

## BRP Crane Project Overview

- BRP license requires the Commissions approval to handle any cask, other than the properly rigged 24 Ton fuel transfer cask, in the Spent Fuel Pool. When handling the 24 Ton fuel transfer cask the license requires the use of a safety catch mechanism (redundant slings - dual load path).
- The 24 ton cask has been used throughout the Plant's life for transferring irradiated core components and fuel between the reactor vessel and Spent Fuel Pool.
- BRP terminated the Plant's operating license in the fall of 1997.
- Initially, the 24 Ton transfer cask was to be used to load the 441 irradiated fuel bundles from the SFP into dry fuel storage casks. This method was abandoned because of technical issues with the remote handling equipment and the potential risks of a fuel bundle-mishandling event.
- BRP issued a request for proposal for a 105 Ton single-failure-proof crane July 1, 1999. The new crane is to be used for hoisting the fuel storage transfer cask into and out of the SFP.
- Bid awarded to Bigge Power Constructors of San Leandro, Calif. On Nov. 18, 1999. Scope consisted of removing the present 75 Ton crane and installing an upgraded gantry with a 125 ton single-failure-proof hoist and trolley (Ederer X-SAM). The higher hoist rating would allow for the handling of the reactor vessel as well as the fuel storage transfer cask.
- S&L and BRP, with assistance from Bigge and Ederer, issued Containment Building Crane Specifications (FC-706) on May 10, 2000. The specifications addresses design, analysis, review, documents, material requirements, special features and installation testing.
- Consumers Energy issued a project Quality Plan on May 30, 2000. The plan specifies the requirements for Consumers, Bigge and Ederer for compliance with 10CFR50 Appendix B.
- MPR Associates, Inc. reviewed BRP's general plan for dedicating commercial-grade structural components from Bigge's inventory. Subsequently, the use of existing gantry components was determined to be acceptable as permitted by Appendix C of NUREG-0612, Modification of Existing Cranes.
- Crane operator certification training to be a coordinated effort between the BRP and the International Union of Operating Engineers training departments. Qualified crane operators will be limited to 6 operating engineers and 6 Plant employees.

- License amendment request, for fuel handling & the control of heavy loads, submitted Oct. 26, 2000.

### **CRANE DESIGN**

- Design and review of gantry components performed by Bigge.
- Design and review of hoist and trolley components performed by Ederer.
- BRP (Bruce) performing design verification of all safety related crane components.
- BRP Engineering manager to approve the final design.

### **STRUCTURAL ANALYSIS**

- Calculations for crane and steel support structures performed and reviewed by Bigge.
- Crane and steel support structure reviewed by BRP and S&L.
- Calculations for concrete structures to be performed and reviewed by S&L.
- BRP structural modifications designed by S&L and implemented by BRP.

### **SUMMARY**

BRP will be replacing our 75 Ton Crane with a single-failure-proof crane to ensure safe handling of the dry fuel storage transfer cask. The modification is classified as safety-related and is being performed in accordance with BRP's administrative procedures. The Plant structures will be analyzed, and modified as required, for safe support of the crane. The dry fuel storage transfer cask will be placed in the SFP on seven occasions for loading and removing the 441 irradiated fuel bundles. The total handling time for the cask in and around the SFP is approximately 28 hours over a 6 month period. After the fuel is transferred to the Independent Spent Fuel Storage facility the crane will be used for handling the steam drum and the reactor vessel.