

September 13, 2012

MEMORANDUM TO: Douglas Weaver, Deputy Director
Division of Spent Fuel Storage and Transportation, NMSS

FROM: Bernard White, Senior Project Manager */RA/*
Licensing Branch
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF AUGUST 21, 2012, MEETING WITH
ENERGYSOLUTIONS AND ENTERGY TO DISCUSS RENEWAL OF
THE VSC-24 CERTIFICATE OF COMPLIANCE

Background

A meeting was held on August 21, 2012, in Rockville, Maryland, between the U.S. Nuclear Regulatory Commission (NRC), EnergySolutions, and Entergy to discuss renewal of the certificate of compliance for the Model No. VSC-24 (Docket No. 72-1007) storage system.

The meeting was noticed on July 26, 2012 (ADAMS Accession No. ML12220A347). The meeting attendance list is provided as Enclosure No. 1.

Discussion

The discussion generally followed the agenda (Enclosure No. 2). EnergySolutions provided an overview of the VSC-24 storage system and amendment history of its certificate of compliance. A copy of the presentation slides is provided as Enclosure No. 3. There are 58 loaded VSC-24 storage casks at use at three facilities: Palisades, Point Beach, and Arkansas Nuclear One. The maximum decay heat in a loaded cask is less than 15 kW and the maximum burnup is less than 24 GWd/MTU.

EnergySolutions provided an outline for its renewal application, which follows NUREG-1927, "Standard Review Plan for Renewal of Spent Fuel Dry Cask Storage System Licenses and Certificates of Compliance." EnergySolutions discussed the results of its scoping study to identify the structures, systems, and components included in the scope of the aging management review. Based on this review, the in-scope structures, systems, and components are the spent fuel, multi-assembly sealed basket (MSB), ventilated concrete cask (VCC), and transfer cask. Based on these in-scope items, the applicant discussed the materials of construction and environments these items experience during storage that will affect their aging. The components are either exposed to the environment, embedded inside a component, sheltered from the environment or in an inert environment.

EnergySolutions evaluated potential aging based on both theoretical effects from literature and observed effects from industry operating experience. EnergySolutions stated that credible aging effects that could affect the ability of in-scope items to perform their intended safety function require either an aging management program or time-limited aging analysis. The applicant discussed the observed aging effects of the VCC exterior surface based on its review of the records of periodic examinations taken during storage. Typical results include small

amounts of debris on the outside, bent screens, or missing screen hardware, which are cleared or repaired as needed. There have been some small cracks and holes in the concrete that are repaired with grout. The interior surface VCC examinations show no significant blockage of the vents but some small amount of debris or mineral deposits that are removed. Temperature and dose rate surveys taken during storage do not show any adverse trends.

The lead cask inspection was performed May 21 through 24, 2012, at Palisades on cask number VSC-15. This cask was chosen because it has a similar design configuration and environmental conditions as the other two sites. This storage cask has the highest heat load of all loaded VSC-24 storage casks and has been in storage since June 1999. The inspection covered the VCC interior and exterior, including the VCC bottom surface; airflow passages; the VCC lid, liner flange, and shield ring; and the MSB structural lid and closure weld. Similar to the routine inspections, there were no significant blockage of air vents, coating degradation or corrosion. The top of the MSB showed no significant corrosion or degradation. There were two areas where the coating was scraped off when temporary shielding was removed but no corrosion on exposed surfaces. The areas were cleaned and recoated.

EnergySolutions summarized the discussion from the last meeting with NRC on January 19, 2012. In addition to the four time-limited aging analyses discussed at the first meeting, EnergySolutions evaluated radiation effects on storage system materials and re-evaluated the crack growth analysis on MSB-04 at Palisades to determine whether a 60-year storage period would change the original results based on a 20-year storage period and yield significant crack growth. The results indicated that there would not be sufficient crack growth in this MSB and that flaw stability factors satisfy the American Society of Mechanical Engineers Code criteria.

EnergySolutions discussed the five different areas examined that are included in the aging management program: VCC assembly inlet and outlet vents, VCC exterior concrete, VCC ventilation ducts and annulus, VCC top steel components and the transfer cask.

EnergySolutions discussed the proposed inspections for these items including, the frequency, acceptance criteria, and corrective actions for each of the five examinations. Three of these inspections are already required by technical specifications. EnergySolutions proposes adding inspections of the VSC top end steel components and the transfer cask assembly.

EnergySolutions discussed its review of the operating history for loaded VSC-24 storage casks. It reviewed changes made pursuant to Title 10 of the *Code of Federal Regulations* section 72.48 and events from the initial storage period. For events from the initial storage period EnergySolutions discussed the event, its causes, corrective actions, and its potential effect or a 40-year certificate of compliance renewal period. The events during the initial storage period that were evaluated are the MSB closure weld cracks, indications in the MSB-04 seam weld at Palisades, and the hydrogen ignition event at Point Beach. Results of EnergySolutions evaluations show that casks affected by initial loading issues will not be adversely affected by a 40-year renewal period.

Finally, *EnergySolutions* discussed its proposed changes to the final safety analysis report that it will submit with the renewal application. The aging management section will include the results of *EnergySolutions* aging management review and time limited aging analyses, an aging management program, and discussion on fuel retrievability. *EnergySolutions* expects to submit its renewal application to the NRC in mid-September 2012.

Docket No.: 72-1007

TAC Number: L24676

Enclosures:

1. Meeting Attendees
2. Agenda
3. *EnergySolutions* Presentation Slides

Finally, EnergySolutions discussed its proposed changes to the final safety analysis report that it will submit with the renewal application. The aging management section will include the results of EnergySolutions aging management review and time limited aging analyses, an aging management program, and discussion on fuel retrievability. EnergySolutions expects to submit its renewal application to the NRC in mid-September 2012.

Docket No.: 72-1007

TAC Number: L24676

Enclosures:

- 1. Meeting Attendees
- 2. Agenda
- 3. EnergySolutions Presentation Slides

Distribution: (closes TAC No. L24676)

NRC Attendees David Tang Jimmy Chang Michael Waters Daniel Huang
 JoAnn Ireland Jeremy Smith Matthew Gordon John Goshen Eric Benner
 Sara DePaula

G:\SFST\Bernie White\VSC-24 Renewal Meeting August 21 2012\August 21 2012 MEETING SUMMARY.docx

G:\SFST\Bernie White\VSC-24 Renewal Meeting August 21 2012 \VSC-24 CoC Renewal Presubmittal Meeting #2-final.pdf

ADAMS P8 Package No.: ML12261A043 ADAMD P8 Memo No.: ML12261A046

OFC	SFST	SFST	SFST
NAME	BWhite	WWheatley	MWaters
DATE	9/4/12	9/6/12	9/13/12

"C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy
OFFICIAL RECORD COPY

MEETING ATTENDEES

Meeting Title: Renewal of VSC-24 Certificate of Compliance

Participants: EnergySolutions, Entergy and the NRC

Date: August 21, 2012, 8:30 – 11:30 a.m.

Location: U.S. NRC Headquarters, EBB 1B15

NAME	AFFILIATION	PHONE NUMBER
Bernie White	NRC/NMSS/SFST	(301) 492-3303
Glen Mathues	Transnuclear, Inc	(410) 910-6538
Clark Vanderniet	Transnuclear, Inc	(410) 910-6933
William Cross	NextEra Energy, Inc.	(561) 401-1883
Steven Sisley	EnergySolutions	(408) 558-3509
David Tang	NRC/NMSS/SFST	(301) 492-3328
James Hopf	EnergySolutions	(408) 558-3505
Suzanne Leblang	Entergy	(601) 368-5494
Jimmy Chang	NRC/NMSS/SFST	(301) 492-3272
Michael Waters	NRC/NMSS/SFST	(301) 492-3297
Daniel Huang	NRC/NMSS/SFST	(301) 492-3315
JoAnn Ireland	NRC/NMSS/SFST	(301) 492-3309
Jeremy Smith	NRC/NMSS/SFST	(301) 492-3340
Matthew Gordon	NRC/NMSS/SFST	(301) 492-3331
John Goshen	NRC/NMSS/SFST	(301) 492-3325
Eric Benner	NRC/NMSS/SFST	(301) 492-3294
Sara DePaula	NRC/NMSS/SFST	(301) 492-3225

Meeting Agenda

EnergySolutions and Entergy Meeting with NRC Certificate of Compliance No. 72-1007 (VSC-24) Renewal Pre-Application Submittal Meeting

August 21, 2012

- 8:30 INTRODUCTIONS AND MEETING PURPOSE
- Background Information
 - Application Format and Content
 - Scoping Evaluation Summary
 - Aging Management Review
 - Materials and Environments
 - Aging Effects Requiring Management
 - Operating Experience / Corrective Actions
 - Results of Initial Lead Cask Inspection
 - Time-Limited Aging Analyses
 - Radiation Effects Analysis
 - Palisades CMSB-04 Crack Growth Analysis
 - Aging Management Programs
 - Overview of Proposed Examinations
 - Retrievability
 - FSAR Changes
 - Technical Specification Changes
 - Schedule
 - Summary and Discussion
 - Questions from Public
- 11:30 ADJOURN