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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-304

ZION STATION UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 49
License No. DPR-48

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated April 13, 1978, as supplemented October 24, November 8 and 29, 1978, January 24 and 26, February 23, March 7, and March 19, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

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

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and by revising paragraph 2.C.(2) and by adding a paragraph 2.C.(7). Facility Operating License No. DPR-48 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 49 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(7) Spent Fuel Pool Modification

The licensee is authorized to modify the spent fuel pool as described in the application dated April 13, 1978, as supplemented October 24, November 8 and 29, 1978, January 24 and 26, February 23, March 7 an March 19, 1979.

(a) Fuel stored in the spent fuel pool shall have a U-235 loading less than or equal to 40.6 grams per axial centimeter.

(b) No loads heavier than the weight of a single spent fuel assembly plus the tool for moving that assembly shall be carried over fuel stored in the spent fuel pool. The spent fuel handling tool, the burnable poison tool, the rod cluster control changing fixture and the thimble plug shall not be carried at heights greater than two feet over fuel stored in the spent fuel pool.

(c) The NRC shall be notified in advance should it become necessary to handle heavy loads in the vicnity of the spent fuel storage pool.

(d) Upon completion of the modification a corrosion surveillance program for the racks shall be implemented and kept in force to insure that any loss of neutron absorber material and/or swelling of the storage tubes is detected.

(e) In situ neutron attenuation tests shall be performed to verify that tubes and racks contain a sufficient number of Boral plates such that K-effective will not be greater than 0.95 when the spent fuel is in place. Results of these tests shall be reported to the NRC within 30 days after completion of the modification.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: FEBRUARY 2 8 1980

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 52 TO FACILITY OPERATING LICENSE NO. DPR-39

AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NO. DPR-4[illegible]

DOCKET NOS. 50-295 AND 50-304

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains vertical lines indicating the areas of change.

Remove Page	Insert Page
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299	299

The reactor containment structure for Zion Unit 2 is essentially identical in design and construction to that of Unit 1 except that it is reoriented. Numerous mechanical and electrical systems penetrate the containment wall through welded steel penetrations. (2)

5.4.3 Containment Penetrations Sideways

All containment penetrations (both electrical and piping) are double barrier assemblies consisting of a closed sleeve, in most cases, or a double gasketed closure for special penetrations such as the fuel transfer tube. The space between the double barriers will be continuously pressurized, by the Penetration Pressurization System, to a pressure in excess of the containment design pressure. (3)

References

(1) FSAR Section 5.1.1
(2) FSAR Section 5.1.2
(3) FSAR Section 5.1.4

5.5 Fuel Storage

5.5.1 New Fuel Storage

New fuel assemblies are stored in a separate storage vault which is designed to hold 132 new assemblies. The new fuel storage racks accommodate 2/3 of a core. There are three sections of racks with each station made up of two rows. The two parallel rows in each section have a nominal center to center spacing of 21 inches and each section is separated by a distance of 44". The new fuel storage vault is protected from flooding by its free flood drain.

New fuel may also be temporarily stored in the spent fuel pool in preparation for refueling. The fuel assemblies are stored in racks in parallel rows, having a nominal center to center distance of 10.35 inches in both directions. This spacing is sufficient to maintain a K effective of less than .95 when flooded with unborated water, for fuel having a maximum loading of 40.6 gms. U-235 per axial centimeter of fuel assembly length (about 3.2 weight percent U-235).

5.5.2 Spent Fuel Storage

Irradiated fuel assemblies will be stored prior to offsite shipment in the stainless steel lined fuel pool which is located in the fuel handling building. Borated water is used to fill the spent fuel storage pit at a concentration to match that used in the reactor cavity and refueling canal during refueling operations. The fuel is stored in a vertical array with a nominal center to center spacing of 10.35" between assemblies to assure a K effective of less than 0.95 even if unborated water is used to fill the pit, for fuel having a maximum loading of 40.6 gms. U-235

5.5.2 Spent Fuel Storage (Continued)

per axial centimeter of fuel assembly length (about 3.2 weight percent U-235).

References

1. Fuel Pool Modification Report Revision 2, dated February 3, 1978.

2. Addendum to the Fuel Pool Modification Report dated October 20, 1978 and revised February 1979.

5.6 Seismic Design

The structures, mechanical components and Engineered Safeguards Systems vital to safe shutdown and containment isolation, or whose failure might cause or increase the severity of a loss of coolant accident, are designed per the seismic criteria of Design Basis Earthquake (DBE). Design Basis Earthquake is based on ordinary allowable stresses as set forth in applicable codes, plus the additonal requirement that a safe shutdown be made during a horizontal ground acceleration of 0.17g and a veritcal acceleration of 0.11g occurring simultaneously. These systems and equipment are defined as Seismic Class 1.

Other systems and mechanical components in a support or auxiliary function are designed per the seismic criteria of Operational Basis Earthquake (OBE), or per applicable codes. These systems and equipment are defined as either Classes 2 or 3 depending on their function.