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1981

January 28, 1981

Director of Nuclear Reactor Regulation
 U.S. Nuclear Regulatory Commission
 Washington, DC 20555

Subject: Dresden Station Unit 2
 Proposed Amendment to Appendix A,
 Technical Specifications, to Facility
 Operating License DPR-19 to
 Implement 10 CFR 50.59 Reload Licensing
NRC Docket No. 50-237

- References (a): J. F. Quirk letter to Olan D. Parr,
 "General Electric Licensing Topical
 Report, NEDE-24011-P-A, 'Generic Reload
 Fuel Application, Appendix D, Second
 Submittal'", dated February 28, 1979
- (b): D. G. Eisenhut letter to All Holders of C
 Construction Permits and Operating Licenses
 for Boiling Water Reactors dated November 4,
 1980

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 US NRC SERVICES DISTRIBUTION BRANCH

Dear Sir:

Pursuant to 10 CFR 50.59, Commonwealth Edison proposes to amend Appendix A, Technical Specifications, to Facility Operating License DPR-19 to support the review of future reloads for Dresden Unit 2 by Commonwealth Edison in accordance with the provisions of 10 CFR 50.59. These changes are identified in Enclosure 1 and are based, in part, on plant analyses summarized in the "Loss of Coolant Accident Analysis Report for Dresden Units 2, 3 and Quad Cities. Units 1, 2 Nuclear Power Stations," NEDO 24146A, 79NED273, April, 1979 including Errata and Addenda Nos. 3 and 4 dated May, 1980 and June 1980, respectively (Enclosures 2 and 3). The reload transient analyses which have been performed to support Dresden Unit 2 Cycle 8 operation are based on the General Electric REDY code. Conversion to the recently NRC approved OLYN code will be made in accordance with the schedule requirements of Reference (b).

The significant changes to the Technical Specifications include:

1. A generalization of the MCPR Safety Limit. As revised, the numerical value of 1.07 appears only on page 5 and is referred to elsewhere as the MCPR Fuel Cladding Integrity Safety Limit.

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2. The Rod Drop Accident figure of merit has been changed from $1.3\% K$ to 280 cal/gm . This is a consequence of rod worths slightly less than $1.3\% K$ resulting in a peak fuel clad enthalpy of 280 cal/gm for some local peaking conditions. Similar revisions have previously been reviewed and approved for the other Edison large BWR's.
3. NEDO 24146A contains MAPLHGR limits for various retrofit fuel designs. These have been included in the proposed 10 CFR 50.59 Technical Specification changes to avoid later additions should these fuel designs become part of future core reload strategies.

NEDO 24146A assumes only 156 bundles with drilled lower tie plates. Dresden Unit 2 Cycle 8 will utilize 384 retrofit 8X8 fuel bundles. Because the drilled lower tie plates of the retrofit fuel provide improved reflooding characteristics, the MAPLHGR limits presented in NEDO 24146A remain conservative for Cycle 8.

4. Reference to the limiting total peaking factor (LTPF) has been eliminated and replaced with reference to the maximum fraction of limiting power density (MFLPD) for adjustment of the APRM flux scram and rod block trip settings. This proposed change eliminates the need for different LTPFs for different fuel types as a consequence of different bundle heat transfer areas, while providing the same degree of protection (with respect to reduction of the trip settings). Therefore, the trip settings for the APRM scram and rod blocks will be reduced by FRP/MFLPD whenever the MFLPD exceeds the FRP (fraction of rated power). This ratio is equivalent to the ratio of LTPF to TPF (total peaking factor), i.e.

$$\begin{aligned} \frac{\text{LTPF}}{\text{TPF}} &= \frac{\text{DLHGR/RCTP/K}}{\text{LHGR/CTP/K}} = \frac{\text{DLHGR}}{\text{LHGR}} * \frac{\text{CTP}}{\text{RCTP}} \\ &= \frac{1}{\text{MFLPD}} * \text{FRP} \end{aligned}$$

Where: DLHGR = Design Limit LHGR
RCTP = Rated Core Thermal Power
K = Constant

A small conservatism is added with this method due to the assumption of 144" active fuel length for all fuel types in the process computer software.

Also, the proposed Technical Specifications provide for increasing the APRM gains in lieu of an actual reduction in APRM trip set points whenever the MFLPD exceeds the FRP. This method establishes an initial APRM signal closer to the flow-biased setpoints, and thus has the same effect as reducing the actual scram and rod block setpoints. For consistency with the LHGR surveillance requirement and the Standardized Technical Specifications, the proposed changes also require that the FRP/MFLPD multiplier be applicable only above 25% rated thermal power.

5. The "Generic Reload Fuel Application", NEDE-24011-P-A, documents the fuel designs, methods, evaluations, codes, generic criteria, test results, and assumptions which are utilized in the reload licensing analyses. It has been referenced whenever appropriate in the proposed changes (e.g. to replace outdated references and discussions).
6. The limiting safety system bases for the APRM rod block trip setting have been clarified to indicate that the setting provides protection against grossly exceeding the MCPR Fuel Cladding Integrity Safety Limit. Adequate local protection from a rod withdrawal error is provided by the RBM system alone. Previous wording did not clearly distinguish the functions of the two systems.
7. The upper limit of the reactor protection system (RPS) delay time has been reduced from 100 to 50 msec (time from opening of the sensor contact up to and including the opening of the trip actuator contacts). This change stems from an inconsistency which has existed between the Technical Specification value of 100 msec and the 50 msec value assumed by General Electric in the licensing analyses. General Electric has confirmed that the Edison procedures for determining RPS delay time are consistent with their use/definition of a 50 msec RPS delay time in the licensing analyses.

The licensing analyses are also based on a value of 290 msec for the time the neutron sensor reaches the setpoint to the start of control rod motion. The value of 390 msec currently quoted in the Dresden Unit 2 Technical Specifications is inconsistent with this value, and is therefore revised.

8. The LHGR spiking penalty for postulated fuel densification for 8x8 fuel types (standard and retrofit) has been included in the transient analyses by raising the results of the transients by an equivalent amount. Therefore, no LHGR spiking penalty is required to be applied (for any 8x8 fuel type) to the design limit LHGR of 13.4 kw/ft. The spiking penalty for all 7x7 fuel types is still required but will not change.
9. A 25 psi margin has previously been maintained between the calculated peak steam line pressure of the most limiting abnormal operational transient and the lowest spring safety valve setpoint. The purpose of this margin is to preclude actuation of the spring safety valves during pressurization events with bypass valve failure. Such events are very low probability (1/plant lifetime) and are an operational concern rather than a safety consideration. This argument has been presented by General Electric in Reference (a) and was approved in previous license amendments for Dresden Unit 3 and Quad Cities Unit 2. The proposed amendment therefore eliminates the scram reactivity license restriction (and consequently eliminates the 25 psi margin to the lowest spring safety valve setpoint). NRC concurrence would not preclude Commonwealth Edison from administratively incorporating pressure margin if future assessments indicate it is prudent to do so to avoid a forced outage in the unlikely event of bypass failure and significant safety-valve discharge to the drywell.
10. The LCO pertaining to the number of operable safety valves has been changed from "eight" to "nine" to correct a previous omission.

The proposed changes of Enclosure 1 have received on-site and off-site review and approval.

Pursuant to 10 CFR 170, Commonwealth Edison has determined that the proposed amendment is Class III. As such, a fee remittance in the amount of \$4,000.00 has been enclosed.

For purposes of your schedule, Cycle 8 operation, which requires approval of these proposed changes, is scheduled to begin on May 1, 1981.

Please address any questions concerning this matter to this office.

Three (3) signed originals and thirty-seven (37) copies of this transmittal are provided for your use.

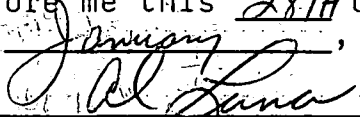
Very truly yours,



Robert F. Janecek
Nuclear Licensing Administrator
Boiling Water Reactors

Enclosure

SUBSCRIBED and SWORN to
before me this 28TH day
of January, 1980



Notary Public

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