

Nuclear



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January 4, 1982
LL2-81-0262

TMI Program Office
Attn: Mr. L. H. Barrett, Deputy Program Director
U. S. Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Station
Middletown, Pennsylvania 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Polar Crane Refurbishment

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U.S. NUCLEAR
REGULATORY COMMISSION

In order to firm up plans for licensing the activities associated with refurbishment of the TMI-2 Containment Building Polar Crane, GPU has decided to provide NRC with our presently anticipated plans for comment. It is hoped that input of NRC comments at this juncture of our planning will allow us to incorporate NRC positions in our future activities.

Accordingly, the following indication of our presently anticipated plans for licensing and associated activities connected with the refurbishment of the polar crane is provided for your comment.

Current plans are to refurbish the polar crane to the extent necessary to support the reactor disassembly and defueling program. The polar crane will be qualified for the maximum load expected throughout this effort. As stated in the TMI Unit 2 FSAR, Section 9.1, the maximum critical lift of the crane will not exceed 250 tons which is 50% of the crane's design capacity. The polar crane will be refurbished (i.e., components replaced or renovated) to restore all of its original safety features as described in the following portion of the TMI Unit 2 FSAR, (Section 9.1):

"The following safety features have been incorporated in the main hoist of the Reactor Building polar crane: redundant brakes, redundant upper limit switches, and a separate control and drive device (inching hoist) in case of failure of the normal hoist mechanism".

Additional capabilities may be added to aid in the recovery effort. The cab control station may not be refurbished. If this redundant control station is not refurbished, it will be demonstrated that its elimination will not compromise the functional capabilities of the polar crane.

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The NRC's generic letters (December 22, 1981 and February 3, 1981) on Control of Heavy Loads will be addressed as they apply to the polar crane and the recovery effort. The generic letters require that plants conform to the guidelines of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." NUREG-0612 provides the following alternatives:

1. The crane and associated lifting equipment should satisfy the single-failure-criteria guidelines established in NUREG-0554, "Single Failure Proof Cranes for Nuclear Power Plants", or
2. Provide rapid automatic containment isolation and perform a load drop analysis, or
3. Perform a load drop analysis which includes the calculation of offsite doses.

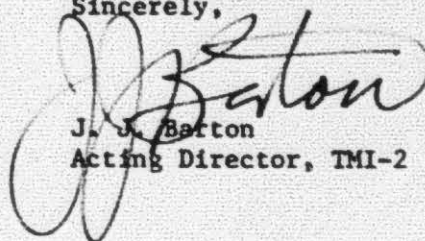
A course of action consistent with the third alternative is being pursued. The various recovery effort Technical Evaluation Reports (TER) will address the Control of Heavy Loads associated with the effort covered by the specific TER. The TER safety analyses will include appropriate load drop analyses which will show that potential damage to the fuel will not cause criticality, that damage to the reactor vessel will result in water leakage less than makeup capability, that offsite doses will be acceptable, and damage to redundant shutdown paths will be limited so that safe shutdown capability will be maintained. If these NUREG 0612 acceptance criteria are not met, polar crane or plant modifications will be made.

NUREG-0612 also has requirements for safe load paths, heavy load handling procedures, and crane operator training and qualification. These will be addressed in appropriate procedures in response to the generic letters.

The generic letters require that cranes be inspected, tested and maintained in accordance with guidelines in NUREG-0612. These tasks will be included in the polar crane refurbishment effort and will be documented in plant procedures.

The above represents our presently anticipated methodology for refurbishment of the polar crane. We would appreciate your comments on this program and will respond to your comments as appropriate.

Sincerely,



J. J. Barton
Acting Director, TMI-2

JJB:JEL:djb

cc: Dr. B. J. Snyder, Program Director, TMI Program Office