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RS-01-228

October 17, 2001

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

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

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

Subject: Revision to Proprietary Designation - Additional Testing Information Supporting the License Amendment Request to Permit Up-rated Power Operation at Dresden Nuclear Power Station and Quad Cities Nuclear Power Station

References: (1) Letter from R. M. Krich (Commonwealth Edison Company) to U. S. NRC, "Request for License Amendment for Power Up-rate Operation," dated December 27, 2000

(2) Letter from K. A. Ainger (Exelon Generation Company, LLC) to U. S. NRC, "Additional Testing Information Supporting the License Amendment Request to Permit Up-rated Power Operation at Dresden Nuclear Power Station and Quad Cities Nuclear Power Station," dated September 19, 2001

In Reference 1, Commonwealth Edison Company, now Exelon Generation Company (EGC), LLC, submitted a request for changes to the operating licenses and Technical Specifications (TS) for Dresden Nuclear Power Station, Units 2 and 3, and Quad Cities Nuclear Power Station, Units 1 and 2, to allow operation at up-rated power levels. In Reference 2, we provided information regarding data showing that General Electric (GE) Company's transient modeling computer code ODYN demonstrates agreement with actual plant data for units that have experienced power up-rates. The attachment to Reference 2 was a letter from GE that was designated as proprietary and we requested that it be withheld from public disclosure in accordance with 10 CFR 2.790(a)(4), "Public Inspections, Exemptions, Requests for Withholding."

In a telephone conference on October 3, 2001, between Mr. J. Jimenez of the NRC and Mr. A. R. Haeger of EGC, the NRC requested that EGC and GE review the proprietary designation of the GE letter and re-submit the information with any identified changes to the proprietary designation. Accordingly, GE has revised the proprietary designation of the attachment to Reference 2. The revised attachment is enclosed as Attachment A to this letter. None of the

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technical information in Reference 2 has been revised.

Portions of Attachment A contain proprietary information to GE, and EGC requests that it be withheld from public disclosure in accordance with 10 CFR 2.790(a)(4), "Public Inspections, Exemptions, Requests for Withholding." Attachment A contains the affidavit supporting the request for withholding the letter from public disclosure, as required by 10 CFR 2.790(b)(1). Attachment B contains a non-proprietary version of Attachment A.

Should you have any questions related to this letter, please contact Mr. Allan R. Haeger at (630) 657-2807.

Respectfully,



K. A. Ainger
Director – Licensing
Mid-West Regional Operating Group

Attachments:

Attachment A: Letter from G. C. Nelson (GE) to John Nosko (Exelon), "Follow-up Information Requested by NRC on ELTR Transient Testing Requirements for EPU," dated October 3, 2001 (Proprietary)

Attachment B: Letter from G. C. Nelson (GE) to John Nosko (Exelon), "Follow-up Information Requested by NRC on ELTR Transient Testing Requirements for EPU," dated October 3, 2001 (Non-Proprietary)

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

Attachment B

Letter from G. C. Nelson (GE) to John Nosko (Exelon), "Follow-up Information Requested by NRC on ELTR Transient Testing Requirements for EPU," dated October 3, 2001 (Non-Proprietary)



October 3, 2001

GE-DQC EPU-00-484 Rev. 1

DRF A22-000103-00

Action Requested by: Al Haeger

Response to: N/A

Project Deliverable: RAI Response

cc: E.C. Connell (Exelon)
A. Haeger (Exelon)
A. Koslow (GE)

To: John Nosko (Exelon)

Author: E. C. Eckert and Arnold Koslow (GE)

From: G. C. Nelson (GE)

Subject: Follow-up Information Requested by NRC on ELTR Transient Testing Requirements for EPU

References: N/A

Attachments 1 and 2 contain GE's input in response to the NRC request, from the conference call between them, Exelon and GE of August 30, 2001, for more information related to the basis for taking exception to performing large transient tests as part of the EPU test program.

Attachment 1 provides information relative to the data taken at KKL during its EPU startup program and includes information that favorably compares the predicted ODYN runs with the actual plant response. This information was extracted from the GE BWR Power Uprate presentation made to the ACRS Thermal Hydraulic Phenomena Subcommittee on June 12, 2001. It should be noted that the predictions and tests at KKL, which has 100% bypass capability, were scram avoidance tests, however the events tested included complete turbine/generator trips from EPU conditions and the data is a good indicator of the ability of ODYN to favorably predict plant performance and confirmation of acceptable performance of plant equipment (some of which was changed prior to the tests).

Attachment 2 provides information relative to the ODYN predictions at the current power level and the EPU power level for Dresden and Quad Cities. It includes plots and data that compare the results at the current power level and EPU power level, as well as text explanation of the result comparison. The comparison shows that there is no significant difference between the predicted plots at the two power levels.

In conclusion, GE now feels that the large transient testing, as described in NEDC-32324P-A, no longer needs to be performed as part of a constant pressure EPU because:

1. The safety parameters remain within predictions using current models.
2. The equipment at Dresden and Quad Cities remains within existing pressure and temperature conditions for equipment utilized in mitigation of this transient.
3. There is now good EPU operating experience relative to plant performance, including nominal comparisons to large transient events.

As a note, GE's Constant Pressure Power Uprate Licensing Topical Report, NEDC-33004P Rev. 1, that has been submitted to the NRC for review, does not include this testing requirement.

The verification for this information is included in DRF A22-00103-16.

This transmittal contains GENE proprietary information, which is provided under the Exelon/GE-NE proprietary information agreement. GENE customarily maintains this information in confidence and withholds it from public disclosure.

The enclosed affidavit, Attachment 3, identifies that the designated information has been handled and classified as proprietary to GENE. Along with the affidavit, this information is suitable for review by the NRC. GENE hereby requests that the designated information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.790 and 9.17.

A signed copy of this Letter is included in DRF A22-00103-00.

Sincerely yours,

Original signed by G. C. Nelson

George C. Nelson, Project Director
BWR Asset Enhancement Service

Attachments:

1. EPU Startup Testing: KKL Experience
2. Comparison ODYN Predictions: Current Power Level vs. EPU Power Level for Dresden and Quad Cities
3. Proprietary Affidavit

Proprietary Attachment Removed

Attachment 2

**Comparison ODYN Predictions: Current Power Level vs. EPU
Power Level for Dresden and Quad Cities**

Comparison ODYN Predictions: Current Power Level vs. EPU Power Level for Dresden and Quad Cities

The following describes the ODYN simulation of the Dresden and Quad Cities Load Rejection with Bypass for both Extended Power Uprate and the Current Rated Thermal Power. This comparison provides information relative to the expected changes that would be observed if this large transient were performed at EPU conditions.

A Load Rejection with Bypass (LRWBP) analysis was performed for Dresden and Quad Cities at the Extended Power Uprate (EPU) and at the Current Licensed Thermal Power (CLTP). The results of these analyses are documented in GE Design Record Files, and the figures and data presented here were extracted from those files. The plotted results of the EPU analysis are shown in Figure 1 and the plotted results from the CLTP analysis are shown in Figure 2. Note, the power shown in Figure 2 is depicted as 85% and this represents the CLTP percentage of EPU power level. Table 1 presents the key transient results for this event.

The primary difference between the EPU and CLTP analyses is that the EPU pressurization rate is higher, which results in about a 2% difference in the peak heat flux. The EPU peak vessel pressure is increased by about 35 psi over the CLTP case. The analysis showed that both the EPU and CLTP cases are well within the relief valve and bypass capacity, and the EPU case still has 80 psi margin to the unpiped safety valve nominal setpoint. The figures show that the relief valves close just after 15 seconds into the simulation.

Based on these ODYN simulations, it can be concluded that the EPU will not impose significant change to the transient. The relief valve and bypass system designs are capable mitigating the pressure response without the need for the unpiped spring safety valves.

Table 1 Key Transient Results

Analysis	Peak Heat Flux % of initial	Peak Dome Pressure psig	Peak Vessel Pressure psig	Peak Steam Line Pressure psig
EPU	128.28	1161.2	1199.4	1159.5
CLTP	126.48	1126.7	1164.3	1125.0

LOAD REJECTION WITH BYPASS DATA FOR EE1 CYCLE 15 PAGE 2
POWER: 100.0% RATED FLOW: 108.0% RATED CYCLE29 E00000
ODYNM10A/ISCOR09/TASC-03 T-MSTR/T-RUN/ODYN PIDS: 09937/09937/0411F

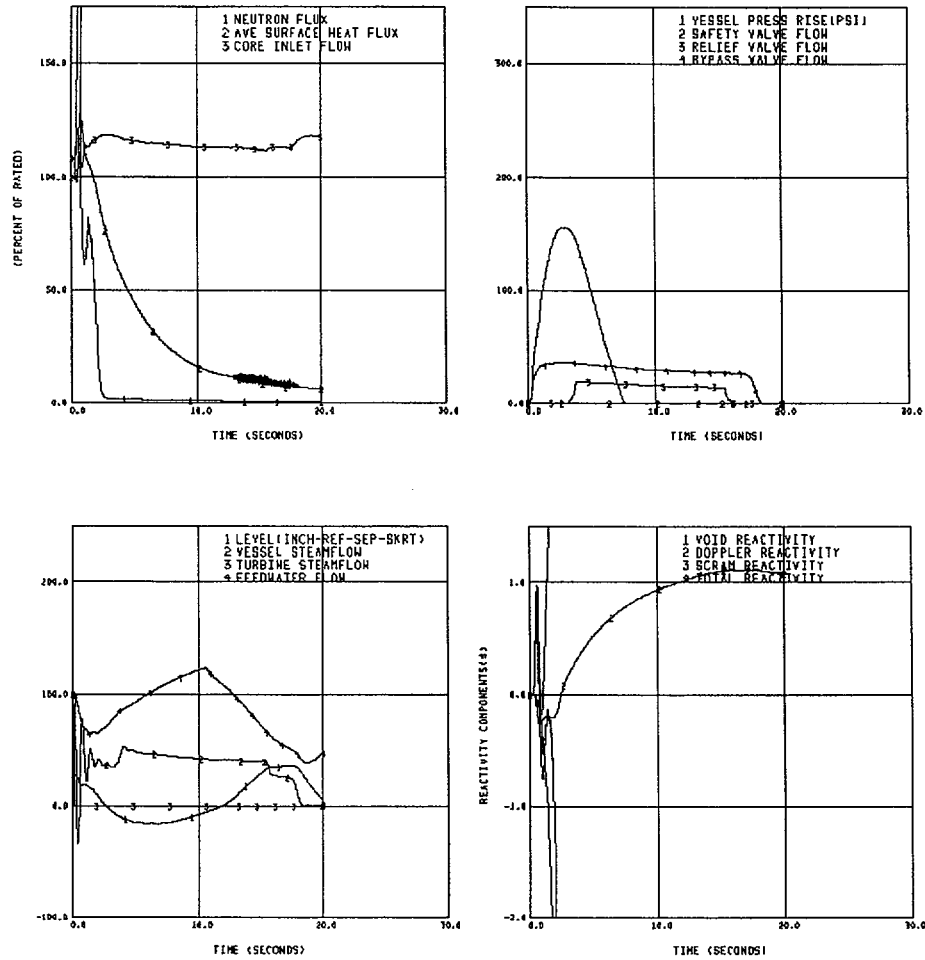


Figure 1 Dresden and Quad Cities Load Rejection with Bypass at Extended Power Uprate Conditions

LOAD REJECTION WITH BYPASS DATA FOR EE1 CYCLE 15

PAGE 2

POWER: 85.5% RATED FLOW: 108.0% RATED

CYC29A03 E00000

ODYNM10A/ISCOR09/TASC-03 T-MSTR/T-RUN/ODYN PIDS: 09937/09937/7CAAC

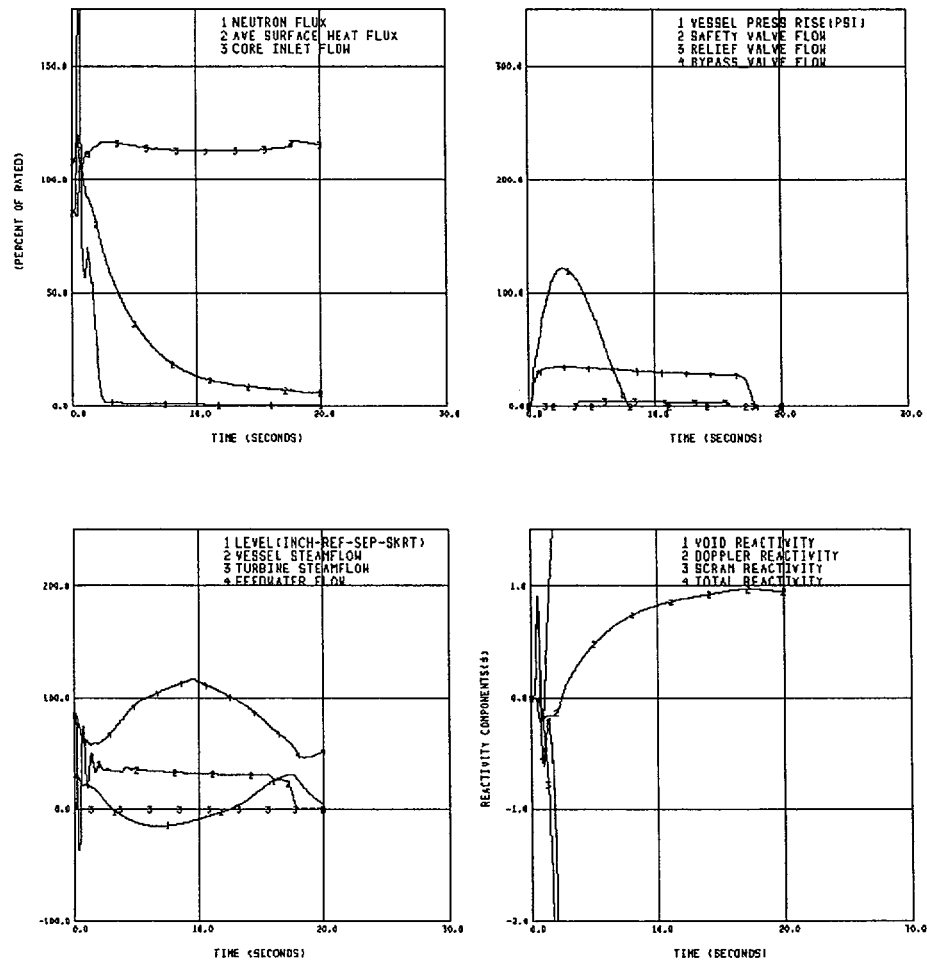


Figure 2 Dresden and Quad Cities Load Rejection with Bypass at Current Licensed Thermal Power

General Electric Company

AFFIDAVIT

I, George B. Stramback, being duly sworn, depose and state as follows:

- (1) I am Project Manager, Regulatory Services, General Electric Company ("GE") and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.
- (2) The information sought to be withheld is contained in Attachment 1 to letter GE-DQC EPU-00-484 Rev 1, *Follow-up Information Requested by NRC on ELTR Transient Testing Requirements for EPU*, (GE Proprietary Information), dated October 3, 2001. The proprietary information is all of the material in Attachment 1, *EPU Startup Testing: KKL Experience*.
- (3) In making this application for withholding of proprietary information of which it is the owner, GE relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4), 2.790(a)(4), and 2.790(d)(1) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information", and some portions also qualify under the narrower definition of "trade secret", within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).
- (4) Some examples of categories of information which fit into the definition of proprietary information are:
 - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;
 - b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

- c. Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of General Electric, its customers, or its suppliers;
- d. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, of potential commercial value to General Electric;
- e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in both paragraphs (4)a. and (4)b., above.

- (5) The information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GE, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GE, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within GE is limited on a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GE are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- (8) The information identified in paragraph (2), above, is classified as proprietary because it contains further details regarding the GE proprietary report NEDC-32961P, *Safety Analysis Report for Quad Cities 1 & 2 Extended Power Uprate*, Class III (GE Proprietary Information), dated December 2000, and NEDC-32962P, *Safety Analysis Report for Dresden 2 & 3 Extended Power Uprate*, Class III (GE Proprietary Information), dated December 2000, which contain detailed results of

analytical models, methods and processes, including computer codes, which GE has developed, obtained NRC approval of, and applied to perform evaluations of transient and accident events in the GE Boiling Water Reactor ("BWR").

The development and approval of these system, component, and thermal hydraulic models and computer codes was achieved at a significant cost to GE, on the order of several million dollars.

The development of the evaluation process along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GE asset.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GE's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GE.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

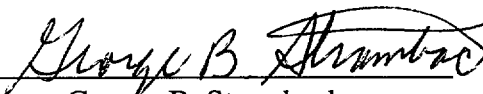
The value of this information to GE would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GE of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

STATE OF CALIFORNIA)
) ss:
COUNTY OF SANTA CLARA)

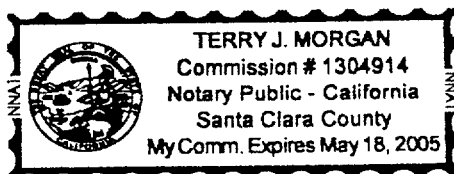
George B. Stramback, being duly sworn, deposes and says:

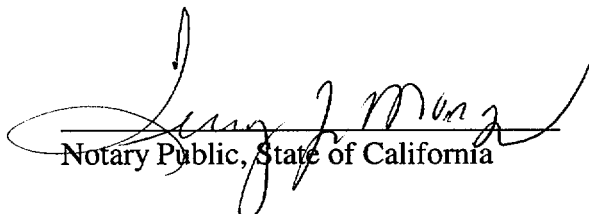
That he has read the foregoing affidavit and the matters stated therein are true and correct
to the best of his knowledge, information, and belief.

Executed at San Jose, California, this 3rd day of October 2001.


George B. Stramback
General Electric Company

Subscribed and sworn before me this 3rd day of October 2001.




Notary Public, State of California