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

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# RELATED TO AMENDMENT NO. 142 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

## INTRODUCTION

By letter dated May 19, 1989, the Power Authority of the State of New York (PASNY or the licensee), requested changes to Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The changes would reflect the addition of a diesel-driven fire pump to the Fire Protection System.

## DESCRIPTION

The source of water for the Fire Protection System is Lake Ontario which reaches the plant through the screenwell. The water is presently supplied to the distribution system by either an electric motor driven pump or diesel driven pump, the latter of which is designed for standby and emergency use upon loss of the electric pump. Each pump is rated at 2500 gpm at 125 psig and can supply 100% of the water requirements of the Fire Protection System.

In order to meet the requirements of the New York Uniform Fire Prevention and Building Code for the newly constructed Training Center - North Region (TCNR) Facility, a new site utility fire protection yard loop was installed to provide fire protection water to the TCNR facility sprinkler systems and hose stations. The new site utility yard loop is connected to the existing fire protection loop by two pipes, and each of these cross connection pipes has a normally open isolation valve. Hydraulic calculations have determined that each of the existing fire protection pumps can provide the required flow to both the existing fire protection loop and the new site utility yard loop. In the unlikely event of a pipe rupture in the new site utility loop, no degradation of the fire protection water supply will take place since the loss in pressure would activate the fire protection pumps and steps can be taken to isolate the leak.

Though the Fire Protection System, including the new site utility loop, meets the design basis requirements as well as commitments to BTP 9.5-1, a second 100% capacity diesel driven pump, driver and accessories have been installed. The new equipment is enclosed in a three-hour fire rated room located in the Screenwell Building. A sprinkler system, hose station and smoke detectors have been added to protect the new equipment.

The new diesel driven fire pump, driver, accessories, and connections to the existing plant fire protection loop, are designated QA Program Category "N" with Class II seismic loading criteria applied and evaluated as a design load condition. This applies to the new fire pump, fire pump supports, piping supports, new diesel driven fire pump enclosure, ventilation duct supports and sprinkler supports. The entire installation was designed and furnished in accordance with the requirements set forth in NFPA-13, 20, 24 and ANSI B31.1 (1967) through 1969 Addenda. The underground fire protection piping is installed below the established freeze line. The minimum ground cover above the top of the fire protection yard piping is six feet. The electrical conduit is routed through safety related areas and is seismically supported. All of this ensures the new fire pump installation will not impact adjacent safety related equipment or structures.

An analysis was performed to verify the structural adequacy of the existing screenwell structure with the installation of the new diesel driven fire pump, piping and enclosure. It was determined that the existing structure is adequate to support all loads imparted by this installation under the governing load condition.

Even though the installation of the new diesel driven pump does not impact the design basis requirements and does not affect the commitments to BTP 9.5-1, it was considered prudent to install the new diesel driven pump due to the substantial addition of the site utility yard loop to the existing fire protection system. Since the use of the new pump is intended for nonnuclear facilities and buildings, and no credit is taken for its use in providing fire protection water to any safety related areas, the TS which are applicable to the other fire pumps would not be applicable to the new pump.

The setpoint of the new diesel driven pump is 85 psig. To minimize "deadheading" the system by starting two pumps at the same time, the proposed TS change would also increase the setpoints of the existing fire pumps by 10 psig.

Specifically, the proposed change affects TS page 244b by increasing the electric fire pump automatic start setpoint from 95 psig to greater than or equal to 105 psig and that of the existing diesel fire pump from 85 psig to greater than or equal to 95 psig in Specification 4.12.A.1.e.4. Also, Bases 3.12 and 4.12 on page 244h would be changed (1) to reflect the increase in normal standby fire system pressure from 100 psig to 115 psig, (2) to simplify the automatic pump startup scheme description, (3) to add a brief description of the new diesel fire pump startup scheme, and (4) to indicate that the new diesel fire pump is not subject to the same TS restrictions or testing requirements which are applicable to the original fire pumps.

The proposed change would also replace "Diesel Fire Pump Room" with "West Diesel Fire Pump Room" to eliminate any potential confusion which might result from addition of the new room. This proposed change affects Table 3.12.1 on pages 244j and 244q.

For the above stated reasons the staff finds the proposed amendment acceptable.

SUMMARY

Addition of the new diesel driven fire pump, increasing the normal standby fire system pressure, and increasing the setpoint at which the normal fire pumps start, all result in changes in a safer direction, since the pumps will start sooner if system pressure should drop. Also, this may result in a slight improvement in the time a problem would be detected. The TS change as described, therefore, results in enhancements to the system and the staff finds it acceptab e.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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 this amendment.

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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: October 23, 1989

PRINCIPAL CONTRIBUTOR:

D. E. LaBarge