



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 33 TO FACILITY OPERATING LICENSE NO. DPR-66

DUCUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

BEAVER VALLEY POWER STATION, UNIT NO. 1

DOCKET NO. 50-334

Introduction

During normal plant operation at the Beaver Valley Power Station, Unit 1, outside air is drawn into the control room ventilation system. Following a design basis accident, the control room ventilation system is automatically isolated. Bottled air is released and a separate recirculation system acts as the control room's ventilation system.

Technical Specification Table 3.3-5 states that following a containment isolation Phase B signal, the control room ventilation system must be isolated within 17 or 30 seconds, depending on whether offsite power is available or unavailable, respectively.

In a letter dated September 30, 1980 (see reference), the licensee stated that due to a typographical error the stated isolation times were incorrect and that the actual isolation times should be 22 and 77 seconds respectively. The licensee has therefore requested an emergency Technical Specification change so that the plant can be brought back to power without violating the acceptance criteria of the Technical Specifications.

Evaluation

During normal power plant conditions the containment building operates under subatmospheric conditions, the Supplementary Leak Collection and Exhaust System (SLCRS) maintains a slight vacuum (1/8" water gage) in the contiguous area surrounding the containment, and outside air is drawn in to serve the control room ventilation system. This design assures that only inleakage into the containment takes place and that the control room ventilation system uses uncontaminated air.

Following a design basis accident, the Containment Isolation Phase B signal initiates several actions. (The phase B isolation signal is actuated on a containment high-high pressure setpoint of 10.0 psig.) Coincident with the Phase B isolation signal is the release of the bottled air and the actuation of the recirculation fans in the control room. The dampers which release the bottled air to the control room are D.C. solenoid operated pneumatic valves that will move to their accident position regardless of the availability of emergency power.

The bottled air system is comprised of five separate tanks. Each tank is orificed so that a maximum of 100 cfm from each tank enters the control room following a Phase B isolation signal. The control room only requires 400 cfm for normal ventilation purposes. The additional 100 cfm provides both a margin and the positive pressure (additional instruments have been installed for over-pressure protection) in the control room. Since the bottled air tanks are orificed, the increase in time to isolate the control room ventilation system should have a negligible effect on the adequacy of the system's inventory.

The bottled air enters the control room at 500 cfm and creates a positive pressure. The outside air flow from the normal control room ventilation system is temporarily reversed. Bottled air escapes the control room through the normal ventilation system during the time period between actuation of the Phase B isolation signal and isolation of the control room ventilation system. This occurs at either 22 or 77 seconds after the Phase B isolation signal depending on whether offsite power is available or unavailable, respectively. This design assures that only outleakage occurs from the control room during an accident and that contaminated air is prevented from entering.

In addition to the control room ventilation system, the SLCRS also experiences a post-accident change of mode. Subsequent to the Phase A isolation signal, (Phase A is actuated by either a containment high pressure setpoint of 1.5 psig or a safety injection signal), bypass dampers redirect the exhaust through an emergency filter train before the air is released through the plant stack. The emergency filters reduce the potential of radioactive gases reaching the control room ventilation intake system. The emergency filter trains of the SLCRS are actuated and effective at least 15 seconds before the control room ventilation system is isolated - depending on the time interval between the containment pressure rising from the high pressure to the high-high pressure setpoints.

In summary, upon receipt of a Phase A isolation signal (safety injection or containment high pressure of 1.5 psig), the SLCRS redirects the exhaust through a separate emergency high efficiency filter train. At this time the control room ventilation system is still drawing in outside air. Isolation of the control room ventilation system and actuation of the bottled gas system does not occur until a Phase B isolation signal (containment high-high pressure of 10.0 psig) is reached. The licensee has chosen to isolate the control room on the Phase B signal rather than the Phase A signal so that the bottled gas system would not be depleted on spurious safety injection signals.

Increasing the Technical Specification limit on isolating the control room ventilation system following a Phase B isolation signal has an insignificant effect because the licensee has shown that during this time interval the only leakage will be outleakage of bottled air from the control room. The licensee's proposed technical specification change has no effect on this aspect. We conclude that there are no unacceptable safety implications associated with the change, the change does not constitute an unreviewed safety question, and, that the change is therefore acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR 551.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Date: October 15, 1980

References

Letter from Duquesne Light Company (C. N. Dunn) to U. S. Nuclear Regulatory Commission (Director, NRR) dated September 30, 1980.