



Portland General Electric Company

Bart D. Withers Vice President

May 24, 1983

Trojan Nuclear Plant  
Docket 50-344  
License NPF-1

Mr. Darrell G. Eisenhut, Director  
Division of Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr. Eisenhut:

Control of Heavy Loads, NUREG-0612

PGE has submitted letters dated September 22, 1981, May 17, 1982, and November 19, 1982 in response to Section 2.1 of Enclosure 3 to your December 22, 1980 letter concerning the control of heavy loads. As a result of discussions with members of your staff, it appears that all items have been resolved with the exception of load testing of the reactor vessel head lifting device. NUREG-0612 requires that special lifting devices (SLD) comply with ANSI N14.6-1978, which requires an initial load test of 150 percent of the maximum load to which the SLD is to be subjected. Since the reactor vessel head SLD has been conservatively designed (a safety factor of nearly 10 to 1 exists for all load bearing components) and has demonstrated proven reliability throughout its years of service, PGE believes a load test in excess of 100 percent is unnecessary.

The SLD in question was designed, manufactured, tested, and placed in service before ANSI N14.6-1978 was issued. As shown in the attached figure, the SLD is uncomplicated and is principally put together with mechanical joints such that an assembly error is highly unlikely. The only components which are welded are the top and side lugs and the spreader arms. The top and side lugs have full penetration welds. The top lug was examined by the magnetic particle method after the root pass weld, and the final weld was examined ultrasonically and by magnetic particle. The side lugs were examined by the magnetic particle method after the root pass welds and the final welds were examined by radiograph and magnetic particle. The spreader arms have fillet welds and received magnetic particle examination after the root pass welds and on the final welds.

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## Portland General Electric Company

Mr. Darrell G. Eisenhut

May 24, 1983

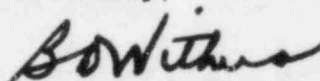
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The initial load test of the SLD was performed in the field after assembly and consisted of a sustained lift of the reactor vessel head for 30 minutes followed by nondestructive examination of critical welds; this constituted a 100-percent load test. PGE has since investigated the possibility of performing a load test in excess of 100 percent as requested by the NRC. The two options available are the addition of weight to the reactor vessel head while it is on the head storage stand, and the performance of a static lift using a load cell. The latter option has been eliminated since the only method of performing a static load test is with the reactor vessel head bolted on the reactor vessel. Justification for performing a load test is not sufficient to warrant even the slightest risk of potential damage to the head or vessel. The first option has been eliminated as it is not possible to attach sufficient weight to the head while on the storage stand because of space considerations. Other options were considered but eliminated because of height limitations imposed on the lift of the reactor vessel head as a result of the load drop analyses performed for heavy load concerns as addressed in our letter to you of January 22, 1982. Finally, the possibility of removing the SLD from Containment for testing was determined to be impractical because the SLD forms an integral part of the reactor vessel head and control rod drive mechanism support structure and would be extremely difficult to disassemble.

To ensure continued reliability of the SLD, annual visual examinations are performed prior to use to identify any potential degradation in load bearing components and welds of the SLD. Additionally, nondestructive examination of major load-carrying welds and critical areas will be conducted such that all welds will be examined over a normal inservice inspection interval of 10 years.

For the above-stated reasons, and since crane operator training and safety programs have been implemented to ensure the safest possible operations, the need to perform a load test in excess of 100 percent of the maximum load is considered to be unnecessary.

Sincerely,



Bart D. Withers  
Vice President  
Nuclear

Attachment

c: Mr. Lynn Frank, Director  
State of Oregon  
Department of Energy

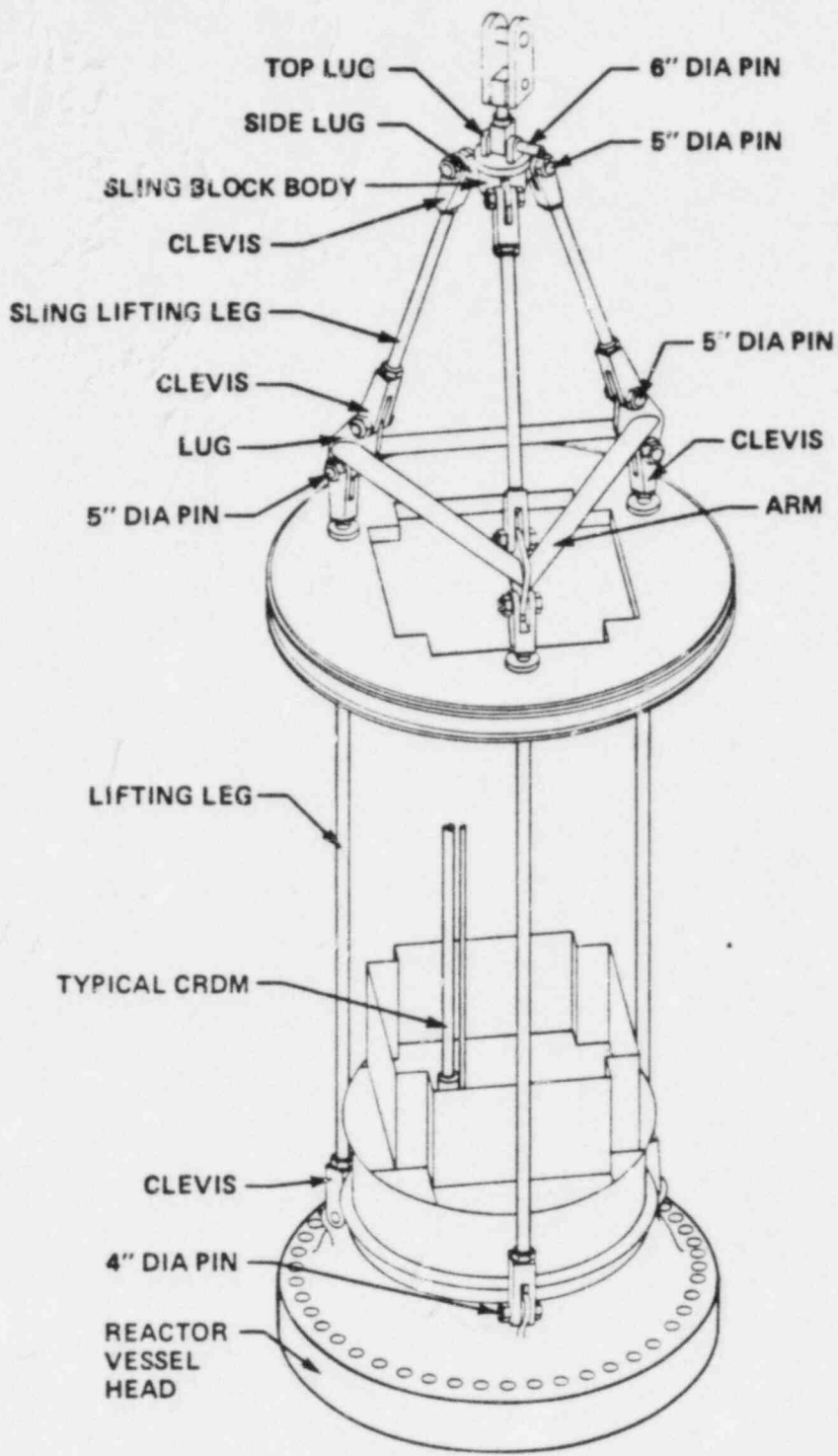


Figure 2-1. Reactor Vessel Head Lift Rig