

ENCLOSURE

SAFETY EVALUATION BY

THE OFFICE OF NUCLEAR REACTOR REGULATION FOR

RELOCATION OF MISSILE SHIELDS INSIDE

THE TMI-2 CONTAINMENT

A. INTRODUCTION

As part of the continuing defueling and recovery effort at TMI-2, General Public Utilities Nuclear Corporation (GPUNC) needs to perform ex-vessel fuel characterization in the B "D-ring." To accomplish this activity, two missile shields currently stored on top of the B "D-ring" must be relocated to the A "D-ring." A portion of the load path involved in this lift falls outside the bounds of previously analyzed and NRC approved SER's (references 1, 2, and 3). On October 17, 1985, GPUNC submitted an SER for this activity.

B. DISCUSSION

The load paths which fall outside the previously approved SER involves two essentially mirror image lifts. Each lift consists of an approximately 2 ft. vertical lift of a 3,900 lb. W30X173 steel beam, followed by a 2 ft. horizontal movement above the 367 ft. elevation of the A "D-ring." Each beam is then lowered back down the 2 ft. to rest on support beams. Only the northern ends (approximately 5 ft.) of the steel beams will be outside the previously analyzed area during the lift. The missile shields will then be placed on the centers of the beams using previously approved load paths.

GPUNC's load handling program incorporates phase I of Generic Letter 81-07 (i.e., section 5.1.1 of NUREG-0612). Phase I included the following activities:

1. Definition of safe load paths
2. Development of load handling procedures
3. Periodic inspection and testing of cranes
4. Qualifications, training and specified conduct of operators
5. Special lifting devices should satisfy the guidelines of ANSI N14.6
6. Lifting devices that are not specially designed should be installed and used in accordance with the guidelines of ANSI B30.9
7. Design of cranes to ANSI B30.2 or CMAA-70

Implementation of these activities assures that the potential for a load drop is extremely small. Since the lift occurs directly over the support beams, if either lifted beam were to drop they would land on the support beams. GPUNC has taken an additional safety measure using an additional sling and shackle attached to the W30X173 beams on one end and the support beam on the other. This would serve to catch the load if it were dropped. The sling and shackle are certified to ANSI B30.9 and have a safety factor greater than 5 to the ultimate tensile strength.

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C. CONCLUSION

GPUNC has implemented a load handling program which assures that the potential for a load drop is extremely small. Additionally, they have provided a means to catch a dropped load while it is outside the previously analyzed load path area. Based on the above and the licensee's demonstrated operational history on heavy load handling within the reactor building, the staff has determined the relocation of the W30X173 beams and missile shields can be implemented without significant risk to the health and safety of the public.

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