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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

Response to Request for Additional Information
Regarding the Point Beach Nuclear Plant License Renewal Application
(TAC Nos. MC2099 and MC2100)

By letter dated February 25, 2004, Nuclear Management Company, LLC (NMC), submitted the Point Beach Nuclear Plant (PBNP) Units 1 and 2 License Renewal Application (LRA). On September 10, 2004, the Nuclear Regulatory Commission (NRC) requested additional information regarding Fire Protection (sections 2.3, 2.4.1.1, and 3.3.2.1 of the LRA). The enclosure to this letter contains the NMC's response to the staff's questions.

Should you have any questions concerning this submittal, please contact Mr. James E. Knorr at (920) 755-6863.

Summary of Commitments

There are no new commitments made as part of this response.

I declare under penalty of perjury that the forgoing is true and correct. Executed on October 8, 2004.

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

Enclosure

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cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
PSCW

ENCLOSURE

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 LICENSE RENEWAL APPLICATION

NRC Question RAI 2.3.3.6-1:

The NRC's "Fire Protection Safety Evaluation Report" dated August 2, 1979, Section 4.3.1, addresses 13 hose stations in various areas of the plant, which do not appear in the license renewal application (LRA) or fire protection boundary drawings. Verify whether these hose stations are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an aging management review (AMR) in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The 13 hose stations identified in Section 4.3.1 of the above referenced NRC SER are hose reels HR-35 through HR-47. All 13 of these hose stations are identified on LRA fire protection boundary drawing LR-M-208 Sh. 2, locations B5, B6, C8, D7 and E4. All of these hose reels are shown to be in scope in accordance with 10 CFR 54.4(a), subject to an aging management review (AMR) in accordance with 10 CFR 54.21(a)(1), and are represented in LRA Tables 2.3.3-6 and 3.3.2-6 under the component type "hose reel."

NRC Question RAI 2.3.3.6-2:

The NRC's "Fire Protection Safety Evaluation Report" dated August 2, 1979, Sections 4.3.1 and 4.5, addresses floor drains. In LRA fire protection boundary drawings LR-M-208 SH 1, floor drains at location D3 and LR-M-208 SH 15, floor drains at locations C6, C7, E6, E7, E8, F6, F8, and F9 are not highlighted as portions of the flow diagram within the scope of license renewal and subject to an AMR. Verify whether these floor drains are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The eight drains identified on LRA fire protection boundary drawings, LR-M-208 Sh. 1 and LR-M-208 Sh. 15 are drains from the piping system, not floor drains. These are not in scope in accordance with 10 CFR 54.4(a) because they are downstream of normally shut isolation valves.

Floor drains are considered in the flooding analysis review that was performed as part of the Criterion 2, non-safety affecting safety, scoping methodology (reference LRA Section 2.1.2.1.2). This resulted in the highlighted drain lines being included in scope in accordance with 10 CFR 54.4(a) and subject to aging management in accordance with 10 CFR 54.21(a)(1) (reference LRA Table 2.1.2.1-1, pages 2-25 and 2-26).

NRC Question RAI 2.3.3.6-3:

The NRC's "Fire Protection Safety Evaluation Report" dated August 2, 1979, Section 4.3.1, addresses the dry pipe automatic sprinkler systems for "Warehouse" and "Compressor Building" and deluge automatic sprinkler with fusible link actuation in "Control Room Emergency Ventilation System Charcoal Filters," which do not appear in the LRA or fire protection boundary drawings. Verify whether these fire suppression systems and components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

As stated in the NRC's above referenced SER, the dry pipe automatic sprinkler systems were in the following buildings: "Warehouse" and "Compressor building." These equate to Warehouse #1 and Warehouse #2 in PBNP current terminology. Warehouse #1 is no longer a dry pipe system, as it was converted to a wet pipe system, as shown on LRA fire protection boundary drawing LR-M-208 Sh. 1, location B4. Warehouse #2 is still a dry pipe system as shown on drawing LR-M-208 Sh. 1, location B8.

The deluge automatic sprinkler with fusible link actuation in the Control Room Emergency Ventilation System Charcoal Filters is shown on LRA fire protection drawing LR-M-208 Sh. 2, location F7 (F-16 Charcoal Filter).

As shown on the referenced drawings, these portions of the fire protection system are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). These are represented in Tables 2.3.3-6 and 3.3.2-6 by component types "piping and fittings" and "valve bodies."

NRC Question RAI 2.3.3.6-4:

The NRC's "Fire Protection Safety Evaluation Report" dated August 2, 1979, Section 4.3.1, addresses the foam extinguishing system for two above ground fuel oil storage tanks, which does not appear in the LRA or fire protection boundary drawings. Verify whether these foam suppression system and components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The foam extinguishing system for the above ground fuel oil storage tanks has been removed, and therefore is not in scope.

The foam extinguishing system was removed via a plant modification (MR 94-075), which included a 10 CFR 50.59 evaluation (SER 95-078). A Fire Protection Technical Evaluation was also performed with this modification in order to determine the impact of this modification on the previously approved NRC fire protection configurations. This evaluation concluded that although the foam extinguishing system was installed and referenced at the time of the NRC's Fire Protection Safety Evaluation Report, it was not considered necessary to meet the guidelines of Appendix A to Branch Technical Position (BTP) 9.5-1. The guidelines specified a separation distance between fuel oil storage tanks and structures that house safety related equipment. This criterion was met without the need of the foam extinguishing system.

Additionally, these tanks no longer supply fuel oil to the safety related diesel generators. Two below ground fuel oil storage tanks were installed during the modification to add two new diesel generators. These below ground tanks are capable of supplying fuel oil to any and all of the four diesel generators in the event of an Appendix R fire.

Alternative fire protection methods in the form of manual fire fighting using portable foam generating equipment is considered to provide an acceptable and adequate level of fire protection for the potential fire hazard presented by the fuel oil storage tanks.

The PBNP FSAR and Fire Protection Evaluation Report (FPER) were updated when this modification was completed. FPER Section 7.3.10 details the current configuration of the fuel oil storage areas at the plant.

The foam extinguishing system for the two above ground fuel oil storage tanks no longer exists and therefore is not considered in scope of license renewal in accordance

with 10 CFR 54.4(a) and is not subject to an AMR in accordance with 10 CFR 54.21(a)(1).

NRC Question RAI 2.3.3.6-5:

The NRC's "Fire Protection Safety Evaluation Report" dated August 2, 1979, Section 4.3.2, addresses the carbon dioxide (CO₂) suppression system in the remote gas turbine building and the Halon 1301 suppression system in the record storage vault, which do not appear in the LRA or fire protection boundary drawings. Verify whether these gaseous fire suppression systems and components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The record storage vault that had a Halon 1301 suppression system was located in the original Energy Information Center building. This building was demolished to make way for a new Training Building and Nuclear Engineering (NES) Building. A record storage vault now exists in the NES Building, but it no longer has a Halon suppression system (reference Section 7.3.16 of PBNP FPER, Rev. 3). The above referenced Halon 1301 suppression system no longer exists, and therefore is not in scope for license renewal. The NES and Training buildings are supplied with firewater sprinkler systems fed from the plant fire header (reference LRA boundary drawing LR-M-208 Sh. 1, location E2). However, since these buildings are more than 500 feet away from the plant protected area (where fires in these buildings could in no way affect safety related equipment within the plant) and have the capability to be isolated from the plant fire header, the fire protection systems for these buildings were judged to not be in scope.

The carbon dioxide suppression system in the gas turbine building was removed (for safety reasons) and replaced with a pre-action water sprinkler system. This is shown on LR-M-208 Sh. 9, location E10. This pre-action water sprinkler system is in scope in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). This pre-action water sprinkler system is represented in Tables 2.3.3-6 and 3.3.2-6 by component types "piping and fittings," "sprinkler heads" and "valve bodies."

NRC Question RAI 2.3.3.6-6:

Point Beach Nuclear Power Plant (PBNP) "Fire Protection Evaluation Report," Revision 3, April 2004, Section 5.1.4, states that "protection of exposed structural steel in other plant areas is provided by sprayed on fire proofing material." No reference is made to it in the LRA Section 2.3.3.6, "Fire Protection Systems" or Section 2.4.11, "Fire Barrier Commodity Group." This appears to be a PBNP license condition. Identify

where this fire proofing material is addressed in the LRA scoping, screening and AMR sections.

NMC Response:

The LRA, Section 2.4.11, Fire Barrier Commodity Group, discusses fire stops and fire wraps. The term fire wrap is associated with fire barriers and their penetrations. The term fire stop is associated with an enveloping construction of fireproofing material. During original plant design, where structural steel fireproofing was required, masonry brick was applied. Subsequently, modifications have been performed where the masonry brick has been replaced with a rigid board wrap at some locations. The LRA represents these materials with a calcium silicate board or ceramic fiberboard component group designation.

More recent plant modifications have employed a fire wrap using a cementitious fireproofing that is spray applied. The LRA Section 2.4.11 uses the generic silicone based material component group to represent all sprayed on mastic fireproofing materials. The number of applications of this type of fireproofing is limited. The aging management review for the fire proofing materials is presented in Table 3.5.2-11.

NRC Question RAI 2.3.3.6-7:

PBNP "Fire Protection Evaluation Report," Revision 3, April 2004, Section 5.1.9, addresses Units 1 and 2 fire suppression system for outdoor transformers. However, LRA drawing LR-M-208 SH-9 depicts the fire suppression system for "1, 2-X04 Transformers." Clarify the above drawing includes fire suppression system for Units 1 and 2 outdoor transformers.

NMC Response:

LRA fire protection boundary drawing LR-M-208 Sh. 9, location C2, references "1, 2-X04 Transformers." This refers to the Unit 1 and Unit 2 X04 Transformers, which are the outdoor low voltage station auxiliary transformers, located west of the Primary Auxiliary Building. Both units' transformers are protected by this portion of the fire protection system shown on this drawing due to their close proximity to each other.

Additionally, as noted in Section 5.1.9 of the PBNP FPER, the deluge systems for the Unit 1 main and unit auxiliary transformers are shown on boundary drawing LR-M-208 Sh. 2, location F1, and deluge systems for the Unit 2 main and unit auxiliary transformers are shown on boundary drawings LR-M-208 Sh. 2, location D9.

All of the piping and components for these transformers' deluge systems are in scope in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1).

NRC Question RAI 2.3.3.6-8:

PBNP "Fire Protection Evaluation Report," Revision 3, April 2004, Section 5.5.1, addresses a fixed smoke and heat removal system for computer and instrument rack room, control room, and cable spreading, which does not appear in the LRA or fire protection boundary drawings. Verify whether this smoke and heat removal system and its components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The smoke and heat removal system is essentially a ventilation system, as shown on LRA fire protection boundary drawing LR-M-144 Sh. 2, location H2. This smoke and heat removal system is in scope in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). The Essential Ventilation System is represented by component types "ductwork" and "fan/blower housing" in PBNP LRA Section 2.3.3.10 and Table 3.3.2-9.

NRC Question RAI 2.3.3.6-9:

PBNP "Fire Protection Evaluation Report," Revision 3, April 2004, Section 6.4.1, addresses the Halon 1301 suppression system for the plant battery rooms, which does not appear in the LRA or fire protection boundary drawings. Verify whether the Halon 1301 suppression system and its components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The battery rooms referenced in Section 6.4.1 of the PBNP FPER are the two small battery rooms adjacent to the Vital Switchgear Room. Although LRA fire protection drawing LR-M-208 Sh. 5, location E10, does not specifically mention "Battery Rooms," the Halon 1301 suppression system for the Vital Switchgear Room also covers the battery rooms. This Halon suppression system is in scope in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). This system is represented in Tables 2.3.3-6 and 3.3.2-6 by component types "piping and fittings" and "valve bodies" with an air/gas internal environment.

NRC Question RAI 2.3.3.6-10:

PBNP "Fire Protection Evaluation Report," Revision 3, April 2004, Section 6.5.1, addresses the dry chemical suppression system for the plant turbine-generator bearings and the gas turbine generator exhaust, which does not appear in the LRA or fire protection boundary drawings. Verify whether the dry chemical suppression system and its components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The dry chemical suppression system for the turbine-generator bearings and the gas turbine exhaust bearing are not shown on a plant drawing, and therefore were not included in the boundary drawings. The dry chemical suppression system for the turbine-generator bearings and the gas turbine exhaust bearing, however, are in scope in accordance with 10 CFR 54.4(a). The dry chemical containers are managed similar to a fire extinguisher, where they are routinely monitored, and replaced as needed (reference LRA Section 2.1.3.1.3, Identification of Short-lived Components and Consumables). The fixed components subject to aging management are represented by component types "piping and fittings," "spray nozzles" and "valve bodies" in Tables 2.3.3-6 and 3.3.2-6.

NRC Question RAI 2.3.3.6-11:

PBNP "Fire Protection Evaluation Report," Revision 3, April 2004, Section 6.5.2, addresses fixed carbon dioxide hose reel station in the control room, which does not appear in the LRA or fire protection boundary drawings. Verify whether the carbon dioxide hose reel station and its components are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

The carbon dioxide hose reel stations in the control room are not shown on a plant P&ID, and therefore were not included in the boundary drawings. These stations are in scope of license renewal in accordance with 10 CFR 54.4(a) but are not subject to an AMR in accordance with 10 CFR 54.21(a)(1). The carbon dioxide containers are managed similar to a fire extinguisher, where they are routinely monitored, and replaced as needed (reference LRA Section 2.1.3.1.3, Identification of Short-lived Components and Consumables).

NRC Question RAI 2.3.3.6-12:

Electric, diesel, and jockey fire pumps are highlighted on LRA drawings LR-M-208 SH-1 within the scope of license renewal. However, the highlighting does not trace the outline of the fire pumps and associated strainers. Verify whether fire pump strainers are in scope of license renewal in accordance with 10 CFR 54.4(a) and subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are, they should be included in Tables 2.3.3-6 and 3.3.2-6. If they are excluded from the scope of license renewal and not subject to an AMR, provide justification for the exclusion.

NMC Response:

Suction strainers on the pumps and other filters and strainers throughout the Fire Protection system, are shown in scope of license renewal in accordance with 10 CFR 54.4(a) on the boundary drawings, and subject to an AMR in accordance with 10 CFR 54.21(a)(1). These are represented by the component type "filters/strainers" in Tables 2.3.3-6 and 3.3.2-6.

NRC Question RAI 2.3.3.6-13:

LRA drawings LR-M-208 SH-10 through SH-14 shows fire protection system and does not indicate any reference to areas of protection provided and type of fire protection system (i.e., sprinkler system or other as applicable). Identify the areas served by the fire protection system(s).

NMC Response:

LR-M-208 Sh. 10 through Sh. 14 are for the North Service Building fire protection system. The original P&ID indicated as such in the title, but the title block was changed for the License Renewal boundary drawing, and therefore that description was lost. The North Service Building abuts the north end of the U2 Turbine Building and is within the plant protected area. The North Service Building fire protection system is supplied from the plant fire header (reference the LRA boundary drawing LR-M-208 Sh. 2, location E10).

NRC Question RAI 2.4.11-1:

The NRC's "Fire Protection Safety Evaluation Report," dated August 2, 1979, Section 4.9.1, states that "Cable tray penetration in existing walls, floors, and ceilings are sealed with various configurations utilizing Flamemastic 71A coating, Kaowool ceramic fiber blanket, and Marinite insulation board." No reference is made to Flamemastic 71A and Marinite insulation board in the LRA Section 2.4.11 "Fire Barrier Commodity Group" or in PBNP "Fire Protection Evaluation Report," Revision 3, April 2004, Section 5.1.2. This appears to be a PBNP license condition. Identify where these coatings are addressed in the LRA scoping, screening and AMR sections.

NMC Response:

Cable tray penetration seals was upgraded to a qualified three-hour rating in 1980 and 1981. Standard penetration details were designed and qualified by Insulation Consultants & Management Services, Inc. (ICMS). The open item on cable tray penetration seal qualification was closed by a supplemental SER dated January 22, 1981.

The ablative Flamemastic coating is a water based compound of thermoplastic resins (flame-retardant) and inorganic, incombustible fibers. Material application is generally by spraying. Marinite fireproof panels are comprised of rigid boards, initially incorporating asbestos fibers and later with inert fibers and reinforcing agents. These penetration materials were supplemented and/or superceded by the ICMS penetrations designs.

The LRA, Section 2.4.11, represents these materials, Marinite and Flamemastic, respectively, with a "calcium silicate board" or "silicone based material" component group designation. The aging management reviews for these components and materials are presented in Table 3.5.2-11. The LRA, Section B2.1.10, Fire Protection Program, details the periodic visual inspections of the fire barriers and their penetrations, including all of the material discussed above.

NRC Question RAI 3.3.2.1.6-1:

LRA Table 3.3.2-6 refers to Notes J and 5 which describe the aging management program(s) (AMPs) for certain fire protection component types as listed in the table. Provide justification for the conclusion specified in Note 5 that "the AMPs referenced are appropriate for the aging effects identified and provides assurance that the aging effects are effectively managed through the period of extended operation."

NMC Response:

Note "J" was used whenever a PBNP line item could not be matched to any corresponding NUREG 1801, Generic Aging Lessons Learned Report line item. Note "5" simply indicates that, in our judgment, the program identified would adequately manage the referenced aging effect through the period of extended operation. The justification that the individual identified programs are capable of adequately managing the aging effect is contained in the applicable program descriptions found in Appendix B of the LRA.