

SACRAMENTO MUNICIPAL UTILITY DISTRICT 🗆 6201 S Street, Box 15830. Sacramento, California 95813: (916) 452-3211

August 21, 1974

Dr. Donald F. Knuth, Director Directorate of Regulatory Operations U. S. Atomic Energy Commission Washington, D. C. 20545

> Rancho Seco Nuclear Generating Station No. 1 Internals Handling Fixture AEC Docket No. 50-312

Dear Dr. Knuth:

We recently were informed by our nuclear steam system vendor. Babcock & Wilcox, that there was a generic failure in the design of the internals handling fixture spherical nut retaining device at TMI No. 1. In accordance with our procedures, this nonconformance has been reviewed and has been determined to be a reportable "significant deficiency" as defined by 10CFR50.55(e).

Description of Deficiency - During the preparation for plenum assembly removal from the reactor vessel at TMI No. 1, it was noticed that the spherical nut was not secured to the threaded rod and could become unthreaded. The set screws on the three assemblies were found to be either missing, loose, or the wrong length.

A design review by B&W engineering has found that the set screw concept of preventing the spherical nuts from rotating relative to the threaded rods (i.e., become unthreaded) is inadequate in the original design. The spherical nuts could be unthreaded during the adjusting procedure, leaving inadequate thread engagement to support the weight of the internals. Should the threads shear off, the resulting drop of the internals from as little as six inches height could result in fuel damage. Drops from greater heights could also result in damage to the internals and the reactor vessel.

With the inadequate method of capture between the spherical nut and the threaded rod, there would be no assurance that the proper thread engagement would always be made. A small drop of about seven inches could cause fuel assembly damage which would adversely affect the safety of the internals handling operation.

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Babcock & Wilcox has informed us that all affected plants have been notified of the problem. There has been no failure of the internals handling fixture and, thus, no damage or adverse effect on safety resulting from this deficiency.

<u>Corrective Action</u> - On TMI No. 1, the problem was resolved by a field modification. This modification consisted of drilling a hole in the threaded rod to ensure capture by the set screw and staking of the set screw to ensure that the set screws would not back out.

A redesign of the nut capture device has been implemented on other contracts. This design revision consists of attaching a plate to the bottom of the threaded rod which will not allow the spherical nut to unthread. The plate is held in positively by two cap screws which are entry wired to the threaded rod. This redesign and field modification of the internals handling fixture has been completed at Rancho Seco Unit No. 1.

Should additional information on this problem be needed, or if we can be of further assistance, do not hesitate to call.

Sincerely yours,

(J. J. Mattimoe Assistant General Manager and Chief Engineer

cc: R. H. Engelken Region V

