Calvert Cliffs Renewed License Independent Spent Fuel Storage Installation (ISFSI)
License Amendment Request No. 1

Purpose: Discuss whether Amendment 1 to the Calvert Cliffs ISFSI license represents a genuine issue requiring the NRC to give the public an opportunity for a hearing.

Outcome: Form an SFM determination on whether the amendment represents a Genuine Issue.

Process:

Regulatory basis - 72.46, "Public hearings"

a. 72.46 (b)(1) states, "In connection with each application for an amendment to a license under this part, the Commission shall, except as provided in paragraph (b)(2) of this section, issue or cause to be issued a notice of proposed action and opportunity for hearing in accordance with § 2.105 or § 2.1107 of this chapter …"
b. 72.46(b)(2) states, "The Director, Office of Nuclear Material Safety and Safeguards, or the Director's designee may dispense with a notice of proposed action and opportunity for hearing or a notice of hearing and take immediate action on an amendment to a license issued under this part upon a determination that the amendment does not present a genuine issue as to whether the health and safety of the public will be significantly affected. After taking the action, the Director or the Director's designee shall promptly publish a notice in the Federal Register of the action taken and of the right of interested persons to request a hearing on whether the action should be rescinded or modified."

The application requested that Materials License No. SNM-2505 be amended to provide:

1. Renewed License SNM-2505 Section 6, Byproduct, Source, and/or Special Nuclear Material – The proposed amendment would increase the maximum allowable enrichment from 4.5 percent U-235 to 5.0 percent U-235 to allow for storage of higher enriched fuel assemblies.

2. Renewed License SNM-2505 Section 8, Maximum Amount That Licensee May Possess at Any One Time Under This License - The proposed amendment would increase this amount from the current 1,111.68 TeU to 1,558.27 TeU to allow for storage of fuel generated over the 60 year licensed lifetime of the Calvert Cliffs Units.

3. Renewed License se SNM-2505 Section 16 - The proposed amendment would add acceptance standards for liquid penetrant tests of the double closure seal welds at the bottom end of the DSC for the NUHOMS-32PHB DSC. The acceptance standards for the NUHOMS®-24P DSC and the NUHOMS®-32P DSC remain the same.

4. TS 2.1, Fuel to be Stored at ISFSI - This TS ensures that the fuel assembly radiation source is below design values. To accomplish this, the TS provides limits on the neutron and gamma sources allowed in each fuel assembly. The proposed change would add a new neutron and gamma source for fuel assemblies stored in NUHOMS®-32PHB DSCs. The new neutron and gamma sources for the NUHOMS®-32PHB DSC were selected to

bound fuel assemblies that reach the TS Limiting Condition for Operation 3.1.1(5) thermal limit to be loaded.

5. TS 3.1.1, Fuel to be Stored at ISFSI - This TS ensures that the fuel assemblies stored in the DSCs meet the design requirements of the DSCs. This proposed amendment makes the following changes:

    a. TS 3.1.1(2) – The current initial enrichment limit is 4.5 weight percent U-235. The proposed amendment would add new maximum initial enrichment limits of 4.75 and 5.0 weight percent U-235 for a NUHOMS®-32PHB DSC, based on internal DSC basket design. The current maximum initial enrichment limit of 4.5 weight percent U-235 for the NUHOMS®-24P and NUHOMS®-32P DSCs remains the same.
    b. TS 3.1.1(3) - The current maximum fuel assembly average burnup limit is 47,000 MWd/MTU) for the NUHOMS®-24P DSCs and 52,000 MWd/MTU for the NUHOMS®-32P DSCs. The proposed amendment would add a new maximum fuel assembly average burnup limit of 62,000 MWd/MTU for fuel stored in NUHOMS®-32PHB DSCs. The current burnup limits for the NUHOMS®-24P and NUHOMS®-32P DSCs remain the same.
    c. TS 3.1.1(5) - The current maximum heat generation rate limit is 0.66 kilowatt per fuel assembly. The proposed amendment would add a new maximum heat generation rate of 0.8 kilowatt per fuel assembly for NUHOMS®-32PHB DSC basket zones 1 and 4, and a maximum heat generation rate of 1.0 kilowatt per fuel assembly for NUHOMS®-32PHB DSC basket zones 2 and 3. The current maximum heat generation rate for the NUHOMS®-24P and NUHOMS®-32P DSCs remain the same.
    d. TS3.1.1(7) - Currently, the maximum fuel assembly mass to be placed in the NUHOMS®-24P and NUHOMS®-32P DSCs, including control components, shall not exceed 1450 lbs. (658 kg). This proposed amendment adds a new requirement that the maximum fuel assembly mass to be placed in the NUHOMS®-32PHB DSC shall not exceed 1375 lbs. (625 kg) excluding control components. The current maximum fuel assembly mass limit remains the same for the NUHOMS®-24P and NUHOMS®-32P DSCs.

6. TS 3.2.2.1 - The proposed amendment would add acceptance standards for liquid penetrant tests of the top shield plug closure weld, the siphon and vent port cover welds, and the top cover plate weld for the NUHOMS®-32PHB DSC. The acceptance standards for the NUHOMS®-24P and NUJHOMS®-32P DSCs remain the same.

7. TS 3.2.2.2 and 4.2.2.1, DSC Closure Welds - Currently, the standard helium leak rate for the top shield plug closure weld, and the siphon and vent port cover welds shall not exceed 10^{-4} atm-cc/s for the NUHOMS®-24P and NUHOMS®-32P DSCs. The proposed amendment will add a new requirement that the standard helium leak rate for the NUHOMS®-32PHB DSC top shield plug closure weld, and the siphon and vent port cover welds not exceed 10^{-7} ref-cc/s. The maximum helium leak rate for the NUHOMS®-24P and NUHOMS®-32P DSCs remains the same.

8. TS 3.4.1.1, Maximum Air Temperature Rise - This TS limits the temperature rise from the HSM inlet to the outlet. This provides assurance that the fuel is being adequately air

cooled while in the HSM. The current limit is a maximum 64°F temperature rise. The proposed amendment would add a new maximum 80°F allowable temperature rise for HSMs with NUHOMS®-32 PHB DSCs. The requested change to the TSs would also address the additional temperature limit and the verification of the appropriate heat load for the fuel assemblies. The maximum temperature rise limit will remain 64°F for the existing NUHOMS®-24P and NUHOMS®-32P DSCs.

9. New TS 3.3.2.1, Time Limit for Completion of NUHOMS®-32 PHB Transfer Operations - The proposed amendment would establish a new TS for the time to complete the transfer of the NUHOMS®-32PHB DSC from the cask handling area to the HSM. This new TS does not apply to the NUHOMS®-24P or NUHOMS®-32P due to their lower heat load. The time limit for completion of the transfer is as follows:
    1. No time limit for a DSC with a total heat load of 21.12 kW or less,
    2. 72 hours for a DSC with a total heat load greater than 21.12 kW but less than or equal to 23.04 kW,
    3. 48 hours for a DSC with a total heat load greater than 23.04 kW but less than or equal to 25.6 kW,
    4. 20 hours for a DSC with a total heat load greater than 25.6 kW but less than or equal to 29.6 kW.

10. New TS 3.3.3.1, Time Limit for Completion of NUHOMS®-32PHB DSC Vacuum Drying Operation - The proposed amendment would establish a new TS limiting the time to complete the NUHOMS®-32PHB DSC blowdown and vacuum drying process if nitrogen is used for blowdown. The time limit for completion of vacuum drying of a loaded NUHOMS®-32PHB DSC following blowdown with nitrogen is as follows:
    a. 56 hours for a DSC with a total heat load of 23.04 kW or less,
    b. 40 hours for a DSC with a total heat load greater than 23.04 kW but less than or equal to 25.6 kW, 32 hours for a DSC with a total heat load greater than 25.6 kW but less than or equal to 29.6 kW

Prior amendments that did not pose a genuine issue

a. Calvert Cliffs – adds NUHOMS-32P canister to the license (amendment to SNM-2505, 2003)
    i. The 32P canister is similar to the 32PT canister, which is included in CoC 72-1004 (32P canister is not included in 72-1004).
b. Calvert Cliffs – increased design basis limit for the canister from 50 to 100 psig (amendment to SNM-2505, 2005)
    ii. Calvert Cliffs uses the 32P canister, not a certified design, but similar to the 32PT canister that is part of CoC 72-1004
c. Rancho Seco amend 2 – addition of Greater than Class C Waste
d. Prairie Island – the addition of burnable poison rod assemblies and thimble plug devices for storage in the TN-40, a canister design specific to Prairie Island
    iii. Latest amendment for adding higher enrichment and higher burnup fuel has not yet been noticed, but will be noticed as a genuine issue
e. Humboldt Bay – amendment to decrease the minimum fuel enrichment from 2.09% to 2.08%; based on a transcription error from the calculation to the TS
f. Diablo Canyon Amendment No. 2 – SNM- 2511- Upgrading of the thermal analysis to a 3 Dimensional model, reducing the torque criteria for MPC cleats to reduce dose to technician, other miscellaneous changes.

SFM position: This amendment does not present a Genuine Issue.

a. Few changes that were not previously submitted as amendments to NUHOMS® CoCs 1004 and 1030. Some changes provided to improve margins to safety. The major changes are incorporating the provision to load high burnup fuel (HBF) and increasing the capacity of the ISFSI. The HBF provision has already been approved for general licensees in CoCs 1004 and 1030 for similar canisters. It appears that CCs assertion that the proposed amendments satisfy the categorical exclusion criteria of 10 CFR 51.22 are acceptable.
b. SECY-99-175, "Proposed Rule: 10 CFR Part 72 – Clarification and Addition of Flexibility" forwarded a proposed rulemaking amending Part 72 to eliminate the necessity for repetitious reviews of cask design issues that the Commission previously considered during approval of the cask design, and stated the staff position that "... previously reviewed and approved cask designs should be excluded from the scope of a license hearing."
    iv. Public had the right to comment on the adequacy of the cask design during the Subpart L approval process
    v. Public still has the option to petition under 2.206 to raise new safety issues
    vi. Re-review of cask design issues which have been previously resolved are an unnecessary regulatory burden on applicants causing unnecessary expenditure of staff and hearing board resources

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