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May 14, 2009

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: 60-Day Reports per Bulletin 2004-01 and CAL NRR-07-023 Pressurizer Inspection Results

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

- References:
1. NRC Bulletin 2004-01: "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors," dated May 28, 2004
 2. CAL No. NRR-07-023 "Confirmatory Action Letter – Palisades Nuclear Plant (TAC NO. MD4168)," dated March 29, 2007

Dear Sir or Madam:

On May 28, 2004, the Nuclear Regulatory Commission (NRC) issued Bulletin 2004-01 (Reference 1) (ADAMS Accession Number ML041480034). In a 60-day bulletin response letter dated July 26, 2004 (ML042100242), the Nuclear Management Company, LLC (NMC), former holder of the Palisades Nuclear Plant (PNP) operating license, made a series of commitments related to inspection of pressurizer penetrations.

On March 29, 2007, the NRC issued CAL NRR-07-023 (Reference 2) (ML070800449), confirming commitments made, in a February 27, 2007 (ML070590333), NMC letter, "Supplement to Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt-Welds." The commitments addressed actions that would be taken regarding pressurizer dissimilar metal butt-welds containing Alloy 82/182/600 material.


Entergy Nuclear Operations, Inc. (ENO) has assumed the commitments made by NMC for the refueling outage inspections of the pressurizer piping connections. In the 2009 refueling outage that began on March 22, 2009, and ended on May 02, 2009, ENO inspected pressurizer heater sleeves and dissimilar metal butt-welds containing Alloy 82/182/600 material in accordance with commitments and qualified procedures. A total of 145 welds were examined: 120 heater sleeves, 13 butt-weld piping connections

containing 23 Alloy 82/182/600 butt-welds, and two pad repair welds. Based on the results of the examinations performed, ENO has concluded that all pressurizer heater sleeves, Alloy 82/182/600 pressurizer butt-welds, and pressurizer pad repair welds that were returned to service in 2009 were not degraded, and no wastage of the pressurizer occurred.

Summary of Commitments

This letter identifies no new commitments and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 14, 2009.

Sincerely,  P. K. ... for C. Schwartz

cjs/jlk

Attachment: 1. 60-Day Reports per Bulletin 2004-01 and CAL NRR-07-023
Palisades Nuclear Plant Pressurizer Inspection Results

cc: Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

ATTACHMENT 1
60-DAY REPORTS PER BULLETIN 2004-01 AND CAL NRR-07-023
PALISADES NUCLEAR PLANT PRESSURIZER INSPECTION RESULTS

1.0 INTRODUCTION

On May 28, 2004, the Nuclear Regulatory Commission (NRC) issued Bulletin (BL) 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors." In a 60-day response letter, dated July 26, 2004, the Nuclear Management Company (NMC), former holder of the Palisades Nuclear Plant (PNP) operating license, made a series of commitments related to inspection of pressurizer penetrations.

On March 29, 2007, the NRC issued CAL NRR-07-023, "Confirmatory Action Letter – Palisades Nuclear Plant (TAC No. MD4168)," confirming commitments made, in a February 27, 2007, NMC letter "Supplement to Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt-Welds." The commitments addressed actions that would be taken regarding pressurizer dissimilar metal butt-welds containing Alloy 82/182/600 material.

Entergy Nuclear Operations, Inc. (ENO), as the PNP license holder, has assumed the commitments made by NMC for the refueling outage inspections of the pressurizer piping connections. In the 2009 refueling outage that began on March 22, 2009, and ended on May 02, 2009, ENO inspected pressurizer heater sleeves and dissimilar metal butt-welds containing Alloy 82/182/600 material in accordance with commitments and qualified procedures. A total of 145 welds were examined: 120 heater sleeves, 13 butt-weld piping connections containing 23 Alloy 82/182/600 butt-welds, and two pad repair welds.

2.0 DESCRIPTION OF INSPECTION METHODS

Performance Demonstration Initiative (PDI)-qualified ultrasonic examinations were performed by qualified non-destructive examination (NDE) personnel using qualified procedures to inspect one surge line nozzle to safe end butt-weld that had been mitigated by mechanical stress improvement (MSIP) in 1995, and one unmitigated surge line safe end to elbow butt-weld.

Bare metal, direct visual examinations were performed by qualified NDE personnel to inspect 100% of all 120 Alloy 82/182/600 pressurizer heater sleeves, 16 one-inch level tap safe end butt-welds to piping and nozzles, two spray line safe end butt-welds to elbow and nozzle, and three pressurizer safety valve mounting flange-to-nozzle butt-welds.

In addition to inspections required by commitments, liquid penetrant surface examinations were performed by qualified NDE personnel to inspect the two surge line safe end butt-welds and the two spray line safe end butt-welds. Bare metal, direct visual examination was performed by qualified NDE personnel to inspect two temperature element nozzle pad repair welds performed in 1995.

3.0 COMMITMENTS AND RESULTS

In 2004, NMC made four commitments for PNP in response to Bulletin 2004-01. Three of the commitments remained open in 2009. ENO actions and results during the 2009 PNP refueling outage are described below for heater commitments 1, 2, and 3.

In February 2007, NMC made a total of eight new and revised commitments for PNP in regard to Alloy 82/182/600 pressurizer butt-welds that were confirmed in CAL No. NRR-07-023. Commitments 1 through 4 do not apply to outage activities. Commitments 5 and 6 were completed during the 2007 PNP refueling outage. ENO actions and results during the 2009 PNP refueling outage are described below for butt-weld commitments 7 and 8.

Heater Commitment 1:

NMC [ENO] will perform a bare metal visual inspection of 100 percent of all pressurizer heater sleeve locations, in a manner that visual access to the bare metal 360 degrees around each sleeve can be attained during each outage at Palisades Nuclear Plant.

Results for Commitment 1:

During the 2009 refueling outage, a bare metal visual examination of all 120 pressurizer heater sleeves (J-groove welds) was performed. This examination included 360° around each sleeve. There was no accumulation of boric acid in the vicinity of the penetrations. All visual examinations of the penetrations had acceptable results.

Heater Commitment 2:

NMC [ENO] will perform non-destructive examination (NDE) capable of characterizing crack orientation of all sleeves for which visual inspection shows evidence of leakage at Palisades Nuclear Plant. The NDE will be performed prior to the repair.

Results for Commitment 2:

No action was required since the visual examination did not show any evidence of leakage.

Heater Commitment 3:

NMC [ENO] will notify the NRC immediately if the NDE defines the flaw as potential circumferential primary water stress corrosion cracking (PWSCC) in either the pressure boundary or non-pressure boundary portions of any locations covered under the scope of BL 2004-01 for the PNP. An appropriate inspection plan will be developed, which will define additional sleeves to be inspected by NDE, sufficient to determine the extent of condition commensurate with the inspection of the flaw.

Results for Commitment 3:

No action was required since the visual examination did not show any evidence of leakage.

Butt-Weld Commitment 7:

NMC [ENO] will inspect the Alloy 82/182/600 pressurizer butt-welds per MRP-139, ["Materials Reliability Program: Primary System Piping Butt Weld Inspection and Evaluation Guidelines"] on a frequency of at least every four years, until the Alloy 82/182/600 pressurizer butt-welds are mitigated or removed at PNP. NMC [ENO] will notify the NRC in writing, prior to making any changes to this commitment.

Results for Commitment 7:

All existing Alloy 82/182/600 pressurizer butt-welds were examined in accordance with MRP-139 within the last two refueling outages (fall 2007 and spring 2009).

PDI-qualified ultrasonic examination was performed to inspect one surge line nozzle to safe end butt-weld that had been mitigated by MSIP in 1995, and one unmitigated surge line safe end to elbow butt-weld during the 2009 PNP refueling outage. These welds had previously received ultrasonic examination during the 2006 PNP refueling outage and visual examination during the 2007 PNP refueling outage.

Bare metal, direct visual examination was performed to inspect 16 one-inch level tap safe end butt-welds to piping and nozzles, two spray

line safe end butt-welds to elbow and nozzle, and three pressurizer safety valve mounting flange-to-nozzle butt-welds during the 2009 PNP refueling outage. The spray line safe end and safety valve mounting flange butt-welds had previously received visual examination during the 2006 PNP refueling outage and ultrasonic examination during the 2007 PNP refueling outage.

The only other pressurizer butt-weld, the power operated relief valve line connection, was mitigated by replacement with stainless steel and Alloy 690/52/152 material in 1995.

Butt-Weld Commitment 8:

NMC [ENO] will provide results of future inspections, including inspections on unmitigated welds and any corrective or mitigative actions taken on the pressurizer surge, spray, safety, or relief nozzle and safe end welds containing Alloy 82/182/600 material, within 60 days of the end of the station refueling outage during which the inspection was performed, until the Alloy 82/182/600 pressurizer butt-welds are mitigated or removed at PNP. NMC [ENO] will notify the NRC in writing, prior to making any changes to this commitment.

Results for Commitment 8:

PNP returned to operation from its most recent refueling outage on May 02, 2009. This 60-day report describes inspections and their results for pressurizer surge, spray, safety, and relief nozzle, safe end, heater, and temperature element nozzle repair welds containing Alloy 82/182/600 material.

4.0 CONCLUSIONS

ENO has complied with commitments described in Bulletin 2004-01 and CAL NRR-07-023 for the PNP 2009 refueling outage. Based on the results of the examinations performed, ENO has concluded that all pressurizer heater sleeves, Alloy 82/182/600 pressurizer butt-welds, and pressurizer pad repair welds that were returned to service in 2009 were not degraded, and no wastage of the pressurizer occurred.