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SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, Box 15830, Sacramento, California 95813; (916) 452-3211

July 7, 1980

Mr. R. H. Engelken, Director
Region V, Office of Inspection
and Enforcement
U.S. Nuclear Regulatory Commission
Suite 202, Walnut Creek Plaza
1990 North California Boulevard
Walnut Creek, CA 94596

Docket 50-312
Rancho Seco Nuclear Generating
Station, Unit No. 1
IE Bulletin 80-11
Masonry Wall Design

Dear Mr. Engelken:

The subject bulletin, dated May 8, 1980, requested information on masonry walls that could affect safety related systems. Attachment 1 provides our response to the program for reevaluating the masonry walls.

This work will be conducted and a final report will be filed within the time frame allowed in the bulletin.

If you require additional information, please contact us.

Sincerely yours,

John J. Mattimoe

John J. Mattimoe
Assistant General Manager
and Chief Engineer

Attachment

cc: Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Nuclear Regulatory Commission
Washington, D.C. 20555

80-304

RESPONSE TO I & E BULLETIN 80-11

MASONRY WALL DESIGN

1. Identify all masonry walls in your facility which are in proximity to or have attachments from safety-related piping or equipment such that wall failure could affect a safety-related system. Describe the systems and equipment, both safety and non-safety-related, associated with these masonry walls. Include in your review, masonry walls that are intended to resist impact of pressurization loads, such as missiles, pipe whip, pipe break, jet impingement, or tornado, and fire or water barriers, or shield walls. Equipment to be considered as attachments or in proximity to the walls shall include, but is not limited to, pumps, valves, motors, heat exchangers, cable trays, cable/conduit, HVAC ductwork, and electrical cabinets, instrumentation and controls. Plant surveys, if necessary, for areas inaccessible during normal plant operation shall be performed at the earliest opportunity.

Answer: Two areas at the Rancho Seco Nuclear Generating Station, Unit #1 have reinforced concrete masonry block walls and both areas are external to the structures.

1. Area 1 is located at the 40-foot elevation of the Auxiliary Building and is of a three-sided configuration. It encloses the Nuclear Station Service Transformer Train "B". No equipment, pipes, or safety-related conduit is attached to the walls.

2. Area 2 is located on the North side of the power block structures. The safety-related equipment located in proximity of eight foot high concrete masonry block wall, that possibly could be affected by the wall failure are the Train "B" Nuclear Service cooling water heat exchanger and pump, the Cardox Co_2 storage unit, the underground diesel oil storage tank, and possibly the condensate storage tank. No equipment is on the wall except the conduit for the intrusion alarm system for the area.

2. Provide a reevaluation of the design adequacy of the walls identified in Item 1 above to determine whether the masonry walls will perform their intended function under all postulated loads and load combinations. In this regard, the NRC encourages the formation of an owners' group to establish both appropriate reevaluation criteria and where necessary, a later confirmatory masonry test program to quantify the safety margins established by the reevaluation criteria (this is discussed further in Item 3 below).

a. Establish a prioritized program for the reevaluation of the masonry walls. Provide a description of the program and a detailed schedule for completion of the reevaluation for the categories in the program. The completion date of all reevaluation should not be more than 180 days from the date of this Bulletin. A higher priority should be

placed on the wall reevaluations considering safety-related piping 2-1/2 inches or greater in diameter, piping with support loads due to thermal expansion greater than 100 pounds, safety-related equipment weighing 100 pounds or greater, the safety significance of the potentially affected systems, the overall loads on the wall, and the opportunity for performing plant surveys and, if necessary, modifications in areas otherwise inaccessible. The factors described above are meant to provide guidance in determining what loads may significantly affect the masonry wall analyses.

Answer: The field investigation of the two areas will be completed during the week of July 7, 1980. The Area 1 walls will be analyzed starting July 15, 1980 to verify the structural design of these walls. Concurrently with the reanalysis, construction documentation will be assembled. This effort for Area 1 will be complete by August 29, 1980. The Area 2 walls reanalysis will be started on August 1, 1980. Concurrently, the construction data will be assembled. This effort will be complete by October 1, 1980. The final report will be prepared and submitted by 180 days from the date of the bulletin.

3. Existing test data or conservative assumptions may be used to justify the reevaluation acceptance criteria if the criteria are shown to be conservative and applicable for the actual plant conditions. In the absence of appropriate acceptance criteria, a conformatory masonry wall test program is required by the NRC in order to quantify the safety margins inherent in the schedule to justify the reevaluation criteria used in Item 2. If a test program is necessary, provide your commitment for such a program and a schedule for completion of the program. This test program should address all appropriate loads (seismic, tornado, missile, etc.). It is expected that the test program will extend beyond the 180 day period allowed for the other Bulletin actions. Submit the results of the test program upon its completion.

Answer:

Justification for the reevaluation criteria will be submitted with the reevaluation report within 180 days of the date of the Bulletin received. Justifications will be based on reference to effective codes and established standards of practice related to concrete and masonry design typically used throughout the industry.

It is anticipated that such justification will be considered appropriate, and that a test program will not be necessary, except as required to determine project unique structural properties such as collar joint strength, and any other properties for which construction test data is not available or can not otherwise be determined.