMONWEALTH EDISON COMPANY
BYRON STATION, UNITS 1 AND 2
BRAIDWOOD STATION, UNITS 1 AND 2
DOCKET NOS. STN 50-454, STN 50-455, STN 50-456, AND STN 50-457
TAC NOS. 64719, 64720, 67113, AND 67114

1.0 INTRODUCTION

By letter dated February 18, 1987, supplemented by letters dated November 17, 1987 and January 8, 1988, Commonwealth Edison Company (the licensee) requested a change to the Technical Specifications for the Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2, relating to the addition of two radioactive liquid effluent monitoring instruments at each station and the addition of a requirement that a composite sample of sump effluent be taken prior to discharge into the circulating water system. The licensee requested changes to Table 3.3-12, "Radioactive Liquid Effluent Monitoring Instrumentation," 3.3-12, "Action Statements," 4.3-8, "Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements," and 4.11-1, "Radioactive Liquid Waste Sampling and Analysis Program".

2.0 DISCUSSION

The licensee proposes that the Technical Specifications be revised for the addition of two new radioactive liquid effluent sources per station, their associated monitoring instrumentation, and modifications to the surveillance requirements presented in the Technical Specifications.

The two new release points per station are the condensate cleanup system sump and the fire and oil sump. The Condensate Cleanup (CP) System was proposed as a new release point because operating experience has indicated the need to run the system during normal plant operation. This system was originally intended to be utilized for system flushing during startup. The potential therefore exists for low level radioactivity in the CP sump from regeneration effluent and system leakage. Because activity levels are

anticipated to be negligible and water quality is expected to be acceptable for environmental discharge, sump discharge will be routed to the flume after being monitored. On detection of an unacceptable activity level, the added monitor will alarm, stop sump discharge, and terminate CP operation.

The original plant design for turbine building equipment and floor drains was to collect drain effluent into the oil separator, then route the separated water directly to the radwaste treatment system for processing and release via the release tank. Present operating experience has shown that the water volume is higher than originally anticipated, generating a heavy load for the radwaste treatment system for a negligible reduction in activity release. Therefore, the licensee is proposing that the separated water will be drained to the fire and oil sump, monitored for potential radioactivity, sent to the treated run-off system to ensure environmental standards are met, and then released to the flume. On detection of unacceptable activity levels, the monitor will alarm and automatically halt sump discharge.

3.0 EVALUATION

The staff has evaluated the radiological aspects of the two radiation monitors and composite samplers to monitor discharge from the turbine building fire and oil sump and the condensate polisher (CP) sump and finds the changes meet the acceptable criteria for the process and effluent radiological monitoring instrumentation and sampling systems based on the following regulations and guidance: (1) 10 CFR Part 20, §20.16 as related to radioactivity monitoring of effluents to unrestricted areas; (2) Regulatory Guides 8.8 and 1.21 as related to sampling frequencies, required analyses, instrument alarm/trip setpoints, calibration and sensitivities, gross beta-gamma measurements, etc; (3) 10 CFR Part 50, Appendix I as related to the numerical guides for design objectives and limiting conditions for operation to meet the criterion "as low as is reasonable achievable" given in Appendix I; (4) General Design Criterion 60 as related to control releases of radioactive materials to the environment, and (5) Drawings showing how the monitors are located in the effluent release path and describing the actuation logic of the monitors and how the monitors isolate the valves as per NUREG-0472, "Standard Radiological Effluent Specifications for PWR's, "Revision 2, February 1980.

The staff finds that the licensee's proposed Technical Specification changes adding the radioactive liquid effluent monitoring instruments to Table 3.3-12, new surveillance requirements for these monitors (Table 4.3-8) and new sampling and analysis requirements (Table 4.11-1), meet the current Standard Technical Specifications and are consistent with 10 CFR Part 20, 10 CFR Part 50 Appendix I, Regulatory Guides 8.8 and 1.21, and General Design Criterion 60.

4.0 FINDING OF NO SIGNIFICANT IMPACT

Pursuant to 10 CFR 51.32 the Commission has previously determined in an environmental assessment of the proposed action published in the Federal

Register that granting this amendment will have no significant impact on the environment (53 FR 8824).

5.0 CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: March 22, 1988

3/31/84