UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V
1990 N. CALIFORNIA BOULEVARD
SUITE 202, WALNUT CREEK PLAZA
WALNUT CREEK, CALIFORNIA 94596

March 31, 1981

Gentlemen:

The enclosed circular is forwarded for your information. No written response to this circular is required. If you have any questions related to this matter, please contact this office.

Sincerely,

R. H. Engelken
Director

Enclosure:
IE Circular No. 81-05

SSINS No: 6830
Accession No.:
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IEC 81-05

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

March 31, 1981

IE Circular No. 81-05: SELF-ALIGNING ROD END BUSHINGS FOR PIPE SUPPORTS

Background:

By letter dated July 24, 1980, Bechtel Power Corporation notified NRC of generic deficiencies in pipe support sway struts furnished by Corner & Lada, Inc., to the Callaway and Wolf Creek sites. The specific deficiencies identified involved the clamp end of the sway strut becoming loose and possibly being disengaged from the bushing. This could result in a large gap in the support system not accounted for in the original analysis. This deficiency was reported to NRC pursuant to 10 CFR Part 21 on May 14, 1980.

In another letter dated October 8, 1980, Bechtel Power Corporation notified NRC of generic deficiencies in pipe support end bushings at Midland Units 1 and 2 and at Palisades. In this report, self-aligning rod end bushings on the ends of sway struts and snubbers furnished by ITT Grinnell, Pacific Scientific, NPSI, and Corner & Lada were found to be partially or totally disengaged from the structural component. This report was identified as a 10 CFR Part 21 notification.

Discussion:

The problem of loose bushings in snubber and sway strut assemblies is potentially generic to all sizes of all manufacturers' assemblies. However, the potential for complete disengagement of the bushing from the assembly is limited to those cases in which the assembly is attached to a clamp where the gap is sufficiently large to permit the paddle to slide completely over the bushing.

The consequences of complete disengagement of the bushing would be to invalidate the original analytical assumptions used in the piping analysis, potentially creating an overstress condition in the piping or overloading the supports. This would be more significant for the seismic event since the gap would change the dynamic characteristics of the system and lead to impact [illegible] ports.

[illegible] have been to replace the defective [illegible] place. However, some of the staked [illegible] to be reworked. Another potential [illegible] amps where the potential for complete [illegible] shing is possible. This method would [illegible] ushing became loose. If shims are [illegible] eventing any interference with