

November 15, 2002

Mr. Douglas E. Cooper  
Site Vice President  
Palisades Nuclear Plant  
Nuclear Management Company, LLC  
27780 Blue Star Memorial Highway  
Covert, MI 49043-9530

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION FOR NUCLEAR MANAGEMENT  
COMPANY LLC REGARDING PALISADES (NOED 02-3-059)

Dear Mr. Cooper:

By letter dated November 13, 2002, you requested that the U.S. Nuclear Regulatory Commission (NRC) exercise discretion not to enforce compliance with certain requirements of Technical Specification (TS) 3.5.1., "Safety Injection Tanks (SITs)," for the inoperable T-82D Safety Injection Tank. Your letter documented information previously discussed with the NRC in a telephone conference which occurred on November 12, 2002, at approximately 11:45 a.m. (All times discussed in this letter refer to Eastern Standard Time). You stated that on November 12, 2002, at 1:45 p.m., Palisades would not be in compliance with TS 3.5.1 Condition B which would require the unit to be placed in Mode 3 (Hot Standby) by 7:45 p.m. on November 12, 2002. You requested that a Notice of Enforcement Discretion (NOED) be issued 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 1:45 p.m. on November 12, 2002, to 1:45 p.m. on November 13, 2002. This letter documents our telephone conversation on November 12, 2002, when we orally issued this NOED at 1:32 p.m. At the time of the telephone conference, the Palisades Unit was operating in Mode 1 (Power Operation) at 60 percent power and stable. We understand that the condition causing the need for this NOED was corrected. Consequently, you exited from TS 3.5.1 Condition B and from this NOED on November 13, 2002, at 05:25 a.m.

The principal NRC staff members who participated in that telephone conference included: Geoffrey Grant, Director, Division of Reactor Projects (DRP), RIII; Keith McConnell, Acting Director, Project Directorate-III, Division of Licensing Project Management (DLPM), Office of Nuclear Reactor Regulation (NRR); Anton Vogel, Branch Chief, Reactor Projects Branch 6, DRP, RIII; Laura Collins, Project Engineer, Reactor Projects Branch 6, DRP, RIII; Mel Holmberg, Reactor Inspector, Division of Reactor Safety (DRS), RIII; James Neurauter, Reactor Engineer, DRS, RIII; Jay Lennartz, Senior Resident Inspector, Palisades; Rob Krsek, Resident Inspector, Palisades; John Stang, Acting Section Chief, Section I of Project Directorate-III, DLPM, NRR; Johnny Eads, Project Manager, Section 1 of Project Directorate-III, DLPM, NRR; John Lamb, Project Manager, Section 1 of Project Directorate-III, DLPM, NRR; Nicholas Saltos,

Technical Staff, Probabilistic Safety Assessment Branch, NRR; Summer Sun, Technical Staff, Reactor Systems Branch, NRR; and George Georgiev, Technical Staff, Materials and Chemical Engineering Branch, Division of Engineering, NRR.

Your staff requested enforcement discretion to preclude a required entry into Mode 3 (Hot Standby) by 7:45 p.m. on November 12, 2002. To accomplish this, you requested that the 24-hour allowed action time for TS 3.5.1.B be extended by 24 hours to 1:45 p.m. on November 13, 2002, to accomplish restoration of SIT T-82D to an operable status. With this extended allowed action time, the unit would have been required by TS 3.5.1.C to enter Mode 3 (Hot Standby) by 7:45 p.m. on November 13, 2002, if SIT T-82D remained inoperable.

Technical Specification Limiting Condition for Operation 3.5.1, "Safety Injection Tanks (SITs)," states that "Four SITs shall be OPERABLE." This specification is applicable in MODES 1 and 2. Technical Specification 3.5.1. Condition B provides required actions for one SIT inoperable for reasons other than boron concentration not within limits or the inability to verify level or pressure. If one SIT is inoperable under Condition B, action is required to restore the SIT to operable status within 24 hours. Technical Specification 3.5.1 Condition C requires the unit to be placed in Mode 3 (Hot Standby) within the next 6 hours if Condition B is not met.

On November 11, 2002, your staff noted apparent leakage from SIT T-82D via trending of multiple plant parameters. Subsequently, SIT T-82D and associated piping were visually inspected for evidence of leakage. During this inspection, leakage was visually observed from the  $\frac{3}{4}$ " piping side of the sock-o-let attaching the lower sensing line for level transmitter LT-0374 to the main 12" downcomer from SIT T-82D. The leak was non-isolable from SIT T-82D. SIT T-82D was declared inoperable at 1:45 p.m. on November 11, 2002, and Condition B of TS 3.5.1 was entered.

Following the identification of the leak, action was initiated to repair the affected piping in accordance with American Society of Mechanical Engineers (ASME) Section XI for Class 2 piping. In order to repair the leak and preserve the flawed portion of piping for root cause analysis, the piping segment between the 12" downcomer and the first elbow was replaced. This segment was made up of the leaking branch connection fitting (sock-o-let) from the T-82D downcomer and the  $\frac{3}{4}$ " pipe between the sock-o-let and first elbow out from the 12" downcomer. Three welds were required for the repair: (1) A full penetration weld between the 12" downcomer and the sock-o-let; (2) An  $\frac{1}{8}$ " socket weld between the sock-o-let and the  $\frac{3}{4}$ " pipe; and (3) An  $\frac{1}{8}$ " socket weld between the  $\frac{3}{4}$ " pipe and the pre-existing elbow. All welds were made with the gas tungsten arc welding process using ER308L filler metal. An argon back purge was established prior to making the sock-o-let to the 12" pipe weld.

All welds were examined using the liquid dye penetrant method. As an added precaution, no liquid dye penetrant indications were allowed on the socket welds due to the low number of weld layers on joints of this size.

At the time that enforcement discretion was requested, the root cause of this leakage, which was on an ASME Class 2 piping component, had not been determined. The other three SITs were visually inspected and no similar leaks were identified.

The leak location was part of a replacement fitting installed in 1992 following similar leakage. A root cause evaluation was conducted on the failed joint in the T-82D level sensing line connection in 1992. This evaluation indicated the most likely cause of the failure in 1992 was an improper manufacturing process, which led to a chromium deficient area in the fitting. Destructive testing of the joint was not performed in 1992.

Nuclear Management Company (NMC) plans to perform destructive testing of the joint involved in the recent failure. Your current extent of condition evaluation is also reviewing the pipe routing configuration associated with the failure because the routing of the failed joint has an eccentricity that the routings from the other three SITs do not have. In addition, the sock-o-let fitting is different than the fitting associated with other recently inspected fittings on other trains.

Your staff requested this NOED after consideration of the safety significance and potential consequences of such an action. Your staff determined that there is no net increase in risk by allowing the plant to operate an additional 24 hours to restore the SIT T-82D to an operable status and that this action does not result in an undue risk to the health and safety of the public. The evaluation was performed using the Palisades probabilistic risk assessment model that accounts for the current plant configuration and includes the assumption that the Low Pressure Safety Injection (LPSI) system, High Pressure Safety Injection (HPSI) system, and three remaining SITs remain available. The results of the evaluation indicate an increase in the core damage probability (CDP), over the baseline configuration, of  $4E-11$ . This increase in CDP is significantly less than the increase in CDP associated with a reactor shutdown, which has been estimated to be  $1E-06$  for Palisades.

Your staff indicated that no other safety-related equipment that could change the conclusion of the quantitative risk assessment was inoperable. As for compensatory measures, during the time that the SIT tank was inoperable, your staff committed to the following: (1) No additional equipment associated with the safety injection systems (LPSI, HPSI, or other SITs) or their support or supported systems will be removed from service; (2) If the risk achievement worth is increased above the current value due to an equipment failure or addition of a maintenance activity to the work schedule, the Plant Review Committee will re-evaluate plant status and determine the need to notify the Nuclear Regulatory Commission; and (3) All switchyard activities will be suspended. The Resident Inspector staff verified that these compensatory measures were properly implemented while this NOED was in effect. In addition, your staff also committed to identify systems, structure or components that were wetted with boric acid solution as a result of the leak and remove boric acid residue to preclude damage to such system, structures, and components by November 18, 2002.

Although the NRC does not have a plant specific shutdown risk analysis, we did perform a qualitative evaluation of this issue. The NRC determined that the risk of continued operation with your compensatory measures for the additional 24 hour period of the NOED did not result in an increased risk over shutting down the unit with SIT T-82D inoperable. The basis of our decision was that there was no net increase in risk associated with extending the allowed action time for TS 3.5.1.B from 24 hours to a total of 48 hours. Based on this qualitative evaluation the NRC accepted your staff's safety rationale.

The NRC reviewed your written request for enforcement discretion dated November 13, 2002, 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 plant transient while ensuring the availability of other safety related equipment; and (2) the qualitative risk evaluation of the condition 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 with SIT T-82D inoperable.

Based on the above considerations, the NRC staff concluded that Criterion B.2.1.1.a and the applicable criteria in Section C.4 to NRC Manual Chapter 9900, "Technical Guidance, Operations - Notices 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.

On the basis of the NRC staff's evaluation of your request, we concluded that issuance of this NOED is consistent with the Enforcement Policy and staff guidance, and had no adverse impact on public health and safety. Therefore, we exercised discretion at 1:32 p.m. on November 12, 2002, not to enforce compliance with TS 3.5.1.B and C for entry into Mode 3 by 7:45 p.m. on November 12, 2002, until 7:45 p.m. November 13, 2002.

As stated in the Enforcement Policy, action may 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/*

Geoffrey E. Grant, Director  
Division of Reactor Projects

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

cc: R. Fenech, Senior Vice President, Nuclear  
Fossil and Hydro Operations  
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**\*See previous concurrence**

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