

DMB

October 4, 1984

Docket No. 50-454
Docket No. 50-455
Docket No. 50-456
Docket No. 50-457

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Vice President
Post Office Box 767
Chicago, IL 60690

Gentlemen:

On September 24, 1984, the NRC received a list of items of concern relating to your Byron and Braidwood Stations from an expert witness for the Intervenor in the remanded Byron hearing. Most of the items were included in the written and oral testimony by the Intervenor in the remanded Byron hearing. To assist us in making a prompt assessment of the possible safety significance of the items, as they relate to your Byron Station, we have transcribed the list and enclosed those items we would like you to address. We request that you provide a written response to each of the items relating to Byron to be received in this office by close of business (4:45 p.m.) October 12, 1984. You may either address the applicability of these issues to your Braidwood Station at that time or delay that part of your response until December 1, 1984. If you find that you can not adequately address all of the items by these dates, please inform us as soon as you are aware of that fact.

Many of the items on the list received from the expert witness are described in the same brief fashion as they appear in the remanded Byron hearing record; however, we believe you are sufficiently familiar with the issues to enable you to adequately respond. There may be some items for which you will need additional information that we may have to allow the expedited response we have requested. If so, we will be available to meet with you at 9:00 a.m. on October 8, 1984, in our offices to discuss the items.

Your cooperation in this matter is appreciated. Please contact us before close of business October 5, 1984, if you wish to have the October 8, 1984, meeting.

Sincerely,

Original signed by: John F. Streeter

John F. Streeter, Director
Byron Project Division

Enclosure: Transcriptions
of Concerns Regarding Byron
and Braidwood Stations for
Commonwealth Edison Company
Review dated October 4, 1984

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October 4, 1984

cc w/encl:

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of Nuclear Licensing
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Gunner Sorensen, Site Project
Superintendent
R. E. Querio, Station
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Administrative Judge
Dr. R. F. Cole
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Mrs. P. B. Johnson
Ms. P. Morrison

RIII
Streeter/rr
10/4/84

RIII
Wejl
10/4/84

RIII
Warrick
10/4/84

RIII
Benson
10/4/84

Transcription of Concerns
Regarding Byron and Braidwood Stations
for Commonwealth Edison Company Review

A. REINSPECTION PROGRAM

A.1. COMPUTER PRINTOUTS BY INSPECTOR FOR HUNTER CORPORATION

RIII Note: The concern is that the following reinspections were cancelled based on inaccessibility, and that the reasons listed for inaccessibility were not consistent with reinspection program requirements:

Doc. Id: 005H Inspector 1284 inaccessible due to a lot of retrofit on FW SYSTEM

Doc. Id: 0100H Inspector 1354 inaccessible due to CLEANLINESS & HYDRO TEST

Doc. Id: 0040H Inspector 1313 inaccessible due to HOT FUNCTIONAL

Doc. Id: 0113H Inspector 1515 1st half inaccessible due to CLEANLINESS

Doc. Id: 0064H Inspector 1515 cont. CLEANLINESS

Doc. Id: 0017H Inspector 1714 inaccessible UNDER WATER

A.2. NRC LETTER APRIL 16, 1984 TO COMMONWEALTH EDISON COMPANY

P after 46 marked ATTACHMENT IV-6 2nd paragraph - reinspections left out of results of review program due to lack of documentation and/or absence of information on weld traveler cards. I feel these should have been reviewed as separate attribute deficiencies. The number of those untraceable totaled as compared with the untraceable which had deficient inspections. A 95% acceptance rate required; if this was not met the contactor's program as a whole would fail. The number of those without documentation totaled and verified. This attribute should also require a 95% fail rate, if not met the contractor's program as a whole would fail. Insufficient information or no information on documentation should be handled as the worst discrepancy possible in a QA/QC program. Without supporting evidence that a plant has been constructed to the FSAR and other code requirements, as well as NRC requirements to meet 10 CFR 50 Appendix B, there can be no confidence that the 1000's of components necessary for the safe operation can be relied upon to work.

A.3. Reinspectors biased because they were, at times, reinspecting the work of their supervisors. Overtime may not be approved by their supervisors if the reinspectors would write up something which was previously inspected by their supervisor.

B. S&L CRITERIAB.1. STRUCTURAL PROJECT DESIGN CRITERIA BYRON AND BRAIDWOOD NUCLEAR
POWER STATION UNITS 1 & 2 (DC-ST-03-BY/BR) REVISION 12

- | | | |
|----|--|---|
| a. | Section 1.1, para. 2 | No exceptions to the Final Safety Analysis Report and Environmental Report are permitted. |
| b. | Section 7.4.1.b | Interior walls 12", concrete slabs 12", on metal deck-category I floors 8", roof 14", control room ceiling 4" and category II slabs 6" (? ANCHOR BOLT PROBLEMS) Min. thickness and reinforcement requirement. |
| c. | Section 7.4.2.b | Exterior walls below grade 15" min. thick. and above grade 24" min. thick. (? REVERSED) |
| d. | Section 8.1.a | ACI 318-71 (? FSAR REQUIREMENTS) (? USED IN DESIGN) |
| e. | Section 8.1.b | ACI 322-72 (? FSAR REQUIREMENTS) (? USED IN DESIGN) |
| f. | Section 8.1.c. | AISC-69 (ELASTIC DESIGN) (? PLASTIC DESIGN) (? USED IN DESIGN) |
| g. | Section 8.1.d | UBC-73 (SEISMIC ANALYSIS CATEGORY II STRUCTURES) (? FSAR REQUIREMENTS) (? USED IN DESIGN) |
| h. | Section 8.1.e | AISI-68 (DESIGN COLD FORMED STEEL STRUCTURAL MEMBERS) (? FSAR REQUIREMENTS) (? USED IN DESIGN) |
| i. | Section 8.1.f | 73 ASME Section III Division 2, PROPOSED STANDARD |
| j. | CODE for CONCRETE REACTOR VESSELS AND CONTAINMENTS. (? FSAR REQUIREMENTS) (? USED IN DESIGN) | |
| k. | Section 9.5 | CATEGORY II DEFLECTION WAIVED (? WITHOUT SOME LIMIT IMPOSSIBLE TO DETERMINE WHEN CAT. II EFFECTS CAT. 1) |
| l. | TABLE 9.4-1 NOTE 5 | 1.67 AISC < .95 Fy (1.67 SHOULD BE 1.6 FSAR) |
| m. | TABLE 9.4-1 | DESIGN STRESSES 1.75 AISC ? Fy (? FSAR REQUIREMENTS) |

- n. Section 10.2.1.1.3.4 In all cases, structural members will be checked for the loads obtained from the pipe and cable pan hanger drawings. (?table diff.)
- o. Section 10.2.2.1.1 33 hz or less or increase acceleration 50%
- p. Section 10.2.2.2.1 LEEWARD PRESSURE IS SUCTION NOT APPARENT IN TABLE
- q. Section 10.2.2.2.2 LEEWARD PRESSURE IS SUCTION NOT APPARENT IN TABLE
- r. Section 10.2.2.2.3 LEEWARD PRESSURE IS SUCTION NOT APPARENT IN TABLES
- s. Section 10.2.3.3.1 FOLLOWING PARAGRAPH EXTREME ENVIRONMENTAL (1.67 AISC allow. ? .95Fy) (1.67 SHOULD BE 1.6 and <= IS LEFT OUT BEFORE .95Fy)
- t. Section 10.2.3.4 a. 1.6 AISC Allow. .95Fy (<= IS LEFT OUT BEFORE .95Fy)
- u. Table 10.3-1 DESIGN STRESSES COLUMN 1.6 AISC. allow. .95 Fy (<= left out)
- v. Section 12.2.4 Formula $P_{AE} = 1/2 ? H^2 K_{AE}$ (MISSING LAMBDA SYMBOL)
- w. Section 18.1.1 ALL DESIGN ASSUMPTIONS, METHODS, REFERENCES AND MATERIALS SHALL BE DEFINED FOR EACH AREA OF DESIGN USING STANDARD CALCULATIONAL SUMMARY SHEETS.
- x. Section 19.5.d EQUATION MISSING SUMMATION SYMBOL BEFORE THE b^2
- y. Section 19.5.d EQUATION SHOULD BE SQUARE ROOT OF $F'c$
- z. Section 20.3.1.d MAX. WT. OF CONDUIT AND CABLE DIFFERS FROM NEC 71 VALUES IN UNISTRUT CAT.
- aa. FIGURE 21.8-3 ?NF TO WELD
FIGURE 21.8-4 ?NF TO WELD
FIGURE 21.8-5 ?NF TO WELD
- bb. Section 32.3.1 ?EQUATION - NOT ABLE TO VERIFY EQUATION (REF. STEEL PLATE ENG. DATA - VOL. 3 WELDED STEEL PIPE AISI)

- cc. Section 32.3.2 WALL THICKNESS SHOULD BE CHECKED FOR INTERNAL PRESSURE AND EXTERNAL LOAD BEFORE INTERNAL PRESSURE IS APPLIED, NOR HAS A MINIMUM THICKNESS BEEN CHECKED FOR SAFE HANDLING
- dd. Section 32.3.2. :25 fy SHOULD BE .25fy
- ee. Section 32.4.2 SPANGLER'S EQUATION D.061 SHOULD BE 0.061 AND R^4 SHOULD BE R^3 IN DENOMINATOR
- ff. Section 34.2 EMBED PLATES DESIGNED FOR 10 KIPS PER FOOT TENSION LOAD AND 12 KIPS PER FOOT SHEAR LOAD (? PLATE SAFETY FACTOR WITH CRITERIA THAT ALMOST EVERY THING IS HUNG FROM THEM)
- gg. Section 35.3.1 STRESS LIMITED TO $1.0F_y$ FOR LOADING AND $F_y/\text{sq. root of } 3$ FOR SHEAR (? $.95F_y$ for TENSION LOADING)
- hh. Section 37.1.2 (? NO LIMIT OF DEFLECTION ON NON-SAFETY HANGERS IN SAFETY RELATED AREAS) WHAT CLEARANCE CRITERIA WILL BE USED TO ENSURE THAT NON-SAFETY DOESN'T DAMAGE SAFETY?
- ii. Section 37.2 NO DEFINITIVE STATEMENT THAT TORSIONAL STRESSES SHOULD BE CHECKED
- jj. Section 37.2.1.f DEFLECTION AND ROTATION OF PRIMARY STRUCTURAL STEEL IGNORED IN DEFLECTION CHECK (? MEMBERS WITH PINNED ENDS)
- kk. Section 37.2.1.g.1.B IGNORE AXIAL SELF WEIGHT (? MAGNITUDE OF LOAD AFFECTING MEMBERS AND CONNECTIONS)
- ll. Section 37.2.1.g.1.c TORSION ANALYSIS NOT REQUIRED (? MAGNITUDE OF LOAD AFFECTING MEMBERS AND CONNECTIONS)
- mm. Section 37.2.1.g.2.B AXIAL SELF WEIGHT MAY BE IGNORED (? MAGNITUDE OF LOAD AFFECTING MEMBERS AND CONNECTIONS)
- nn. Section 37.2.1.g.2.C TORSION INCLUDED HERE ? LOGIC
- oo. Section 37.2.1.g.3.A ASSUME ALL MASSES LUMPED AT THE SHEAR CENTER
- pp. Section 37.2.1.g.3.B AXIAL SELF WEIGHT MAY BE IGNORED
- qq. Section 37.2.1.g.3.C TORSIONAL ANALYSIS IS NOT REQUIRED
- rr. Section 37.2.1.g.4.A ASSUME ALL MASSES LUMPED AT SHEAR CENTER
 Section 37.2.1.g.4.B AXIAL SELF WEIGHT MAY BE IGNORED
 Section 37.2.1.g.4.C TORSIONAL ANALYSIS NOT REQUIRED

- ss. Section 37.2.1.g.5 EXACT ANALYSIS MUST BE PERFORMED FOR LOADS GREATER THAN 20 KIPS
- tt. Section 37.2.1.g.5.A ASSUME ALL MASSES LUMPED AT SHEAR CENTER
Section 37.2.1.g.5.B AXIAL SELF WEIGHT MAY BE IGNORED
Section 37.2.1.g.5.C TORSIONAL ANALYSIS NOT REQUIRED
- uu. Section 37.2.1.g.6.B AXIAL SELF WEIGHT MAY BE IGNORED
Section 37.2.1.g.6.C TORSIONAL ANALYSIS NOT REQUIRED
- vv. Section 37.2.1.g.7.A ASSUME ALL MASSES LUMPED AT SHEAR CENTER
- ww. Section 37.2.2.a Z_x IS THE PLASTIC SECTION MODULUS (FSAR STATES ONLY YIELD STRESS DESIGN USED)
- xx. Section 37.2.2.a Z_y IS THE PLASTIC SECTION MODULUS (FSAR STATES ONLY YIELD STRESS DESIGN USED)
- yy. Section 37.2.2.a $F_a = 1.6$ TIMES THE ALLOWABLE AXIAL STRESS PER AISC 1969 $< 0.9 F_y$ ALSO F_{bx} AND F_{by} (.9 CAN BE .95 PER FSAR)
- zz. Table 38.1-1 (? EMBEDMENT LENGTHS OF BOLTS FOR THIN SLABS PER SECTION 7.4.1.b ABOVE)
- aaa. Table 38.2-1 DRILLING IS NOT ALLOWED IN MORTAR JOINTS (SAW 2 ROWS WHERE EVERY OTHER BOLT WAS IN A JOINT IN ELECTRICAL BOX ROOM WITH JUDGES)
- bbb. OMITTED NO THROUGH BOLT DESIGN CRITERIA
- ccc. OMITTED NO FLARE-BEVEL OR BEVEL WELD RADIUS OF TUBE SPECIFIED (DOC. STATES THAT TUBE EXISTS IN FIELD WITH RADIUS OF t AND THAT $2t$ DOES NOT APPLY)
- ddd. OMITTED NO AS-BUILDING 10% OVERSTRESS FACTOR (ALSO NOT IN FSAR)

B.2. STANDARD SPECIFICATION FOR CONCRETE EXPANSION ANCHOR WORK BYRON STATION UNITS 1 AND 2, BRAIDWOOD STATION - UNITS 1 AND 2, REVISION 20

- a. OMITTED NO MAXIMUM DEPTH OF EMBEDMENT FOR THIN SLABS AND WALLS.
- b. OMITTED NO PROCEDURE FOR CHECKING CONE OVER LAP FROM TWO SIDES OF SLAB
- c. OMITTED NO INSTALLATION PROCEDURE FOR THROUGH BOLTS

B.3. REVIEW OF SD & DD REPORT. 78 CATEGORY I CONCRETE BLOCK WALLS

From notes - Section 1.5.2.(b) vertical load of attachments ignored as insignificant. Section 1.5.2.(c) ignore eccentricity of P1 with respect to centerline of wall.

B.4. INSTRUCTION PI-BB-27 REVISION 2 & PI-BB-26

Section 3.0

THOSE MEASUREMENTS OF THE "AS-INSTALLED PIPE NECESSARY TO EVALUATE THE INSTALLATION OF THE SYSTEM (? NO LATERAL CLEARANCE CHECKS CAT. I TO CAT. I OR CAT. I TO NON-SAFETY RELATED)

B.5. REVIEW OF SDE-E1.3. S & L DOCUMENT

This is the document which has the 10% overstress using nominal member properties on page 15 and on page 21 states 0% overstress using certified material test reports values. Questionable compliance with the FSAR. States that the Max. Fy used shall not exceed .7 Fu for ductility. Table 1.3.1 Plot of loads to Structural Steel ignores some loads from HVAC, all small bore loads, all instrumentation loads, all lighting and conduit loads, and some plumbing loads. Table 1.4.6 CONC. BLOCK WALL LOADINGS ignores attachment wt., eccentricity, and applied support loads. A 10% reduction in allowable bolt loads is to be made for angularity problems, does not indicate that prorating is allowed. Section 11.5.6 States that abandoned holes or anchors reduce allowable load for future bolts by 50%, did not see any procedure for the tracking of abandoned holes.

C. RESULTS OF S&L CALCULATIONS REVIEWED

C.1. S&L REVIEW CALC. NO. BRP-1 FOR HUNTER SUBJECTIVE WELDING

Review of 60 AWS type discrepancies and 49 ASME only 2 on FEED WATER SYSTEM and 5 on MAIN STEAM.

NO. 62 (S-CC-100-11A) and NO. 63 (S-CC-100-33) were accepted due to the accuracy of the supplied gauges for measuring the welds being only 1/64th of an inch. when on the manufacturers own information supplied with his equipment indicated that a high accuracy instrument might be required.

C.2. S & L CALC. FOR WELD SURVEY PROJECT BYRON BRAIDWOOD

- a. Doc. prepared by: D. J. Sheahan NOT REVIEWED OR APPROVED, NO PAGE NUMBERS
- b. P 5 from front (D. PATEL - 28) is written on this document, and is the only traceability provided.
- c. P 9 titled FLARE-BEVEL GROOVE WELDS states BASE METAL GOVERNS specifically at PLATE

- d. P 10 titled FLARE GROOVE WELDS states "TYPICAL FIELD MEASUREMENTS INDICATE THAT THE ACTUAL RADIUS IS BETWEEN T AND 2.5T, WHERE T IS THE TUBE WALL THICKNESS. THEREFORE, THE DESIGN ASSUMPTION OF $\leq 2T$ AND EFFECTIVE THROAT EQUAL TO 5/16 R PER AWS IS NOT APPLICABLE."
- C.3. S & L LETTER TO COMMONWEALTH EDISON SUPPLEMENT TO REPORT ON BYRON QC INSPECTOR REINSPECTION PROGRAM MAY 8, 1984
- States that programs A & B were for Hatfield and that programs C & D were Pittsburgh Testing Lab.
- C.4. CALC. BOOK 19.1.2 DESIGN PROC. AND ASSUMPTIONS FOR EVALUATION OF AS-BUILT WELDS WITH AWS INSPECTION DISCREPANCIES
- a. P 17 last para. "All references to other calculations must be clearly made since these calculations are filed separately from the structural system being evaluated."
- b. P 19 COMBINATION for Steel-OBE is missing the load factor in the E column which should be a 1.0
- C.5. S & L CALC. BOOK 19.1.2
- a. Section 19 page 1 to 5 CALCULATIONS for CONDUIT & JUNCTION BOX SUPPORT WELD REINSPECTION SUMMARY are
Prepared by: and Approved by: J. Ursetto
- C.6. S & L Calc. Book 19.1.2
- a. Sect. 21 pg. 186 connections 8.6AB26M-R S-1320, 8.6AB226N-L S1322 says "Both these beams frame into/through a shear wall and extend 9" past the other side of the shear wall and connect to their respective primary beams." "Due to this configuration it will be assumed that the shear wall takes the reaction." "Therefore both welds on the above connections are OK!" This assumption is ridiculous.
- C.7. REVIEW OF S & L CALC. BOOK 19.1.3 CALCS. for CEA REINSPECTION EVALUATION - CONDUIT SUPPORTS
- a. Sect. 4 pg. 1 to 8A REPORT NO. 4719: On pg. 3, I calculate a different frequency and acceleration. The frequency was less than 33 hz but I didn't increase the accelerations by 50% as required by criteria as I had not read it at the time I did the calc. Even without the 50% increase because the structure is not rigid, upon recomputing the loads on pg. 4 and performing a rigid plate calculation on pg. 5, the anchor bolts in question FAILED.
- b. Sect. 4 pg. 28 REPORT NO. 7091: ACCELERATIONS ARE NOT CONSERVATIVE WITHOUT PROOF THAT SLIPPAGE IN VERTICAL AND LATERAL DIRECTIONS WILL NOT OCCUR. ENTIRE CALCULATION IS AN ASSUMPTION on pg. 29. Also telephone information used without supporting documentation. On pg. 36 another undocumented phone call is relied upon. On pg. 38 "1JB1427A MOUNTING IS OK FOR ASSUMED MOUNTING"

- c. Sect. 4 pg. 43 REPORT NO. 7255: THE ASSUMPTION IS MADE THAT THE BOLT IN QUESTION IS CENTERED IN THE HOLE. THIS IS NOT WORST CASE WHICH IS LIKELY AND THAT IS THAT THE BOLT IS ON ONE SIDE OF THE HOLE.
- d. REVIEW OF CATEGORY I CONDUIT SUPPORTS TYPICAL SUPPORTS TYPES AND LOAD TABLES DWG. 6E-0-3393B - SUPPORT TYPE CF & MCF (FLOOR TO CEILING) AND TYPE CC & CP MAXIMUM LOAD TABLES. IT APPEARS THAT THE KL/r FOR MANY OF THOSE SHOWN EXCEEDS 200.
- e. REVIEW OF DWG. 6E-0-3393E - LOAD TABLE FOR STEEL CONDUIT SEEMS TO DISAGREE WITH THE TABLE IN THE UNISTRUT CATALOG pg. 113

D. COMPUTER PROGRAMS

D.1. REVIEW OF SEISHANG PROGRAM DOCUMENTATION

Comments from notes - Vertical members assumed pinned at supports (conservative for members maybe but not welded connections). Also rotational degrees of freedom assumed insignificant. (unconservative) Only performs 8 possible stress combinations. Out-of-plane load considered only if hanger braced longitudinally. (unconservative) Bracing treated as truss element. Require more time to review but have many questions about this program and the results generated.

D.2. REVIEW OF PIPSYS PROGRAM DOCUMENTATION

From notes - On page 14.4 there were penciled in changes to documentation + changed to - and $kl/2$ was changed to $(kl/2)^2$. No apparent check of maximum unbraced length (AISC 1.5.1.4.6b) or (UBC Sec. 2702.(b)4.(v))

D.3. STRUDL PROGRAM

Have piping load cases be omitted from structural analyses (Strudl Program) due to administrative limits on the computer memory available to the engineers?

D.4. CIS-4 PROGRAM

Computer program CIS-4, "Progress Report for Byron Station Cable Information System", doesn't have program validation.

E. WELD PROCEDURES

E.1. REVIEW OF HATFIELD WELD PROCEDURES (OLD)

- a. Pro. 13F Findings - welder qualification test procedure inadequate - no detail as to what was required nor how essential variables were met.

- b. Pro. 13 Findings - ASME Procedure used between 7/28/76 and 11/21/77 did not specify backing ring material. Material compatibility is essential to meeting weld design requirements. No travel speed parameters give for heat input calculations.

E.2. REVIEW OF HATFIELD WELD PROCEDURES (NEW)

AWS PRO. 13AA REV. 0 THROUGH 12 (2/21/79) TO (12/20/83) Findings - This is a generic company procedure for all prequalified (Does not require testing) AWS welding. All joint designs shown in AWS D1.1-75 and additional Flare Bevel Groove design (tube steel to tube steel). The "natural" flare bevel groove design is not a prequalified joint. This weld requires a WELD PROCEDURE QUALIFICATION AND WELDER QUALIFICATION. Suggest a macro etch section be made to verify penetration and effective throat. Also no tolerances given for field inspectors on joint dimensions.

F. SYSTEMS CONTROL EQUIPMENT

F.1. SYSTEMS CONTROL SUPPLIED CONTROL BOARDS

- a. BONDO, BAD WELDS, and HOLES DRILLED IN BRACING
- b. NCR NO. 695 Attach. A shows that 3 MAIN CONTROL BOARD SECTIONS (1PM02J, 1PM02J, and 1PM05J) have AUTO BODY TYPE REPAIR COMPOUND AND TACK WELDS RATHER THAN THE FULL PENETRATION WELDS SPECIFIED
- c. SYSTEMS CONTROL LETTER of April 28, 1982 to S & L admits that they have used BODY FILLER IN MANY PANEL FACE REPAIR APPLICATIONS. In the 3rd para., Systems Control, states, "We can only conclude that the area of the board containing the cracks may have been subjected to abnormal thermal or structural stresses."
- d. S & L INTEROFFICE MEMORANDUM on April 30, 1982 from: J. A. Schwin to B. G. Treece in response to NCR Number F-595 has a NOTE at the bottom which states "The use of body filler material (Bondo, etc.) is a standard practice of control board manufacturers in repairing blemishes to their boards."
- e. I am not aware of final decision on this problem but I would like to comment on what I have read. 1) The drawing called out a full penetration weld not tack welds and "Bondo", what is the function of the Bondo - strength or sealant? 2) These are MAIN CONTROL BOARDS - Could particles of "Bondo" during a seismic event render any of the controls inoperative? Example: Opening and Closing contact switches. 3) Are procedures in place for the design, installation and qualification of "Bondo" in Class I safety related controls?

If use is sealant, another is probably better - high temperature silicon.

If use is strength, welding is better.

If not required, then remove the Bondo from all safety related equipment.

- f. NCR F-544 indicates that MAIN CONTROL BOARD PANELS: OPM01J, OPM02J, 1PM01J, 2PM01J, 1PM04J, 1PM04J, 1PM11J, and 2PM11J do not meet AWS D1.1 CRITERIA. As a solution, SYSTEMS CONTROL wrote their own acceptance criteria.
- g. NCR HOLES APPROVED EVEN THROUGH SECTION LEFT WAS 1 1/2" x APPROX. 1/2"

G. DYNAMIC LOADS ON PIPING

- G.1. Have the effects of accidental operational pressure transients been dealt with? I disagree with S&L's apparent position that the component supports do not have to be analyzed for fatigue loading.

H. HVAC

- H.1. NRC LETTER SEPT. 30, 1983 TO COMMONWEALTH EDISON COMPANY SUBJECT: INTEGRATED DESIGN INSPECTION 50-454/83-32

P 2-19 2nd para. from bottom: In reviewing the method used to establish the environmental conditions for the auxiliary feedwater pump motor, the HVAC was depended upon. (? DID THE PURCHASE ORDERS REQUIRE THAT THE FANS ETC. (HVAC) EQUIPMENT BE SEISMICALLY RATED FOR THE POSTULATED EARTHQUAKE TO WHICH IT COULD BE SUBJECTED DURING THIS DEPENDENCE TO COOL THE AUXILIARY FEEDWATER PUMP AREA?) This concern extends to all safety dependent HVAC equipment.

I. OTHER CONCERNS EXPRESSED

- I.1. No relaxation of bolts assumed in S&L's anchor bolt analysis or no design and installation criteria for thru bolts.

(RIII Note: The last portion of this concern appears to duplicate Items B.1.bbb and B.2.c.)

- I.2. QC inspectors forced to buy overtime from QC supervisors at the Byron site.