

November 2, 2001

Mr. Oliver D. Kingsley, President  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3, AND QUAD CITIES  
NUCLEAR POWER STATION, UNITS 1 AND 2 - USE OF GENERAL  
ELECTRIC GEXL CRITICAL POWER RATIO CORRELATIONS IN  
CASMO/MICROBURN (TAC NOS. MA9697, MA9698, MA9699, AND MA9700)

Dear Mr. Kingsley:

By letter dated August 2, 2000, the Commonwealth Edison Company (ComEd) requested concurrence from the Nuclear Regulatory Commission (NRC) to use the General Electric (GE) GEXL critical power ratio correlations in the Siemens Power Corporation (SPC) CASMO/MICROBURN steady state neutronics code. ComEd requested the use of these correlations and codes to support the transition to GE-14 fuel at Dresden Nuclear Power Station (DNPS), Units 2 and 3, LaSalle County Station (LCS), Units 1 and 2, and Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. By letter dated December 20, 2000, ComEd withdrew the application to use GE-14 fuel at LCS. Subsequently, ComEd merged to form Exelon Generation Company, LLC (EGC). By letter dated February 7, 2001, EGC assumed responsibility for all pending NRC actions requested by ComEd.

The NRC had previously approved the use of CASMO/MICROBURN core physics steady state methods for boiling water core design and neutronic licensing analyses for SPC fuel. The approval to use CASMO/MICROBURN did not extend to GE-supplied reloads because the code did not include the GEXL correlations. Since that time, the MICROBURN 3-D simulator code has been upgraded to include GEXL. EGC intends to use the code, along with bundle R-factors provided by GE, for their licensing analyses, with the exception of misoriented assemblies.

The staff reviewed the request and determined that the licensee is using a methodology, including CASMO/MICROBURN, that has been reviewed and approved for use by the licensee at DNPS and QCNPS. The only change to the methodology is the incorporation of the GEXL correlations. GE developed the GEXL correlation for GE fuel and for co-resident SPC fuel using approved GE Topical Reports NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel (GESTAR)," and NEDC-32981P, "GEXL96 Correlation for ATRIUM 9B Fuel," respectively. The staff has reviewed these topical reports and concludes that they are applicable to the transition to GE-14 fuel at DNPS and QCNPS. The staff also reviewed the interface between GE and EGC during an audit at GE's facility in Wilmington, North Carolina. Based on the above, the staff concludes that the licensee's use of CASMO/MICROBURN with the GEXL critical power correlation is acceptable for steady state neutronics analyses for GE-supplied reloads, excluding fuel assembly misorientation analyses.

O. Kingsley

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If you have any questions regarding the staff's review, please contact me at (301) 415-1321 or at [snb@nrc.gov](mailto:snb@nrc.gov).

Sincerely,

**/RA/**

Stewart N. Bailey, Project Manager, Section 2  
Project Directorate III  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249, 50-254, and  
50-265

cc: See next page

O. Kingsley

-2-

If you have any questions regarding the staff's review, please contact me at (301) 415-1321 or at snb@nrc.gov.

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