



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001**

October 26, 2016

MEMORANDUM TO: Anthony Hsia, Deputy Director
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

FROM: Wendy Reed, Ph.D., Chemist **/RA/**
Renewals and Materials Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF SEPTEMBER 28, 2016 PUBLIC MEETING WITH
ENERGYSOLUTIONS AND VSC-24 GENERAL LICENSEES TO
DISCUSS THE IMPLEMENTATION OF THE AGING MANAGEMENT
PROGRAMS CONTAINED IN THE VSC-24 STORAGE SYSTEM
RENEWAL APPLICATION (CAC NO. L24694)

BACKGROUND:

On September 28, 2016, U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with representatives from EnergySolutions and general licensees that use their VSC-24 Ventilated Storage Cask System (hereafter referred to as VSC-24) at the NRC's One White Flint North Building in Rockville, Maryland. The list of meeting attendees is provided in Enclosure 1. EnergySolutions provided meeting slides prior to the meeting, which included an agenda for the meeting. These materials can be found in Enclosure 2.

The meeting was noticed on September 9, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16257A478).

MEETING SUMMARY:

After introductions and opening remarks, NRC staff – at the request of EnergySolutions – provided an update on the status of the VSC-24 renewal rulemaking. The draft rule is scheduled to be issued in the *Federal Register* on November 14, 2016. EnergySolutions commented that once a renewal goes into rulemaking it is hard to obtain a status on the process and it would be beneficial if the NRC improved the visibility of their rulemaking process. This was noted by the NRC staff. No comments on the specific rule text were made at the meeting. The change to the implementation period for the Aging Management Programs (AMPs) was also discussed; NRC staff confirmed that the initial timeframe of 180 days had now been extended to 300 days at the prior request of EnergySolutions and the general licensees.

EnergySolutions provided an overview of the purpose of the public meeting request. The NRC staff then provided an update on the status of the NRC's Temporary Instruction (TI), which the NRC plans to use to review the initial implementation of AMPs at independent spent fuel

storage installations. The NRC staff stated that the TI is in the internal review process. NRC staff clarified that the TI will follow the ten AMP elements detailed in NUREG-1927, Revision 1, "Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel" (ADAMS Accession No. ML16179A148), such as the scope of the program, parameters monitored or inspected, and detection of aging effects. The TI has generally followed methods detailed in NUREG-1927, and NEI 14-03, Revision 1, "Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging Management" (ADAMS Accession No. ML15272A332). EnergySolutions and VSC-24 general licensees asked about the potential sites considered for the TI. NRC noted that the current thought is to use the TI at Palisades or Arkansas Nuclear One since they are VSC-24 users.

EnergySolutions noted that it does not plan to revise each version of the final safety analysis report (FSAR) to include the renewal and aging management information, after the renewal is issued. Rather, it plans to issue a Revision 9 to the FSAR, which will include all of the renewal and aging management information. EnergySolutions clarified that amendments are tied to a specific revision of the FSAR, and the general licensees are using different versions of the FSAR, depending on what amendment they loaded under. EnergySolutions and the general licensees noted that the general licensees will use FSAR Revision 9, in terms of the aging management information it will contain. The general licensees will include a discussion in their updated 10 CFR 72.212 report explaining the use of FSAR Revision 9 renewal and aging management information.

Entergy's representative stressed that the comments expressed were solely Entergy's and were not necessarily the perspective of all the general licensees. Entergy had questions on three areas and provided AMPs in the VSC-24 renewal to illustrate their points. These areas were:

- *Implementation Plan.* Entergy stated its intention to develop an implementation plan for the AMPs over the 300 days following issuance of the final rule regarding the VSC-24 renewal. This implementation plan would include the development of a procedure for each AMP that addresses the 10 AMP elements. This would be followed by developing more specific procedures for executing the inspections over the two years after the final rule being issued (running concurrently). Entergy described the role of the corrective action program in terms of implementation of the AMPs. NRC staff asked Entergy what the timeframe would be for actions taken. Entergy replied that within 24 hours of identifying the adverse or significant condition, it would conduct an operability assessment to determine whether the important to safety structures, systems, and components continue to fulfill their intended functions. Within 30 days, it completes the review of the issue to identify what actions need to be taken to correct the issue and the timeframe for completion of the corrective action(s). Entergy also stated that utilities have a robust corrective action program that tracks open corrective actions. NRC suggested that they consider using trending as part of their plan development. In discussing the guidance for use of the Institute of Nuclear Power Operations (INPO) Aging Management INPO database (AMID), it was clarified by an NEI representative that AMID should be ready to support the AMP implementation plan.
- *Extent of Condition.* In the case of identifying an adverse or significant condition, Entergy asked NRC staff for clarification as to how many casks the AMP implementation procedure should be applied (i.e., different manufacturer). NRC staff replied that the extent should depend upon the condition identified. In the case of a blockage (of the Vertical Concrete Casks (VCC) Assembly Ventilation Ducts and Annulus, provided by Entergy as an example) this may not be aging related, so the extent of condition would

need to take into account the specific condition and what caused the blockage. NRC asked if the cause of a blockage, for example, would influence the corrective action program. Entergy responded in the affirmative. A second example of the extent of condition was provided, in which the AMP requires multiple inspections. Entergy asked the NRC staff if a single identified issue with one component (for example, a VCC bolt) would trigger requirements to inspect all of the components. NRC suggested that the extent of inspection needed would be dependent upon the types of materials and the environment. More specifically, if other components are made from similar materials and used in similar environments, these should be considered in terms of extent of condition, as well as aging effects and mechanisms.

- *Scope Clarification.* Entergy used the examination of the multi-assembly sealed basket transfer cask (MTC) assembly to illustrate its point regarding the differences that may exist between sites. In the case of the shield doors, some sites may not store the transfer cask with the doors assembled, making one of the AMP requirements of inspecting the doors, and the rail shields and rail lower plates with the doors in both the open and closed positions not applicable. Entergy asked for clarification as to the extent that a licensee has to interpret the AMP in their implementation procedures. NRC clarified that in this case, the intent of the door inspection is to make sure that the surfaces of the doors, rail shields and rail lower plates are accessible for inspection. The maintenance program for the transfer cask address operation of the transfer cask doors could be cited in the implementation plan and so credit could be taken for this.

After *EnergySolutions*, the VSC-24 licensees and NRC representatives completed their discussion, the meeting was opened to public comments and questions for the NRC.

Brian Gutherman asked NRC for clarification as to the rulemaking schedule and if the final rule would be issued concurrently with the proposed rule in the *Federal Register*. NRC staff confirmed this. Mr. Gutherman also asked about the ten elements that constitute an AMP. The NRC noted that the CoC details how AMP elements should be addressed.

Donna Gilmore asked if there were plans to inspect the bottom of the VSC-24 canisters. NRC noted that there are such plans. Ms. Gilmore later asked another question regarding the reanalysis of casks and the risk of putting a defective cask into the spent fuel pool. NRC stated that there are procedures in place to address this. Ms. Gilmore stated that she had been unable to find documents in the public domain addressing this issue.

Kevin Kamps asked a question about cask loading a multi-assembly sealed basket (MSB) in 1994 at the Palisades site. After loading, MSB-04 was found to have flaws in the longitudinal seam weld. Mr. Kamps stated that MSB-04 was scheduled to be placed back into the spent fuel pool and unloaded; however, this was not done. NRC staff noted that MSB-04 had been addressed by *EnergySolutions* in a specific time limited aging analysis (TLAA) in the CoC renewal application. The TLAA provided to NRC extended the original fatigue analysis for MSB-04 from 50 to 60 years and considered inputs from cyclic loads and loss of materials from corrosion. The NRC stated that the TLAA demonstrated that the confinement boundary of MSB-04 would be maintained throughout the period of extended operation, and an analysis had demonstrated that storage in the pool was not necessary. Mr. Kamps also referred to other welding issues with the MSBs used in the VSC-24 system. NRC staff stated that the welding issues with the MSBs were addressed in a Confirmatory Action Letter (CAL) 97-7-001. The NRC technical evaluation of the response to CAL 97-7-001 is publically available in ADAMS under Accession Number ML060620420. Mr. Kamps asked about the safety significance of the

concrete pad of the ISFSI at Palisades. NRC stated that the pad had been determined not important to safety. Mr. Kamps noted that Dr. Ross Landsman, during his employment at the NRC, disagreed with this finding. NRC staff noted the comment.

Other questions from the public were deemed out of scope of the public meeting.

No action items/next steps were identified.

Docket No. 72-1007

CAC No. L24694

Enclosures:

1. Meeting Attendees
2. Handout – Energy*Solutions* and Entergy:
VSC-24 CoC Renewal – Discussion
of Implementation Requirements

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Distribution:

NMSS/DSFM R/F
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G:\SFST\Energy Solutions\Renewal\09-28-2016 Public Meeting\Presentation Enclosure2 09-28-2016

ADAMS Package No.:ML16308A091 ADAMS Memo No.: ML16308A097

Enclosure 2: ML16308A102

OFC:	NMSS/DSFM	NMSS/DSFM	NMSS/DSFM
NAME:	WReed	WWheatley	MRahimi
DATE:	10/21/2016	10/26/2016	10/25/2016

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Meeting Attendees

Date: September 28, 2016, 9:00 a.m. – 12:00 p.m.

Location: U.S. Nuclear Regulatory Commission, One White Flint North Building (Room O-4B6)

Topic: Public Meeting with EnergySolutions and the general licensees that use the VSC-24 storage system to discuss the implementation of aging management programs

In-Person Attendees:

NAME	AFFILIATION
Steven Sisley	EnergySolutions
Robert Quinn	EnergySolutions
Gerard Van Noordennen	EnergySolutions
Suzanne Leblang	Entergy
Charles Gears	Entergy
Brian Gutherman	Gutherman Technical Services, LLC/NEI
Darrell Dunn	NRC
John McKirgan	NRC
Tae Ahn	NRC
Mark Lombard	NRC
Michael Call	NRC
Joe Borowsky	NRC
David Tang	NRC
John Wise	NRC
Marlone Davis	NRC
Jose Cuadrado	NRC
Kristina Banovac	NRC
Christian Jacobs	NRC
Wendy Reed	NRC

Teleconference Attendees:

NAME	AFFILIATION
Dennis Williford	AREVA
Ray Keller	NRC
Robert (Bob) Clark	Arkansas Nuclear One, Entergy Operations
Jay Wellwood	NAC International
Eric Shewbridge	NAC International, Inc.
Miguel Manrique	AREVA TN (1004 renewal)
Fred Domke	NextEra Point Beach
Jeff Erickson	Entergy Palisades
Michael Keegan	Don't Waste Michigan
Gary Tjersland	NAC International
Marvin Lewis	Self
Ricardo Torres	NRC
Kevin Kamps	Don't Waste Michigan
Donna Gilmore	Self