

Exelon Generation Company, LLC  
Dresden Nuclear Power Station  
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10 CFR 50.12

June 12, 2001

PSLTR-#01-0068

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

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

Subject: Request for Scheduling Exemption for Performance of Reactor Vessel  
Weld Examinations Required by 10 CFR 50.55(a)

- Reference:
- (1) Electric Power Research Institute Report TR-105697, "BWR Vessel and Internals Project (BWRVIP), BWR Pressure Vessel Shell Weld Inspection Recommendations (BWRVIP-5)"
  - (2) Letter from J. Heffley (Commonwealth Edison Company) to U. S. NRC, "Relief Request for Alternate Weld Examination of Circumferential Reactor Pressure Vessel Shell Welds," dated July 26, 1999
  - (3) Letter from U.S. NRC to O. D. Kingsley, "Dresden-Authorization for Proposed Alternative Reactor Pressure Vessel Circumferential Weld Examinations," dated February 25, 2000

In accordance with 10 CFR 50.12, "Specific exemptions," Exelon Generation Company (EGC), LLC, formerly Commonwealth Edison (ComEd) Company, is requesting a scheduling exemption from the requirements of 10 CFR 50.55a, "Codes and standards," paragraph (g)(6)(ii)(A)(2) concerning augmented inspection of Reactor Pressure Vessel (RPV) welds for the Dresden Nuclear Power Station (DNPS), Units 2 and 3. As described below and in the attachment to this letter, the alternative will provide an acceptable level of quality and safety, and is requested because the current requirement presents a hardship without a compensating increase in the level of quality and safety.

In accordance with 10 CFR 50.55(a)(g)(6)(ii)(A)(2), DNPS is required to perform an examination of its RPV welds during the current ten-year inspection interval which concludes for each unit during the upcoming refueling outages, D2R17 and D3R17, scheduled for October 2001 and September 2002, respectively. As demonstrated

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technically in Reference 1 and accepted by the NRC in Generic Letter 98-05, "Boiling Water Reactor Licensees Use of the BWRVIP-05 Report to Request Relief from Augmented Examination Requirements on Reactor Pressure Vessel Circumferential Shell Welds," ComEd requested in Reference 2 to perform only the RPV shell vertical welds to satisfy the subject requirement. The NRC granted that request in Reference 3.

Until recently, DNPS intended to employ standard inspection technology to fulfill this commitment. Using this standard equipment, a projected coverage of approximately 60% of the RPV vertical welds for both Units 2 and 3 is expected, which is comparable to that typically achieved by this equipment for similar BWR plants. IHI Southwest Technologies (ISWT) has recently applied a new technology at Brown's Ferry Unit 2, the AIRIS 21 system, that has the potential to achieve increased coverage compared to the standard inspection technology. However, the IHI tool will require additional refueling bridge support, especially for welds below the core shroud, which delays other critical outage activities. Therefore, achieving the increased inspection coverage will require considerably more outage time. The current estimate for the outage extension is approximately 64 hours.

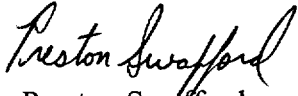
Therefore, in order to utilize this new technology and avoid significant extension of the upcoming refueling outages for each unit, EGC proposes to complete the RPV shell weld inspection deploying the AIRIS 21 system over the next two refuel outages for each unit. During the upcoming refueling outages for each unit, D2R17 and D3R17, the ISWT team will attempt to examine the vertical welds in the lower beltline course (i.e., course 1) and the shell to flange weld. Coverage of the lower beltline course is not obtainable with other equipment. Also, during this examination, coverage of the remaining vertical welds will be obtained as completely as possible. In the event that more critical path time is needed and the AIRIS 21 performs as anticipated, DNPS would then again deploy the system during the following refueling outages, two years later for each unit, to complete the upper beltline vertical welds (course 2) and other top course welds not completed during the first examination. This would provide ISWT the opportunity to further develop the potential of this equipment. The RPV shell weld inspections will be completed in this second refueling outage for each unit.

In summary, we are requesting a one-cycle extension of the requirement to inspect the RPV welds for both DNPS Units 2 and 3 to achieve the best coverage without imposing production penalties associated with a refueling outage extension. DNPS is requesting your review and concurrence by September 1, 2001, to support outage preparation.

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Should you have any questions regarding this letter, please contact Mr. Dale Ambler at (815) 942-2920, extension 3800.

Respectfully,

A handwritten signature in black ink, appearing to read "Preston Swafford". The signature is fluid and cursive, with the first name "Preston" being more prominent than the last name "Swafford".

Preston Swafford  
Site Vice President  
Dresden Nuclear Power Station

cc: Regional Administrator-NRC Region III  
NRC Senior Resident Inspector, Dresden Nuclear Power Station  
Office of Nuclear Facility Safety-Illinois Department of Nuclear Safety

**ATTACHMENT**  
**DRESDEN NUCLEAR POWER STATION UNIT 2 AND 3**  
**JUSTIFICATION FOR SCHEDULAR EXEMPTION**

**EXEMPTION**

Exelon Generation Company (EGC), LLC, requests a schedular exemption for Dresden Nuclear Power Station (DNPS), Units 2 and 3, from implementation of inservice examinations of the reactor pressure vessel (RPV) vertical welds and the top shell course to vessel flange weld, per American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI, Table IWB-2500, items B1.12 and B1.13, by the end of the current ten year intervals, as required by 10 CFR 50.55a, "Codes and standards," paragraph (g)(6)(ii)(A)(2). The current intervals end on January 19, 2003, for DNPS Unit 2 and October 31, 2002, for DNPS Unit 3. This schedular exemption requests an extension for the performance of the third interval inspections of these welds until the completion of the D2R18 outage for Unit 2 in October 2003, and until the completion of the D3R18 outage in October 2004 for Unit 3.

**DISCUSSION**

DNPS, like many plants of its vintage, was neither designed nor constructed to permit easy access to the reactor vessel welds for inservice inspection. The biological shield and insulation around the RPV does not permit ready access to the outside surfaces for ultrasonic inspection. Technology was developed and successfully used to allow inspection of the welds from the inside of the RPV. Weld coverage is dependent upon the location of RPV welds with respect to jet pumps, shroud repair hardware and other internal interferences. DNPS applied for and was granted relief from performing inspection of RPV circumferential welds in References 1 and 2. DNPS is now approaching the end of the third inspection interval and therefore must perform inspections of the remaining vertical welds and the top shell course to vessel flange weld.

Due to the installed shroud repairs on both units and other interferences, the current inspection technology is projected to obtain limited coverage of approximately 60% for DNPS Units 2 and 3. A new inspection technology offers the potential of an improved coverage. However, although this system may be able to achieve coverage on lower course welds that others can not, it will require extended periods of camera support from the refuel bridge during these inspections which directly impacts outage critical path. The advantage of this new technology is that it may be capable of inspecting a significant portion of welds in the lower beltline region that, at DNPS, are not accessible to other equipment. Since industry inspections to date have not seen evidence of service induced flaws, the increased risk of extending the inspection interval is not significant. Therefore, an extension of the completion date from the end of the

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**JUSTIFICATION FOR SCHEDULAR EXEMPTION**

interval for DNPS Unit 2 of eight months and for DNPS Unit 3 of twenty-four months to achieve increased inspection coverage without an outage schedule impact and to further tool experience and development is beneficial.

**BASIS FOR RELIEF**

As discussed in the following paragraphs, the requested schedular exemption meets the necessary criteria of 10CFR50.12, "Specific exemptions."

**A. Criteria for granting exemptions are met in accordance with 10CFR 50.12(a)(1):**

1. The requested exemptions and the activities, which would be allowed thereunder, are authorized by law

If the criteria established in 10 CFR 50.12(a) are satisfied, as they are in this case, and if no other prohibition exists to preclude the activities which would be authorized by requested exemption, and there is no such prohibition, the commission is authorized by law to grant this exemption request.

2. The requested exemption will not present undue risk to the public

The purpose of performing the reactor vessel inspection is to ensure the structural integrity of the reactor vessel. The requested exemption is schedular in its extent, and will result in a more complete and thorough inspection. Industry inspections to date have not identified service-induced flaws in reactor vessel welds.

3. The requested exemption will not endanger the common defense and security

The common defense and security are not in any way compromised by this exemption.

**B. At least one of the special circumstances is present in accordance with 10CFR 50.12(a)(2)**

1. The requested exemption will avoid undue hardship or costs

The requested schedular exemption is required to prevent an extension of the upcoming refueling outages. Preparations for the

**ATTACHMENT**  
**DRESDEN NUCLEAR POWER STATION UNIT 2 AND 3**  
**JUSTIFICATION FOR SCHEDULAR EXEMPTION**

upcoming DNPS Unit 2 outage is being made based on a vessel inspection window that is anticipated to be the outage critical path. Use of the new inspection technology provides a more thorough examination but extends the outage length by an estimated 64 hours. An extended inspection window would present undue hardship and cost and result in lost generation. Because the requested exemption does not jeopardize the health and safety of the public, as previously discussed, its approval is warranted.

2. The requested exemption will only provide temporary relief from the applicable regulation

The requested exemption is needed for a maximum of twenty-four months.

**APPLICABLE TIME PERIOD**

This schedular exemption is requested for the third ten year interval of the inservice inspection program of DNPS Unit 2 to be extended to October 2003 and of DNPS Unit 3 to be extended to October 2004.

**REFERENCES**

- (1) Letter from J. Heffley (Commonwealth Edison Company) to U. S. NRC, "Relief Request for Alternate Weld Examination of Circumferential Reactor Pressure Vessel Shell Welds", dated July 26, 1999
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