

August 31, 2001

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001

DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT
PALISADES PLANT RESPONSE TO NRC BULLETIN 2001-01

As required by NRC Bulletin 2001-01, *Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles*, Palisades Plant offers the following:

- (1) The information requested by the Bulletin is being submitted via this site-specific letter and the integrated response contained in MRP-48, *PWR Materials Reliability Program Response to NRC Bulletin 2001-01*, which was submitted by NEI to the NRC on August 21, 2001.
- (2) The information has been submitted via this letter within the time period requested by the Bulletin.

Palisades Plant is participating in the Materials Reliability Program (MRP) integrated response to NRC Bulletin 2001-01, *Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles*. The integrated response is provided in MRP-48, *PWR Materials Reliability Program Response to NRC Bulletin 2001-01*, which was submitted by NEI to the NRC on August 21, 2001. MRP-48 contains the plant rankings using the time-at-temperature model, provides the supplementary information requested by paragraphs 1.a and 1.b of the NRC Bulletin, and provides comments regarding applicable regulatory requirements. The enclosure to this correspondence provides the Palisades Plant site-specific information related to NRC Bulletin 2001-01.

Questions regarding this information should be directed to Mr. Richard J. Gerling at the Palisades Plant, 616-764-2594.

SUMMARY OF COMMITMENTS

This letter contains one new commitment, as follows:

Palisades Nuclear Plant will provide the information requested in Item 5 of NRC Bulletin 2001-01, or indicate that no leakage was identified, within 30 days after plant restart following the next refueling outage, which is currently expected to occur in late 2002 or early 2003.

/s/ Douglas E. Cooper
Douglas E. Cooper
Site Vice President

CC Administrator, Region III, USNRC
Project Manager, NRR, USNRC
NRC Resident Inspector – Palisades

Enclosure

**NUCLEAR MANAGMENT COMPANY, LLC
PALISADES NUCLEAR PLANT
DOCKET 50-255**

PALISADES PLANT RESPONSE TO NRC BULLETIN 2001-01

To the best of my knowledge, the content of this letter providing the Palisades Plant response to the NRC as requested in NRC Bulletin 2001-01, is truthful and complete.

By /s/ Douglas E. Cooper
Douglas E. Cooper
Site Vice President

Sworn and subscribed to before me this 31st day of August, 2001

/s/ Janice M. Milan
Janice M. Milan, Notary Public
Allegan County, Michigan
(Acting in Van Buren County, Michigan)
My commission expires September 6, 2003

ENCLOSURE 1

**NUCLEAR MANAGEMENT COMPANY, LLC
PALISADES PLANT
DOCKET 50-255**

AUGUST 31, 2001

**PALISADES PLANT RESPONSE
TO
NRC BULLETIN 2001-01**

9 Pages

Palisades Nuclear Plant Response to NRC Bulletin 2001-01

1. Requested Background and Descriptive Information

a. Plant Specific PWSCC Susceptibility Ranking

Palisades Nuclear Plant has been ranked for the potential for primary water stress corrosion cracking (PWSCC) of the reactor pressure vessel (RPV) top head nozzles using the time-at-temperature model and plant-specific input data reported in MRP-48 [1]. As shown in Table 2-1 of MRP-48 [1], this evaluation indicates that it will take 39.6 effective full power years (EFPYs) of additional operation from March 1, 2001, to reach the same time at temperature that Oconee Nuclear Station Unit 3 (ONS3) had at the time that its leaking nozzles were discovered in February 2001.

Using the criteria stated in NRC Bulletin 2001-01, Palisades Nuclear Plant falls into the NRC category of plants considered to have a low susceptibility to PWSCC of the RPV top head nozzles.

b. Description of Vessel Head Penetration (VHP) Nozzles

Palisades Nuclear Plant has 54 total RPV head nozzles including 45 CRDM nozzles, 8 incore instrument (ICI) nozzles, and one vent nozzle. The vent nozzle is located near the center of the reactor head, at a center-to-center distance of 11.98 inches from the nearest CRDM. The CRDM, ICI and vent nozzles are made of SB-167 Alloy 600. Additional requested nozzle information is provided in Table 2-3 of MRP-48 [1].

c. Description of Reactor Pressure Vessel (RPV) Head Insulation

As reported in Table 2-1 of MRP-48 [1], Palisades Nuclear Plant has blanket contoured RPV head insulation.

Two layers of blanket insulation strips rest upon the reactor head at right angles to each other, beneath a stainless steel cover assembly. The hinged, latched covers are removable. The blankets can be removed and re-installed or replaced. An attached photograph depicts the reactor head area with some covers removed. (Attachment 1)

d. Description of RPV Head and Nozzle Inspections Within Past Four Years

As reported in Table 2-1 of MRP-48 [1], Palisades Nuclear Plant has performed visual inspections of the reactor top head area for leaks per the current Generic Letter 88-05 leakage detection program, but no additional RPV head and nozzle inspections have been conducted within the past four years.

e. Description of the Configuration of Equipment and Cables on Top of the Reactor Pressure Vessel Head

A description of the configuration of equipment and cables on the vessel head is attached to this response. (Attachment 2)

2. Previously Experienced Leakage From or Cracking in VHP Nozzles

Palisades Nuclear Plant has not experienced leakage or cracking in VHP nozzles. No further response to this question is required.

3. Plans for Future Inspections – If Susceptibility Ranking Is Within 5 EFPY of ONS3

The susceptibility ranking for Palisades Nuclear Plant is greater than 30 EFPY of ONS3. No further response to this question is required.

4. Plans for Future Inspections – If Susceptibility Ranking Is Greater Than 5 EFPY and Less Than 30 EFPY of ONS3

The susceptibility ranking for Palisades Nuclear Plant is greater than 30 EFPY of ONS3. No further response to this question is required.

5. Reporting of Future Inspection Results

Palisades Nuclear Plant will provide the information requested in Item 5 of NRC Bulletin 2001-01, or indicate that no leakage was identified, within 30 days after plant restart following the next refueling outage, which is currently expected to occur in late 2002 or early 2003.

During the next refueling outage, Palisades Nuclear Plant will perform a general visual inspection of the head in accordance with its Generic Letter 88-05 commitments.

References

1. *PWR Materials Reliability Program Response to NRC Bulletin 2001-01 (MRP-48)*, EPRI, Palo Alto, CA: 2001. TP-1006284.

Attachments

Attachment 1, Photograph of Palisades Reactor Vessel Head Insulation

Attachment 2, Configuration of Equipment and Cables on the RPV Head

**ENCLOSURE 1
ATTACHMENT 1**

**NUCLEAR MANAGEMENT COMPANY, LLC
PALISADES PLANT
DOCKET 50-255**

AUGUST 31, 2001

**PALISADES PLANT RESPONSE
TO
NRC BULLETIN 2001-01**

PHOTOGRAPH OF REACTOR PRESSURE VESSEL HEAD INSULATION



Palisades Plant Reactor Pressure Vessel Head
with Some Insulation Access Panels Removed

**ENCLOSURE 1
ATTACHMENT 2**

**NUCLEAR MANAGEMENT COMPANY, LLC
PALISADES PLANT
DOCKET 50-255**

AUGUST 31, 2001

**PALISADES PLANT RESPONSE
TO
NRC BULLETIN 2001-01**

**CONFIGURATION OF EQUIPMENT
AND CABLES
ON THE REACTOR PRESSURE VESSEL HEAD**

5 Pages

ATTACHMENT 2 **SUMMARY**

The simplified drawing depicts major components between the reactor head and missile shield, with nominal elevations above sea level. The head lifting assembly is rotated into the view for clarity. Reactor head insulation is not shown.

The photograph of the installed missile shield shows the upper Control Rod Drive Mechanism (CRDM) area, access catwalk, and cable trays to connection panels.

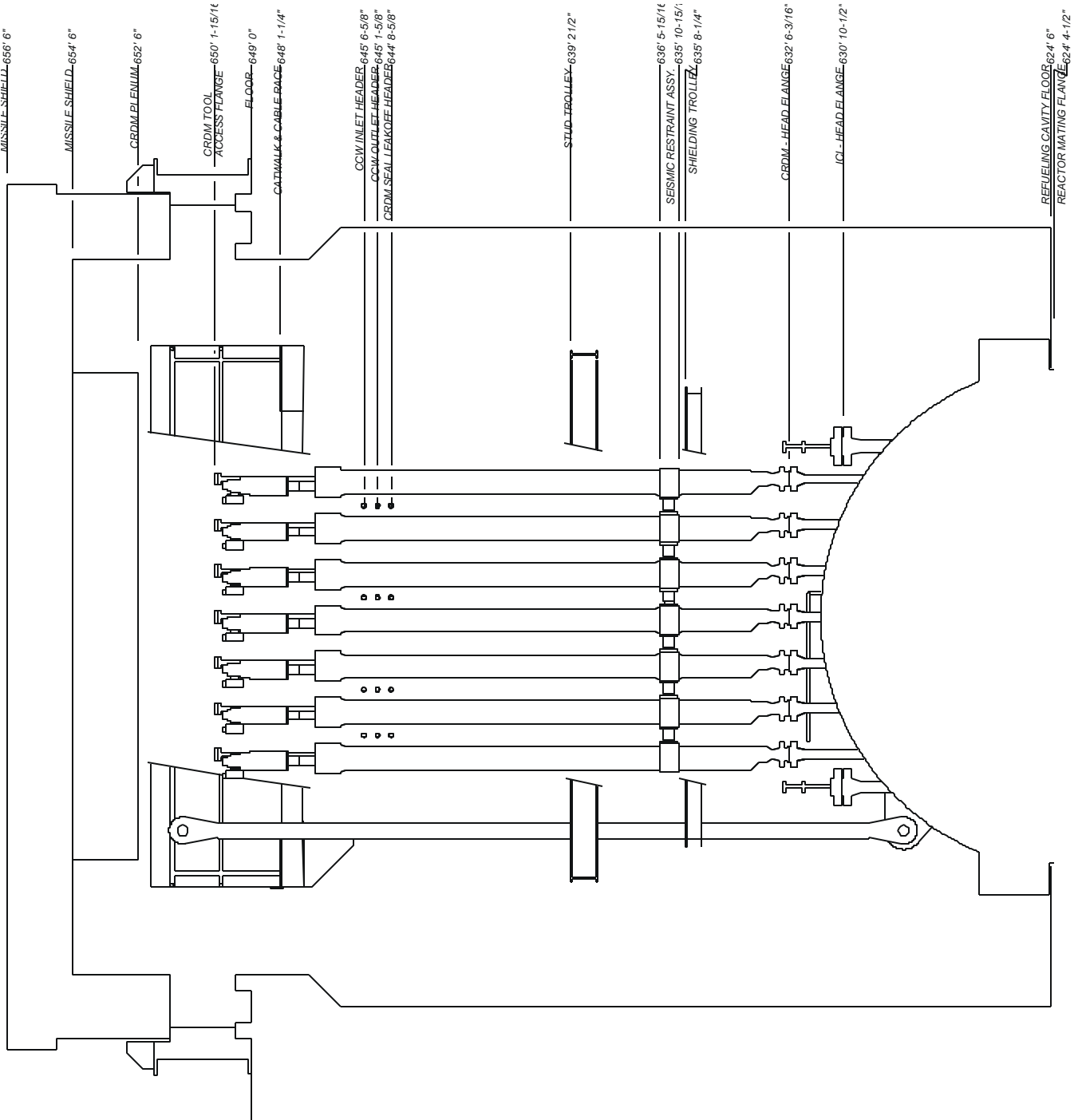
The photograph of the area beneath the missile shield shows cable races that route CRDM instrument and motor cables upward from the drives and then outward to the circular catwalk.

CRDM Component Cooling Water (CCW) and seal leakoff lines are connected by reinforced hoses from seal housings to the pipe headers, which are attached by flanges to pipes projecting through the south wall of the refueling cavity (left side of area photo and drawing).

Incore Instrumentation (ICI) cables and reactor vessel level monitoring cables descend from a cable race around the perimeter of the CRDM upper area, between the catwalk and CRDM CCW inlet header. Lower ends of the cables are restrained by seismic supports on instrument nozzle cover flanges.

Reactor head cable trays, fluid headers, and the circular catwalk are rigidly attached to the reactor head lifting assembly. CRDMs are rigidly attached only to reactor head flanges. A seismic restraint assembly limits the upper housing movement by the interconnected snubber-like components. The restraint assembly is not structurally attached to anything except the CRDMs themselves. CRDM cables and hoses are located above the seal leakoff header elevation.

The reactor head vent line is attached by a flange to a pipe running up the west wall of the refueling cavity.



ATTACHMENT 2
 Simplified Drawing of Palisades Plant
 Reactor Head Configuration



Attachment 2: Installed Missile Shield



Attachment 2: Area Beneath Missile Shield