NMC
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Point Beach Nuclear Plant
Operated by Nuclear Management Company, LLC

July 23, 2004

NRC 2004-0075
10 CFR 50.54(f)

U.S. Nuclear Regulatory Commission
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Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
License Nos. DPR-24 and DPR-27

60-Day Response to 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"

On May 28, 2004, the Nuclear Regulatory Commission (NRC) transmitted Bulletin (BL) 2004-01. Enclosure 1 contains the Nuclear Management Company, LLC, (NMC) 60-day response to BL 2004-01 for the Point Beach Nuclear Plant (PBNP).

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

I declare under penalty of perjury that the foregoing is true and correct. Executed on July 23, 2004.

Dennis L. Koehl
Site Vice-President, Point Beach Nuclear Plant
Nuclear Management Company, LLC

Enclosure

cc: Regional Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
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ENCLOSURE 1
BULLETIN 2004-01
POINT BEACH NUCLEAR PLANT 60-DAY RESPONSE

Nuclear Regulatory Commission (NRC) Requested Information

(1) All subject PWR licensees are requested to provide the following information within 60-days of the date of this bulletin.

(a) A description of the pressurizer penetrations and steam space piping connections at your plant. At a minimum, this description should include materials of construction (e.g., stainless steel piping and/or weld metal, Alloy 600 piping/sleeves, Alloy 82/182 weld metal or buttering, etc.), joint design (e.g., partial penetration welds, full penetration welds, bolted connections, etc.), and, in the case of welded joints, whether or not the weld was stress-relieved prior to being put into service. Additional information relevant with respect to determining the susceptibility of your plant's pressurizer penetrations and steam space piping connections to PWSCC should also be included.

Nuclear Management Company, LLC (NMC) Response

(a) Point Beach Nuclear Plant (PBNP) is a two-unit site and has one pressurizer per unit. Each pressurizer is constructed of an upper head, shell assembly and lower head, which were manufactured by Westinghouse Electric Corporation. The final assembly was stress relieved per Westinghouse procedures. Both of the PBNP Unit 1 and Unit 2 pressurizers have 92 penetrations/nozzles. No Alloy 82/182/600 materials exist in either the PBNP Unit 1 or Unit 2 pressurizers or attached piping.

The upper head is hemispherical in shape and is made of cast SA-216 GR WCC carbon steel and clad with type 304 stainless steel. The pressurizer upper head contains eight nozzles and one manway, which are described as follows:

Safety nozzles

Two safety nozzles were integrally cast with the upper head (i.e., SA-216 GR WCC carbon steel). A seamless ASTM SA-213 type 304 stainless steel tube was inserted inside the cast nozzles and rolled to the nozzle connection. The ends of the tube were seal welded using materials other than Alloy 600/82/182 materials. This was performed after the final stress relief. The nozzle safe-ends are 4" schedule 160 stainless steel SA-182 type 316 material.

Relief nozzle

One relief nozzle was integrally cast with the upper head (i.e.,SA-216 GR WCC carbon steel). A seamless ASTM SA-213 type 304 stainless steel tube was inserted inside the cast nozzle and rolled to the nozzle connection. The ends of the tube were seal welded using materials other than Alloy 600/82/182 materials This was performed after the final stress relief. The nozzle safe-end is a 4" schedule 160 stainless steel tube made of SA-182 type 316 material.

Spray nozzle

One spray nozzle was integrally cast with the upper head (i.e.,SA-216 GR WCC carbon steel). A seamless ASTM SA-213 type 304 stainless steel tube was inserted inside the cast nozzle and rolled to the nozzle connection. The ends of the tube were seal welded using materials other than Alloy 600/82/182 materials. This was performed after the final stress relief. The nozzle safe-end is a 4" schedule 160 stainless steel tube made of SA-182 type 316 material.

Instrument nozzles

The four instrument nozzles are a seamless ASTM SA-276 type 316 stainless steel tube inserted inside a hole drilled in the side of the cast head and rolled to the nozzle connection. This was performed after the final stress relief. The safe-ends are 3/4" schedule 160 stainless steel SA-276 type 316 material.

Manway

One 16-inch I.D. manway, which was fabricated from SA-302 grade B stainless steel and has an SA-240 type 304 stainless steel pressurizer manway insert, is fastened to the pressurizer with a flexitallic gasket and SA-193 grade B7 bolting.

The pressurizer shell is fabricated from ASTM SA-302 Grade B carbon steel and clad with Type 304 equivalent stainless steel. There are no penetrations or nozzles in the pressurizer shell.

The lower head is hemispherical in shape and is of cast carbon steel and clad with austenitic stainless steel.The material of the lower head is SA-216 GR WCC carbon steel and clad with type 304 stainless steel. The lower head has a total of 84 penetrations/nozzles; this consists of 78

heater element penetrations, one surge nozzle, and five instrument nozzles, which are described as follows:

Heater element penetrations

Each of the 78 heater element penetrations are seal welded to a heater well assembly and extends into the pressurizer via the 78 openings in the bottom head. Each heater well assembly is rolled and seal welded with a stainless steel weld metal to the lower head penetrations. The ends of the tube were seal welded using materials other than Alloy 600/82/182 materials. The heater well assembly is a seamless SA-231 type 316 stainless steel tube, which is rolled and sealed welded to the cladding inside the lower head. The adaptor end, which is seal welded with a stainless steel weld metal to the stainless steel tube, which is SA-182 type 316 stainless steel.

Surge nozzle

One surge nozzle was integrally cast with the lower head (i.e., SA-216 GR WCC carbon steel) and clad with the same stainless steel material as the lower head. The nozzle end is fitted with a 14" schedule 140 stainless steel SA-312 type 316 safe ends.

Instrument nozzles

The five instrument nozzles are a seamless ASTM SA-276 type 316 stainless steel tube inserted inside a hole drilled in the side of the cast head and rolled to the nozzle connection. This was performed after the final stress relief. The safe-ends are 3/4" schedule 160 stainless steel SA-276 type 316 material.

Conclusion:

No Alloy 82/182/600 materials exist in the PBNP Unit 1 and Unit 2 pressurizers.

NRC Requested Information

(b) A description of the inspection program for Alloy 82/182/600 pressurizer penetrations and steam space piping connections that has been implemented at your plant. The description should include when the inspections were performed; the areas, penetrations and steam space piping connections inspected; the extent (percentage) of coverage

achieved for each location which was inspected; the inspection methods used; the process used to resolve any inspection findings; the quality of the documentation of the inspections (e.g., written report, video record, photographs); and, the basis for concluding that your plant satisfies applicable regulatory requirements related to the integrity of pressurizer penetrations and steam space piping connections. If leaking pressurizer penetrations or steam space piping connections were found, indicate what followup NDE was performed to characterize flaws in the leaking penetrations.

NMC Response

(b) As described in the response to question (1)(a), no Alloy 82/182/600 materials exist in the PBNP Unit 1 and Unit 2 pressurizers. Therefore, there is no specific inspection program for Alloy 82/182/600 materials in the Unit 1 and Unit 2 pressurizers.

NRC Requested Information

(c) A description of the Alloy 82/182/600 pressurizer penetration and steam space piping connection inspection program that will be implemented at your plant during the next and subsequent refueling outages. The description should include the areas, penetrations and steam space piping connections to be inspected; the extent (percentage) of coverage to be achieved for each location; inspection methods to be used; qualification standards for the inspection methods and personnel; the process used to resolve any inspection indications; the inspection documentation to be generated; and the basis for concluding that your plant will satisfy applicable regulatory requirements related to the structural and leakage integrity of pressurizer penetrations and steam space piping connections. If leaking pressurizer penetrations or steam space piping connections are found, indicate what followup NDE will be performed to characterize flaws in the leaking penetrations. Provide your plans for expansion of the scope of NDE to be performed if circumferential flaws are found in any portion of the leaking pressurizer penetrations or steam space piping connections.

NMC Response

(c) As described in the response to question (1)(a), no Alloy 82/182/600 materials exist in the PBNP Unit 1 and Unit 2 pressurizers. Therefore, there is no need to implement an inspection program to inspect Alloy 82/182/600 materials in the pressurizer.

NRC Requested Information

(d) In light of the information discussed in this bulletin and your understanding of the relevance of recent industry operating experience to your facility, explain why the inspection program identified in your response to item (1)(c) above is adequate for the purpose of maintaining the integrity of your facility's RCPB and for meeting all applicable regulatory requirements which pertain to your facility.

NMC Response

(d) Personnel at PBNP understand the relevance of the recent operating experience associated with Alloy 600 in the industry and understand that these materials are susceptible to PWSCC. This response has shown that no Alloy 82/182/600 materials exist in the PBNP Unit 1 and Unit 2 pressurizers. Meeting the code requirements, together with the inspection requirements, is adequate for the purpose of maintaining the integrity of the PBNP reactor coolant pressure boundary.

PBNP has a comprehensive Boric Acid Program that includes all SSC that could be affected by exposure to boric acid. Corrective actions are taken as needed whenever boric acid is found on any SSC. Continual monitoring ensures any potential degradation is addressed before it becomes a problem.