Attachment 1 to HDI Letter

HDI-PIL-20-024

Summary and Evaluation of Proposed Changes

(7 pages including cover page)

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Summary and Evaluation of Proposed Changes

1.0 Summary of Proposed Changes

This proposed change to the Pilgrim Nuclear Power Station (PNPS) Physical Security Plan (PSP) reflects the integration of an Independent Spent Fuel Storage Installation (ISFSI) currently being built in the Owner Controlled Area (OCA) outside of the existing PNS Protected Area (PA). This proposed change includes minimal changes in the defensive strategy and is consistent with requirements necessary to protect a standalone ISFSI storage pad.

The proposed change to the Pilgrim PSP to address the Pilgrim ISFSI II is implemented by a new appendix (Appendix D). Appendix D integrates the new facility within the Pilgrim PSP.

The proposed ISFSI II PSP was developed to meet regulatory requirements for protection of the spent fuel against the design basis threat of radiological sabotage. Changes to the protected area (PA) and vehicle barrier system (VBS) boundaries are designed to meet the physical protection requirements for protection of spent fuel stored in the existing ISFSI area as well as in the new ISFSI II area.

The ISFSI II PSP is consistent with NRC guidance provided in Nuclear Security Incident Response/Division of Security Policy – Interim Staff Guidance (NSIR/DSP-ISG)-03, "Review of Security Exemptions/License Amendment Requests for Decommissioning Nuclear Power Plants," (Reference 1) and was informed by security plans recently reviewed/approved by NRC for similar facilities with all spent fuel in dry storage within an ISFSI (Reference 2).

The ISFSI II PSP also reflects consideration of Orders previously issued by the NRC which are applicable to the Pilgrim PSP. The security Training and Qualification Plan and Safeguards Contingency Plan are included as Appendices in the revised PSP.

2.0 Applicable Regulatory Requirements

Pursuant to 10 Code of Federal Regulations (CFR) 50.54(p) and 10 CFR 50.90, Holtec Decommissioning International, LLC (HDI) is requesting approval of proposed Pilgrim PSP and an amendment for a conforming change to PNPS Renewed Facility License Condition 3.G. In accordance with 10 CFR 72.212(b)(9), the proposed PSP is required to protect spent fuel against the design basis threat of radiological sabotage in accordance with the same provisions set forth in the physical security requirements of 10 CFR 73.55 with certain conditions and exceptions as specified in the regulation. This submittal includes requests for alternative measures pursuant to 10 CFR 73.55(r), 10 CFR 50.90 and 10 CFR 50.54 that support the proposed PSP revision.

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3.0 No Significant Hazards Consideration Determination

The proposed PSP addresses the physical protection of material on site that is licensed under the PNPS Renewed Facility License, as well as the general license for the PNPS ISFSI.

PNPS has submitted the certifications for 10 CFR 50.82(a)(1), (Reference 3) therefore the 10 CFR Part 50 license for PNPS no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, pursuant to 10 CFR 50.82(a)(2). The proposed amendment for the PSP reflects the configuration of the facility after installation of the new ISFSI II storage pad. The proposed revision allows for storage of spent nuclear fuel in the spent fuel pool, and in approved dry casks in either the existing ISFSI location within the site Protected Area or in the new ISFSI II storage area located within the OCA. The PA boundary is reconfigured to allow for transfer of spent fuel storage casks from the PA to the new ISFSI II storage area. Facility structures, systems, components (SSCs) necessary for the protection of the spent fuel in both ISFSI pad locations is provided. HDI has evaluated the proposed amendment to determine if a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, Issuance of Amendment, as discussed below:

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Response: No

PNPS has submitted notifications pursuant to 10 CFR 50.82(a)(1) for permanent cessation of power reactor operations and permanent removal of fuel from the reactor vessel. Upon docketing of the 10 CFR 50.82(a)(1) certifications, under 10 CFR 50.82(a)(2) the PNPS Part 50 license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel. The irradiated fuel at PNPS is currently stored in the SFP and within the ISFSI on a single pad. In this condition, the number of credible accidents or transients is significantly smaller than for a plant authorized to operate the reactor or emplace or retain fuel in the reactor vessel.

Construction of the second ISFSI pad is in progress and scheduled for completion in the fourth quarter 2020 to allow for complete off-load of the SFP to dry storage in casks within the new ISFSI II storage pad. The proposed ISFSI II PSP reflects the future site configuration with off-load of fuel from the SFP to the ISFSI II pad, with no intention to return spent fuel to the SFP. In this dry fuel storage only configuration, the Fuel Handling Accident currently described in PNPS Defueled Safety Analysis Report (DSAR) Chapter 6 would no longer be credible. Since the proposed amendment would have no significant effect on facility SSCs and no significant effect on the capability of facility SSCs to perform their design functions for any accident previously evaluated, it does not significantly increase the likelihood of the malfunction of facility SSCs and does

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not increase the probability or consequences of an accident previously evaluated.

The casks are maintained in accordance with the provisions of the general license for the PNPS ISFSI, utilizing the Holtec International HI-STORM 100 Cask System, Certificate of Compliance (CoC) No. 72-1014, and in accordance with the associated Cask Final Safety Analysis Report (FSAR). The HI-STORM 100 Cask System consists of spent nuclear fuel (SNF) residing within a fuel basket structure contained within a sealed metallic canister, or Multi-Purpose Canister (MPC). The HI-STORM 100 receives and contains the sealed MPC for long term storage, and provides gamma and neutron shielding, ventilation passages, missile protection, and protection against natural phenomena and accidents for the MPC. Cask FSAR Chapter 11, "Accident Analysis", Section 11.2 provides the evaluation of accidents for the HI-STORM 100 Cask System which satisfies the following minimum acceptance criteria:

- The MPC confinement boundary maintains radioactive material confinement,
- The MPC fuel basket structure maintains the fuel contents subcritical,
- The stored SNF can be retrieved by normal means, and
- The system provides adequate shielding.

The HI-STORM 100 Cask System provides the spent nuclear fuel and radioactive material in storage with confinement, radiation shielding, criticality and passive heat removal, independent of other facility SSCs.

Security modifications associated with this proposed amendment include new security systems for lighting, intruder detection systems, protected area boundary fencing, access control systems, telecommunications equipment, a vehicle barrier system, and a central alarm station. These security modifications do not significantly affect the ability of the Cask System and MPC to perform their functions as described in the Cask FSAR. Hence the proposed amendment has no effect on the ability of the Cask System to perform its design function nor would it increase the likelihood of an accident previously evaluated.

Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of a previously evaluated accident.

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2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated

Response: No

The proposed amendment does not involve any physical alteration of any facility SSCs or Cask System components required to mitigate or prevent any accident previously evaluated, and does not have a significant effect on the capability of any facility SSC or Cask System component to perform its design functions. Thus, the proposed amendment does not create any initiators or precursors of a new or different kind of accident than previously evaluated. Likewise, the proposed amendment does not create the possibility of a new failure mode associated with any SSC malfunction or personnel errors that could result in a new or different kind of accident. Since the proposed amendment does not significantly affect any Cask System components, the credible events for the ISFSI are not changed.

Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety

Response: No

Pursuant to 10 CFR 50.82(a)(2), the 10 CFR Part 50 license for PNPS no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, therefore the occurrence of any postulated accidents associated with an operating nuclear reactor is no longer credible. The proposed changes would become effective when transfer of spent fuel to the new ISFSI II pad is needed, with no intent to return spent fuel to the spent fuel pool, therefore the fuel handling accident described in PNPS DSAR Chapter 6 would not change until all fuel from the pool is removed and stored in approved dry casks in either the existing or new ISFSI II location. After all fuel is removed from the pool and safely stored in dry casks in either ISFS pad location, a postulated fuel handling accident is no longer credible in this configuration. The proposed amendment does not involve a significant change in any facility SSC or Cask System component's design, configuration, or operation. Therefore, the modifications associated with this proposed amendment do not significantly affect the capability or manner in which facility SSCs or Cask System components perform their safety functions, or the safety margins associated with their design and function.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

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4.0 Environmental Considerations

HDI has evaluated this proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21, and determined that it meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(12). The proposed amendment is being submitted under the provisions of 10 CFR Part 50 for approval of a safeguards plan and changes to the PNPS Renewed Facility License, and in accordance with 10 CFR Part 72. Activities associated with the proposed amendment do not involve any significant construction impacts, and are consistent with the plan for future reduction in the security area that focuses primarily on the storage for spent fuel, described in NUREG-0586, "Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," as a general activity expected to occur during decommissioning. The proposed amendment is confined to (i) organizational and procedural matters; (ii) modifications to systems used for security; and (iii) administrative changes. The modifications associated with this proposed amendment include lighting, intruder detection systems, protected area boundary fencing, access control systems, telecommunications equipment, a vehicle barrier system, and a central alarm station, which are for security of the facility in the new ISFSI II location. The proposed amendment also addresses security organizational changes and describes procedural and other administrative changes.

Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment or impact statement is not required to be prepared in connection with the proposed amendment.

5.0 Precedent

The proposed changes are informed by the ISFSI PSP provided to the NRC by the Vermont Yankee Nuclear Power Station (Reference 2)

6.0 Conclusion

Based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed changes, (2) activities consistent with the approved changes will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 References

1. NRC Interim Staff Guidance, NSIR/DSP-ISG-03, "Review of Security Exemptions/ License Amendment Requests for Decommissioning Nuclear Power Plants," September 28, 2015 (ML15106A737)
2. Letter, Vermont Yankee Nuclear Power Station to USNRC, "Independent Spent Fuel Storage Installation Physical Security Plan, Revision 0, Proposed Change No. 315," dated March 29, 2017

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3. Letter, Entergy Nuclear Operations, Inc. to USNRC, "Certifications of Permanent Cessation of Power Operations and Permanent Removal of Fuel from the Reactor Vessel," dated June 10, 2019, (Accession No. ML1961A033).
4. NUREG-0586, "Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," Volumes 1 & 2 of Supplement 1, November 2002 (ML023470327 and ML023500310)
5. NRC Regulatory Guide 5.69, "Guidance for the Application of the Radiological Sabotage Design-Basis Threat in the Design, Development, and Implementation of a Physical Security Program that Meets 10 CFR 73.55 Requirements"

Attachment 2 to HDI Letter

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Proposed Change to PNPS Renewed Facility License Condition 3.G

(2 pages including cover page)

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Existing License Condition 3.G (first paragraph) (mark-up)

10 CFR 72.212(b)(9)

G. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to ~~provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822),~~ and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Pilgrim Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, ~~Revision 0~~," ~~submitted~~ by letter dated ~~October 18, 2004, as supplemented by letter dated May 16, 2006~~.

April 2, 2020

Revision 18," supplemented

Attachment 3 to HDI Letter

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Revised PNPS Renewed Facility Operating License Condition 3.G (clean copy)

(2 pages including cover page)

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Revised License Condition 3.G (first paragraph) (Clean Copy)

G. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to 10 CFR 72.212(b)(9) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Pilgrim Nuclear Power Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Pilgrim ISFSI II Physical Security Plan, Revision 18," supplemented by letter dated April 2, 2020.