

**From:** Purnell, Blake  
**Sent:** Friday, April 22, 2022 10:28 AM  
**To:** Lashley, Phil H (EH)  
**Cc:** Nesser, Kathryn M; Salgado, Nancy  
**Subject:** Davis-Besse Nuclear Power Station, Unit No. 1 - Request for Additional Information Regarding License Amendment Request to Revise the Design Basis for the Shield Building  
**Attachments:** DB RAI Shield Building QA.pdf

Mr. Lashley,

By application dated January 3, 2022 (ADAMS Accession No. ML22003A147), Energy Harbor Nuclear Corp. submitted a license amendment request for Davis-Besse Nuclear Power Station, Unit No. 1. The proposed amendment would change the design basis for the facility to allow laminar concrete cracking of a limited width in the outer reinforcement layer of the shield building containment structure.

The NRC staff is reviewing the application and has determined that additional information is needed to complete the review. A response to the attached request for additional information is requested to be provided within 30 days of the date of this email. This request was discussed with you on April 22, 2022. Please contact me if you have any questions.

Sincerely,

Blake Purnell, Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission

Docket No. 50-346

EPID L-2022-LLA-0003

OFFICE	NRR/DORL/LPL3/PM	NRR/DRO/IQVB/BC	NRR/DORL/LPL3/BC
NAME	BPurnell	KKavanagh (PPrescott for)	NSalgado (SWall for)
DATE	4/22/22	3/25/22	3/29/22

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**From:** Purnell, Blake

**Created By:** Blake.Purnell@nrc.gov

**Recipients:**  
"Nesser, Kathryn M" <kmnesser@energyharbor.com>  
Tracking Status: None  
"Salgado, Nancy" <Nancy.Salgado@nrc.gov>  
Tracking Status: None  
"Lashley, Phil H (EH)" <phlashley@energyharbor.com>  
Tracking Status: None

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REQUEST FOR ADDITIONAL INFORMATION  
PROPOSED AMENDMENT TO REVISE THE DESIGN BASIS FOR  
THE SHIELD BUILDING CONTAINMENT STRUCTURE  
ENERGY HARBOR NUCLEAR GENERATION LLC  
ENERGY HARBOR NUCLEAR CORP.  
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1  
DOCKET NO. 50-346

By application dated January 3, 2022 (ADAMS Accession No. ML22003A147), Energy Harbor Nuclear Corp. submitted a license amendment request for Davis-Besse Nuclear Power Station, Unit No. 1. The proposed amendment would change the design basis for the facility to allow laminar concrete cracking of a limited width in the outer reinforcement layer of the shield building containment structure.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the application and has determined that the additional information below is required to complete the review.

Background

The application states, in part, that: “The shield building is a nuclear safety-related, seismic Class 1 structure important to safety and designed to remain functional in the event of a maximum possible earthquake and design basis events.”

Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 details a set of quality assurance (QA) requirements applicable to activities affecting safety-related systems, structures, and components. Criterion III, “Design Control,” of Appendix B to 10 CFR Part 50 states, in part, that: “The design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.” Additionally, Criterion XI, “Test Control,” of Appendix B to 10 CFR Part 50 states, in part, that:

A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.... Test results shall be documented and evaluated to assure that test requirements have been satisfied.

Information regarding the QA/quality control (QC) measures associated with the application is provided in Section 3.5, “Quality Assurance,” of the included technical report:

It is noted that the Phase I and II test programs were deemed equivalent to an “augmented quality”, with associated QA/QC oversight, the results thereof, are

considered appropriate as input to safety-related design. Although the Phase III test program was characterized as “exploratory” and thus, “non-safety”, with an intent to establish a suitable anchor system layout, a similar degree of engineering and management oversight was also provided for the Phase III tests. Additionally, as noted above, the results across the three phases are reproducible and consistent. Therefore, the conclusions established in Section 3.4 are considered applicable for safety-related design of the Shield Building.

Request

Clarify what measures were put in place to verify the adequacy of the design inputs and testing used to reach the safety conclusions regarding the proposed changes to the shield building design basis.