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

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AUG 23 1983

MEMORANDUM FOR: Charles E. Norelius, Director
Division of Project and Resident
Programs, Region III

FROM: James M. Taylor, Director
Division of Quality Assurance,
Safeguards, and Inspection Programs, IE

SUBJECT: CALLAWAY INTEGRATED DESIGN INSPECTION

The inspection team has reviewed the licensee's response (June 13, 1983) to the findings and unresolved items in the Callaway Integrated Design Inspection report (50-483/82-22). Enclosure 1 provides the team leader's summary of the team's review. Direct comments received from individual team members are included as attachments.

In Enclosure 1, where no comment to the contrary is made, the responses appeared to describe adequate resolutions to the issues raised. Where special circumstances appear to warrant further questions, inspection, or review, this is stated.

After reviewing the team's comments, if you should wish any assistance in resolving these items, such as meeting attendance, drafting specific written responses to the licensee, or review of material in Gaithersburg, please let me know.

James M. Taylor, Director
Division of Quality Assurance,
Safeguards, and Inspection Programs
Office of Inspection and Enforcement

Enclosures:
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CONTACT: D. P. Allison, IE
49-29615

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AUG 26 1983

Enclosure:
Team Leader's Summary

Attachments:
1. Memorandum from John Fair, July 27, 1983
2. Memorandum from Keith Morton, July 19, 1983
3. Notes from Robert Shewmaker, July 24, 1983
4. Note of Telecon with John Ma
5. Note of Telecon with Ron Sprague
6. Note of Telecon with Iqbal Ahmed
7. Memorandum from Dwight Chamberlain, July 27, 1983

cc: Callaway Team Members
Byron Team Members
E. B. Blackwood, DEDROGR
E. L. Jordan, IE
J. G. Partlow, IE
J. L. Milhoan, IE
U. Potapovs, RIV
G. Edison, NRR

Enclosure 1

Team Leader's Summary of Team's Review of Responses

F 2-1 The response essentially argues that the FSAR commitment to qualify the pump to run does not also imply a commitment to qualify the exhaust pipe. The team considers this incorrect. Where there is a specific FSAR commitment to qualify the pump to operate, all the supporting services required for pump operation should also be qualified. If not, the justification should be clearly stated and reviewed in the licensing process. Accordingly, the exhaust line should be qualified or the description and justification should be submitted for review on the licensing docket. The licensee's technical arguments concerning the likelihood of an earthquake disabling the pump can be reviewed in that context. However, it should be noted that tornado wind and missile threats are also pertinent and are not addressed in the arguments provided.

In addition, the licensee's response does not address the similar class changes that were noted in other systems. These should be addressed.

Finally, as indicated in the report, the team recognizes that the exhaust line class change was indicated in the piping and instrumentation diagram in the FSAR. This blurs the issue of FSAR compliance only in a very narrow, legalistic sense which is not the issue here. In fact, the NRR reviewer did not notice the class change during the FSAR review, which is to be expected considering that the information was presented as a minor detail on a drawing.

F 2-6 This response is considered acceptable, based on the licensee's arguments concerning good control (which did appear to be the case) and the planned checking and updating at the end of the project.

Note that, in accepting this response, we are accepting the licensee's judgment that treating target sheets as formal design documents is not required, in essence retracting the finding as it was written.

F 2-7 This response is considered acceptable based on the licensee's intent to revise the FSAR. The acceptability of the revision will be judged by NRR in that context.

Note that the licensee's technical arguments on this issue address the water level that might accumulate in the lower level of the auxiliary building and the potential for steam entering the rooms via the air conditioning ducts. The assertion that these effects are negligible appears to be correct based on the inspection. The licensee's arguments do not, however, address steam that might enter the pump rooms due to the flow of steam in the small drain lines.

NRC to close UI 3-1 The response does not correctly address the mathematical concern. Fair's and Morton's comments provide durther detail.

F 3-3 The response is considered acceptable. → Ask Newton.

Note that the response appears to contemplate a 100% walkdown in the IE 79-14 program. The extent of the walkdown was not clear during the inspection.

UI 3-2 The response is considered acceptable.

Note that Morton's comment asks a question about whether it is reasonable to believe that all piping meets level B stress limits. However, there are other ways to meet the functionality criteria, I see no special need to review the basis for the licensee's response.

NRC to review UI 3-3 This response is considered acceptable subject to review of the basis.

Note that the licensee indicated that the evaluation supporting the response is available for NRC review in Bechtel's Gaithersburg office. We recommend review of this supporting documentation by a stress expert.

NRC to review UI 3-4 The response is considered acceptable subject to review of the supporting documentation.

Morton's comments provide further questions. We recommend review of the supporting documentation by a stress expert.

IEA Y N F 3-8 The response basically argues that snubber stiffnesses can generally be ignored and cites one sample problem. This is not a valid rationale and should not be accepted. Fair's comments provide further information. John Fair

NRR to review and close UI 3-5 The team has no problems with the use of stress intensification factors for the three elbow examples cited by the licensee. However, the arguments that the procedure is generally valid are not correct. Fair's comments provide further information. OI

NRR to close

UI 3-6 The response basically argues that there is no need to examine the stiffness of structural elements that are part of a pipe support. However, it is not always true that structural elements are so stiff that they need not be considered and the argument should not be accepted. Fair and Morton's comments provide further information .

R-IV to close

F ~~UI~~ 4-6 Having no record of how supports were selected, and of the calculations sometimes involved in that selection, means that there is also no record that the design work was checked. Accordingly, the team believes that this practice should not be continued. (The final determination should be made in consultation with Region IV.)

However, we did find the process to be controlled so that, despite the lack of documentation, we would not recommend any rework of prior designs for this purpose.

Shewmaker's comments provide additional information.

UI 4-3 The response is considered acceptable.

The licensee noted that the nonconformance report is available for review. The team recommends that this NCR be reviewed by a structural expert.

F 4-7 We do not necessarily agree that quality work produces voids in concrete and we think that the delay in repair had some effect and indicated some problems in carrying out the program.

However, we see nothing here that warrants further questions or actions.

Shewmaker's comments provide further information.

NRR to review

F 5-1 The response disagrees with the team's conclusion. It argues that the licensee did consider and assure the fault current capabilities of motor controllers in the design process. A form letter (that was discussed in the report) is cited as supporting the licensee's conclusion. The form letter contained little information and did not appear to us during the inspection to support such a statement. However, we no longer have it.

Note that the licensee invited rereview. We recommend that an electrical expert review the form letter and any other information available at Gaithersburg to determine whether the motor controller fault current capabilities can be supported.

F 5-3 The response does not address the concern that was expressed with respect to fuses and circuit breakers. It argues that since both fuses and circuit breakers are acceptable and are qualified for use qualification is not affected. However, the concern was related to short circuit capabilities of motor controllers. The motor controllers were type tested in conjunction with current limiting fuses that restricted the fault current to less than the fault current available in this application (where non current limiting breakers are used). Validity of the qualification of the controllers for this application should be addressed. This is the same issue as in Finding 5-1.

F 6-2 The response describes normal drawing review practices. This is apparently intended to imply that the error represented an isolated instance rather than a systematic weakness. The team believes that this question should be explicitly addressed in the response as requested in the report. Chamberlain's comments provide further details.

F 6-3 Chamberlain's comments indicate that the licensee should address the general accuracy of the FSAR. However, I do not agree. The report did not ask for such a response because the three errors noted did not appear sufficient basis for such a request. In addition, the licensee addressed this issue to some extent in the cover letter.

F 6-4 Chamberlain's comments indicate that the licensee should address the general question of performing calculations prior to release of design documents. However, I do not agree. The report did not specifically request such a response because the two instances found did not appear to warrant such a request.