



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

MAR 5 1985

DOCKET NO.: 50-323

MEMORANDUM FOR: Thomas M. Novak, Assistant Director  
for Licensing  
Division of Licensing

FROM: Robert J. Bosnak, Acting Assistant Director  
Components and Structures Engineering  
Division of Engineering

SUBJECT: EVALUATION OF ALLEGATIONS ON DIABLO CANYON  
UNITS 1 AND 2

The Mechanical Engineering Branch has evaluated the following assigned allegations, shown in the enclosure.

316            899            1092

These allegations are classified as D, per G. Knighton's memo of November 30, 1984. The enclosure also includes one unnumbered allegation, specific to Unit 2.

Robert J. Bosnak, Acting Assistant Director  
Components and Structures Engineering  
Division of Engineering

Enclosure: As stated

cc: F. Cherny, DE  
✓ H. Schierling, DL  
M. Ley, DL  
T. Sullivan, DE  
K. Manoly, RI

CONTACT: M. Hartzman, MEB:DE, x28445

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ENCLOSURE

Task: Allegation or Concern No. 316

ATS No:

BN No:

Characterization:

A Bechtel official approved the seismic review calculations en masse over several days without studying and properly reviewing the work.

Implied Significance to Plant Design, Construction, or Operation

Possible design errors not discovered through independent checking and review may lead to overestimation of piping support load carrying capacities.

Assessment of Safety Significance

All computer based piping support designs and qualifications performed by PG&E site personnel were reevaluated by the San Francisco office. The concern of safety was addressed under the overall requirements of License Condition 2.C(11), Item 1.

Staff Position

The resolution of this concern is addressed implicitly through the findings which are fully described in SSER 25, Section 1. This allegation is therefore considered resolved.

Action Required

None

Task: Allegation or Concern No. 899

ATS No:

BN No:

Characterization

PG&E says they use more sophisticated techniques for more detailed analysis to show that pipe and supports are acceptable but the subsequent calculation which passed the support was less sophisticated.

Implied Significance to Plant Design, Construction, or Operation

Use of less sophisticated techniques may in some instances lead to overestimation of the load carrying capacities of piping supports.

Assessment of Safety Significance

All computer based piping support designs and qualifications performed by PG&E site personnel were reevaluated by the San Francisco office. The concern of safety was addressed under the overall requirements of License Condition 2.C(11), Item 1.

Staff Position

The resolution of this issue is addressed implicitly through the findings which are fully described in SSER 25, Section 1. This allegation is therefore considered resolved.

Action Required ◀

None.

Task: Allegation or Concern No. 1092

ATS No:

BN No:

Characterization

Not all loads are considered in the calculation of small bore piping analysis (See SSER 26, Pg. E-5).

Implied Significance to Plant Design, Construction, or Operation

Piping support load carrying capacity may be overestimated if not all relevant piping loads are considered in the support design and qualification.

Assessment of Safety Significance

All computer based support design and qualifications performed by PG&E site personnel were reevaluated by the San Francisco office. The reevaluation was audited by an NRC task group; the audit included checking if all relevant loads had been included in the small bore support qualification.

Staff Position

The resolution of this concern is addressed implicitly through the findings which are fully described in SSER 25, Section 1. This allegation is therefore considered resolved.

Action Required

None.



Task: Allegation or Concern No.

ATS No:

BN No:

Characterization

The procedure used by Bechtel, San Francisco for calculating shear stresses in welds is not conservative when compared to the procedure used by Bechtel, Gaithersburg (EPD). For Diablo Canyon Unit 2 pipe support design Bechtel, EPD uses the procedure by Bechtel, SF.

Implied Significance to Plant Design, Construction, or Operation

Weld load capacity may be overestimated because of incorrect specification of weld shear areas.

Assessment of Safety Significance

This concern was addressed by the staff during the audits in SF of selected pipe support qualification calculations. In those cases where shear stress contribution appeared significant the staff requested further evaluation of weld stresses. All members were found to be acceptable per the applicable codes and project standards. In addition, Bechtel EPD performed an evaluation of welds in a 5% sample of supports assigned to EPD by both procedures, which indicated that the majority of cases had an increase in weld stress of less than 5% and allowable stresses were not exceeded.

Staff Position

The methodology used by Bechtel for evaluation of weld stresses is acceptable and in accordance with current industrial practice. This allegation is therefore considered resolved.

Action Required

None.