

**From:** Chawla, Mahesh  
**Sent:** Thursday, November 4, 2021 9:47 AM  
**To:** 'Elwood, Thomas B'  
**Cc:** Mazaika, Michael; Basavaraju, Chakrapani; Jackson, Christopher; Scully, Derek; Zhao, Jack; Huang, Jason; Seymour, Jesse; Parillo, John; Cintron-Rivera, Jorge; Hamm, Matthew; McConnell, Matthew; Yoder, Matthew; Dixon-Herrity, Jennifer; Werner, Greg; Bradley, Dan; Janicki, Steve  
**Subject:** LIC-109 Acceptance Review (Unacceptable for Review with Opportunity to Supplement) - Callaway Plant, Unit 1 - License Amendment Request -Callaway Plant, Unit 1- Adoption of Alternate Source Term and Revision of TSs - EPID L-2021-LLA-0177  
**Attachments:** Callaway Supp Request for AST LAR - Reg Basis Met Data and Disp Model Input-Output (Rev1).docx

Dear Mr. Elwood:

By letter dated September 28, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21272A167), Ameren Missouri (the licensee) submitted a license amendment request for Callaway Plant, Unit 1. Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," and 10 CFR 50.67, "Alternate Source Term," Ameren Missouri (Union Electric) requested an amendment to Renewed Facility Operating License No. NPF-30 for the Callaway Plant to incorporate the Alternate Source Term (AST) dose analysis methodology into its licensing basis and to revise Technical Specification (TS) 3.7.10, "Control Room Emergency Ventilation System (CREVS)," TS 5.5.11, "Ventilation Filter Testing Program (VFTP)," and TS 5.5.17, "Control Room Envelope Habitability Program."

The purpose of this email is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an application for an amendment to a license (including the technical specifications) must fully describe the changes requested, and following as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations. The NRC staff has reviewed your application and concluded that the information listed in the enclosure is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements for the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that the licensee supplement the application to address the information requested by mutually agreed upon

date. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the mutually agreed upon date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

Please arrange a clarification teleconference with the NRC staff to discuss the requested supplemental information.

If you have any questions, please contact me. Thanks

Sincerely,

Mahesh Chawla, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
ph: 301-415-8371

	DORL/LPL4/PM	DORL/LPL4/BC
	MChawla	JDixon-Herrity
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**Received Date:** 11/4/2021 9:47:04 AM  
**From:** Chawla, Mahesh

**Created By:** Mahesh.Chawla@nrc.gov

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**Options**

<b>Priority:</b>	Normal
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## **Callaway Supplemental Request for AST LAR Regulatory Basis, Meteorological Data, and Dispersion Model Input and Output Files**

### Regulatory Basis for Request

During its acceptance review of the licensee's submittal, the NRC staff identified that it required additional information to be able to confirm direct input to the licensee's radiological dose evaluation. In particular, data and information related to the accident-related onsite and offsite atmospheric dispersion models and the meteorological (Met) data input to them. These needs were discussed during pre-application submittal meetings. The required data and information are identified below.

The regulatory basis for this request is first rooted in the phrase "...following, as far as applicable, the form prescribed for original applications" from 10 CFR 50.90. The regulations at 10 CFR 50.67(b)(1) go on to state that "[t]he application shall contain an evaluation of the consequences of applicable design basis accidents previously analyzed in the safety analysis report." In turn, 10 CFR 50.67(b)(2) requires that "the applicant's analysis demonstrates with reasonable assurance" that the dose limits at any point on the exclusion area boundary (EAB) and the outer boundary of the low population zone (LPZ), and at the control room, are met. Those dose analyses require, as a direct input, dispersion parameters which are based on the use of appropriate dispersion models that rely, in part, on the input of representative Met data.

### Background Information

Several items needed to support the NRC staff's technical review were initially identified in the summary of discussions during a June 14, 2018, pre-submittal License Amendment Request (LAR) meeting (ADAMS Accession No. ML18215A375). That document was also referenced in the summary of a subsequent pre-submittal meeting held on March 15, 2021 (see ML21103A003). Items called for in ML18215A375 to be part of the Alternate Source Term LAR submittal that staff finds were not included, are:

Item 20.c - Provide sequential hourly (ASCII-character) data files for each year in accordance with the format in Appendix A of RG 1.23, Revision 1 including respective units of measure. If a different submission is made, please explain the data format provided.

Item 20.d - Provide sequential hourly (ASCII-character) data files in format, required for input to ARCON96 including respective units of measure.

Item 21.c - A submittal of the text files of [PAVAN or PAVAN-NAI] model input and output for all runs.

Item 22.c - A submittal of the text files of [ARCON96 or ARCON96-NAI] model input and output for all runs.

The Met data files in Items 20.c and 20.d are reviewed and needed as input to NRC's confirmatory PAVAN and ARCON96 dispersion model runs. The text files called for in Items 21.c and 22.c are reviewed and used to build the confirmatory model run files of the dispersion analyses at offsite (i.e., the EAB and outer boundary of the LPZ) and onsite (control room and technical support center) receptors.

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Further, the NRC staff notes that the licensee cited dispersion models of different names (i.e., PAVAN-NAI and ARCON96-NAI) in their presentation slides during pre-application meetings. On the other hand, the proposed revisions to the updated FSAR appear to refer only to the NRC versions of the PAVAN and ARCON96 dispersion models. As a result, it cannot yet be concluded that either PAVAN and PAVAN-NAI and/or ARCON96 and ARCON96-NAI are equivalent.

**Supplemental Data and Information Needed**

- 1) Provide the requested Met data and dispersion model input and output files identified in Items 20.c, 20.d, 21.c, and 22.c as indicated in ML18215A375 and discussed during our clarification call of October 27, 2021.
- 2) Clarify any differences between the PAVAN and PAVAN-NAI and the ARCON96 and ARCON96-NAI dispersion models.