

From: Michelle Honcharik
To: SBENNE2@entergy.com
Date: 3/10/03 9.54AM
Subject: RAI ON INCREASE IN HANDLING HEAVY LOADS FOR SPENT FUEL CRANE

Steve,

See the attached.

Michelle Honcharik
NRR/DLPM/PDIV-1
415-1774

CC: Thomas Alexion

REQUEST FOR ADDITIONAL INFORMATION RE: EXIGENT AMENDMENT REQUEST
FOR INCREASE IN HANDLING HEAVY LOADS FOR SPENT FUEL CRANE
ARKANSAS NUCLEAR ONE, UNITS 1 AND 2

1. Methodologies from two different standards have been used for computing the vertical and horizontal impact loads. (CMAA Specification No. 70 methodology for the vertical impact load and ACI 318-89 standard for the horizontal impact load) Provide the rationale and justification for using two different standards for determining impact loads
2. Provide calculations to support the statement in Attachment 6 of the amendment request that, "The period of oscillation of the lifted load in pendulum motion during a seismic event is long Therefore, the horizontal seismic effect due to lifted load is very small and will be neglected." In the case when loads are lifted to higher elevations, it seems feasible that the period of oscillation in pendulum motion could interact with the motion of the crane and support structure during a seismic event.
3. The calculations to evaluate the adequacy of the bent frame and the columns to the upgraded crane loads indicate that the OBE seismic load case has not been evaluated. Since the allowable limits for the OBE seismic load case are more restrictive than the DBE loading case, we request that you demonstrate compliance with your design code limits for the OBE condition as well. The interaction coefficient for the DBE case relating to the girder in Unit 1 is slightly greater than one. Compliance for this case needs to be demonstrated.
4. The analysis of the frame structure and columns for the revised crane loads in Section 8.0 of Attachment 6, indicates that only the following loading combinations will be evaluated:
 1. DL+LL+IL+WL (with AISC allowable)
 2. DL+LL+DBE (with 1.5 times AISC allowables not to exceed 0.9 F_y)

Please define the acronyms in the above equations. You also stated that the crane will not be used to lift the maximum load during plant operation. Discuss the lifted loads and provide their magnitude for the evaluation of the frame structure considering the above loading combinations.

5. Provide confirmation that the loading combinations and allowables used in the revised analysis with the upgraded loads are in compliance with the requirements in the UFSAR for the normal/upset, emergency and faulted loading conditions. If deviations from the UFSAR requirements exist, discuss the nature of the deviation and provide justification for noncompliance.
6. In response to RG 1.104, position C.1.d, you state in Attachment 4 to the amendment request that the weld geometries used in the existing bridge structure are not considered susceptible to lamellar tearing. Describe the screening criteria used to make this determination
7. In response to RG 1.104, positions C.1.b(3), C.1.b(4), C.4.d, and C.3.1, you state in Attachment 4 to the license amendment request, that a commercial grade dedication plan and various nondestructive testing will be implemented. Describe the current status of implementation and available results of nondestructive examinations and fatigue life evaluations

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