



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

December 7, 2016

LICENSEE: Virginia Electric and Power Company (Dominion)

FACILITY: Surry Power Station, Unit Nos. 1 and 2

SUBJECT: SUMMARY OF SEPTEMBER 7, 2016, MEETING WITH VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION) REGARDING PRE-SUBMITTAL INFORMATION ON PROPOSED ALTERNATIVE TO ASME CODE TO REPAIR SAFETY-RELATED PIPING USING CARBON FIBER REINFORCED POLYMER

On September 7, 2016, a Category 1 meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Virginia Electric and Power Company (Dominion, the licensee) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss Dominion's proposed relief request (RR) approach for use of Carbon Fiber Reinforced Polymer (CFRP) as the pressure boundary in safety-related service water piping. The meeting notice and agenda, dated August 12, 2016, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML16225A547. A list of attendees is enclosed.

The licensee's presentation slides are available at ADAMS Accession No. ML16320A523.

The licensee's presentation to propose the application of an internal CFRP repair system to repair/upgrade selected safety-related piping systems included an overview of the CFRP process and procedures, a scope of the proposed alternative request, the technical basis, duration of the proposed alternative, precedents, references, and the regulatory procedures. A summary of certain discussion points follows.

The licensee indicated in its presentation that the piping would include safety-related circulating water (CW) inlet piping and service water (SW) system pipe headers. The CW piping is 96" in diameter from the inlet canal to the main steam condensers and the SW pipe is 24", 30", 36", 42", and 48" diameter pipe headers from the CW system to the supply lines of the recirculation spray and component cooling heat exchangers. The lines are concrete encased, buried, and designed as Seismic Category 1 structures.

The American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," 2004 Edition, with no addenda, is the applicable code. The code requirement states that during the process of repairing this carbon steel piping, Article IWA-4000, subparagraph IWA-4221(b), requires that items used during a repair/replacement activity meet the original construction code. There are no provisions in ASME Code, Section XI, or in an approved code case for installing CFRP piping as a replacement for carbon steel piping during a repair/replacement activity. Therefore, Dominion must submit an inservice inspection (ISI) alternative RR for NRC approval in order to use CFRP material for repair of the piping sections. The licensee also included in the presentation the technical basis for the RR. The technical basis includes ASME Code components affected, material inspection and controls, design basis, installation, examination and testing, qualification and training operational experience, and ISI.

The licensee did not identify any precedents to this type of RR. The use of CFRP in nuclear safety-related piping is a first-of-a-kind submittal. The purpose of the meeting was an initial step for Dominion to discuss the scope and content of the alternative request in accordance with Title 10 of the *Code of Federal Regulations* 50.55a(z)(1), "Acceptable level of quality and safety."

The NRC staff discussed with the licensee the importance of specifying exactly what it is asking for in the RR. The construction timeframe for the RR is from spring 2018 to fall 2025. There were questions from the general public regarding the NRR staff review procedures. Based on the licensee's current projections, the CFRP RR is expected to be finalized and submitted for NRC review by the end of 2016. No regulatory decisions or commitments were made at the meeting. No public feedback meeting forms were received.

Please direct any inquiries to me at 301-415-1438 or by e-mail to Karen.Cotton@nrc.gov.

Sincerely,



Karen R. Cotton, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosure:
List of Attendees

cc w/enclosure: Distribution via Listserv

LIST OF ATTENDEES
SEPTEMBER 7, 2016, MEETING WITH
VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
ALTERNATE SOURCE TERM PROPOSED RELIEF REQUEST
SURRY POWER STATION, UNIT NOS. 1 AND 2

NAME	ORGANIZATION
Michael Markley	NRC
V. Sreenivas	NRC
Karen Cotton Gross	NRC
Lars Gordon	Dominion
Johnny Henderson	Dominion
Janean Sealey	Dominion
Rasko Osdrovic	SG
Gary Miller	Dominion
Jason Alexander	Structural
Anna Pridmore	Structural
Leo Nadeau	Structural
John Tsao	NRC
Dan Widrevitz	NRC
Jay Collins	NRC
Robert Hsu	NRC
David Pilley	NRC
Michael Breach	NRC
Roger Kalikian	NRC
Keith Hoffman	NRC
C. Basavaraju	NRC
Yong Li	NRC

Enclosure

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Sincerely,

/RA/

Karen R. Cotton, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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ADAMS Accession No.: ML16320A460 Meeting Notice ML16225A547 Handouts ML16320A523

OFFICE	NRR/DORL/LPL2-1/PM	NRR/DORL/LPL2-1/LA	NRR/DORL/LPL2-1/BC	NRR/DORL/LPL2-1/PM
NAME	KCotton	LRonewicz	MMarkley	KCotton
DATE	11/29/2016	12/07/2016	12/07/2016	12/07/2016

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