

April 10, 2008

Mr. Christopher J. Schwarz
Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION FOR ENTERGY NUCLEAR
OPERATIONS, INC, REGARDING PALISADES NUCLEAR PLANT
(NOED 08-3-001; TAC MD8483)

Dear Mr. Schwarz:

By letter dated April 8, 2008, you requested that the U.S. Nuclear Regulatory Commission (NRC) exercise discretion to not enforce compliance with the actions required in Technical Specification (TS) 3.8.1, "AC Sources Operating." Your letter documented information previously discussed with the NRC in a telephone conference on April 4, 2008, at 6:45 p.m. (All times discussed in this letter refer to Eastern Daylight Time). You stated that on April 4, 2008, at 9:55 p.m. Palisades would not be in compliance with TS 3.8.1 Required Action A.2, which would require Palisades to enter Required Action F.1 and place the unit in Mode 3 (Hot Standby) within six hours. You requested that a Notice of Enforcement Discretion (NOED) be granted pursuant to the NRC's policy regarding exercise of discretion for an operating facility, set out in Section VII.C, of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, and be effective for the period from 9:55 p.m. on April 4, 2008, to 9:55 p.m. on April 5, 2008. This letter documents our telephone conversation on April 4, 2008, when we orally granted this NOED at approximately 9:00 p.m. We understand that the condition causing the need for this NOED was corrected by you at 1:00 a.m. on April 5, 2008, allowing you to exit from TS 3.8.1 Required Action A.2, and from this NOED.

The principal NRC staff members who participated in that telephone conference included: Cynthia Pederson, Director, Division of Reactor Projects (DRP), Region III; Anne Boland, Deputy Director, Division of Reactor Safety (DRS), Region III; Timothy McGinty, Deputy Director, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation (NRR); John Ellegood, Senior Resident Inspector, Palisades; Kenneth Riemer, Chief, Reactor Projects Branch 2, DRP; Julio Lara, Chief, Engineering Branch 3, DRS; Martin Murphy, Chief, Generic Communication and Power Uprate Branch, NRR; David Passehl, Senior Reactor Analyst, DRS; Mahesh Chawla, Plant Licensing Branch, NRR; Margaret Chernoff, Plant Licensing Branch, NRR; Jack Giessner, Palisades Resident Inspector; George Wilson, Chief, Electrical Engineering Branch, NRR; Gurcharan Matharu, Electrical Engineering Branch, NRR; Vijay Goel, Electrical Engineering Branch, NRR; Merrilee Banic, Generic Communications and Power Uprate Branch, NRR; Gerald Waig, Technical Specifications Branch, NRR; See Meng Wong, PRA Operations Support and Maintenance Branch, NRR; and Jeffrey Circle, PRA Operations support and Maintenance Branch, NRR.

On April 4, 2008, your staff requested enforcement discretion to preclude a required entry into Mode 3 (Hot Standby). To accomplish this, you requested that the 72 hour completion time for TS 3.8.1 Required Action A.2 be extended for 24 hours to complete repairs and post maintenance testing of the Safeguards transformer. Without the extension, the unit would have been required to enter Condition F of TS 3.8.1 at 9:55 p.m. April 4 and be in Mode 3 in six hours if the source of offsite AC power from the Safeguards transformer remained inoperable.

Technical Specification Limiting Condition for Operation 3.8.1, "AC Sources – Operating," states that "Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power distribution system" shall be operable. This specification is applicable in MODES 1 and 2. Technical Specification 3.8.1 Condition A provides required actions for one offsite circuit being inoperable. Required Action A.1 requires "Perform SR 3.8.1.1 (offsite source check) for OPERABLE offsite circuit" and A.2 requires "Restore offsite circuit to OPERABLE status." Palisades stated that the requirements of A.1 were met within the required one hour completion and once every eight hours thereafter. However, Palisades also stated that the Required Action of A.2 would not be met. If Required Action A.2 could not be met, Condition F applied and required the unit be placed in Mode 3 (Hot Standby) within six hours and in Mode 5 (Cold Shutdown) within 36 hours.

At 9:55 p.m. on April 1, 2008, your staff determined that elevated gas levels in the Safeguards transformer load tap changer (LTC) oil indicated internal problems with the LTC and the transformer could no longer be considered operable. This placed the unit in TS 3.8.1 Condition A, "One Offsite Circuit Inoperable." As required by Required Action A.1, your staff completed SR 3.8.1.1, offsite source check, at 10:01 p.m. and within the required periodicity of once per eight hours until you exited the LCO. However, your staff determined that Required Action A.2, restore offsite circuit to operable status, could not be completed within the required completion time of 72 hours.

Your staff identified that the LTC for the Safeguards transformer had not been properly reassembled during a maintenance window in October of 2007. As a result of the improper maintenance, the shunts for the LTC became disconnected and generated internal arcing. The arcing generated gasses that were detected in an oil sample. At the time of the request, you stated that site personnel had verified other work on the LTC performed by the vendor to be correct or site personnel performed rework to ensure proper assembly. In the load tap changer portion of the transformer, site personnel replaced nuts that had potentially been improperly reused. You stated that the primary and secondary windings of the Safeguards transformer were performing satisfactorily and oil samples of the windings section of the transformer showed normal gas levels. The resident inspector reviewed the oil sample data and verified the analysis results indicated normal transformer performance.

Based on your review of the condition, you determined that the issue was limited to the LTC portion of the Safeguards transformer. You further determined that the vendor performing the work improperly re-used hex cone lock nuts. You stated that you had verified nut torque on the accessible bolts in the LTC, replaced suspect nuts, and applied sealant to bolt threads. You also stated that inaccessible fasteners were not disturbed by the vendor during the maintenance. At the time of the request, you had completed the above actions and were in the process of testing the transformer for a return to service.

Your staff requested this NOED after consideration of the safety significance and potential consequences of extending the completion time. Your staff performed a bounding risk assessment of extension of the completion time for 24 hours. Your staff concluded that extension of the completion time would result in no net increase in radiological risk to the public.

The baseline risk for Palisades using the zero maintenance probabilistic risk assessment (PRA) model yields a core damage frequency (CDF) value of $2.521E-05$ and a large early release frequency (LERF) value of $2.813E-07$. The estimated increase in risk for the Incremental Conditional Core Damage Probability (ICCDP) associated with a postulated 24 hour extension is $2.3E-8$. The ICCDP value for Palisades is less than the threshold of $5E-7$ specified in Regulatory Issue Summary (RIS) 2005-01. In addition, the estimated increase in risk for Incremental Conditional Large Early Release Probability (ICLERP) is $3E-10$. The ICLERP values are also less than the threshold of $5E-8$ specified in RIS 2005-01. The NRC independently calculated ICCDP and ICLERP and determined they were below the thresholds in RIS 2005-01. These calculated risk increases are consistent with the site's normal work control levels and therefore there is no net increase in radiological risk to the public.

As for compensatory measures, during the time the NOED was in effect, your staff committed to the following:

- a) No additional equipment associated with the AC power system will be removed from service or worked on for the duration of the safeguards transformer noncompliance. This included the remaining offsite circuit and the two diesel generators, each capable of supplying onsite Class 1E power as described in the TS Bases 3.8.1. The front bus in the switchyard will be energized and de-energized to support Safeguards transformer work.
- b) The remaining offsite circuit and diesel generators 1-1 and 1-2 will be protected with physical barriers and administrative controls (posting of protected train signage), preventing work on this equipment.
- c) Access will be limited to the following equipment important for maintaining the plant in a stable condition: 2400 Volt buses C, D, E; diesel generators 1-1 and 1-2, and supplemental diesel generator 1-3; main, station (1-1 and 1-2), and startup transformers; cable spreading room, and station batteries. Access is controlled by posted signs requiring approval by the operations shift manager prior to entry.
- d) No corrective maintenance, preventative maintenance, or surveillance testing will be performed on the remaining offsite circuit and the two diesel generators, or the attendant support equipment required by the TS definition of "Operable-Operability" except for SR 3.8.1.1. Technical Specification 3.8.1 Required Action A.1 requires performance of SR 3.8.1.1 (offsite source check) for the operable offsite circuit once per eight hours. The licensee is not requesting enforcement discretion from this requirement. Aside from offsite source checks, your staff stated all other surveillances are in the required periodicity through the expiration of the NOED; therefore, no other surveillances need to be performed or will be performed while the NOED is in effect. Your staff also stated that no work would occur on safety related equipment while the NOED is in effect.

- e) The physical barriers referenced in item (b) above will be verified shiftly for the duration of the inoperability of the safeguards transformer and logged in the Operations log.
- f) No non-essential work will be allowed that could potentially jeopardize stable plant operation.
- g) No switchyard work or work on the main, station or startup transformers will be allowed.
- h) The plant operations crew will be briefed on these risk management measures.
- i) The licensee will discuss with the grid operator the plant's condition and the need for heightened sensitivity and continual monitoring of grid conditions to anticipate challenges to offsite power availability.
- j) Operators will be briefed on sensitivity of safety bus electrical power supply issues to recognize and respond expeditiously to a station black out or loss of offsite power event.
- k) Operators will perform checks of the local switchyard house alarm panel twice a shift. Operators will notify the control room of any lit alarms, perform required actions in the alarm response procedure, and verify the procedure actions.
- l) A continuous fire watch will be implemented for startup transformer 1-3.
- m) If an equipment failure occurs that could affect the AC power function, the operations manager will be contacted to notify the NRC and convene an onsite safety review committee meeting to evaluate plant status, determine if the basis for the NRC's granting of the enforcement discretion is affected.

The resident inspector verified that the above items were implemented while the NOED was in effect.

On April 4, 2008, you provided the NRC with an Onsite Safety Review Committee approved proposal for a NOED. Subsequent to the NRC's review of your proposal, you discussed the request with members of the NRC and provided additional information and compensatory measures. Based on the proposal and additional information and commitments, the NRC approved your request. On April 8, 2008, you provided the NRC with a written request that incorporated the items discussed as forming the basis for the NRC's decision to grant the NOED.

The NRC reviewed your written request for enforcement discretion and verified consistency between your oral and written requests. The NRC's basis for this discretion considered: (1) the compensatory measures to reduce the probability of a loss of equipment important due to its presence in high risk cut sets, (2) quantitative risk evaluation of the continued operation with the Safeguards transformer inoperable, (3) the qualitative risk evaluation of the condition with your compensatory measures in place, (4) your actions to correct the deficiency, and (5) your statement that other transformers were not affected by the deficiency; and determined that the risk of continued operation with compensatory measures for an additional 24 hour period did not result in an increased risk over shutting down the unit. In discussions with members of your

staff, your staff stated that work on the main transformer 1-1 and station power transformers 1-1, 1-2, and 1-3 occurred external to the oil reservoirs. According to your staff, these transformers are in service and show no abnormal indications. Therefore, your staff concluded there were no concerns with the performance of these transformers as a result of work performed in the 2007 outage.

Based on the above considerations, the NRC staff concluded that Criterion B.2.1.1.a and the applicable criteria in Section D.4 to NRC Manual Chapter 9900, "Technical Guidance, Operations - Notice of Enforcement Discretion," were met. Criterion B.2.1.1.a states that for an operating plant, the NOED is intended to avoid unnecessary transients as a result of compliance with the license condition and, thus, minimize potential safety consequences and operational risks. Therefore, the NRC granted the NOED.

In addition, as discussed on April 4, 2008, the staff agrees with the licensee's determination that a follow up TS amendment is not necessary. The staff finds that a TS amendment (either a temporary or permanent) needed for circumstances similar to those addressed by the NOED is not necessary because it involves a non-recurring noncompliance and only involves a single request for extending the TS allowed outage time for an inoperable component.

As stated in the Enforcement Policy, action will be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this NOED was necessary.

Sincerely,

/RA/

Cynthia D. Pederson, Director
Division of Reactor Projects

Docket No. 50-255
License No. DPR-20

cc : Senior Vice President
Vice President Oversight
Senior Manager, Nuclear Safety & Licensing
Senior Vice President and COO
Assistant General Counsel
Manager, Licensing
W. DiProfio
W. Russell
G. Randolph
Supervisor, Covert Township
Office of the Governor
T. Strong, Chief, State Liaison Officer, State of Michigan
Michigan Department of Environmental Quality -
Waste and Hazardous Materials Division
Michigan Office of the Attorney General

Letter to C. Schwarz from C. Pederson dated April 10, 2008

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