

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Part 72, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified herein.

1. Licensee Calvert Cliffs Nuclear Power Plant, LLC	3. License No. SNM-2505
2. 100 Constellation Way Baltimore, MD 21202	Amendment No. 8
	4. Expiration Date November 30, 2012
	5. Docket or Reference No. 72-8

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical or Physical Form	8. Maximum Amount That Licensee May Possess at Any One Time Under This License
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A. Spent fuel assemblies from Calvert Cliffs Nuclear Station Units 1 and 2 reactor using natural water for cooling and enriched not greater than 4.5 percent U-235 and associated radioactive materials related to receipt, storage, and transfer of fuel assemblies.	A. As UO ₂ clad with zirconium or zirconium alloys.	A. 1,111.68 TeU of spent fuel assemblies.
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9. Authorized Use: For use in accordance with the conditions in this license and the attached Technical Specifications. The basis for this license was submitted in the Safety Analysis Report application dated December 21, 1989, and supplemented April 26, June 29, November 1, and December 20, 1990; February 1, February 12, September 30, October 18, December 19, and December 27, 1991; August 18 and September 4, 1992; July 29 and October 20, 1994; March 31, 1995; November 22, 1999; May 19, June 20, October 4, November 10 and 16, 2000; May 18, and July 26, 2001; December 12, 2003, May 12, 2004 and June 7, 2005; May 16, September 29, October 28, 2005, January 22, February 26, April 8, June 25, July 27, October 15, October 19, October 25 (2 letters), October 26, and October 28, 2009.

The material identified in 6.A and 7.A above is authorized for receipt, possession, storage, and transfer.

10. Authorized Place of Use: The licensed material is to be received, possessed, transferred, and stored at the Calvert Cliffs ISFSI located on the Calvert Cliffs Nuclear Power Plant site in Calvert County, Maryland. This site is described in Chapter 2 of the licensee's Safety Analysis Report (SAR) for the Calvert Cliffs ISFSI.

11. The Technical Specifications contained in Appendix A attached hereto are incorporated into the license. The licensee shall operate the installation in accordance with the Technical Specifications in Appendix A.

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12. The licensee shall fully implement and maintain in effect all provisions of the Independent Spent Fuel Storage Installation (ISFSI) physical security, guard training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments made pursuant to the authority of 10 CFR 72.56, 10 CFR 72.44(e), and 72.186.
13. The Technical Specifications for Environmental Protection contained in Appendix A attached hereto are incorporated into the license.

Specifications required pursuant to 10 CFR 72.44(d), stating limits on the release of radioactive materials for compliance with limits of 10 CFR Part 20 and "as low as is reasonably achievable objective" for effluents are not applicable. Dry Shielded Canister (DSC) external surface contamination within the limits of Technical Specification 3.2.3.1 ensures that the offsite dose will be inconsequential. In addition, there are no normal or off-normal releases or effluents expected from the double-sealed storage canisters of the ISFSI.

Specifications required pursuant to 10 CFR 72.44(d)(1) for operating procedures, for control of effluents, and for the maintenance and use of equipment in radioactive waste treatment systems to meet the requirements of 10 CFR 72.104 are not applicable. There are, by the design of the sealed storage canisters at the ISFSI, no effluent releases. Also, all Calvert Cliffs site DSC and Transfer Cask (TC) loading and unloading operations and waste treatment therefrom will occur at the Calvert Cliffs Nuclear Power Plant under the specifications of its operating licenses.

14. No spent nuclear fuel shall be allowed to be loaded until such time as the following preoperational license conditions are satisfied:
 - A. A training exercise (dry run) of all DSC, TC, and horizontal storage module (HSM) loading and handling activities shall be held and include but not be limited to, those listed below and need not be performed in the order listed:
 1. Loading DSC in cask.
 2. DSC (length may be truncated) drying, welding, and cover gas backfilling operations.
 3. Moving cask to and aligning and docking with HSM on the storage pad.
 4. Insertion of DSC in HSM.
 5. Withdrawal of DSC from HSM.
 6. Returning the cask to the decontamination pit.
 7. Removing the cask lid and cutting open the DSC (length may be truncated) assuming fuel cladding failure.
 8. Removing the DSC from the cask.
 9. All dry run activities shall be done using written procedures.
 10. The activities listed above shall be performed to show that each activity can be successfully executed prior to actual fuel loading.

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- B. The Calvert Cliffs Nuclear Power Plant Emergency Plan shall be reviewed and modified as required to include the ISFSI.
- C. A training module shall be developed for the Calvert Cliffs Nuclear Power Plant Training Program establishing an ISFSI Training and Certification Program which will include the following:
 - 1. DSC, TC, and HSM Design (overview)
 - 2. ISFSI Facility Design (overview)
 - 3. ISFSI Safety Analysis (overview)
 - 4. Fuel loading and DSC and TC handling procedures and abnormal procedures
 - 5. ISFSI License (overview).
- D. The Calvert Cliffs Nuclear Power Plant health physics procedures shall be reviewed and modified as required to include the ISFSI.
- E. The Calvert Cliffs Nuclear Power Plant Administrative Procedures shall be reviewed and modified as required to include the ISFSI.
- F. A procedure shall be developed and implemented for the documentation of the characterizations performed to select spent fuel to be stored in the canisters and modules. Such procedure shall include independent verification of fuel assembly selection by an individual other than the original individual making the selection.
- G. A procedure shall be developed and implemented for two independent determinations (two samples analyzed by different individuals) of the boron concentration in the water used to fill the DSC cavity for fuel loading and unloading activities.
- H. Written procedures shall be implemented to describe actions to be taken during operation and abnormal/emergency conditions.
- 15. The design, construction, and operation of the ISFSI shall be accomplished in accordance with the NRC regulations specified in Title 10 of the U.S. Code of Federal Regulations. All commitments to the applicable NRC Regulatory Guides and to engineering and construction codes shall be carried out.
- 16. The double closure seal welds at the bottom end of the DSC shall satisfy the Liquid Penetrant Acceptance Standards of ASME B&PV Code Section III, Division 1, Subsection NB-5350 (1983). Additionally, these seal welds at the bottom of the DSC shall be leak tested in accordance with ANSI N14.5 (1987).
- 17. Fuel and TC movement and handling activities which are to be performed in the Calvert Cliffs Nuclear Power Plant Auxiliary Building will be governed by the requirements of the Calvert Cliffs Nuclear Power Plant Facility Operating Licenses (DRP-53 and -69) and associated Technical Specifications.
- 18. Pursuant to 10 CFR 72.7, the licensee is hereby exempted from the provisions of 10 CFR 72.122(i) with respect to providing instrumentation and control systems for the DSC and HSM during storage operations.

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19. This license is effective as of the date of issuance shown below.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/ra/

Steven Baggett, Acting Chief
 Licensing Branch
 Spent Fuel Storage and Transportation Division
 Office of Nuclear Material Safety
 and Safeguards
 Washington, DC 20555

Date of Issuance: November 30, 1992

Amendment No. 8 dated October 30, 2009

Attachment: Technical Specifications

