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**Date:** 5/21/03 1:15PM
**Subject:** Talking Points for ANO L-3 Crane

For the 3:00 PM call today

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## NRC Talking Points for ANO L-3 Crane Actions

**Overall Actions to Improve Design Documentation for L-3 Crane**

As a result of several Condition Reports and NRC Interactions on the L-3 crane, Entergy performed an assessment of the design basis for the crane and have made changes that will impact NRC review of the proposed license amendment.

**NDE Examination of Runway Girder Welds**

48 areas were identified to be critical weld locations. The accessible portions of the following weld locations were inspected by magnetic particle NDE:

- bridge end braces top attachment plates at the top end of each bridge girder.
- bridge end brace side attachment plates at the inside of each bridge girder
- bearing plate at the notch in the ends of the bridge girders
- welds at the intersection of the vertical ½" thick diaphragm plate #67 off the end of the diaphragm plate and the bottom flange plate
- No welds were determined to be critical on the Runway girder.

The MT inspections confirmed that the critical weld integrity was good. Four welds were inaccessible and are being justified for acceptability

**Upgrade of Calculations to a Commensurate Appendix B Level**

Ten calculations associated with the L-3 crane are being upgraded to 10CFR50, Appendix B quality.

- Key design inputs to Ederer were revalidated from seismic calcs
- Calculations of the structural steel above Elevation 404' in the spent fuel pool area, and the Ederer calls for the L-3 crane upgrade, were originally documented as non-safety.
- However, since these calculations establish a design that will not drop a cask, which could damage either spent fuel or other safety-related components, these calcs are being re-designated as "Q" per engineering procedure.
- The runway girder seismic calculation are being upgraded to a commensurate Appendix B level

**Upgrade to More Conservative Seismic "g" Values**

- ANO follow-up review determined that the original L-3 design spec used for the new crane predated the application of RG 1.29 considerations
- NUREG 0554 for single failure proof cranes invokes position C.2 of RG 1.29
- Acceptance criteria are focused on assuring that the load will not be dropped and <u>may</u> use less conservative acceptance criteria than a Cat I required component.
- Wheel slippage being credited to provide acceptable loading results
- The change in input "g" values from original to the current are as follows (see attached timeline):

| | Orig L-3 g (OBE/SSE) | 1973 Calc (OBE/SSE) | Current Inputs (OBE/SSE) |
|---|---|---|---|
| **Vertical Acceleration** | 0.067g/0.133g | 0.121g/ 0.242g | 0.35g/ 0.45g |
| **Horiz Acc (Trolley @ midspan)** | 0.35g/ 0.6g | 0.32g/ 0.576g | 1.0g/ 1.35gg |
| **Horiz Acc (Trolley @ end stop)** | NA | NA | 1.15g/ 1.60g |

**Revision of Ederer Appendices B & C (Table 9.1-X)**

- Editorial changes are being made throughout for consistency
- App B, item C.2.b is being changed to state that El 404' can accommodate the load motion and the load will be administratively controlled by Procedure 1402.133 to maintain ≥ 1.5 feet when traversing the Elev. 404'-0" floor."
- App. C, item C.1.b (3) C.1.b(4) C.4.d in the center of the response is being changed to indicate that visual indications of structural degradation of the modified bridge were performed and no degradation was identified. Additional NDE of the critical welds on the bridge girder were performed."
- Appendix C, item C.1.c, is being revised to state that the steel and concrete support structures have been analyzed for the design basis earthquake [ground acceleration] while supporting the maximum critical loads." (calc currently in revision)
- Appendix C, item C.1.c, is also being revised to provide design description of the improved analysis previously discussed
- Other changes for discussion enhancement as determined necessary

**Scope/Schedule for Follow-up Submittal and NRC Approval**

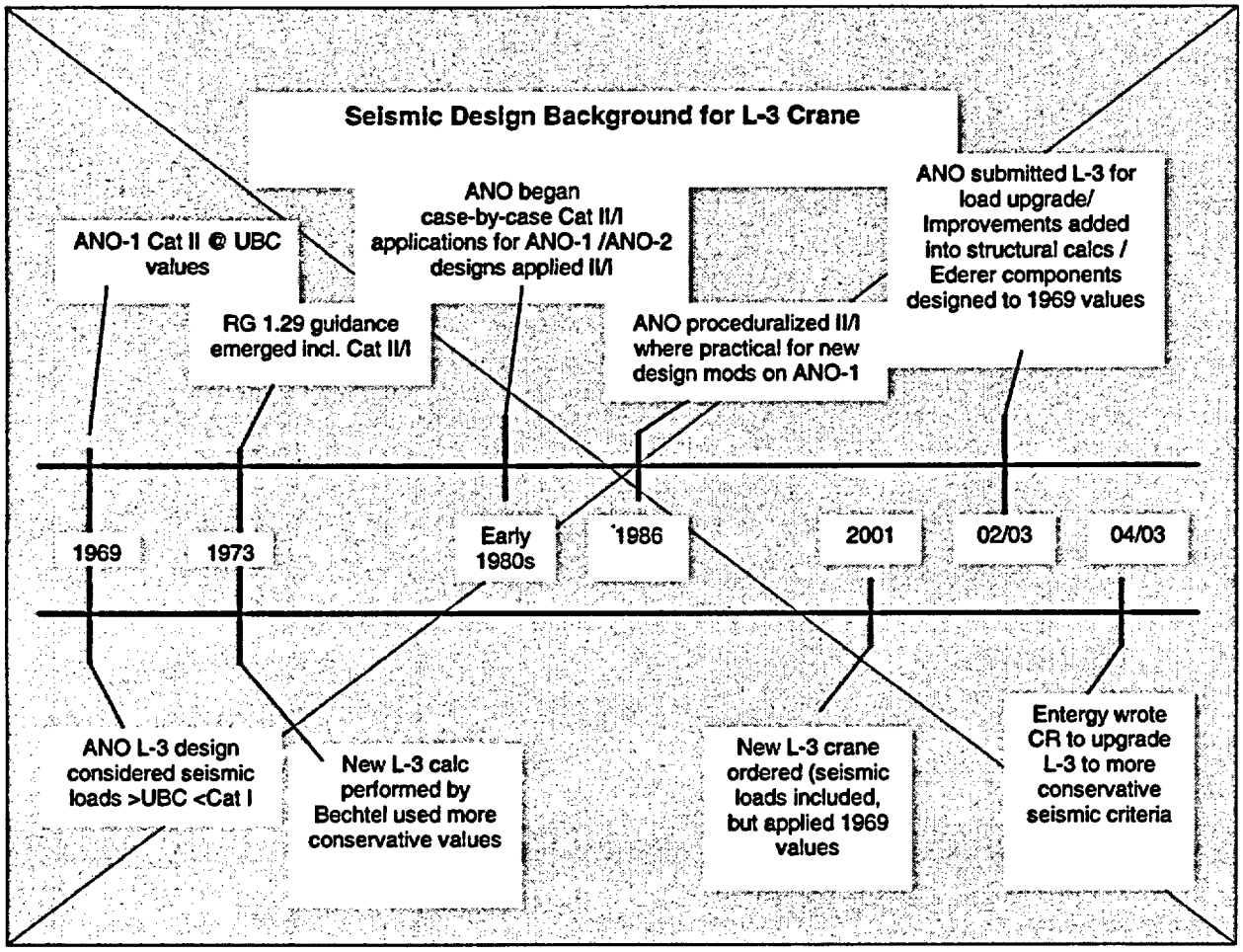
Entergy plans to provide a new submittal that includes the following:

- Revised SAR text and Table 9.1-X will be provided
- Information on our seismic response curves and revised "g" values will be provided
- New Runway Girder Calculation to be provided
- The previous commitments made in our March 25, 2003 submittal have been completed and will be documented.
- We will review previous RAIs for impact
- Submittal Target: June 20, 2003 NRC approval request: July 18, 2003

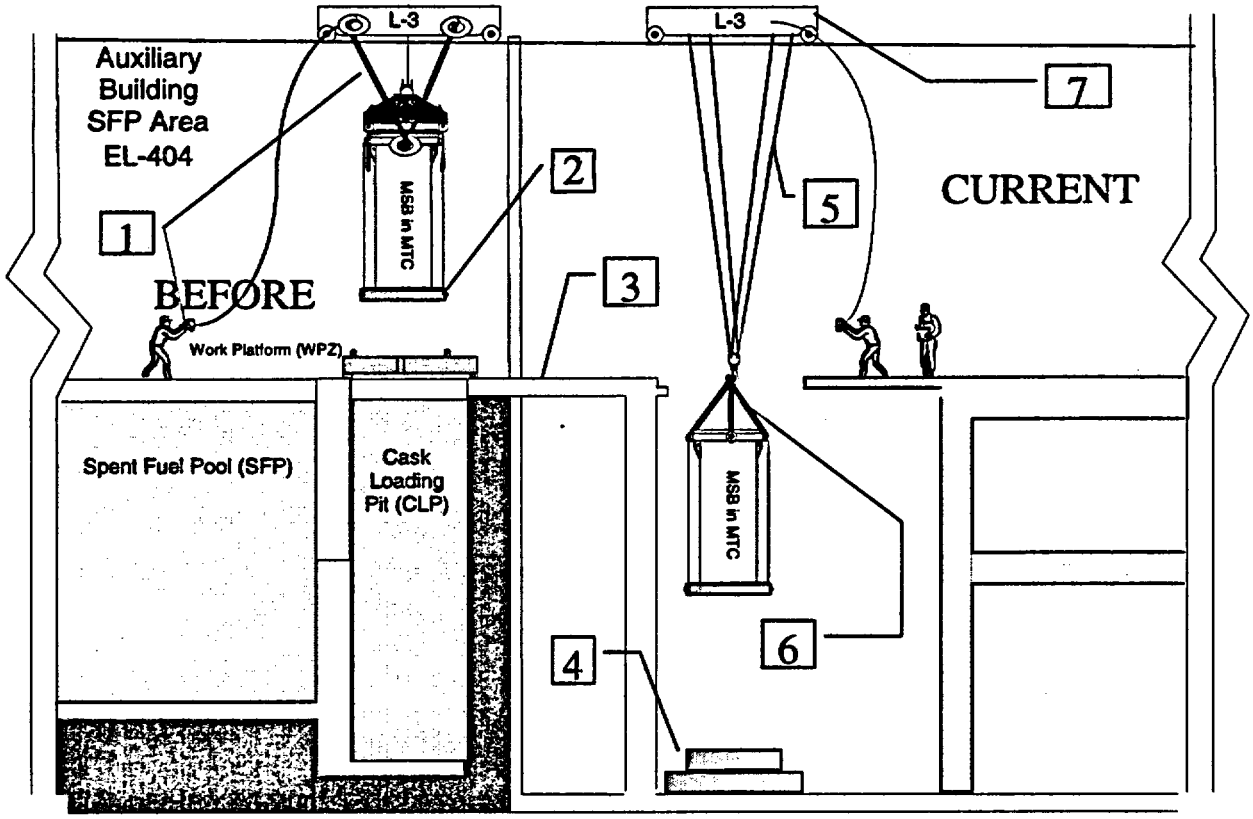
**Proposed Actions to Use L-3 Crane under Existing Licensing Basis for Heavy Loads**

While NRC review continues with the new information being provided Entergy plans to reestablish operations to the original licensing basis for moving loads up to 100 tons. This will include:

- Reinstating the impact limiters under cask movement activities to stay within the current drop analysis
- Cask loads will not be carried above the former 9" maximum load carry height with a minimum of 3" impact limiter pad(s)
- Loads will be carried at the slower designed movement speed designed into the single failure proof crane.
- Two primary changes be evaluated for change from our original crane design. The first is that the lifting rig including use of wire ropes and redundant Kevlar slings will be used instead of the previous yoke design. The second is the alternate location for establishing load height protection. A 50.59 Review will be performed to ensure that the ropes/slings and operator controls provide a commensurate level of safety and compliance. See attached Powerpoint diagram.


Seismic Design Background for L-3 Crane
ANO-1 Cat II @ UBC values
RG 1.29 guidance emerged incl. Cat II/I
ANO began case-by-case Cat II/I applications for ANO-1 /ANO-2 designs applied II/I
ANO proceduralized II/I where practical for new design mods on ANO-1
ANO submitted L-3 for load upgrade/ Improvements added into structural calcs / Ederer components designed to 1969 values
1969
1973
Early 1980s
1986
2001
02/03
04/03
ANO L-3 design considered seismic loads >UBC <Cat I
New L-3 calc performed by Bechtel used more conservative values
New L-3 crane ordered (seismic loads included, but applied 1969 values
Entergy wrote CR to upgrade L-3 to more conservative seismic criteria

# VSC-24 Aux Building/Train Bay Transfer



# VSC-24 Aux Building/Train Bay Transfer

- 1 – Hoist Lockout and Slings
- 2 – Impact Absorbing Material
- 3 – Nine Inch Height Limitation
- 4 – Train Bay Impact System
- 5 – Hook / Redundant Wire Rope / Brakes
- 6 – Four Slings (No Yoke)
- 7 – Manual Hoist Movement Disable

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