

October 14, 2015

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

FROM: Chris Allen, Project Manager **/RA/**  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: SUMMARY OF SEPTEMBER 29, 2015, MEETING WITH DOMINION  
VIRGINIA POWER TO DISCUSS LEAD CASK INSPECTION AND  
OTHER ASPECTS OF THE NORTH ANNA POWER STATION PART  
72 LICENSE RENEWAL (TAC NO. L25043)

#### Background

On September 29, 2015, a meeting was held in Rockville, Maryland, between Dominion Virginia Power (Dominion) and the U.S. Nuclear Regulatory Commission (NRC) to discuss Dominion's plans for a lead cask inspection and other aspects associated with Dominion's license renewal efforts for its North Anna Independent Spent Fuel Storage Installation (ISFSI). Regulatory decisions were neither requested nor made at the meeting. The list of meeting attendees is Enclosure 1. A detailed agenda for the meeting is provided in Enclosure 2. Presentation slides can be found using Agencywide Document Accession Management System accession number ML15279A217.

#### Discussion

The presentation followed the agenda provided in Enclosure 2. Dominion began the meeting by describing the North Anna ISFSI layout, and explaining that the first casks were placed in the middle of the ISFSI pad and subsequent casks were placed closer to the North and South ends of the ISFSI pad. See slide 5 of the Dominion presentation (Agencywide Document Accession Management System accession number ML15273A429). In discussing their preparations for submitting their license renewal application, Dominion identified that, in addition to NRC and industry guidance documents, they had reviewed additional information requests generated by NRC staff for the Prairie Island license renewal application because the casks utilized at the Prairie Island ISFSI are bolted casks similar to those at North Anna. Dominion indicated their intent to supplement the lead cask inspection data with information obtained from quarterly cask surveillances as well as inspection results for five TN-32 casks obtained after the 5.8 magnitude earthquake in 2011.

After discussing the scope of the lead cask inspections, Dominion identified the non-destructive examination technique to be employed for the lead cask inspections and stated that a mockup of part of the cask had been built to ensure visual inspection acuity requirements in American

Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI could be met. They added that qualified personnel using appropriate equipment would perform the lead cask inspections. Dominion identified corrosion as the main criteria in selecting casks for the lead cask inspections, and indicated two casks would be used for the lead cask inspections. Because the 2011 earthquake caused several casks to slide, one cask would be lifted and the cask bottom would be inspected. The protective cover on a second cask would be inspected because, between 2002 and 2003, protective covers on nine casks had been replaced due to water leaking past faulty seals on TN-32 casks employed at Dominion's Surry ISFSI.

In discussing the criteria used to select the cask for the bottom inspection, Dominion stated accessibility had proven to be the dominant criteria. They also explained why accessibility was the dominant criteria. Dominion said different lifting methods had been considered to overcome the accessibility challenge. However, each method had been ruled out due to personnel safety concerns and potential ISFSI technical specification violations. During the selection criteria discussion, staff asked if the cask which had moved the farthest during the 2011 earthquake would be examined. Dominion responded negatively. When asked if potential fabrication differences had been considered as a selection criteria, Dominion replied it had not been considered because all casks had been fabricated by the same company. Subsequently, Dominion identified which cask had been chosen for the bottom inspection. Finally, Dominion specified the criteria used in choosing the cask for the protective cover inspection, and which cask would be inspected. Dominion also noted that the lifting trunnions on the cask chosen for the protective cover inspection would be inspected as part of the lead cask inspection.

After Dominion briefly discussed the lead cask inspection schedule and summarized their presentation, Dominion received several questions from staff. When asked what Dominion wanted to identify via their quarterly inspections, Dominion mentioned several items including indications of corrosion (e.g., rust), stained paint, and debris. Because slide 15 of the Dominion presentation (Agencywide Document Accession Management System accession number ML15273A429) indicated some of the North Anna casks had been re-coated, i.e.; repainted, staff inquired what criteria was employed to determine if recoating was necessary. Dominion stated rust, staining or efflorescence. When staff pointed out that efflorescence was associated with concrete, Dominion admitted chalking was a more appropriate word for describing the changes identified on the painted TN-32 cask surfaces. Staff asked if the extent of corrosion was determined when corrosion was identified. Dominion responded that, although rust was immediately addressed upon identification, the depth of corrosion was not determined. When staff inquired what equipment would be used for the cask bottom visual inspections, Dominion named the equipment they intended to use, and staff suggested Dominion also consider equivalent equipment from alternative vendors. Staff queried Dominion about the information entered into corrective action reports generated to address rust, staining, etc. Dominion responded that the information was minimal, but an engineering evaluation would be performed if necessary. Staff questioned if Dominion would assert that the casks chosen for the lead cask inspections bounded the other casks at the ISFSI, and what would trigger inspecting casks other than those chosen for the lead cask inspections. Dominion indicated they planned to argue that the casks chosen for the lead cask inspections were bounding. They also provided criteria which would cause additional casks to be inspected and stated the cask vendor would be contacted to resolve issues if necessary. In addition, staff inquired if procedures for the lead cask inspections had been developed, and Dominion responded affirmatively.

When the public was offered the opportunity to participate, it was suggested that poor planning contributed to Dominion's choice of casks for the lead cask inspections. Information on the fuel loaded into the two casks chosen for the lead cask inspections was also requested. Dominion

provided the requested information. When asked if any TN-32 casks contained high burnup fuel, Dominion responded negatively. An inquiry was made about the source of the staining on the TN-32 casks. Dominion explained it was the reaction of carbon steel with the surrounding atmosphere. When queried about proactive actions taken to prevent corrosion, Dominion identified the use of desiccants inside the protective covers and the painted surfaces of the TN-32 casks. Dominion was asked if consideration had been given to constructing an enclosure over the ISFSI, and Dominion stated they had not considered this option. Dominion was also asked if any casks which moved during the 2011 earthquake had been lifted. Dominion responded that they had not lifted the casks, but they had inspected the protective covers. After all questions from the public had been answered, the meeting was adjourned.

Docket No. 72-16

TAC No. L25043

Enclosures:

1. Attendees
2. Agenda

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**ADAMS Package No.: ML15279A217    Memo No. ML15293A063**

<b>OFC:</b>	SFM		SFM		SFM	
<b>NAME:</b>	WAllen		WWheatley		MSampson	
<b>DATE:</b>	10/2/15		10/6/15		10/14/15	

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MEETING ATTENDEES  
Meeting Between Dominion Virginia Power  
and Nuclear Regulatory Commission  
September 29, 2015

Anthony Hsia	NRC/NMSS/SFM	Cary Laroe	Dominion
Aladar Csontos	NRC/NMSS/SFM	Jim Williams	Dominion
Meraj Rahimi	NRC/NMSS/SFM	Rich Ridder	Dominion
John Vera	NRC/NMSS/SFM	Brian Wakeman	Dominion
David Tang	NRC/NMSS/SFM	Tom Szymanski	Dominion
Zhian Li	NRC/NMSS/SFM	Donis Shaw	AREVA TN
Darrell Dunn	NRC/NMSS/SFM	Prakash Narayanan	AREVA TN
Donald Chung	NRC/NMSS/SFM	Karan Mauskar	AREVA TN
Marlone Davis	NRC/NMSS/SFM	Carlyn Greene via teleconference	Ux Consulting Company, LLC
Banad Jagannath	NRC/NMSS/SFM	Aparna Alleshwaram via teleconference	Structural Integrity Associates, Inc.
Kristina Banovac	NRC/NMSS/SFM	Michael Anderson	Pacific Northwest National Laboratory
John Wise	NRC/NMSS/SFM	Edmund Sullivan	Pacific Northwest National Laboratory
Bhasker Tripathi	NRC/NMSS/SFM	Richard Chang via teleconference	Southern California Edison
Ghani Zingh	NRC/RES/DSA	Donna Gilmore via teleconference	Public Citizen
Austin Young	NRC/NMSS/SFM	Marvin Lewis via teleconference	Public Citizen
Ricardo Torres via teleconference	NRC/NMSS/SFM	Erica Grey via teleconference	Public Citizen
		David Martin via teleconference	Public Citizen

Agenda for Dominion Virginia Power  
and Nuclear Regulatory Commission Public Meeting  
September 29, 2015

- Introductions
- License renewal scope and timeline
- Lead cask inspection scope
- Inspection process/criteria
- Lead cask selection
- Schedule for inspections
- Questions