

September 8, 2011

MEMORANDUM TO: George Wunder, Acting Chief
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

FROM: Stacy Joseph, Project Manager */RA Tom Tai for Stacy Joseph/*
BWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: SEPTEMBER 8, 2011, AUDIT OF THE ECONOMIC SIMPLIFIED
BOILING WATER REACTOR DESIGN CERTIFICATION SPENT FUEL
POOL AND BUFFER POOL SEISMIC LOAD CALCULATIONS

The staff has identified a need to audit the Economic Simplified Boiling Water Reactor (ESBWR) design certification (DC) calculations used to demonstrate that spent fuel integrity in the spent fuel pool and buffer pool is maintained during a seismic event. This documentation is needed to demonstrate that the fuel in the spent fuel and buffer pools meet General Design Criteria 2. The audit will take place at the Nuclear Plant Oversight Committee Offices in Rockville, MD on September 8, 2011. A copy of the audit plan is enclosed.

Docket Nos.: 52-010

Enclosure:
As stated

CONTACT: Stacy Joseph, NRO/DNRL/BWR
301-415-2849

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Distribution:

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BWR R/F

ADAMS ACCESSION NO.: ML112500453

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NRO-002

OFFICE	DNRL/BWR/PM	DNRL/BWR/LA	DE/SEB2/TR	DE/SEB2/BC	DNRL/BWR/BC
NAME	SJoseph	SGreen	JXu	BThomas	GWunder-SJoseph for:
DATE	09/08/2011	09/08/2011	09/08/2011	09/08/2011	09/08/2011

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**ECONOMIC SIMPLIFIED BOILING WATER REACTOR DESIGN CERTIFICATION
SEISMIC ANALYSIS OF FUEL IN SPENT FUEL AND BUFFER POOLS
AUDIT PLAN**

A. Background

The staff concluded in the safety evaluation report (SER) for Licensing Topical Report NEDO-33373 that the Economic Simplified Boiling Water Reactor (ESBWR) fuel storage racks meet the relevant requirements of General Design Criteria (GDC) 2 and that the fuel storage racks are designed to withstand the most severe earthquake that has been established for the ESBWR certified design. The purpose of this audit is for the staff to review the supporting ESBWR spent fuel pool and buffer pool documentation to ensure that the consequent loads on the fuel assembly during a seismic event do not lead to fuel damage. This is a follow-up to the audit performed on the same subject on August 5, 2011.

B. Regulatory Audit Bases

This regulatory audit is based on the following:

- GDC 2
- Standard Review Plan 3.8.4, Appendix D

C. Regulatory Audit Scope or Methodology

- The area of focus for the audit is the ESBWR documentation providing the loads on the fuel in the spent fuel and buffer pools during a seismic event and determination of corresponding acceptable loads on the fuel considering temperature effects.

D. Information and Other Material Necessary for the Regulatory Audit

- NEDE 21175
- NEDO-33373

E. Audit Team

The following are the audit team members:

Jim Xu, NRC Audit Team Lead, Structural Engineering Branch
Brian Thomas, Chief, Structural Engineering Branch
Christopher Van Wert, Reactor Systems Branch
George Thomas, Reactor Systems Branch
James Gilmer, Reactor Systems Branch
Stacy Joseph, NRO Licensing

F. Logistics

Date: September 8, 2011
Time: 8:30 a.m. – 3:00 p.m.
Location: Nuclear Plant Oversight Offices
11426 Rockville Pike, Suite 230
Rockville, MD 20852
Tel. 301-231-6093

G. Deliverables

The audit team will issue a regulatory audit summary within 90 days after completing the audit. The audit summary will cover both the August 5, 2011 audit and the follow-up audit on September 8, 2011.