



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

December 19, 2014

LICENSEE: Omaha Public Power District  
FACILITY: Fort Calhoun Station, Unit 1  
SUBJECT: SUMMARY OF PUBLIC MEETING HELD ON DECEMBER 2, 2014, WITH OMAHA PUBLIC POWER DISTRICT TO DISCUSS CONTAINMENT INTERNAL STRUCTURES ISSUES AT FORT CALHOUN STATION, UNIT 1 (TAC NO. MF5084)

On December 2, 2014, a meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Omaha Public Power District (OPPD) at NRC Headquarters, Three White Flint North, 11601 Landsdown Street, Rockville, Maryland. The purpose of the meeting was to discuss the status of OPPD's corrective actions regarding restoring containment internal structures (CIS) to the design basis at Fort Calhoun Station, Unit 1 (FCS). A list of attendees is provided in the Enclosure. The meeting notice and agenda, dated November 20, 2014, is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML14329A007. The licensee's presentation slides are available at ADAMS Accession No. ML14338A625. No regulatory decisions were made at the meeting.

OPPD provided a brief summary of the background of the issues and then discussed planned modifications to be done during the spring 2015 refueling outage, which is scheduled to begin in April 2015. These included modifications to the reactor vessel head stand (RVHS) and to beams B-22A and B-22B, which support the safety injection tanks. The licensee selected these components to restore to full design margin first, since they have the lowest design margin among the deficient containment internal structures. Modifications to the remaining deficient structures are planned for the fall 2016 refueling outage, and were not the subject of in-depth discussion at this meeting.

OPPD described that the RVHS is about 35 feet above the main floor of containment. With the reactor in Mode 5 and the reactor vessel head (RVH) de-tensioned, the existing four supporting concrete pedestals of the RVHS will be removed and replaced with a new structural steel frame. The work is expected to take about 4 days and must be completed prior to lifting the RVH. In response to NRC staff questions, the OPPD staff discussed how the design would address lateral loading, shear and moment stresses, and seismic stresses. Following the modification, the weight of the RVHS will be supported by the cavity wall on three sides and the D-ring wall on the fourth side and the RVHS will be about 20 inches higher than before the modification. OPPD expects the modification package to be completed by mid-January 2015. Construction of the new supports is expected to take about 45 days and be complete by March 1, 2015.

Following core offload, OPPD will install one new precast concrete support column each under beams B-22A and B-22B and one new support column under beam B-46B, to address the design margin deficiency for beams B-22A and B-22B. The additional column under B-46B is to account for shear stresses on B-22A and B-22B. The new columns will go from the

containment floor (994-foot elevation) to the beams at the 1013-foot elevation of containment. The column locations were selected for (1) the mid-span location on the beams and (2) to minimize equipment interference. An additional modification package is necessary to relocate 23 interferences, most of which are power supply cables, out of the locations where the new columns will be placed.

OPPD discussed the column specifications and the pre-loading procedure for the new columns. The new columns must be pre-loaded in order to restore the design margin. The licensee discussed the jacking procedure that will install the pre-load for the columns and how the columns will be constrained at top and bottom. The weight of the beams will be supported by the containment floor, rather than the containment base mat (i.e., weight will be distributed through the containment floor, then the liner, then the base mat, to ground). In response to the NRC staff's questions, OPPD staff discussed the column construction, constraints at top and bottom, jacking procedure, allowances for thermal and seismic stresses, and the methodology used, since the weight of the beams will be supported by the containment floor rather than the base mat. OPPD has determined that the jacking evolution will be an enterprise risk, since the potential exists for cracking the containment floor. Though not expected based on the licensee's analysis, if cracking did occur, OPPD would repair the containment floor prior to restart from the outage. OPPD expects construction to begin on the column concrete forms in mid-January and the columns to be completed in about 30 days by Tindall Corporation, a Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix B qualified vendor.

The NRC staff requested to be informed by OPPD when the modification packages and associated 10 CFR 50.59 evaluations, which are subject to NRC inspection, are completed.

OPPD also discussed that they are preparing a license amendment request to adopt American Concrete Institute (ACI) Code 318 (1971) to use going forward instead of ACI-318 (1963), which is the code of construction, and to revise Updated Safety Analysis Report, Section 5.11 accordingly. The licensee expects to submit the request in the first quarter 2015. If approved, ACI-318 (1971) would be used for the CIS modifications planned for the fall 2016 refueling outage.

OPPD briefly discussed the modifications planned to be completed prior to restart from the fall 2016 refueling outage that are necessary to address the remaining identified CIS design deficiencies.

The public was invited to observe the meeting and was given an opportunity to communicate with the NRC after the business portion, but before the meeting was adjourned. Members of the public listened in on the telephone, but had no questions or comments. No public meeting feedback forms were received.

If you have any questions, please contact me at 301-415-2296 or via e-mail at [Fred.Lyon@nrc.gov](mailto:Fred.Lyon@nrc.gov).

Sincerely,

A handwritten signature in black ink that reads "CF Lyon". The letters are cursive and somewhat stylized.

Carl F. Lyon, Project Manager  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-285

Enclosure:  
List of Attendees

cc w/encl: Distribution via Listserv

LIST OF ATTENDEES

U.S. NUCLEAR REGULATORY COMMISSION

DECEMBER 2, 2014, MEETING WITH OMAHA PUBLIC POWER DISTRICT

TO DISCUSS CONTAINMENT INTERNAL STRUCTURES

FORT CALHOUN STATION, UNIT 1

DOCKET NO. 50-285

<b>Name</b>	<b>Organization</b>
Terrence Simpkin	OPPD
Tyler Knoth	OPPD
Tom Dailey	OPPD
Louis Cortopassi	OPPD
John Grobe	Exelon
Donald Ferraro	Exelon
Scott Nelson	Amec Foster Wheeler
Daniel Moreno	Stevenson & Associates
Tony Vogel	NRC/RIV
Mike Hay	NRC/RIV
Louise Lund	NRC/NRR
Farhad Farzam	NRC/NRR
John Dixon	NRC/RIV
Chris Smith	NRC/RIV
Eric Oesterle	NRC/NRR
Ahsan Sallman	NRC/NRR
Max Schneider*	NRC/RIV
Lara Uselding*	NRC/RIV
John Bozga*	NRC/RIV
Fred Lyon	NRC/NRR
Wally Taylor*	Sierra Club of Iowa
Charles Ostdiek*	Green Party of Nebraska
Brian Jelke*	Sargent & Lundy

\*Participated via telephone

Enclosure

If you have any questions, please contact me at 301-415-2296 or via e-mail at [Fred.Lyon@nrc.gov](mailto:Fred.Lyon@nrc.gov).

Sincerely,

*/RA/*

Carl F. Lyon, Project Manager  
Plant Licensing Branch IV-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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**ADAMS Accession Nos.:** Meeting Notice ML14329A007; Meeting Summary ML14344A087;  
Slides ML14338A625 \*via email

OFFICE	NRR/DORL/LPL4-1/PM	NRR/DORL/LPL4-1/LA	RIV/DRP/RPB-D/BC
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