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June 6, 1980

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

Subject: Quad Cities Station Unit 1
Proposed Amendment to Facility
Operating License DPR-29 to
Extend End-of-Cycle Coastdown
Operation
NRC Docket No. 50-254

References (a): R. L. Bolger letter to B. C. Rusche
dated June 11, 1976.

(b): R. L. Bolger letter to E. G. Case
dated June 6, 1977

Dear Sir:

Pursuant to 10 CFR 50.90, Commonwealth Edison Company proposes to amend Facility Operating License DPR-29 for Quad Cities Unit 1. The proposed amendment (Attachment 1) would extend the licensed coastdown limit from 70% to 40% reactor power.

The amendment is needed to permit continued operation of the Unit from the 70% power level down to 40% power and is based on analyses enclosed in Attachments 2 and 3, which were submitted in References (a) and (b).

Attachments 2 and 3 present unit specific coastdown analyses from 100% power to 70% and 40% for Quad Cities Unit 2 Reload 1 Cycle 2A and Dresden Unit 2 Reload 2 Cycle 5, respectively. The normal operating limits which were presented in the specific reload licensing submittal for the quoted cycles were shown to be conservative with respect to operation in the coastdown mode.

Specifically, Attachment 2 indicates that for the Quad Cities Unit 2 Reload 1 Cycle 2A limiting pressurization event, the peak steamline pressure decreased from 1200 psig at 90% power to 1157 psig at 70% power, indicating an increasing margin to the lowest safety valve setpoint during the coastdown mode. Also, the Δ CPR for the coastdown conditions were evaluated with the following results:

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<u>Power Level %</u>	<u>7x7 Δ CPR</u>	<u>8x8 Δ CPR</u>
100	.23	.29
90	.16	.22
80	.16	.21
70	.15	.19

The above Δ CPRs for operation in the coastdown mode were bounded by the normal operating Δ CPR limits.

Attachment 3 indicates that for the Dresden 2 Reload 2 Cycle 5 limiting pressurization event, the peak steamline pressure decreased from 1204 psig at 90% power to 1097 psig at 40% indicating an increasing margin to the lowest safety valve setpoint during the coastdown mode. Also, from approximation methods, the Δ CPR for the coastdown conditions were evaluated with the following results for the turbine trip without bypass transient:

<u>Power Level %</u>	<u>7x7 Δ CPR</u>	<u>8x8 Δ CPR</u>
100	.23	.29
90	.18	.24
70	.12	.16
55	.12	.16
40	.06	.08

Again, the Δ CPRs for the limiting pressurization event in the coastdown mode were bounded by the normal operating Δ CPR limits.

Although the absolute magnitude of the peak steamline pressures and Δ CPRs differ between the two referenced coastdown analyses, both analyses demonstrated that the peak steamline pressures and Δ CPRs during the coastdown mode of operation are conservative with respect to and are bounded by the normal operating limits for the respective cycles for which the specific analyses were performed. It should be noted that although the limiting pressurization event usually occurs at end of cycle, the limiting Δ CPR event may not occur at the end of cycle, i.e., the end of cycle may not be limiting with respect to the Δ CPR. The analyses demonstrate the trend of increasing margins to normal operating limits as coastdown progresses.

The presence of retrofit fuel (8x8R) in the Quad Cities Unit 1 Cycle 5 core will have no effect on the trends in the pressure margins and Δ CPRs illustrated in Attachments 2 and 3. Although the retrofit fuel would not be expected to give identical numerical values as those in the references for coastdown operation, the trend of more margin during coastdown with respect to the normal operating limits will not change.

Director of Nuclear Reactor Regulation
June 6, 1980
Page 3

The above trends can be explained by noting that the severity of the transient response of the core continually decreases during coastdown due to the dominant effect of the decreasing power level during coastdown. Since the transient response calculations are based on a point reactor kinetics model as described in the General Electric generic reload fuel application, NEDE-24011-P-A, the primary input parameters (void coefficient and scram reactivity) are core average values and are not fuel type dependent. As shown in Attachments 2 and 3, the void coefficient becomes less severe during coastdown and the scram reactivity becomes more severe with respect to impact on the transient analyses. The analyses show, however, that the combined effect of the input parameter changes when coupled with the decrease in power level results in increased pressure and thermal margins with respect to the normal operating limits.

The reactivity characteristics of the 8x8R fuel are essentially identical to those of the 8x8 fuel as shown in NEDE-24011-P-A. Because of this, the power decay curve during coastdown will follow the same trend for both fuel types. In addition, the thermal response of the two fuel designs is essentially the same. Thus, the change in Δ CPK during coastdown will have the same trend for both fuel types, with that trend demonstrating increasing margins during coastdown with respect to the normal operating limits.

Therefore, the transient result trends shown in Attachments 2 and 3 will remain the same with the addition of 8x8R fuel to the core and the normal cycle operating limits for Quad Cities Unit 1 Cycle 5 will remain conservative during operation in the coastdown mode to 40% of rated thermal power.

No changes to Appendix A, Technical Specifications, are required and no new safety questions are raised by the proposed end of cycle operating plan to 40% of rated thermal power. This proposed Amendment has received on-site and off-site review and approval.

Pursuant to 10 CFR 170, Commonwealth Edison Company has reviewed the proposed change and determined it to be a Class III Amendment. As such, a fee remittance in the amount of \$4,000.00 is enclosed.

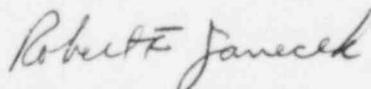
For purposes of scheduling, Quad Cities Unit 1 is estimated to reach the 70% power level during coastdown on June 30, 1980. In order to continue operation until the next scheduled refueling outage, approval of this Amendment would be required prior to June 30, 1980.

Director of Nuclear Reactor Regulation
June 6, 1980
Page 4

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.

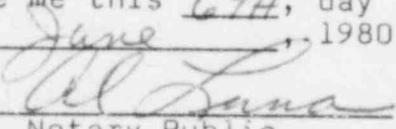
Very truly yours,



Robert F. Janecek
Nuclear Licensing Administrator
Boiling Water Reactors

Enclosures

SUBSCRIBED and SWORN to
before me this 6th, day
of June, 1980



Notary Public