

10 CFR 50.4(b)(6)
10 CFR 50.71(e)
10 CFR 50.59(d)(2)
10 CFR 72.48(d)(2)

October 1, 2016

ZS-2016-0106

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Zion Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-39 and DPR-48
NRC Docket Nos. 50-295 and 50-304

Subject: Submittal of Defueled Safety Analysis Report Update, dated October 2016
10 CFR 50.59 Report of Changes, Tests and Experiments
10 CFR 72.48 Report of Changes, Tests and Experiments

Reference: (1) ZionSolutions, LLC letter, "Submittal of Defueled Safety Analysis Report Update," dated October 1, 2014
(2) NRC Regulatory Issue Summary 2015-17, "Review and Submission of Updates to Final Safety Analysis Reports, Emergency Preparedness Documents, and Fire Protection Documents"

In accordance with the requirements of 10 CFR 50.4, "Written Communications," paragraph (b)(6), ZionSolutions, LLC is submitting the October 2016 revision of the Defueled Safety Analysis Report (DSAR) for the Zion Nuclear Power Station (ZNPS). In accordance with 10 CFR 50.71(e)(4), the DSAR update is being submitted within 24 months of the previous ZNPS DSAR revision which was submitted in Reference (1).

This DSAR update is being provided as a DSAR total replacement on CD, satisfying the electronic submittal requirements of 10 CFR 50.4(b)(6) as discussed in Reference 2.

The changes to the DSAR reflect administrative changes (i.e., editorial and DSAR text changes) and plant design changes. The October 2016 DSAR revision includes changes made from October 2014 through September 2016.

Attachment 1 contains a summary of the DSAR changes. Attachment 2 contains the complete October 2016 update to the ZNPS DSAR in CD format. Attachment 3 contains a preflight status report identifying any noncompliance issues with the electronic submittal guidance that could not be resolved due to the source of the information being submitted. All submitted information is in legible format.

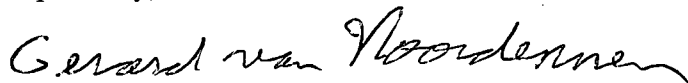
In accordance with 10 CFR 50.59, "Changes, tests, and experiments," paragraph (d)(2), a report of changes, tests, and experiments, including a summary of the 10 CFR 50.59 evaluation of each change is required to be submitted at intervals not to exceed 24 months. In Reference (1), the previous ZNPS 10 CFR 50.59 report was submitted. Attachment 4 contains a summary of 10 CFR 50.59 evaluations performed during the time period from September 2014 through August 2016.

In accordance with 10 CFR 72.48, "Changes, tests, and experiments," paragraph (d)(2), a report of changes, tests, and experiments, including a summary of the 10 CFR 72.48 evaluation of each change is required to be submitted at intervals not to exceed 24 months. In Reference (1), the previous ZNPS 10 CFR 72.48 report was submitted. No 10 CFR 72.48 evaluations have been performed since the last report.

As Vice President of Regulatory Affairs, I certify that the information in this submittal accurately presents changes made since the previous submittals necessary to reflect information and analyses submitted to the NRC or prepared in accordance with NRC requirements.

Should you have any questions concerning this letter, please contact Jim Ashley at (224) 789-4017.

Respectfully,



Gerard van Noordennen
Vice President Regulatory Affairs

cc: John Hickman, U.S. NRC Senior Project Manager
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Service List (No attachment #2 - CD)

Attachments:

1. Summary of Changes
2. CD containing October 2016 ZNPS DSAR
3. Preflight Status Report
4. 10 CFR 50.59 Summary Report

Zion Nuclear Power Station, Unit 1 and 2 License Transfer Service List

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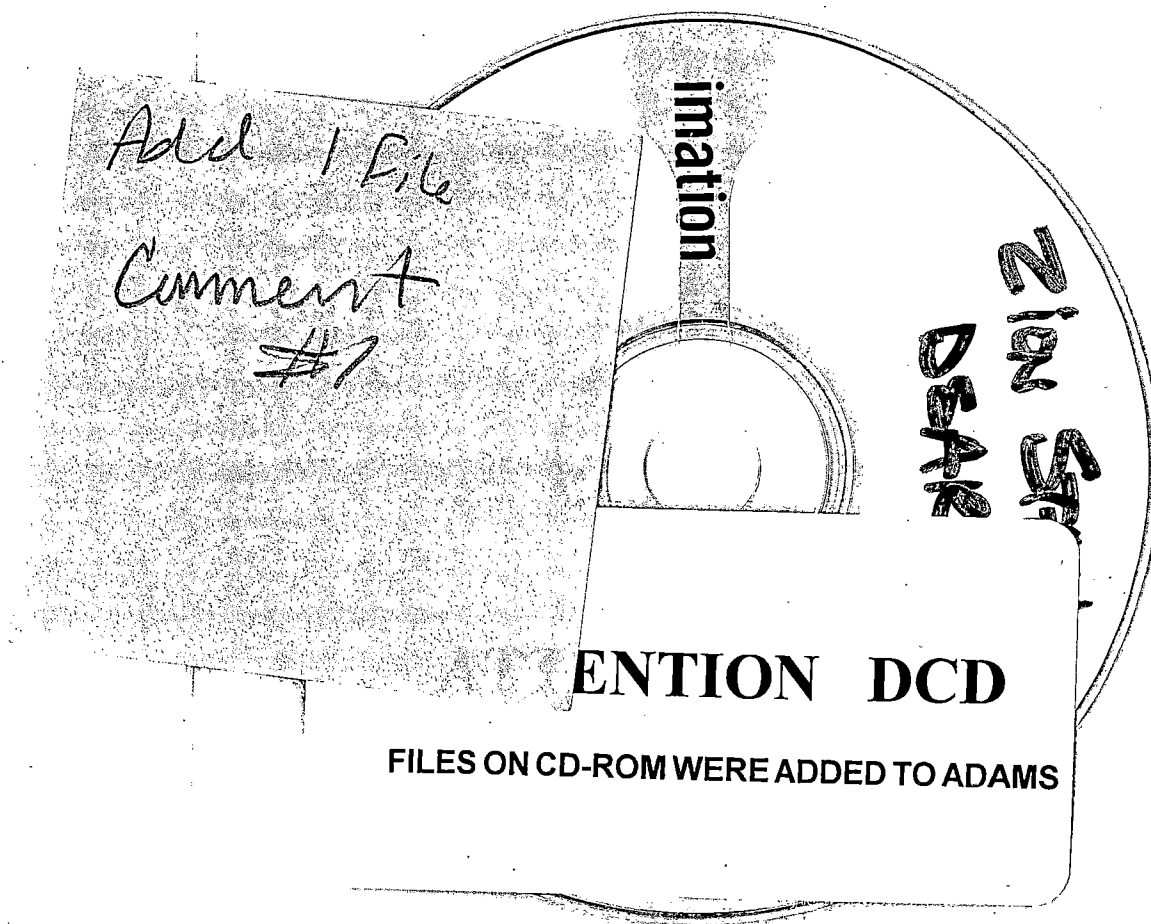
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ATTACHMENT 1
Changes Made to the DSAR But Not Previously Submitted

Revised Sections	Description of Change
Entire Document Update	DSAR Change 2015-01: Revise the DSAR to reflect the power generation facility licensing bases with all spent nuclear fuel transferred to the ISFSI.
Section 6.5.1	DSAR Change 2015-2: Eliminate discussion of pending DSEP approval status . The NRC has approved Revision 16 of the DSEP and this discussion is no longer required.
Sections 2.1.1 and 2.1.2	DSAR Change 2016-01: Update the DSAR to include information related to radiologically non-impacted land that has been removed and released from the Part 50 license.
Section 4.5.2.3	DSAR Change 2016-02: Update the DSAR to reflect that the Waste Water Treatment Facility (WWTF) is being abandoned in place. Additionally, add discussion to reflect the new liquid waste release system being installed in the WWTF.
Section 3.5.2.1	DSAR Change 2016-03: Remove the Auxiliary Building Ventilation System design function associated with maintaining ambient air conditions for personnel habitability.

ATTACHMENT 2

OCTOBER 2016 ZNPS DSAR on CD



ATTACHMENT 3

DSAR Preflight Status Report

The following file does not pass pre-flight criteria or does not meet NRC criteria, but text is word searchable with clarity/legibility of high quality.

File Name	Preflight Status	Reason
CS-RS-PN-028, Background Reference Area Report	Error / Failed	Document contains scanned maps, images, and scanned document (unembedded fonts), < 300 ppi, clear and legible

ATTACHMENT 4

ZION NUCLEAR POWER STATION 10 CFR 50.59 SUMMARY REPORT

Change Number and Title: 2014-18, Revision 1; Greater Than Class C (GTCC) Vertical Concrete Cask (VCC) Loading Operations

Description: This activity provides procedural guidance for moving a MAGNASTOR Transfer Cask (MTC) containing Greater Than Class C (GTCC) waste from either unit's reactor cavity to the stack-up location outside the reactor buildings via the Heavy Lift Rail System (HLRS) to allow for stack-up operations. These stack-up operations include MTC installation on the top of the VCC, transfer of the GTCC TSC into the VCC, and installation of the VCC closure lid assembly. Revision 1 provided clarification that the containment polar cranes are classified as Important to the Defueled Condition (ITDC).

Summary: An evaluation was performed that concluded that the off-site dose consequences of this activity are bounded by the Radioactive Waste Handling Accident identified in the Zion Defueled Safety Analysis Report (DSAR). Therefore, this activity has no adverse impact on any DSAR described design functions or safety analyses and can be implemented without obtaining a license amendment.

Change Number and Title: 2015-095, Revision 1; Modify Liquid Waste Systems

Description: This activity installs a new liquid waste system and revises the DSAR discussion for processing liquid waste. The new liquid radioactive waste system will consist of a new processing system for processing the liquid to meet the applicable release limits and a new release system that will release the processed water to Lake Michigan.

Summary: The evaluation concluded that the new liquid waste system does not result in adverse affects on the capability to perform the design functions described in the DSAR. The effluent release concentrations of the release tanks are administratively limited to less than the regulatory release limits.