



**Commonwealth Edison**  
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October 12, 1982

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Zion Station Units 1 and 2  
NUREG 0612 Control of Heavy Loads  
Supplemental Response to Draft  
TER dated October 5, 1981  
NRC Docket Nos. 50-295/304

- References (a): April 14, 1982 letter from F. G. Lentine  
to H. R. Denton
- (b): April 10, 1981 letter from T. R. Tramm  
to H. R. Denton
- (c): January 2, 1981 letter from T. R. Tramm  
to H. R. Denton

Dear Mr. Denton:

Reference (a) provided the Commonwealth Edison Company response to the concerns raised in Franklin Research Center's draft Technical Evaluation Report (TER) regarding control of heavy loads at Zion Station. In telephone conversations with members of your staff and consultants on August 24 and 25, 1982, Commonwealth Edison was requested to provide certain additional information.

The following information is provided to address each of the three (3) concerns expressed during the teleconference:

1. Interim protective measure 6 on page 5-18, Section 5-3 of NUREG 0612 requires, in part, visual inspections of load bearing components of cranes, slings, and special lifting devices to identify flaws or deficiencies that could lead to failure of the component. This visual inspection was, in fact, performed before the initial lifts were made by the head lift rig, the internals lift rig and the reactor coolant pump tripod. In addition, our program of on-going inspections insures that inspections of these components are repeated at regular intervals. The on-going crane inspections are performed as indicated in the daily, monthly and yearly

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crane inspection procedures as identified in our Reference (c), page 6, response 3e. Reference (a) identifies our sling lift rig inspections. Specifically, page 2, paragraph 2 of our TER Item 2.1.2.3 response identifies the pre-lift sling inspection and maintenance, and page 3, paragraph 2 of our TER Item 2.1.4.3 response identifies the special lift rig inspection.

2. It was requested that Commonwealth Edison provide the b/c ratios for the bridge end trucks and the trolley frames of the fuel building crane and of the polar crane. The requested b/c ratios are provided as follows:

Polar crane trolley members:

top plate	b/c = 6.74
bottom plate	b/c = 9.84

Polar crane trolley girder:

trolley beam	b/c = 7.97
trolley hook girder	
top plate	b/c = 7.0
bottom plate	b/c $\leq$ 3.5

Polar crane truck: b/c = 15.75

Fuel building trolley members: b/c = 10.17

Fuel building trolley girder: b/c = 24.75

Page 15 of the draft TER identifies the acceptable b/c ratio for the members of the crane trolley frames and bridge end trucks. This value is 0.82 of the maximum b/c ratio allowed for the box girders. The box girder allowable b/c is  $\leq$  41; therefore, the allowable b/c ratio for the crane trolley frames and bridge end trucks is  $\leq$  33.62.

3. ANSI N14.6 Section 5 provides for a continuing program for load testing of the special lift rigs. It is our position that periodic load testing to 150% of the maximum load is not practical nor economically justifiable. Additionally, it is not feasible to bring such large test loads into the Zion Reactor Containment building to test the head lift rig, the internals lift rig, and the reactor coolant pump tripod. In our judgement, our ongoing program for pre-lift inspections is adequate to detect potential failures. However, should an incident occur in which a special lift rig is overloaded, damaged, or distorted, an engineering assessment will be performed. This assessment will address ANSI N14.6 and include consideration of the load test specified therein. The requirement to perform this assessment will be incorporated into plant procedures.

Please address any further questions regarding this matter to this office.

Very truly yours,

*F. G. Lentine*

F. G. Lentine  
Nuclear Licensing Administrator

cc: David L. Wigginton - ORB 1  
Dennis Vito - Westec Services