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Docket No. 50-461

10CFR50.90

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Clinton Power Station Proposed Amendment of
Facility Operating License No. NPF-62 (LS-94-003)

Dear Sir:

Pursuant to 10CFR50.90, Illinois Power (IP) hereby applies for amendment of Facility Operating License No. NPF-62, Appendix A - Technical Specifications, for Clinton Power Station (CPS). This request consists of proposed changes to the Technical Specifications (TS) to eliminate selected response time testing requirements. The affected TS are TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation"; TS 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation"; TS 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation"; and TS 3.5.1, "ECCS-Operating." The proposed changes are supported by analyses performed by the Boiling Water Reactor Owners' Group (BWROG) (NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements," January 1994) which demonstrates that other periodic tests required by TS, such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, in conjunction with the actions taken in response to NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," and Supplement 1, are adequate to ensure that instrument response times are within acceptable limits. By letter dated December 28, 1994, the NRC staff provided their acceptance of NEDO-32291, subject to certain conditions, for reference in license amendment applications.

A description of the proposed change and the associated justification (including a Basis For No Significant Hazards Consideration) are provided in Attachment 2. A marked-up copy of the affected pages from the current Technical Specifications is provided in Attachment 3. In addition, a marked-up copy of the affected pages from the Technical Specification Bases is provided in Attachment 4. Upon approval of this request by the NRC, IP will revise the CPS TS Bases in accordance with CPS TS 5.5.11, "Technical Specifications Bases Control Program," to reflect the changes provided in Attachment 4. An affidavit supporting the facts set forth in this letter and its attachments is provided in Attachment 1.

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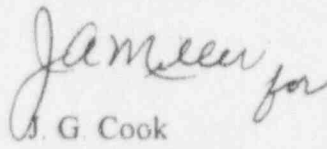
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IP has reviewed the proposed change against the criteria of 10CFR51.22 for categorical exclusion from environmental impact considerations. The proposed change does not involve a significant hazards consideration, or significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, IP concludes that the proposed change meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

This request is being submitted as part of the cost beneficial licensing action (CBLA) program where increased priority is granted to licensee requests for changes requiring NRC staff review that involve high cost without a commensurate safety benefit. Although the proposed change does have safety benefit (e.g., occupational dose reduction due to reduced testing), its major benefit is economic. Based on the conservative estimate of a reduction of 700 man-hours per outage and a potential reduction in outage duration, cost savings are estimated to be approximately \$200,000 per refueling outage. These costs exceed the threshold of \$100,000 established under the CBLA program.

Due to the refueling outage safety improvement and significant resource savings that can be realized by implementation of this proposed change, IP is requesting that this application be reviewed on a schedule sufficient to support the fifth refueling outage (RF-5) currently scheduled to begin March 12, 1995. It should be noted that, in order to support NRC approval for use during the fifth refueling outage, IP is proposing only those changes described in NEDO-32291 as accepted by the NRC during their review of NEDO-32291. However, IP intends to continue to evaluate future applications of the analyses presented in NEDO-32291 for further relaxations in response time testing requirements.

Sincerely yours,



J. G. Cook
Vice President

DAS/csm

Attachments

cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

J. A. Miller, being first duly sworn, deposes and says: That he is Manager-Nuclear Station Engineering for Illinois Power at Clinton Power Station and has been duly authorized to submit this application for amendment of Facility Operating License NPF-62; that the application for amendment of Facility Operating License NPF-62 has been prepared under his supervision and direction; that he knows the contents thereof, and that to the best of his knowledge and belief said letter and the facts contained therein are true and correct.

Date: This th 27 day of January 1995.

Signed: _____

J. A. Miller

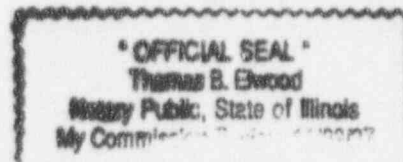
J. A. Miller

STATE OF ILLINOIS

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DEWITT COUNTY

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Subscribed and sworn to before me this 27th day of January 1995.

Thomas B. Elwood

(Notary Public)

Background

This proposed change involves elimination of selected response time testing requirements from the Technical Specifications (TS). Specifically, this includes the response time testing of sensors for selected parameters of the (1) Reactor Protection System (RPS), (2) Containment and Reactor Vessel Isolation Control System (CRVICS), and (3) Emergency Core Cooling System (ECCS) actuation instrumentation, as well as the remainder of the associated instrumentation loops for the ECCS actuation instrumentation. Analyses have been performed by the Boiling Water Reactor Owners' Group (BWROG) demonstrating that other periodic tests required by TS, such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, in conjunction with actions taken in response to NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," and Supplement 1, provide adequate assurance that instrument response times are within acceptable limits. The evaluation is documented in NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing." The analyses assert that the response time tests proposed for elimination are of little safety significance and result in unnecessary personnel radiation exposure, reduced availability of systems during plant shutdown, increased potential for inadvertent actuations of safety systems, and a significant burden to utility resources.

The basis for this request is consistent with Regulatory Guide 1.118 (Revision 2) which endorses IEEE 338-1977 which states:

"Response time testing of all safety related equipment, per se, is not required if, in lieu of response time testing, the response time of safety system equipment is verified by functional testing, calibration checks or other tests, or both. This is acceptable if it can be demonstrated that changes in response time beyond acceptable limits are accompanied by changes in performance characteristics which are detectable during routine periodic tests."

NEDO-32291 identifies the potential failure modes of components in the affected instrumentation loops which could potentially impact the instrument loop response time. In addition, industry operating experience was reviewed to identify failures that affect response times and how they were detected. The failure modes identified were then evaluated to determine if the effect on response time would be detected by other testing requirements contained in TS. The results of this analysis demonstrate that other TS testing requirements (channel calibrations, channel checks, channel functional tests, and logic system functional tests) and actions taken in response to NRC Bulletin 90-01 Supplement 1 are sufficient to identify failure modes or degradations in instrument response times and assure operation of the analyzed instrument loops within acceptable limits. Furthermore, there were no failure modes identified that can be detected by response time testing that cannot also be detected by other TS-required tests.

The evaluations documented in NEDO-32291 demonstrate that response time testing can be eliminated for the following:

- 1) All ECCS actuation instrumentation,
- 2) Sensors for selected RPS actuation instrumentation, and
- 3) Sensors for selected main steam line isolation valve (MSIV) closure actuation instrumentation.

By letter dated December 28, 1994, the NRC staff provided their acceptance of NEDO-32291, subject to certain conditions, for reference in license amendment applications.

Description of Proposed Changes

In accordance with 10CFR50.90, and following the guidance of NEDO-32291, the following changes to the CPS TS are being proposed:

1. With respect to changes for RPS Instrumentation, a new note (Note 2) has been added to Surveillance Requirement (SR) 3.3.1.17 to state that the channel sensors are excluded from the RPS RESPONSE TIME test for the Reactor Vessel Steam Dome Pressure - High (Function 3), Reactor Vessel Water Level - Low, Level 3 (Function 4), and Reactor Vessel Water Level - High, Level 8 (Function 5) instrumentation channels.
2. With respect to changes for Primary Containment and Drywell Isolation Instrumentation, a new note (Note 1) has been added to SR 3.3.6.1.7 to state that the channel sensors are excluded from the ISOLATION SYSTEM RESPONSE TIME test. This SR is applicable to the Reactor Vessel Water Level - Low Low Level 1 (Function 1.a), Main Steam Line Pressure - Low (Function 1.b), and Main Steam Line Flow - High (Function 1.c) instrumentation channels.
3. With respect to changes for ECCS Instrumentation, the requirements of SR 3.3.5.1.6 have been moved to the ECCS-Operating TS as SR 3.5.1.8 with the inclusion of a note that states that the ECCS actuation instrumentation are excluded from the ECCS RESPONSE TIME test. The Frequency of this SR has been changed from "18 months on a STAGGERED TEST BASIS" to "18 months" in order to relate to the appropriate Frequency for testing the associated ECCS subsystem (rather than the instrument channel). As a result, this is considered to be an administrative change.

The proposed TS changes are reflected on a marked-up copy of the affected pages from the CPS TS in Attachment 3. (It should be noted that the format of proposed changes are different than that provided in Appendix H of NEDO-32291 since CPS has adopted TS written in the Improved TS format. However, the proposed changes meet the intent of

those provided in Appendix H of NEDO-32291.) In addition, changes to the CPS TS Bases which are consistent with the proposed TS changes have been provided in Attachment 4.

Additional Information

In accordance with the conditions identified in the NRC staff's safety evaluation of NEDO-32291, the following information is provided:

IP has confirmed the applicability of NEDO-32291 to CPS. As identified in Appendix A to that report, IP was a participating utility in the evaluation. In addition, IP has confirmed that the components within the scope of this request have been evaluated in NEDO-32291. These components are identified in Appendix G (Table G-2) of NEDO-32291 and Table 1 of the NRC staff's safety evaluation of NEDO-32291. The components within the scope of this request for CPS are Rosemount transmitters models 1152, 1153, 1154; General Electric (GE) trip units model 147D8505 (which IP has confirmed with GE to be within the classification of GE trip units identified in Table 1 of the NRC staff's safety evaluation of NEDO-32291); and GE solid-state logic cards which are currently exempt from response time testing as identified in NEDO-32291 Table G-2.

IP confirms that CPS is in conformance with the following recommendations from EPRI NP-7243, "Investigation of Response Time Testing Requirements":

- (a) Prior to installation of a new transmitter/switch or following refurbishment of a transmitter/switch (e.g., sensor cell or variable damping components), a hydraulic response time test will be performed to determine an initial sensor-specific response time value. Applicable CPS procedures will be revised prior to the upcoming refueling outage (RF-5) to fulfill this recommendation.
- (b) For transmitters and switches that use capillary tubes, capillary tube testing shall be performed after initial installation and after any maintenance or modification activity that could damage the lines. CPS currently does not utilize any transmitters or switches that use capillary tubes in any application that requires response time testing. Therefore, this recommendation is not applicable to CPS.

Applicable calibration procedures will be revised to include steps to input a fast ramp or step change to system components during calibrations. These procedures currently contain steps to require, after connection of the test equipment and prior to transmitter calibration, the transmitter to be pressurized to normal operating pressure to verify that the transmitter and test setup holds pressure and does not visibly leak. It is IP's intent to satisfy this condition by supplementing these steps to require the transmitter to be pressurized in a step change manner with a technician in direct communication (normally through the use of sound powered telephone headsets) to verify that the response of the

transmitter to the step input change is prompt, and in all cases less than five seconds. The applicable calibration procedures will be revised prior to the next performance of the procedure during the fifth refueling outage or later.

IP conducted training for operators and technicians in response to Requested Action 4.a of NRC Bulletin (NRCB) 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount." In addition to addressing the symptoms that a transmitter exhibits if it is experiencing a loss of fill oil, this training also addressed the consequences of instrument response time degradation. Completion of this training was documented in IP's response to NRCB 90-01 (reference letter U-601707 dated July 19, 1990). Notwithstanding, IP will revise the applicable calibration procedures to assure that technicians monitor for response time degradation during the performance of calibrations. These procedures will be revised prior to the next performance of the procedure during the fifth refueling outage or later.

Surveillance testing procedures will be revised to ensure calibrations and functional tests are being performed in a manner that allows simultaneous monitoring of both the input and output response of units under test. As stated above, the applicable calibration procedures will be revised to require the technicians at different locations to be in direct communication to verify that the response of the transmitter to a step input change is prompt, and in all cases less than five seconds. These procedures will be revised prior to the next performance of the procedure during the fifth refueling outage or later.

IP's compliance with the guidelines of Supplement 1 to NRCB 90-01 was reviewed and documented in a safety evaluation transmitted to IP by NRC letter dated June 15, 1994. The NRC's evaluation concluded that IP's responses to the NRCB 90-01 and Supplement 1 conform to the Requested Actions of NRCB 90-01 Supplement 1.

As stated above, the components affected by this request are limited to Rosemount transmitters model 1152, 1153, 1154; GE trip units model 147D8505; and GE solid-state logic cards which are currently exempt from response time testing. IP has reviewed the vendor recommendations for these devices and confirmed that they do not contain recommendations for periodic response time testing.

Basis for Significant Hazards Determination

In accordance with 10CFR50.92, a proposed change to the Operating License (Technical Specifications) involves no significant hazards considerations if operation of the facility in accordance with the proposed change would not: (1) involve a significant increase in the probability or consequences of any accident previously evaluated, or (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. The proposed changes are evaluated against each of these criteria below.

- (1) The purpose of the proposed Technical Specification (TS) change is to eliminate response time testing requirements for selected components in the Reactor Protection System (RPS), Containment and Reactor Vessel Isolation Control System (CRVICS) instrumentation, and Emergency Core Cooling System (ECCS) actuation instrumentation. The Boiling Water Reactor Owners' Group (BWROG) has completed an evaluation which demonstrates that response time testing is redundant to the other TS-required testing. These other tests, in conjunction with actions taken in response to NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," and Supplement 1, are sufficient to identify failure modes or degradations in instrument response time and ensure operation of the associated systems within acceptable limits. There are no known failure modes that can be detected by response time testing that cannot also be detected by the other TS-required testing. This evaluation was documented in NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements," January 1994. Illinois Power (IP) has confirmed the applicability of this evaluation to Clinton Power Station (CPS). In addition, IP will complete the actions identified in the NRC staff's safety evaluation of NEDO-32291.

Because of the continued application of other existing TS-required tests such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, the response time of these systems will be maintained within the acceptance limits assumed in plant safety analyses and required for successful mitigation of an initiating event. The proposed changes do not affect the capability of the associated systems to perform their intended function within their required response time, nor do the proposed changes themselves affect the operation of any equipment. As a result, IP has concluded that the proposed changes do not involve a significant increase in the probability or the consequences of an accident previously evaluated.

- (2) The proposed changes only apply to the testing requirements for the components identified above and do not result in any physical change to these or other components or their operation. As a result, no new failure modes are introduced. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) The current TS-required response times are based on the maximum allowable values assumed in the plant safety analyses. These analyses conservatively establish the margin of safety. As described above, the proposed changes do not affect the capability of the associated systems to perform their intended function within the allowed response time used as the basis for the plant safety analyses. The potential failure modes for the components within the scope of this request were evaluated for impact on instrument response time. This evaluation confirmed

that, with the exception of loss of fill-oil of Rosemount transmitters, the remaining TS-required testing is sufficient to identify failure modes or degradations in instrument response times and ensure operation of the instrumentation within the scope of this request is within acceptable limits. The actions taken in response to NRC Bulletin 90-01 and Supplement 1 are adequate to identify loss of fill-oil failures of Rosemount transmitters. As a result, it has been concluded that plant and system response to an initiating event will remain in compliance with the assumptions of the safety analysis.

Further, although not explicitly evaluated, the proposed changes will provide an improvement to plant safety and operation by reducing the time safety systems are unavailable, reducing the potential for safety system actuations, reducing plant shutdown risk, limiting radiation exposure to plant personnel, and eliminating the diversion of key personnel resources to conduct unnecessary testing. Therefore, IP has concluded that this request will result in an overall increase in the margin of safety.

Based on the foregoing, IP concludes that this request does not involve a significant hazards consideration.