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GOVERNOR

Department of Energy

LABOR & INDUSTRIES BUILDING, ROOM 102, SALEM, OREGON 97310 PHONE 378-4040

April 28, 1980

Charles Goodwin, Jr.
Assistant Vice President
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

Dear Mr. Goodwin:

In a letter dated April 14, 1980, PGE forwarded to ODOE Trojan License Change Application 59 which deals with a change to the license requirements regarding fire protection. Specifically, the change involves fire protection measures in those areas that contain both trains of safety-related systems, that is the cable spreading room and some cabinets in the control room. The purpose of this letter is to express ODOE's disagreement with the proposed change and request PGE action to resolve this issue.

Background

As a result of the fire at Brown's Ferry in 1975, beginning in 1976 PGE committed to implement improvements in the fire protection system at Trojan. In the cable spreading room, which contains cables from both trains of safety-related equipment, either a deluge fire suppression system activated by fire detectors or an electrical system to permit local operation of equipment required to achieve and maintain a safe cold shutdown condition (referred to as a decouple system) was to be installed. PGE originally stated a deluge system would be installed by 1979. Later, PGE stated a decouple system would be installed by 1979. NRC approved Amendment 22 to the Trojan Operating License on March 9, 1978, which required the decouple system to be implemented by the end of the second refueling outage and prior to return to operation for fuel cycle 3 (which was then thought to be June, 1979, but is now scheduled for July, 1980). In order to ensure no further slippage would occur, on February 8, 1980, the Energy Facility Siting Council adopted the following rule:

> "OAR 345-26-141 Fire Protection: The operator of a nuclear fueled thermal power plant shall provide fire protection measures such that for rooms with both of two redundant safety systems present, a postulated fire will be extinguished by a deluge system, or equivalent, or otherwise provide assurance that an unmitigated fire will not prevent safe plant shutdown. For the Trojan Nuclear Power Plant, this rule will become effective at the end of the second refueling outage and prior to return to operation for fuel cycle 3. For all other nuclear fueled thermal power plants, this rule will become effective upon [illegible]ion."

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Based on the current schedule for Trojan, this rule requires implementation by about July, 1980.

PGE Proposal

PGE now proposes to install a deluge fire suppression system in the cable spreading room by November 1, 1980 and a gas fire suppression system in some of the cabinets in the control room that contain both trains of safety-related equipment before the start of fuel cycle 4, which is currently scheduled for the spring of 1981. PGE has determined that fire suppression systems of this form are preferrable to a fire mitigation system in the form of a decouple system. However, PGE states that due to equipment unavailability, the fire suppression systems cannot be installed by the current deadline. As a compensatory measure, PGE proposes to assign continuous fire watches in the cable spreading room and control room beginning with return to operation after the ongoing refueling shutdown. PGE has yet to provide technical justification as to the equivalency of these fire watches compared to the fire suppression systems.

ODOE Comments

ODOE does not believe that the proposed continuous fire watches provide fire protection equivalent to that of the fire suppression systems and therefore that the proposal complies with the EFSC rule. Specifically:

1. The proposed fire watches may not provide an equivalent sensitivity for detecting fires. Due to the physical layout of the cable spreading room, it will be impossible for a fire watch stationed near the door of the room to visually observe the entire room. The air currents associated with the ventilation system may prevent the fire watch from seeing or smelling the smoke associated with a small fire in the far corners of the room. This weakness may be somewhat improved by having the fire watch immediately alerted to any alarms from the installed 8 ionization-type fire detectors in the room. However, PGE apparently believes the existing detection system is not adequate since the detection system that will activate the deluge system will involve an expanded network of fire detectors. With this expanded network, the sensitivity for detecting fires will be improved over the currently installed fire detection system and may be improved over that which would exist with the combination of a continuous fire watch and the currently installed fire detection system.

   For the cabinets in the control room, it will be even more difficult for a fire watch to detect a fire, particularly in its early stages due to the inability to see inside the cabinets.

2. The proposed fire watches will not provide an equivalent fire suppression capability. For a small fire, the fire watches will have to combat the fire with portable fire extinguishers. The ability of the fire watch to effectively combat such fires will be diminished by the difficulty and associated time it requires to reach the fire site in the cable spreading room (possibly by crawling under or climbing over cable trays) and to identify the exact fire site. For a large fire, the installed automatic sprinkler system in the cable spreading room should activiate. However, the sprinkler system provides lower water volume flow rates and less complete coverage than the deluge system. For any size fire, the deluge system would activate to provide large water volume flow rates and complete coverage which will ensure quick and positive extinguishment.

   In the control room cabinets, since the fire watch may have difficulty determining the exact fire site and the fire watch will rely upon portable fire extinguishers to combat the fire, the same arguments apply.

ODOE agrees with PGE that it is preferrable to suppress a fire rather than to mitigate the consequences of it. Therefore, it is ODOE's position that PGE should take actions to install fire suppression systems in the cable spreading room and control room cabinets prior to operation following the current refueling shutdown.

Given the clear direction and reasonable compliance period offered by OAR 345-26-141 and the responsibility imposed by law to insure compliance with safety standards, PGE is directed to submit, by May 5, 1980, a written compliance schedule. This schedule should provide for the installation of a fire suppression system either prior to operation or clearly document why the compliance period was not sufficient and justify the need for an extension and interim compensatory measures that insure sufficient detection and suppression capabilities.

Sincerely,

Lynn Frank
Director

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cc: Ed Whelan, PGE
Robert Engelken, NRC, Region V
Charles Trammell, NRC, ORB1