



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

JUL 27 1983

MEMORANDUM FOR: Dennis P. Allison, Team Leader
Division of Quality Assurance, Safeguards
and Inspection Programs, IE

FROM: John R. Fair, Sr. Mechanical Engineer
Engineering and Generic
Communications Branch
Division of Emergency Preparedness
and Engineering Response, IE

SUBJECT: UE RESPONSE TO IDI INSPECTION FINDINGS

Per your request, the following items have either not been adequately addressed by the UE response or require further follow-up:

Finding 2-1 - The licensee's response is divided into three parts. The first part is an argument for not classifying the turbine driven train as Seismic Category I and does not address the finding. The second part addresses the finding which was that the turbine driven pump did not meet the FSAR commitment as an active component. The licensee's argument that the FSAR addressed only the pump and not the exhaust from the turbine is not credible. The licensee references Regulatory Guide 1.29 commitments without, apparently, having read the guide. The auxiliary feed-water system is covered in position 1.g. with footnote (1) stating "The system boundary includes those portions of the system required to accomplish the specified safety function....". The Westinghouse design recommendations cited in the finding clearly stated that turbine operations would be affected by a blocked exhaust path. The licensee has produced no evidence that demonstrates the non-seismically designed exhaust line will not collapse during an SSE and, therefore, the finding related to the FSAR commitment that the turbine driven pump is not designed and qualified to operate during an SSE has not been resolved. The third part of the response has totally missed the generic implications which were raised on the diesel generator and atmosphere steam dump exhaust pipes.

UNRESOLVED ITEM 3-1 - The licensee response does not address the concern. The concern is whether the movement should be divided by the cosine vector or multiplied by that vector. Simple geometry will demonstrate that if you take an east-west movement and multiply by a cosine vector (cosines are always ≤ 1.0) and place this movement at an angle to the east-west direction, the actual movement that is input in the east-west direction must be unconservative. It should be noted that when vector decomposition of components is performed, the components are not uncorrelated to the original vector. They are, in fact, perfectly correlated.

8309140231XA

Finding 3-3 - At the time of the inspection it was not clear whether a 100% walkdown was going to be performed for IE Bulletin 79-14. This response infers that the walkdown will be 100%.

UNRESOLVED ITEM 3-3 - There should be a review of the documentation supporting the stated conclusion.

UNRESOLVED ITEM 3-4 - Same as previous.

Finding 3-8 - The response is not acceptable. The statement that standard components are significantly stiffer than the support structural members is not generally true for snubbers and an explicit example was given in the finding.

Consistent with specific finding

UNRESOLVED ITEM 3-5 - The response is not acceptable. Test data on components as cited in NUREG/CR-0307 has demonstrated that some components such as welding tees have moment capacities equal to or greater than the attachment straight pipe. The reduction procedure in TB-011 is not consistent with actual test results for all components.

We must select alternative test procedure or...

UNRESOLVED ITEM 3-6 - The response is not acceptable. The question of the stiffness at the support change is 2FC-1191-MH has not been addressed. Additionally, to simply state that the scope of the stiffness calculations will be limited because its too difficult to do more is a totally unacceptable engineering practice and leads to the more general concern of what other areas are being ignored because the calculations are too cumbersome to perform. Additionally, the concern raised was based on the weakness of I-beams in torsion which has been demonstrated to be a problem at some facilities.

Response is not acceptable because the calculations are too cumbersome to perform...

John R. Fair
John R. Fair, Sr. Mechanical Engineer
Engineering and Generic
Communications Branch
Division of Emergency Preparedness
and Engineering Response, IE

cc: R.L. Baer, IE

JULY 19, 1983

DENNIS ALLISON -

PER YOUR LETTER DATED JULY 13, 1983,
I AM ENCLOSING MY COMMENTS ON UNION
ELECTRIC'S RESPONSE TO THE CALLAWAY IDI
REPORT. AS CAN BE SEEN ON THE ATTACHMENT,
I BELIEVE FURTHER WORK IS NEEDED ON
UNRESOLVED ITEMS 3-1, 3-2, 3-4, AND 3-6. I
FEEL THAT JOHN FAIR WOULD ALSO BE ABLE
TO MAKE EFFECTIVE COMMENTS.

Yours truly,

D. KEITH MORTON

22-141 50 SHEETS
22-142 100 SHEETS
22-143 200 SHEETS



COMMENTS ON UNION ELECTRIC'S RESPONSES
TO THE CALLAWAY IDI REPORT

1. FINDING 3-1 : IT IS GOOD THAT THEY ARE NOW CONTROLLING THE STRESS NEWSLETTERS.
2. UNRESOLVED ITEM 3-1 : AS STATED, THE RESPONSE DOES NOT CLEARLY EXPLAIN WHY THERE IS NOT A PROBLEM WITH SAM'S AND ME101.
3. FINDING 3-2 : ADEQUATE RESPONSE
4. FINDING 3-3 : ADEQUATE RESPONSE
5. FINDING 3-4 : ADEQUATE RESPONSE
6. FINDING 3-5 : ADEQUATE RESPONSE
7. FINDING 3-6 : ADEQUATE RESPONSE
8. UNRESOLVED ITEM 3-2 : ALTHOUGH I DO NOT KNOW WHAT THE NRC MEB DOCUMENT SAYS EXPLICITLY, I GOT THE IMPRESSION DURING THE CALLAWAY IDI THAT THE MAXIMUM STRESS FOR ANY PRIMARY LOAD COULD NOT EXCEED LEVEL B SERVICE LIMITS. THE PIPING SYSTEM STRESS PACKAGES THAT WERE REVIEWED HAD SSE STRESSES EXCEEDING LEVEL B SERVICE LIMITS.
Can do other things as well. No need to check.
9. UNRESOLVED ITEM 3-3 : ADEQUATE RESPONSE
10. UNRESOLVED ITEM 3-4 : THE LAST SENTENCE OF THE FIRST PARAGRAPH DOES NOT ADDRESS THE PROBLEM. IT IGNORES THE REDUCTION OF BUCKLING CAPACITY. THE SECOND PARAGRAPH INDICATES A STUDY WAS MADE WHICH INDICATES NO PROBLEMS. IF THIS STUDY IS ACCEPTABLE, THE PROBLEM IS RESOLVED BUT THE FIRST PARAGRAPH SHOULD STILL BE CLARIFIED.
11. FINDING 3-7 : ADEQUATE RESPONSE
12. FINDING 3-8 : ADEQUATE RESPONSE
13. UNRESOLVED ITEM 3-5 : ADEQUATE RESPONSE

50 SHEETS
100 SHEETS
200 SHEETS


22-141
22-142
22-144



14. UNRESOLVED ITEM 3-6: WITH RESPECT TO THIS PARTICULAR SUPPORT, I CANNOT AGREE WITH POINT 2. AS DESIGNED, THE SUPPORT WOULD BE PUTTING AN I-BEAM IN TORSION. I-BEAMS ARE VERY WEAK IN TORSION. IT IS THESE TYPES OF SITUATIONS WHERE ENGINEERING JUDGEMENT SHOULD BE INCORPORATED OR TIGHTER OR MORE RESTRICTIVE CONTROLS SHOULD BE CREATED WHICH WOULD PRECLUDE THIS TYPE OF POOR ENGINEERING DESIGN.

15. UNRESOLVED ITEM 3-7: ADEQUATE RESPONSE

16. UNRESOLVED ITEM 3-8: ADEQUATE RESPONSE

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS


Shenandoah
7/20/83
1/2

Brief Review of Callaway Response of 6/15/83
per Adresson memo of 7/13/83

Adequate Resolutions: 5/7 Findings 1/2 Unresolved
More work Needed: 2/7 Finding

Findings

4-1 OK
4-2 OK
4-3 OK
4-4 OK
4-5 OK
4-6 More work needed
4-7 I disagree with
their response

Unresolved Items

4-1 MA's - no comment
4-2 OK
4-3 Should have a copy
of NCR for review

Details:

Finding 4-6: Procedures should be in place so that the plate selection can be checked whether it has been selected based on nomographic standard plates or interaction equations for a specific case. For example: for a plate with a 50k shear load and a 40k tensile load a standard plate design is selected. Mark number to be APA501

Type AP-6	Max Tensile 25k	Max Shear 25k
" AP-7	" " 25k	" " 50k
" AP-8	" " 50k	" " 25k
" AP-9	" " 30k	" " 50k

Cases should show:

For APA 501 use ^{Type} AP-9

Req'd T = 40^t Provides 50^t

and Req'd V = 50^t Provides 50^t

∴ OK

For nomograph:

Select proper nomograph w/ boundary conditions correct.

Identify nomograph by no., ID etc.

Then specific values of parameters, then enter nomograph and no. selection or verification of plate type should be written

Etc.

Finding 4-7:

The imperfections are not what is expected in quality construction and I believe indicate less than the best possible job was done during the concrete placement activities. I believe that due to the delay, the repair method had to be changed from that prescribed in the specification and I believe the matter is a flaw in implementation of the procedures.

However, not warrant requiring further action.

Note of Telecon with John Ma

John Ma called on 7/22/83

to report that he considered

the responses to his findings

adequate.

Jennis Allison

Note of Telecon with Ron Sprague

Ron Sprague called on 7/29/83 to report that:

Finding 5-1:

Response unsatisfactory

"Whole MCC qualified for 25,000 A"
really only means that
the bus bars are braced
for 25,000 A

The time at which licensee
"reviewed capabilities and
found adequate" was not
clear

Finding 5-2:

Response OK

Finding 5-3:

Response missed the point
will clarify qualification report
Corrective action OK

Dennis Allison

Note of Telecon with Iqbal Ahmed

~~Iqbal~~

Iqbal Ahmed called on 8/18/3 to report:

Finding 5-1:

Question is, do they have something else or are they relying on the form letter
Was it assured in the design process? Or later?

Finding 5-3:

Response missed the point.

Dennis Allison

7-27-83

MEMORANDUM FOR: Dennis Allison, Team Leader
FROM: D. D. Clamferlain, Callaway Design Inspection Team
Member
SUBJECT: CALLAWAY RESPONSE TO INSPECTION REPORT

The following additional information is needed with regards to the findings identified in the instrumentation and control design area:

FINDING 6-1 - Response satisfactory.

FINDING 6-2 - The error identified with logic diagram JO2AL01 should have been detected and corrected prior to the issue of the drawing. The fact that the error was detected during the review of a subsequent revision to the logic diagram that was issued during the NRC inspection does not attest to the effectiveness of the original design review. Also, Central personnel were not able to provide the NRC inspector with documented evidence that this discrepancy was identified during the original design review process and evidence that it was being tracked for later resolution. The response to this finding should include a review of other logic diagrams against the applicable schematics (other systems dec) and an evaluation with regards to this being an isolated or systematic error.

FINDING 6-3 - Although this specific error appears to have been satisfactorily resolved by revising the wording in the FSAR, it would seem that they failed to address the broader concern with inconsistencies between the design documents and the FSAR commitments. What assurance does the NRC have that the design is accurately represented in the FSAR licensing document? Forget:

FINDING 6-4 - They should provide the basis for their determination that this was an isolated incident.

Isolated basis - normal practice

J. D. Chamberlain
D. D. CHAMBERLAIN