NRR-PMDAPEm Resource

From: Morgan, Nadiyah
Sent: Friday, May 30, 2014 11:34 AM
To: Lobo, Walter
Cc: Lynch, Joseph R
Subject: Draft Copy of RAI Questions Re: The LAR for Heavy Loads to Facilitate Dry Storage Handling Operations (MF3237)

Walt,

As previously mentioned, below is a draft copy of the RAI questions. The staff has requested responses by June 30, 2014. I will be out of the office next. If you need to have a clarification call during my absence, please contact Doug Picket at 301-415-1364.

Thanks,
Dee

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Mechanical and Civil Engineering Branch (EMCB)

EMCB-RAI-1

The guidelines of Section 5.1.6 of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," July 1980 (ADAMS Accession No. ML070250180), and Section 111.4.C of NUREG-0800, Chapter 9.1.5, Revision 1, "Overhead Heavy Load Handling Systems" (ADAMS Accession No. ML062260190), specify that lifting devices in single failure handling systems should be selected to satisfy either of the following criteria:

(1) A special lifting device that satisfies American National Standards Institute (ANSI) N14.6, “Radioactive Materials-Special Lifting Devices for Shipping Containers Weighing 10,000 Pounds (4500 kg) or More,” January 1993, should be used for recurrent load movements in critical areas (reactor head lifting, reactor vessel internals, spent fuel casks). The lifting device should have either dual, independent load paths or a single load path with twice the design safety factor specified by ANSI N14.6 for the load.

(2) Slings should satisfy the criteria of the American Society of Mechanical Engineers (ASME), ASME B30.9, “Slings,” 2003, and be constructed of metallic material (chain or wire rope). The slings should be either (a) configured to provide dual or redundant load paths or (b) selected to support a load twice the weight of the handled load.

Section 5.1 of the Reference states that the lifting devices should be selected to satisfy either of the above criteria. Section 3.0 of the Reference states that the handling devices for the single-failure-proof handling system are designed per ANSI N14.6 and ASME B30.9.

Please provide verification that the crane and handling system meet the single-failure-proof handling criteria of ANSI N14.6 and ASME B30.9 (with devices constructed of metallic material (chain or wire rope)). In addition,

please show that the lifting devices will have either dual, independent load paths or a single load path with twice the design safety factor specified by ANSI N14.6 for the load and slings should be either (a) configured to provide dual or redundant load paths or (b) selected to support a load twice the weight of the handled load.

EMCB-RAI-2

Please provide a discussion of any modifications planned to the Reactor Building crane to make it single-failure-proof and in conformance with the guidelines of NUREG-0612 and NUREG-0554, “Single-Failure-Proof cranes for Nuclear Power plants,“ May 1979, to support commencement of dry cask storage operations.

EMCB-RAI-3

For the seismic analysis of the new main hoist and trolley, including qualification of the existing bridge, please provide confirmation that the bridge with the newly installed trolley and any additional weight, resulting from the single-failure-proof upgrade, will 1) be seismically qualified to the requirements of ASME NOG-1-2004, "Rules for Construction of Overhead and Gantry Cranes (Top Running Bridge, Multiple Girder) for Type 1 cranes, and 2) provide confirmation that demonstrates that the new trolley and the existing bridge will be adequate to support the Maximum Critical Load rating during a seismic event.

EMCB-RAI-4

Please provide confirmation that the runway crane supporting structure will be seismically qualified in accordance with the current licensing basis criteria to support the crane with the new trolley and additional weight resulting from the single-failure-proof upgrade.

EMCB-RAI-5

Please provide the weights of the old trolley, the new trolley, the lift yoke, the lift yoke extension, and the slings.

EMCB-RAI-6

Please provide a simple sketch of the layout showing the arrangements for the Safe Load Path as per NUREG-0612.

REFERENCE:

Letter from John A. Dent, Jr., Site Vice President, Entergy Nuclear Operations, Inc., to NRC Document Control Desk, “Proposed License Amendment request to Modify Technical Specification 4.3.4, "Heavy Loads," to Facilitate Dry Storage Handling Operations,” dated November 26, 2013 (ADAMS Accession No.: ML13346A026).

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