



August 27, 1998

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

LaSalle County Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Subject: Request for Approval of Revision 1 to Commonwealth Edison Licensing Topical Report NFSR-0111, "BWR Transient Analysis Methods"

- References:
- 1) Letter from G. Benes (ComEd) to USNRC, "Commonwealth Edison BWR Transient Analysis Methods," dated June 26, 1995.
 - 2) Letter from J. Hosmer (ComEd) to USNRC, "Responses to NRC Request for Additional Information (RAI) on ComEd Licensing Topical Report NFSR-0111, BWR Transient Analysis Methods for: LaSalle, Dresden and Quad Cities," dated April 30, 1996.

Commonwealth Edison (ComEd) Company core analysis methodology (Reference 1), i.e., licensing topical report (LTR) for the ComEd Boiling Water Reactors (BWRs), has been submitted to the NRC for review and approval in accordance with NRC Generic Letter (GL) 83-11, "Licensee Qualification for Performing Safety Analyses in Support of Licensing Actions." The LTR demonstrates that ComEd's transient analysis methods and plant models accurately predict actual core and system transient behavior. In addition, in accordance with GL 83-11, the benchmarking results demonstrate ComEd's capability to perform safety analysis using the enclosed transient analysis methodology. Upon NRC approval, ComEd plans on using the methods for reload licensing and operational support applications for Dresden, Quad Cities, and LaSalle stations.

Note that Reference 2 provided ComEd's response to an NRC Request for Additional Information regarding our LTR "BWR Transient Analysis Methods".

Enclosed is Revision 1 of our LTR. Revision 1 of the LTR does not change or invalidate any of the conclusions in Reference 1 or 2.

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This revision supersedes the original LTR. This change provides the revised results from an error correction and from a more consistent application of the methods to collapse the three dimensional (i.e., 3-D) neutronic data to one dimensional (i.e., 1-D) neutronic input required by the RETRAN computer code. A description of the changes is provided below.


The ComEd methodology for one-dimensional neutron kinetics was described in Appendix A of the LTR. Subsequent to submitting the LTR, during maintenance activities associated with an upgrade of the MICROBURN computer code, a temperature conversion error was found in the WIDE computer code. Temperatures associated with the individual CASMO lattice physics code results were improperly converted for use in the RETRAN 1-D kinetics file Doppler coefficient terms. This error was identified only in the WIDE code and was corrected. An examination of the WIDE code for any other errors was completed and no other errors were identified. There was also an improvement in perturbing the reactor core inlet subcooling to obtain a more consistent application of the method described in the LTR for various initial conditions and power shapes.

The text of Appendix A and Figure A-1 of the LTR outlines the 1-D kinetic methodology associated with the ComEd RETRAN one dimensional space-time neutron kinetics model. It also provides a description of the ComEd computer code WIDE. Correction of the WIDE computer code temperature conversion does not change any of the inter-relationships or descriptions supplied in the LTR. The error correction was implemented affecting the numerical results of Step 6 of the process outlined in Appendix A of the LTR. Improvement in the method of perturbing the reactor core inlet subcooling does not change any of the inter-relationships or descriptions supplied in the LTR. Improvements in the way perturbation magnitude was selected and implemented affected the numerical results of steps 2 and 4 of the process outlined in Appendix A of the LTR, but not the overall process described in Appendix A of the LTR.

ComEd has revised all of the LTR results with the revised kinetics inputs. The benchmark comparisons continue to show good agreement with very little changes to most of the calculations. The conclusions from the original LTR remain unchanged.

If there are any questions, please contact Mr. Gary Benes at (630) 663-7282.

Respectfully,



R. M. Krich
Vice President - Regulatory Services

Enclosure

cc: Regional Administrator - NRC Region III
Senior Resident Inspector - LaSalle County Nuclear Power Station
Senior Resident Inspector - Quad Cities Nuclear Power Station
Senior Resident Inspector - Dresden Nuclear Power Station