

# Maine Yankee

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January 15, 2010

MN-10-001

RA-10-001

## UNITED STATES NUCLEAR REGULATORY COMMISSION

Attention: Document Control Desk

Washington, DC 20555

- References:
- (a) License No. DPR-36 (Docket No. 50-309; 72-30, 72-1015)
  - (b) NAC-UMS<sup>®</sup> Final Safety Analysis Report, Amendment No. 2, dated December 2001
  - (c) Certificate of Compliance Number 72-1015 for the NAC-UMS<sup>®</sup> System, Amendment No. 2, U. S. Nuclear Regulatory Commission, dated January 23, 2002 (effective December 31, 2001)
  - (d) Certificate of Compliance Number 72-1015 for the NAC-UMS<sup>®</sup> System, Amendment No. 5, U.S. Nuclear Regulatory Commission, dated January 12, 2009

Subject: Maine Yankee Atomic Power Company Request for Exemption from 10 CFR 72 (EGM-09-006)

Maine Yankee loaded all spent fuel associated with plant operation into 60 NAC-UMS canisters under Amendment 2 of NAC-UMS CoC No. 72-1015. Maine Yankee continues to operate the Maine Yankee ISFSI under Amendment 2 of NAC-UMS No. 72-1015, but desires to adopt Amendment 5 of NAC-UMS No. 72-1015 and has been waiting for NRC to promulgate an acceptable method to adopt subsequent amendments.

In accordance with the regulatory guidance provided by Enforcement Guidance Memorandum (EGM) 09-006, "Enforcement Discretion for Violations of 10 CFR 72, Subpart K, Regarding Implementation of Certificate of Compliance (CoC) Amendments to Previously Loaded Spent Fuel Storage Casks," Maine Yankee Atomic Power Company (MY) initiated a detailed evaluation to determine if the sixty (60) loaded NAC-UMS Storage Canisters currently in use at the MY Independent Spent Fuel Storage Installation (ISFSI) and loaded under Amendment 2 conform to the current NAC-UMS CoC No. 72-1015 Amendment listed in 10 CFR 72.214 (Amendment No. 5). The evaluation concluded that fifty-nine (59) of the loaded NAC-UMS<sup>®</sup> systems in operation at the MY ISFSI conform to the current CoC Amendment No. 5 requirements including the Technical Specifications (TS). The evaluation concluded that cask system NAC-UMS-TSC-790-016 was not in compliance with the current CoC Amendment No. 5 TS

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Limiting Condition of Operation (LCO) 3.1.4, "Canister Maximum Time in Transfer Cask."

In accordance with 10 CFR 72.7, MY hereby requests an exemption from the requirements of 10 CFR 72 regarding compliance with Amendment 5 TS LCO 3.1.4 limits on the canister maximum time in transfer cask for cask system NAC-UMS-TSC-790-016. The background and justification for requesting this exemption are provided below. It is requested that the exemption be approved no later than May 15, 2010 to ensure compliance with the guidance provided in EGM 09-006 and to ensure satisfaction of the proposed rule RIN 3150-A109 within the period of enforcement discretion.

**Discussion**

Loading of the NAC-UMS storage cask systems at Maine Yankee began in August 2002 with the first system placed into storage operations on the ISFSI pad on August 24, 2002. The final system loading was completed and the cask positioned on the pad on February 27, 2004. All 60 NAC-UMS systems were loaded in full accordance and conformance with the Reference (b) FSAR and the Reference (c) CoC.

During the performance of the evaluation to verify conformance of the 60 Maine Yankee NAC-UMS systems with the current NAC-UMS CoC (Reference (d)), it was identified that LCO 3.1.4 (Canister Maximum Time in Transfer Cask) for cask system NAC-UMS-TSC-790-016 exceeded the current Amendment 5 permissible total cumulative time for the helium filled canister to remain in the transfer cask (600 hours or 25 days). This change to NAC-UMS LCO 3.1.4 was implemented in Amendment No. 3, which had an effective date of March 31, 2004 (after completion of the fuel loading campaign at Maine Yankee). The purpose of the change in LCO 3.1.4 was to limit use of a transfer cask for long-term storage of a loaded and helium backfilled canister. Per NAC-UMS FSAR Chapter 12.C Technical Specification Bases for the NAC-UMS<sup>®</sup> System, the total duration limit of 600 hours is conservatively selected based on the test duration limit (720 hours or 30 days) recommended in PNL-4835 for storage of zirconium-clad fuel in air and to ensure that a transfer cask is used as intended, not as a storage overpack. It should be noted that the current Amendment No. 5 LCO 3.1.4, except as limited by the cumulative time limit of 600 hours, defines the time as "unlimited" for canisters having a content decay heat load of < 20 kW based on the thermal analysis provided in Chapter 3 of the FSAR. Therefore, there is no temperature or material performance issue that would limit the total time a helium backfilled canister of < 20 kW could safely remain in a transfer cask prior to the transfer of the canister to a concrete cask.

In the case of NAC-UMS-TSC-790-016, the canister loading operations were initiated on or about December 28, 2002 and the loaded NAC-UMS system was placed on the pad on February 20, 2003. Within that duration, the TSC was backfilled with helium and leak tested on January 6, 2003 and the transfer of the canister to the concrete cask was

completed on or about February 18, 2003. Therefore, in accordance with the conditions and requirements of NAC-UMS TS LCO 3.1.4, the total duration of the canister in the transfer cask was 43 days, which exceed the current NAC-UMS TS LCO 3.1.4 limit of 25 days. It should be noted that for the Amendment No. 2 CoC in effect at that time, the LCO 3.1.4 time limit for a canister having a content decay heat load of less than or equal to 14 kW was unlimited (NAC-UMS-TSC-790-016 contents had a decay heat load of 9.59 kW).

The causes of the delay in completing the transfer of the NAC-UMS-TSC-790-016 to the concrete cask were the result of extreme weather conditions limiting the operation of the transfer cask and on-site transport equipment at temperatures below 0° F (limit for outdoor operation of the transfer cask from NAC-UMS CoC TS B.3.4.1.8), and operational issues involving the positioning of the concrete cask on the heavy haul trailer in icing conditions. During the time of the delay in the completion of the canister transfer to the VCC, NAC-UMS-TSC-790-016 was safely stored in the MY Fuel Building in full compliance with the CoC TS conditions applicable at the time.

Maine Yankee intends to continue operations at the Maine Yankee ISFSI under the provisions of NAC-UMS Amendment No. 2 until action on this request is taken.

#### **Basis for Exemption**

The criteria for granting specific exemptions from 10 CFR 72 regulations are stated in 10 CFR 72.7. Pursuant to 10 CFR 72.7, the NRC is authorized to grant an exemption upon determining that the exemption is authorized by law, will not endanger life, property, or the common defense and security, and is otherwise in the public interest.

MY is requesting an exemption to the NAC-UMS CoC Amendment No. 5 TS LCO 3.1.4 limit of canister maximum time in transfer cask of 600 cumulative hours in order to allow the complete reconciliation of all sixty (60) loaded NAC-UMS storage canisters in storage at the MY ISFSI to the current NAC-UMS CoC Amendment No. 5. The exemption would allow all of the NAC-UMS systems in storage on the MY ISFSI to be operated and maintained in the future in full compliance with the current CoC.

As noted above, the NAC-UMS-TSC-790-016 was in full compliance with the NAC-UMS CoC TS in effect at the time of loading, the canister and its stored spent fuel were maintained in a safe condition during the time the canister was in the transfer cask, and the transfer of the loaded canister was completed in a safe manner to ensure that the transfer cask was not used as a long-term storage device. As the canister and its fuel contents were maintained in a safe and secure condition, and the canister was transferred in a reasonable time period following improved weather conditions, the exemption will not endanger life or property.

The requested exemption is consistent with the common defense and security. The requested exemption does not result in any change to existing physical security requirements at MY. As such, approval of this exemption request will not compromise ISFSI security or safeguarding spent fuel in the NAC-UMS System.

The requested exemption is in the public interest because it will allow MY to maintain the NAC-UMS Systems at the MY ISFSI in a consistent and uniform manner. The additional record keeping and maintenance of two separate CoC Amendments for a single NAC-UMS System will cause unnecessary record keeping, maintenance operations, and associated economic losses due to the excess paperwork. Therefore, granting the requested exemption is in the best interest of the public.

### **Environmental Assessment**

In accordance with 10 CFR 51.30, "Environmental assessment," and 10 CFR 51.32, "Finding of no significant impact," the following information is provided in support of an environmental assessment and finding of no significant impact for the proposed action. Also, the NRC in 10 CFR 51.23, "Temporary storage of spent fuel after cessation of reactor operation – generic determination of no significant environmental impact," has already determined that spent fuel can be stored safely and without significant environmental impact at an onsite independent spent fuel storage installation.

The proposed action would grant an exemption to the requirements of NAC-UMS CoC TS LCO 3.1.4 to limit the canister maximum time in transfer cask of 25 days to the actual experienced duration of 43 days for NAC-UMS-TSC-790-016, which was loaded and transferred safely in full compliance with the CoC TS in effect at the time of system loading.

Granting the requested amendment will not involve the use of additional resources, as the NAC-UMS system in question is already in safe interim storage at MY.

The proposed action will not increase the probability or consequences of an accident. No changes are being made in the types or quantities of any radiological effluent that may be released offsite and there is no significant increase in occupational or public radiation exposure. Maintaining a consistent CoC amendment bases for all 60 loaded NAC-UMS systems at MY will provide a single maintenance and record program which will maintain exposure as low as reasonably achievable. Therefore, there is no significant radiological environmental impact associated with the proposed action.

The proposed action does not affect non-radiological ISFSI effluents and has no other environmental impacts. Therefore, there are no significant non-radiological impacts associated with the proposed action.

Based on the above assessment, the proposed action will not have a significant effect on the quality of the human environment.

### **Summary of Exemption Request**

In accordance with 10 CFR 72.7, MY is requesting an exemption from the requirements of 10 CFR 72 to allow MY certification reconciliation for the sixty NAC-UMS Systems at the MY ISFSI in accordance with the latest NAC-UMS CoC listed in 10 CFR 72.214 by allowing an exemption to the 600 hour limit of NAC-UMS CoC TS LCO 3.1.4 for NAC-UMS-TSC-790-016. The proposed exemption from 10 CFR 72.214 is authorized by law, will not endanger life, property, or the common defense and security that are otherwise in the public interest.

There are no environmental impacts associated with this specific exemption.

### **Results of 10 CFR 72.212 Evaluation**

The completed 72.212 evaluation has concluded that two exemptions issued under Amendment 2 of the NAC-UMS<sup>®</sup> CoC are required to be applied in their entirety to the current Amendment (Amendment 5) for all sixty (60) of the loaded NAC-UMS<sup>®</sup> systems in operation at the MY ISFSI. The two exemptions to be applied to Amendment 5 of the NAC-UMS<sup>®</sup> CoC are as follows:

1. Exemption from 10 CFR 72.212 and 72.214 for Dry Fuel Storage Activities, Docket Nos. 72-30, 72-1015 and 50-309, TAC No. L23658, Nuclear Regulatory Commission, February 1, 2004 [relieving MY from the requirement to maintain a coefficient of friction on the ISFSI pad surface of at least 0.5].
2. Federal Register Notice Publishing an Environmental Assessment and Finding of No Significant Impact for a Request for Exemption from 10 CFR 72.212 and 72.214, Docket Nos. 72-30, 72-1015 and 50-309, TAC No. L23714, Nuclear Regulatory Commission, December 13, 2004 [relieving MY from the requirements to (1) develop training modules under its systematic approach to training (SAT) that include comprehensive instructions for the operation and maintenance of the ISFSI, except for the NAC-UMS<sup>®</sup> Universal Storage System; and (2) submit an annual report pursuant to 10 CFR 72.44 (d)(3)].

MY hereby requests application of the aforementioned exemptions to the current NAC-UMS<sup>®</sup> CoC No. 72-1015, Amendment No. 5. The Commission's response is also requested by May 15, 2010 to ensure compliance with the guidance provided in EGM 09-006 and to ensure satisfaction of the proposed rule RIN 3150-A109 within the period of enforcement discretion.

There are no environmental impacts associated with applying the exemptions to NAC-UMS<sup>®</sup> CoC No. 72-1015, Amendment No. 5.

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If you have any questions or require additional information concerning this exemption request, please contact me at 207-882-1303 or [jconnell@3yankees.com](mailto:jconnell@3yankees.com).

Sincerely,

A handwritten signature in black ink, appearing to read "James Connell", written in a cursive style.

James Connell  
Vice President

cc:

G. Poulin, Maine Yankee  
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