

RELATED CORRESPONDENCE

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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OFFICE OF THE SECRETARY
& SERVICE
BRANCH

In the Matter of

TEXAS UTILITIES ELECTRIC
COMPANY, et al.

(Comanche Peak Steam Electric
Station, Units 1 and 2)

Docket Nos. 50-445
and 50-446

(Application for an
Operating License)

INDEX

to

CASE'S MOTIONS REGARDING INSPECTIONS OF
MAIN COOLANT SYSTEM CROSSOVER LEG RESTRAINTS

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CASE'S MOTIONS REGARDING INSPECTIONS OF
MAIN COOLANT SYSTEM CROSSOVER LEG RESTRAINTS

On 12/1/84, CASE (Citizens Association for Sound Energy), Intervenor herein, received Applicants' 11/30/84 Response to CASE's Discovery Requests Regarding Crossover Leg Restraints /1/.

The importance of this matter has already been discussed in CASE's 10/30/84 Answer to Applicants' 10/19/84 Motion (especially pages 2 through 5). And the Board stated in its 11/7/84 Memorandum (Reconsideration: Cross-Over Leg Restraints) (excerpted from page 1, first paragraph, and footnote 1, page 1 continued on page 2):

/1/ For additional background information, see:

CASE's 8/18/84 Partial Answer in Opposition to Applicants' Motion for Authorization to Issue a License to Load Fuel and Conduct Certain Precritical Testing, pages 12-14,

Applicants' 9/14/84 Response to CASE Motion for Discovery Regarding Inspections of Main Coolant System Crossover Leg Restraints, CASE's 10/1/84 Answer to Applicants' 9/13/84 Supplement to Motion for Authorization Pursuant to 10 C.F.R. 50.57(c), bottom of page 8, and Attachment F thereto,

CASE's 10/18/84 Discovery Requests to Applicants Regarding Cross-Over Leg Restraints,

Applicants' 10/19/84 Motion for Reconsideration of Board Order Granting Discovery on Crossover Leg Restraints,

CASE's 10/30/84 Answer to Applicants' 10/19/84 Motion for Reconsideration of Board Order Granting Discovery on Crossover Leg Restraints, and

Board's 11/7/84 Memorandum (Reconsideration: Cross-Over Leg Restraints).

". . . The cross-over leg restraints have independent safety significance. Furthermore, the alleged deficiency was a failure to inspect these restraints. Applicants' response does not adequately respond to the Staff charges because it refers to vague plans that were never documented. . .

". . . we do not have confidence at the present time that Applicants do successfully identify and follow-up on deficiencies. In this particular instance, it is entirely unclear whether Applicants were aware of an omission in their QC program. Hence, when the Staff charges a serious omission from the QA/QC system at Comanche Peak, the Board is concerned and the issue may be added to the proceeding. . . "

1. Brief Summary:

Based upon review of Applicants' 11/30/84 Response and the documents attached, and other relevant and material information, CASE offers the following brief summary:

NRC Region IV Inspection and Enforcement (I&E) Report 50-445/84-08, 50-446/84-04 (copy of which was attached to CASE's 8/18/84 Partial Answer in Opposition to Applicants' Motion for Authorization to Issue a License to Load Fuel and Conduct Certain Precritical Testing) states, in pertinent part:

"Failure to Perform Inspections of Installation Activities Related to Unit 1, Main Coolant System Crossover Leg Restraints

"Criterion X of Appendix B to 10 CFR Part 50 requires that inspections of activities affecting quality shall be established and executed by or for the organizations performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity.

"Texas Utilities Electric Company Quality Assurance Plan, in Section 10.0, requires that planned written inspection procedures be utilized. It further requires that inspection activities include the types of characteristics to be measured, the methods of examination, and the criteria.

"Contrary to the above, it was determined that inspections were not made of the installations of the Unit 1 crossover leg restraints, nor were any documents requiring such an inspection issued. Specifically, the requirements for installation, as specified in Gibbs & Hill Drawing 2323-S1-0550, were not inspected and documented. The eight crossover restraints (2 per loop) are major components of the main coolant piping seismic restraints and support system.

"This is a Severity Level IV Violation. (Supplement II.D) (445/8408-02)"

(Item B, pages 1 and 2 of Appendix A, Notice of Violation)

"Main Coolant Loop Restraints

"During an inspection inside containment, Unit 1, the crossover leg restraints of main coolant loop No. 1 were examined for conformance to applicable drawings for materials, construction, and installation. Materials and welding were found to be as specified on the drawings.

"There are two similar restraints on each main coolant loop made of 1-1/4 inch ASTM A36 carbon steel. The restraints were manufactured by AFCO Steel Corporation in accordance with G&H 0550, Revision 4. The restraints are massive, approximately 11 feet long, 3 feet wide and 5-1/2 feet tall. Each restraint is fastened to the base mat by 16 prepositioned 1-1/2 inch diameter anchor bolts as specified on G&H drawing 2323-A1-0551, Detail B.

"Drawing S1-0550 required that each anchor bolt be pretensioned to '90 plus or minus 10 kips' and utilize a washer, two regular nuts and a jam nut made of ASTM A 540 material. The bottom nut and the washer required a tack weld as noted in the drawing. The tack welds were not found on any of the anchor bolts inspected. In addition, no record of a QC installation inspection of the restraints for loop No. 1 or any other loop of Unit 1 could be found. Thus, pretensioning of the anchor bolts could not be confirmed.

"The crossover leg restraints are major components of the main coolant piping seismic restraint and support system. Appendix B of 10 CFR 50, Criterion X, requires that inspections of activities affecting quality shall be established and performed to verify conformance with documented instructions, procedures, and drawings for accomplishing the activity.

"TUEC QA Plan, Section 10.0 requires that planned written inspection procedures be used. No requirement for inspection of the crossover leg restraints had been issued. This is also contrary to 10 CFR 50, Appendix B, Criterion X.

"This is a violation (445/8408-02)."

(Appendix C, 11.b, pages 9 and 10.)

During a telephone conference call on 8/22/84, CASE renewed its discovery request; the Licensing Board indicated that Applicants should respond as to whether the matter is relevant to the pending quality assurance contention and therefore whether discovery is justified.

The next day (8/23/84), Applicants made an initial response to the NRC Staff's Notice of Violation (TXX #4271, letter from Billy R. Clements, TUGCO, to Richard L. Bangart, NRC Region IV, Arlington, and attachment from Inspection Report 50-445/84-08, Attachment 1 to Applicants' 9/14/84 Response to CASE Motion for Discovery Regarding Inspections of Main Coolant System Crossover Leg Restraints). Applicants stated, in part:

"Corrective Steps Which Have Been Taken and the Results Achieved

"The installations shall be inspected to current design documents in accordance with the established QA/QC Program.

"Corrective Steps Which Will be Taken to Avoid Further Violations

"A review of this issue showed that documentation does exist on the installation, however, it was found to be incomplete to substantiate the acceptability of the installation under the quality program. It should be noted that craft and QC had recognized the need for the components to be inspected, however, the documentation was not completed. Therefore, this situation appears to be isolated in its occurrence and no further action outside of the re-inspection is anticipated.

"Date of Full Compliance

"The inspections shall be completed no later than August 24, 1984."

On 9/7/84, Applicants filed a supplementary response to the NRC Staff's Notice of Violation (TXX-4294, letter from Billy R. Clements, TUGCO, to Richard L. Bangart, NRC Region IV, Arlington, and attachment responding to Inspection Report 50-445/84-08, Attachment 2 to Applicants' 9/14/84 Response to CASE Motion for Discovery Regarding Inspections of Main Coolant System Crossover Leg Restraints). (It is important to keep in mind that

Applicants later withdrew this pleading.) Applicants stated, in part:

"In this Notice of Violation the NRC inspector determined that inspections were not made of the installations of the eight (2 per loop) Unit 1 crossover leg restraints, and that no documents requiring such an inspection were issued.

"In our initial response to this item, B. R. Clements to R. L. Bangart, August 23, 1984, TXX-4271, we stated that some documentation for the installations had been identified, but it had not been completed to establish the acceptability of the installations under the quality program. We therefore committed to inspect the eight crossover leg restraint installations to current design documents no later than August 24 1984.

"As part of our continuing review of this matter, we have established why QC inspections of the installations have not been completed. QC inspection checklists for the crossover leg restraints (attached to NCR-M84-100281) demonstrate that the inspections performed on these restraints over six years ago left open the inspection items related to fitting the shims and torquing the bolts. Approximately two years ago, a decision was made to intentionally postpone completion of the installation (shimming and torquing) of the crossover leg restraints until after completion of Hot Functional Testing. This would allow for normal thermal expansion prior to installation of the shims and torquing of the anchorage bolts. This construction work on the shims was documented in Test Instruction/Procedure Deviation (TPD) Report No. 12 on the Reactor Coolant System. TPD-12 calls for the further construction work on the shims for the restraints during power ascension testing. Only at that time will be (sic) thermal monitoring of the shims take place. Additionally, work required to be completed during plant heat-up after fuel load is identified as a known work item on the Master System Punchlist, as a result of NCR-M84-100182. Further work required by TPD-12 has been carried as an open item in the Test Deferral Package since the issuance of TPD-12 on May 25, 1983.

"The final QC inspections of the crossover leg restraint installations will not be appropriate until final shim monitoring and adjustment is completed and the bolts torqued. We will conduct the necessary inspections when an engineering determination indicates the timeliness for completing the inspections.

"The Notice of Violation was based on the information presented to the inspector. It is unclear whether the inspector saw the QC inspector's checklists for the crossover leg restraints. TPD-12 was not presented to the inspector. In light of this information, we believe that the Notice of Violation is incorrect because (1) the completion of the inspections of the restraints were intentionally postponed, and (2) testing documentation does demonstrate the need for the inspections.

"Copies of the documents referred to and the information regarding postponement of the inspections have been provided to Mr. Chet Oberg, NRC representative at the CPSES site for his review."

On 9/14/84, Applicants filed their Response to CASE Motion for Discovery Regarding Inspections of Main Coolant System Crossover Leg Restraints, to which were attached copies of their 8/23/84 and 9/7/84 responses to the NRC's Notice of Violation. Relying upon their 9/7/84 supplementary response to the NRC's Notice of Violation, Applicants' 9/14/84 pleading claimed, in part:

"The particular notice cited by CASE in its instant discovery request is a good example of an isolated quality assurance finding by the NRC Staff which has no safety significance.

". . . the Notice of Violation has no safety significance and is not symptomatic of a QA breakdown. In fact, as explained in the Supplement, the Notice of Violation does not represent a quality assurance deficiency at all.

"Specifically, QC inspection checklists exist for the crossover leg restraint installations. . . There are 4 inspection checklists, each covering two restraint installations. The final inspections of the completed restraint installation remain listed as open items. This includes inspection of the installation of the shims and torquing of the bolts. These inspections, however, were intentionally deferred by agreement of the QA organization and the Startup organization until completion of construction work on the installation during the hot functional test program on the piping. The construction work is deferred in order to allow normal thermal growth of the pipes during the hot functional test, prior to installing the shims and torquing the anchorage bolts on the restraints. . . . Without allowing for these normal expansions and shifts of the pipes, the final clearance and shim requirements cannot be established. It is therefore a reasonable approach to defer the final installation of the shims, torquing of the anchorage bolts, and inspection of the shims and bolts.

"The fact that there is incomplete construction work remaining on the crossover leg restraints was documented in Test Procedure Deviation (TPD) No. 12. Steps 7.6.2 and 7.6.3 of the Reactor Coolant System test procedure call for verification of installation of shims and monitoring of the shim clearances in a hot condition for the crossover leg restraints. TPD No. 12 calls for deferral of this thermal monitoring of the shims until power ascension testing. The final QC inspections of the installations therefore cannot be completed until completion of all construction work on the installation during plant heat-up after fuel load.

"In sum, QC inspection checklists for the crossover leg restraints do exist, thereby demonstrating that the need for the inspections was recognized by Applicants. The inspections are incomplete because the necessary construction work is not yet completed. Applicants have reaffirmed their commitment to conduct the necessary inspections at the appropriate time. . . The Notice of Violation has no safety significance and the involvement of the Board and parties through discovery and litigation of a new issue is not warranted. . . "

(Pages 6 through 8, emphases added.)

On 10/30/84, CASE filed its Answer to Applicants' 10/19/84 Motion for Reconsideration of Board Order Granting Discovery on Crossover Leg Restraints, in which we set forth the reasons the Board should order Applicants to provide the information and documents which CASE had requested on discovery.

On 11/2/84, the NRC Staff set forth some additional questions regarding Applicants' 8/23/84 and 9/7/84 responses (11/2/84 letter from D. R. Hunter, NRC Region IV, Arlington, to M. D. Spence, TUGCO, Attachment 2 to Applicants' 11/30/84 Response to CASE's Discovery Requests Regarding Crossover Leg Restraints). The Staff stated, in part:

"We have reviewed your replies, and the supplemental information you provided in your letter of September 7, 1984, raised some questions . . . In addition to reviewing your response, an NRC inspector also

reviewed your Tracking Item #135 package of related information, and discussed the subject with cognizant TUGCO representatives. The questions that arose out of these reviews and discussions are delineated below:

- "1. What document (i.e., operational traveler, etc.) implemented Procedure CP-QCP-3.1 for inspection of the crossover leg restraint?
- "2. How was the intentional postponement of the required inspections documented?
- "3. Was the individual that signed the QC inspection checklists for the crossover leg restraints (attached to NCR-M84-100281) certified to make these inspections at the time the inspections were made?
- "4. Why were the required inspections related to positioning, leveling, and bolt torquing of the floor mounted crossover leg restraint postponed, since the gap measurement to determine shim requirements taken during hot functional testing would be based on the permanent location of this restraint?

"We request that you provide your response to the above questions within 20 days. . . "

On 11/7/84, the Board filed its Memorandum (Reconsideration: Cross-Over Leg Restraints), in which it denied Applicants' 10/19/84 Motion for Reconsideration. The Board stated, in part:

". . . The cross-over leg restraints have independent safety significance. Furthermore, the alleged deficiency was a failure to inspect these restraints. Applicants' response does not adequately respond to the Staff charges because it refers to vague plans that were never documented. . .

". . . we do not have confidence at the present time that Applicants do successfully identify and follow-up on deficiencies. In this particular instance, it is entirely unclear whether Applicants were aware of an omission in their QC program. Hence, when the Staff charges a serious omission from the QA/QC system at Comanche Peak, the Board is concerned and the issue may be added to the proceeding. . . "

On 11/28/84, Applicants responded to the NRC Staff's 11/2/84 letter (Attachment 1 to Applicants' 11/30/84 Response to CASE's Discovery Requests Regarding Crossover Leg Restraints). Applicants stated, in part:

"In our initial response to this Notice of Violation [8/23/84] . . . , we stated that some QC documentation for the crossover leg restraint installations had been identified, but that it had not been completed to establish the acceptability of the installation under the quality program. At that time we committed to reinspect the installations and to complete any necessary work.

"On September 7, 1984 . . . we submitted a supplemental response on this Notice of Violation which indicated that we had determined why the QC inspections for the crossover leg restraints had not been completed. In that response we stated that certain construction work had not been completed and therefore that the necessary inspections could not be performed.

"In a memorandum dated November 2, 1984 from Mr. D. R. Hunter . . . additional questions dealing with our response to this Notice of Violation were raised. Upon further review of the facts underlying the Notice of Violation, our previous responses and your additional questions, we have determined that our September 7, 1984 supplemental response was incorrect. The following information is provided to clarify this issue and to respond to your specific questions.

"The Notice of Violation relates to inspection of shimming of the crossover leg restraints and torquing of bolts securing these restraints to baseplates at their foundations ["baseplate work"] . . . In our September 7, 1984 supplemental response, we confused this baseplate work with other shimming that is to be performed between these restraints and the piping which they are designed to restrain ["piping work"] . . . For example, the Test Instruction/Procedure Deviation Report No. 12 on the Reactor Coolant System discussed in our response related to the piping work. We also discussed NCR-M84-100281, which documented the need to conduct inspections of the baseplate work. The discussion of the piping work was not appropriate because the Notice of Violation does not relate to the piping work. We therefore wish to withdraw our September 7, 1984 response dealing with the crossover leg restraints including our assertion that the Notice of Violation was incorrect.

"With regard to the baseplate work, the reinspection of the baseplate shims and bolt tightening committed to in our August 23, 1984 response have been completed, This closes NCR-M84-100281. With regard to the Staff's additional questions, we provide the following responses:

"Question 1

"What document (i.e., operational traveler, etc.) implemented Procedure CP-QCP-3.1 for inspection of the crossover leg restraint?

"Response

"The inspection checklists which were attached to NCR-M84-100281 were the documents that implemented CP-QCP-3.1.

"Question 2

"How was the intentional postponement of the required inspection documented?

"Response

"The activity discussed in our September 7 response that was intentionally postponed was the shimming on the top of the crossover leg restraint, related to piping work. Accordingly, as noted above, we withdraw that discussion as not relevant to the Notice of Violation.

"Question 3

"Was the individual that signed the QC inspection checklist for the crossover leg restraints (attached to NRC (sic) M84-100281) certified to make these inspections at the time the inspections were made?

"Response

"No. The individual who signed the inspection checklists in question was certified Level II for visual examination on January 28, 1978 in accordance with Brown & Root Incorporated Personnel Training Manual. He was not, however, certified to perform the full scope of the inspections covered by the checklists until September, 1978. Considering the individual's inspection background, there should be no question relative to his qualifications for performing all of the inspections.

"Question 4

"Why were the required inspections related to positioning, leveling and bolt torquing of the floor mounted crossover leg restraint postponed, since the gap measurements to determine shim requirements taken during hot functional testing would be based on the permanent location of this restraint?

"Response

"As noted above, the statement in our September 7, 1984 supplemental response confused piping-related shims on top of the crossover leg restraints with a shimming attribute on a checklist used to install the Crossover Leg Restraints. The shimming attribute on the checklist was provided in case baseplate leveling shims were used. There would be no reason to await hot functional testing before performing the baseplate work."

(All emphases, other than underlining of titles, added.)

Two days later (on 11/30/84), Applicants' filed their Response to CASE's Discovery Requests Regarding Crossover Leg Restraints.

Under II. PRELIMINARY STATEMENT, pages 2 through 4 of Applicants' pleading, they stated, in part:

"In accordance with our obligation to keep this Board apprised of information related to matters before the Board, attached as Attachment 1 is a copy of a letter from B. R. Clements to D. R. Hunter, Chief Reactor Project Branch 2, NRC (TXX #4370) (November 28, 1984). The letter responds to questions raised in a letter from Hunter to M. D. Spence (November 2, 1984), which is also attached as Attachment 2 for your information. The letter also admits a mistake in and withdraws the September 7, 1984 supplemental response to Region IV regarding Notice of Violation 445/84-08-02 . . . as it relates to crossover leg restraints.

"The mistake in that supplemental response has been mirrored in Applicants' legal filings in this proceeding which relied upon the supplemental response. In Applicants' original response to CASE's discovery motion regarding the crossover leg restraints . . . and in the subsequent motion for reconsideration of the Board's ruling, Applicants referred to outstanding construction work on the restraint installations which would have to be completed prior to required inspections. Consistent with the supplemental response, we explained that this work involved installation of shims and tightening of the anchorage bolts. Applicants reported that this construction work would not be completed until the pipes are in a hot condition in order that final shim clearances can be determined. As reported in the November 28 letter from Clements to Hunter, this explanation, however, was based upon mistaken assumptions.

"As is now clear . . . there was confusion between two potential locations for shim placement on each crossover leg restraint installation. . . ." (Emphasis in the original.)

". . . The baseplate shimming attribute was confused with piping shims, which are to be installed between the pipes and the restraint structures. These piping shims are not related to the anchorage of the crossover leg restraints. They are located at the piping rather than at the baseplates. . .

"In the November 28 letter, Applicants have withdrawn the supplemental response and therefore the discussion of piping shims. . . ."

(Footnotes omitted, emphases added except where specifically noted otherwise.)

On page 4, in Footnote 7, Applicants state:

"We wish to state our recognition of the obligation we have to notify the Board if facts relied upon in pleadings to the Board are later found to be incorrect. This obligation would have arisen regarding the instant matter when the mistake was realized by Applicants, regardless of whether or not the matter had been closed by the Board."

2. Discussion:

The matter of the violation relating to the crossover leg restraints brings into clear focus a basic and pervasive problem which is one of the root causes of Applicants' inability to convince the Licensing Board that Applicants have complied with NRC regulations and their own commitments, such that the Board can be assured that Comanche Peak can operate safely and grant Applicants an operating license. That problem is one of attitude and mindset.

This attitude and mindset is very graphically illustrated by the 11/28/84 response by Applicants to Question 3 of the NRC Staff's 11/2/84 letter:

"Question 3

"Was the individual that signed the QC inspection checklist for the crossover leg restraints (attached to NRC (sic) M84-100281) certified to make these inspections at the time the inspections were made?

"Response

"No. The individual who signed the inspection checklists in question was certified Level II for visual examination on January 28, 1978 in accordance with Brown & Root Incorporated Personnel Training Manual. He was not, however, certified to perform the full scope of the inspections covered by the checklists until September, 1978. Considering the individual's inspection background, there should be no question relative to his qualifications for performing all of the inspections."

(The partially completed checklists in question were signed on April 25, 1978, and June 14, 1978; see Attachment A hereto.)

To begin with, it is important to realize that it does not matter whether procedures are in place, if those procedures are not followed.

Further, Applicants, by their own statements in the preceding answer, are in clear violation of 10 CFR Part 50, Appendix B, Criteria I and II (at a minimum), and the Board should so find. However, Applicants' first reaction was to indicate that the fact that they have violated NRC regulations really doesn't matter anyway because of "the individual's inspection background."

This response demonstrates an attitude and mindset which we have seen time and time again. Recently, for instance, we've seen it regarding Applicants' Motions for Summary Disposition regarding design and design QA issues, where they continuously attempt to justify deficiencies in original calculations and other documentation by attempting to convince the Board that these deficiencies don't really matter, because they now have new tests or analyses which allegedly prove that everything's O.K., or other

justifications for having failed to do it right to begin with. This same attitude and mindset is contagious and has been passed along to "independent" reviewers of the plant such as Cygna Energy Services and O. B. Cannon's J. J. Lipinsky.

Applicants' attitude and mindset in this regard clearly demonstrate that they have no understanding of the reasons it is desirable and necessary for them to take seriously and comply with their own procedures and the requirements of 10 CFR Part 50, Appendix B. However, the Board recently pointed out that /2/:

"Violations of procedures are important in their own right because they contribute to the workers' understanding of the extent to which procedures are to be taken seriously and followed scrupulously."

CASE submits that the Board is entirely correct in this regard, and that this is precisely what has happened and continues to happen at Comanche Peak. Applicants' foremen, supervisors, and middle and upper management are setting the example for all Comanche Peak employees that one can always get around procedures or that procedures can always be engineered away or changed, and that it is not necessary for them to follow procedures and NRC regulations.

Another closely-related aspect of this attitude and mindset is Applicants' extreme reluctance to admit mistakes. This is clearly demonstrated by the fiasco now before the Board regarding the crossover leg restraints.

/2/ Board's 12/18/84 Memorandum (Concerning Welding Issues), LBP-84-54, page 69.

According to Inspection Report 50-445/84-08, 50-446/84-04, this violation was discovered during an NRC inspection conducted during the period of November 14, 1983, through March 31, 1984. The Report states (page 10):

"13. Exit Interviews

"The NRC inspectors met with members of the TUEC staff (denoted in paragraph 1) at various times during the course of the inspection. The scope and findings of the inspection were discussed."

The Inspection Report regarding this violation was issued July 26, 1984. CASE requested discovery regarding the violation on August 18, 1984. The matter was discussed during a telephone conference call on August 22, 1984. CASE filed its Answer to Applicants 9/13/84 fuel load motion on 10/1/84. CASE filed its Discovery Requests on 10/18/84. On 10/30/84, CASE filed its Answer to Applicants' 10/19/84 Motion for Reconsideration of Board Order Granting Discovery on Crossover Leg Restraints. The NRC Staff filed its additional questions on November 2, 1984. The Board filed its Memorandum denying Applicants' Motion for Reconsideration on November 7, 1984. Applicants filed their Response to CASE's Discovery Requests on 11/30/84.

As illustrated by the preceding, Applicants have been on notice of the NRC Staff's concerns regarding this violation since at least March 31, 1984; and the Notice of Violation was issued in writing by the Staff on July 26, 1984. In the following months, in various pleadings and the telephone conference call, CASE and the Licensing Board expressed continuing concern regarding this matter. But Applicants' efforts apparently were not aimed toward ascertaining whether or not there was indeed a problem which

needed immediate attention and correction; they were aimed instead at attempting to convince the NRC Staff and the Licensing Board that there was no problem. It was not until November 28, 1984 -- some eight months after Applicants were first put on notice regarding this violation -- that Applicants finally admitted to the NRC Staff that the Notice of Violation was correct. ,

This is hardly what could be called prompt identification and correction of the problem. Indeed, there is every indication that Applicants had not even recognized that the problem existed. Considering Applicants' representation that they were confused as to exactly which inspections were involved, it is possible (even probable) that the completion of final inspections of these crossover leg restraints -- which must work -- would never have been made had the NRC Staff not caught the problem. And once the problem was identified, it took Applicants eight months to admit that the Notice of Violation was correct.

In addition, even if one were to accept Applicants' representations at face value, this matter calls into question the competence of Applicants and the seriousness with which they view NRC regulations and the Licensing proceedings. As discussed in the preceding, over a period of several months this matter was in the spotlight -- the NRC Staff was looking at it, CASE wanted discovery regarding it, and the Licensing Board had expressed deep concerns about it. Applicants had every opportunity to thoroughly research the details of the problem and correct it. One would have thought that they would have made every effort to do so.

Yet despite all this, Applicants still blew it. They filed information with the NRC Staff and the Licensing Board which was totally erroneous. Despite Applicants' assurances to the Board that they would have notified the Board that this information was erroneous "when the mistake is realized by Applicants" (Footnote 7 of Applicants' 11/30/84 pleading), there is no assurance that the final inspections on the crossover leg restraints would not have gotten lost in the shuffle or that Applicants themselves would ever have realized that the information was erroneous had the NRC Staff not followed up with their 11/2/84 additional questions.

Applicants later had to withdraw the erroneous information. Even if one were to accept Applicants' representations at face value, this not only calls into question Applicants' competence but demonstrates as well a lack of attention to, and recognition of, the seriousness of the matter at hand.

However, there is another possibility which the Board must consider because of recent testimony and events in these proceedings /3/. That

/3/ Such as: Representations by Applicants' counsel regarding an apparent change in position from the clear wording of sworn affidavits in Applicants' design/design QA summary disposition motion, as discussed during the 11/15/84 telephone conference call, Tr. 19430-19482;

Differences between representations made to the Licensing Board by Applicants regarding the scope of Cygna Energy Services' independent review of Comanche Peak and Cygna's understanding of Applicants' limitations of Cygna's scope, as discussed during the 11/21/84 telephone conference call between the NRC Technical Review Team and Cygna, Tr. 1-17, and during the 12/20/84 meeting between Cygna and the NRC Technical Review Team (which was transcribed but which transcript CASE has not yet received, so we cannot provide transcript page references);

Various changes of Applicants' positions regarding their Motions for Summary Disposition on design and design QA issues;

Applicants' agreement with J. J. Lipinsky (in the intimidation portion of these proceedings) that he would recant his concerns based upon Applicants' undocumented representations, without his knowing whether or not such representations were accurate;

(continued on following page)

possibility is that Applicants do not share the Board's concern for safety, that they do not take seriously or respect the Board or the licensing process, that they are primarily committed to getting an operating license rather than the safety of the plant, that they will not voluntarily take all the necessary steps to assure that Comanche Peak has been designed and constructed properly and safely without being forced to, and that they deliberately attempted to cover up regarding the crossover leg restraints but were caught by the NRC Staff.

This possibility is especially disturbing because of the fact that the NRC Staff's inspection program is not designed to cover everything, but rather is normally based upon a sampling of about 2% or so (it is CASE's understanding) of items at a plant. Although NRC Region IV has been doing a better job recently of finding problems, and the NRC Technical Review Team is looking more closely at the plant and continuing to identify problems, there is no way that they can be reasonably expected to identify (must less assure correction of) all of the problems at Comanche Peak. The NRC's inspection and enforcement program relies heavily upon the good faith, candor, and honesty of Applicants to assure that nuclear plants are designed and constructed properly and safely.

13/ (continued from preceding page):

Applicants' misleading testimony (which CASE believes constitute a material false statement) regarding their allegedly "randomly selected representative sample of cinched down U-Bolt supports" discussed in Applicants' Motion for Summary Disposition regarding Cinched-Down U-Bolts (see also Board's 12/18/84 Memorandum (Reopening Discovery; Misleading Statement), pages 1-4;

Other instances such as those detailed in the Board's 12/18/84 Memorandum (Reopening Discovery; Misleading Statement), pages 4-9.

CASE does not believe that these Applicants can be trusted to fulfill their part of this bargain. This is an issue with which the Board must deal, not only in this particular instance, but increasingly in these proceedings as more testimony is given and more information comes to light.

It should be noted that, although a finding by the Licensing Board that the Applicants cannot be trusted to have designed and constructed Comanche Peak properly and safely, and that they have deliberately attempted to mislead the Licensing Board in these proceedings, would be more damaging, a finding by the Board that Applicants are incompetent would also be cause to deny an operating license for the plant.

It should also be noted that Applicants have again demonstrated that they will not voluntarily go beyond what is required of them, in that they have never addressed the concern stated in CASE's 8/18/84 Partial Answer in Opposition to Applicants' Motion for Authorization to Issue a License to Load Fuel and Conduct Certain Precritical Testing (page 13):

"It is CASE's belief that these two cross-over leg restraints (for each loop) take a vertical component in one direction and a horizontal component in one direction, and that they are bi-directional supports, whereas they should be tri-directional support (only restrain 2 degrees of freedom, whereas they should restrain 6 degrees)."

In addition, although Applicants (pages 2 through 4 of their 11/30/84 Response to CASE's Discovery Requests) admit a mistake in and withdraw the September 7, 1984 supplemental response to Region IV regarding the Notice of Violation as it relates to crossover leg restraints, it is noteworthy that Applicants, in their statement to the Licensing Board, did not pick up the rest of the wording of their attached Response to the NRC Staff, as indicated below:

"We therefore wish to withdraw our September 7, 1984 response dealing with the crossover leg restraints including our assertion that the Notice of Violation was incorrect." (Emphasis added.)

Thus, Applicants have now admitted to the NRC Staff that the Notice of Violation was correct. They are in serious violation of NRC regulations, specifically 10 CFR Part 50, Appendix B, Criterion X, just as the NRC Staff had originally indicated. The Board should so find.

This also confirms that the Board's concerns were entirely valid, legitimate, and well-founded, as expressed in its 11/7/84 Memorandum (Reconsideration: Cross-Over Leg Restraints), and that the Board was correct in its decision in that Memorandum.

The same attitude and mindset of Applicants which was discussed in the preceding assures that Applicants do not and cannot have an independent, adequate, and effective QA/QC program at Comanche Peak. The Board should so find.

The Board should also consider the matter of the crossover leg restraints to be of special significance, since it is an instance concerning vitally important components which must work, where CASE explored one particular violation in more detail /4/ -- one unrelated to areas specifically brought up by CASE's witnesses. CASE has not even attempted to pursue all of the violations detailed in NRC inspection reports (although there were some which we undoubtedly should have). Because of the results obtained from CASE's and the NRC Staff's pursuit of specific additional

/4/ It should be noted that Applicants could have saved the NRC Staff, CASE, and the Licensing Board a lot of time and effort had Applicants adequately and promptly addressed this problem to begin with; had this been done, Applicants would have been in the position early-on to admit that the NRC Staff's Notice of Violation was correct.

details, the Board must now ask how many other such instances are there at Comanche Peak which have not been subjected to this more detailed scrutiny, which may have gone undetected? This entire matter, and the way in which Applicants handled it, casts further doubt on the adequacy of the design and construction of Comanche Peak and of Applicants' entire QA/QC program at Comanche Peak.

3. CASE moves that the Board Accept into evidence /5/:

NRC Region IV Inspection and Enforcement (I&E) Report 50-445/84-08, 50-446/84-04 /6/. (Copies were attached to CASE's 8/18/84 Partial Answer in Opposition to Applicants' Motion for Authorization to Issue a License to Load Fuel and Conduct Certain Precritical Testing; copies are attached hereto for the convenience of the Board.)

Applicants' 9/14/84 Response to CASE Motion for Discovery Regarding Inspections of Main Coolant System Crossover Leg Restraints; including: Attachment 1, 8/23/48 (sic -- should be 8/23/84) TXX #4271, letter from Billy R. Clements, TUGCO, to Richard L. Bangart, NRC Region IV, Arlington, and attachment from Inspection Report 50-445/84-08; and Attachment 2, 9/7/84 TXX-4294, letter from Billy R. Clements, TUGCO, to Richard L. Bangart, NRC Region IV, Arlington, and attachment responding

/5/ Where CASE moves that the Board accept documents into evidence in this pleading, it should be construed as requesting that, in the alternative, the Board take official notice, if that is more appropriate.

/6/ See especially: Appendix A, Notice of Violation, pages 1 and 2; and Appendix C, 11.b, pages 9 and 10.

to Inspection Report 50-445/84-08. (Copies are attached for the convenience of the Board.)

Applicants' 11/30/84 Response to CASE's Discovery Requests Regarding Crossover Leg Restraints, pages 1 through 16, and Attachments: Affidavit of Claire H. Welch; Attachment 1, 11/28/84 TXX-4370, letter from Billy R. Clements, TUGCO, to D. R. Hunter, NRC Region IV, Arlington and enclosed response to NRC Staff 11/2/84 letter; and Attachment 2, 11/2/84 letter from D. R. Hunter, NRC Region IV, Arlington, to M. D. Spence, TUGCO. (Copies are attached hereto for the convenience of the Board.)

Attachment A hereto, NCR No. M84-100281, cover page plus the attached partially completed checklists for crossover leg restraints. (Copies are attached to all copies of this pleading. We have not attached the remaining pages which were attached to the NCR because most of the information on them was very poor copy quality and was not readable; however, the pages we have provided contain the information we were primarily interested in.)

4. CASE further moves that the Board:

- (a) Find that Applicants are in violation of 10 CFR Part 50, Appendix B, Criteria I and II (see discussion on pages 12-13 of this pleading).
- (b) Find that Applicants have demonstrated an extreme reluctance to admit mistakes (see discussion on pages 13-20 of this pleading).
- (c) Find that Applicants have shown an attitude and mindset which demonstrate that they have no understanding of the reasons it is

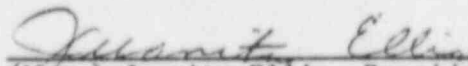
desirable and necessary for them to take seriously and comply with their own procedures and the requirements of 10 CFR Part 50, Appendix B (see discussion on pages 13-20 of this pleading).

- (d) Find that Applicants' management has set a bad example for all Comanche Peak employees that one can always get around procedures or that procedures can always be engineered away or changed, and that it is not necessary for them to follow procedures and NRC regulations (see discussion on pages 13-20 of this pleading).
- (e) Find that Applicants had not identified the problem cited in the Notice of Violation, and that they were slow to recognize the real problem and to adequately respond to the NRC Staff's concerns and its Notice of Violation regarding the crossover leg restraints (see discussion on pages 15-17 of this pleading).
- (f) Find that Applicants' handling of the Notice of Violation regarding the crossover leg restraints calls into question Applicants' competence, the seriousness with which they view NRC regulations and the Licensing proceedings, and Applicants' credibility (see discussion on pages 16-19 of this pleading).
- (g) Find that Applicants have now admitted to the NRC Staff that the Notice of Violation regarding the crossover leg restraints was correct, and that Applicants therefore are in serious violation of 10 CFR Part 50, Appendix B, Criterion X (see discussion on pages 19-20 of this pleading).
- (h) Find that Applicants' attitude and mindset assures that Applicants do not and cannot have an independent, adequate, and effective

QA/QC program at Comanche Peak (see discussion on pages 12-20 of this pleading).

- (i) Find that the matter of the crossover leg restraints has special significance, and that this matter, and the way in which Applicants handled it, casts further doubt on the extent of problems regarding, and the adequacy of, the design and construction of Comanche Peak and of Applicants' entire QA/QC program at Comanche Peak (see discussion on pages 12-21 of this pleading).

Respectfully submitted,



(Mrs.) Juanita Ellis, President
CASE (Citizens Association for Sound
Energy)
1426 S. Polk
Dallas, Texas 75224
214/946-9446

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of } {
 } {
TEXAS UTILITIES ELECTRIC } { Docket Nos. 50-445-1
COMPANY, et al. } { and 50-446-1
(Comanche Peak Steam Electric } {
 Station, Units 1 and 2) } {

CERTIFICATE OF SERVICE

By my signature below, I hereby certify that true and correct copies of
CASE's Motions Regarding Inspections of Main Coolant System Crossover Leg
Restraints

have been sent to the names listed below this 4th day of January, 1985,
by: Express Mail where indicated by * and First Class Mail elsewhere.
(copies of pleadings referenced on pages 21-22 sent to addresses marked / only,
except for Attachment A, which was sent to all on service list)

/ * Administrative Judge Peter B. Bloch U. S. Nuclear Regulatory Commission 4350 East/West Highway, 4th Floor Bethesda, Maryland 20814	* Nicholas S. Reynolds, Esq. Bishop, Liberman, Cook, Purcell & Reynolds 1200 - 17th St., N. W. Washington, D.C. 20036
/ * Judge Elizabeth B. Johnson Oak Ridge National Laboratory P. O. Box X, Building 3500 Oak Ridge, Tennessee 37830	* Geary S. Mizuno, Esq. Office of Executive Legal Director U. S. Nuclear Regulatory Commission Maryland National Bank Bldg. - Room 10105 7735 Old Georgetown Road Bethesda, Maryland 20814
/ * Dr. Kenneth A. McCollom, Dean Division of Engineering, Architecture and Technology Oklahoma State University Stillwater, Oklahoma 74074	Chairman, Atomic Safety and Licensing Board Panel U. S. Nuclear Regulatory Commission Washington, D. C. 20555
/ * Dr. Walter H. Jordan Carbi Terrace Motel 552 N Ocean Blvd. Pompano Beach, Florida 33062	

★ Chairman
Atomic Safety and Licensing Appeal
Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Renea Hicks, Esq.
Assistant Attorney General
Environmental Protection Division
Supreme Court Building
Austin, Texas 78711

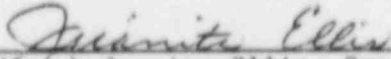
John Collins
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Dr., Suite 1000
Arlington, Texas 76011

Lanny A. Sinkin
114 W. 7th, Suite 220
Austin, Texas 78701

Dr. David H. Boltz
2012 S. Polk
Dallas, Texas 75224

Michael D. Spence, President
Texas Utilities Generating Company
Skyway Tower
400 North Olive St., L.B. 81
Dallas, Texas 75201

Docketing and Service Section
(3 copies)
Office of the Secretary
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555



(Mrs.) Juanita Ellis, President
CASE (Citizens Association for Sound Energy)
1426 S. Polk
Dallas, Texas 75224
214/946-9446

CASE ATTACHMENT A

TEXAS UTILITIES
GENERATING CO.

COMANCHE PEAK STEAM ELECTRIC STATION
NONCONFORMANCE REPORT (NCR)

2902 1255
NCR No
M84-100281

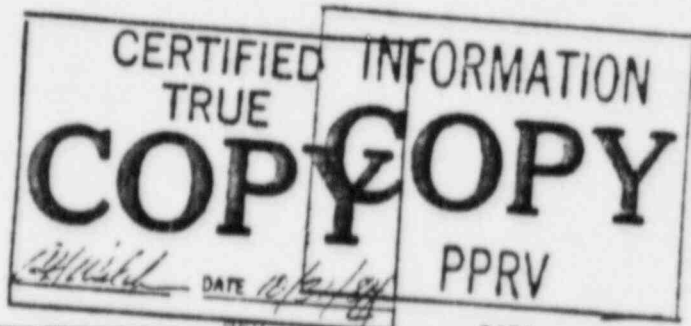
UNIT	STRUCTURE/SYSTEM	ITEM/COMPONENT	TAG/ID NUMBER	LOCATION OR ELEVATION	RIR NO.
1	Reactor Bldg.	Crossover Restraints	see below	1,2,3,&4 813e1.	N/A

NONCONFORMING CONDITION

INSTALLATION DOCUMENTATION CANNOT BE LOCATED ON THE CROSSOVER LEG RESTRAINTS (ref 2323-s1-550) NUMBERS 112-A, 112-b, 112-C, 112-D, 113-A, 113-b, 113-C, 113-D.

THE INSPECTION REPORTS ATTACHED, ARE INCOMPLETE AND THEREFORE INCONCLUSIVE.

NO HOLD TAGS APPLIED



REPORTING PERSONNEL

REFERENCE DOCUMENT 2323-S1-550

REPORTED BY: Jimmie Duncan

DATE: 8/21/84

QE

QE REVIEW/APPROVAL: Chris A. Boy

DATE: 8/21/84

ACTION ADDRESSEE: WALNER / VEGA

DEPARTMENT: Eng / E&C

ACTION ADDRESSEE

DISPOSITION: REWORK XX REPAIR _____ USE AS IS _____ SCRAP _____

Civil/Structural Engineering shall issue Operational Travelers to document the installation and inspection of the crossover restraints listed above.

Operational Traveler numbers are:

- CE-84-131-8902
- CE-84-132-8902
- CE-84-133-8902
- CE-84-134-8902

PERM. PLT. RECORD

RTN	L	FILE NO.	15.1
SUBFILE LOG		M-84-100281	

ARMS INDEXED

DATE: _____

ENG. REVIEW/APPROVAL: William A. Zeman

DATE: 8/21/84

QE REVIEW APPROVAL: Michael D. Warner

DATE: 8/21/84

DISPOSITION VERIFICATION & CLOSURE: Chris A. Boy

DATE: 10/10/84

COMMENTS:

JE



Brown & Root Inc.
QUALITY ASSURANCE DEPARTMENT

ATTACHMENT TO
NCR-M84-100281

PRELIMINARY INSTALLATION AND ERECTION CHECKLIST

PLANT CODE	SYSTEM CODE	COMPONENT CODE
14	N555	SUPPORT

TAG/SPIN/IDENT NO						DRAWING/SPECIFICATION NO				SERIAL NO	
51-0550						A112A				A113A	
A	B	C	D	E	F	G (Units)		H (Units)		J (Units)	
						1765					

VENDORS HEAT/LOT/BATCH NO
86-96

PURCHASE ORDER NO	VEND CODE
MAR 51709 56-69	70-73

RLS/HOLD NO	CODE	INPUT DATE
	STATUS	
11-121		122-127

PART A

PRIOR TO ITEM LEAVING WAREHOUSE STORAGE FOR IN-PLACE STORAGE

- 1. TAG NUMBER
- 2. PURCHASE ORDER NUMBER
- 3. SERIAL NUMBER
- 4. MANUFACTURER
- 5. PHYSICAL DAMAGE
- 6. CLEANLINESS
- 7. ALL NCR'S CLOSED
- 8. TRACEABILITY MAINTAINED

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QC SIGNATURE *L. Shaw* DATE 4/25/78

PART B

PRIOR TO ITEM LEAVING STORAGE FOR INSTALLATION

- 1. REVIEW INSTALLATION & ERECTION INSTRUCTIONS FORM
- 2. CORRECT ITEM FOR THIS LOCATION
- 3. FOUNDATION ACCEPTABLE
- 4. LATEST DOCUMENTS AVAILABLE
- 5. WARNING & SAFETY NOTICES AVAILABLE
- 6. INSTALLATION AREA IS CLEAN
- 7. AREA PROTECTED FROM ADJACENT WORK
- 8. COMPONENTS PROPERLY ORIENTED
- 9. MATING PARTS IN PLACE
- 10. CORRECT SHIM STOCK AVAILABLE
- 11. COATINGS & PRESERVATIVES REMOVED
- 12. PHYSICAL CONDITION OF ITEM
- 13. LIFTING AND HANDLING

INFORMATION

COPY

PPRV

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QC SIGNATURE *L. Shaw* DATE _____

PART C

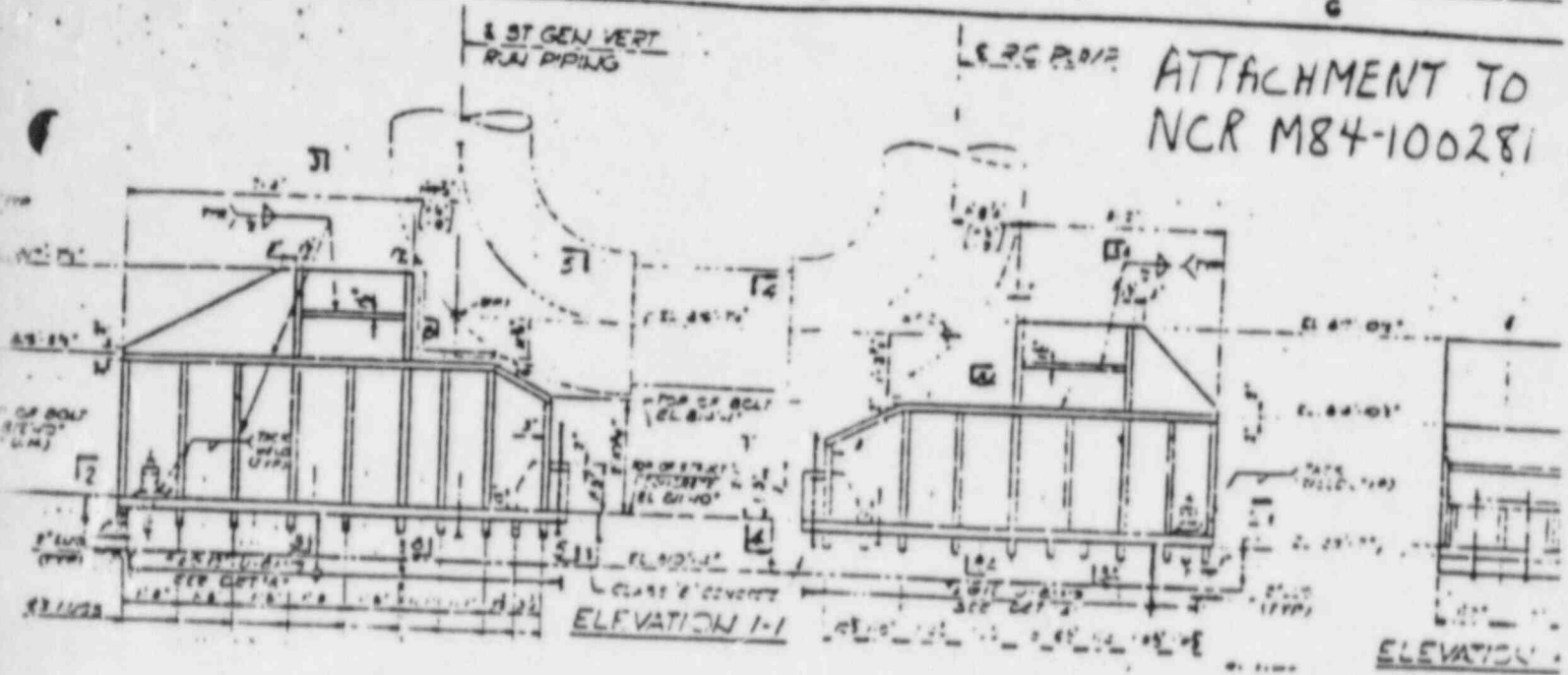
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- 2. ITEM LEVELED PROPERLY
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- 4. BOLTS TORQUED PROPERLY

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QC SIGNATURE _____ DATE _____

ATTACHMENT TO
NCR M84-100281

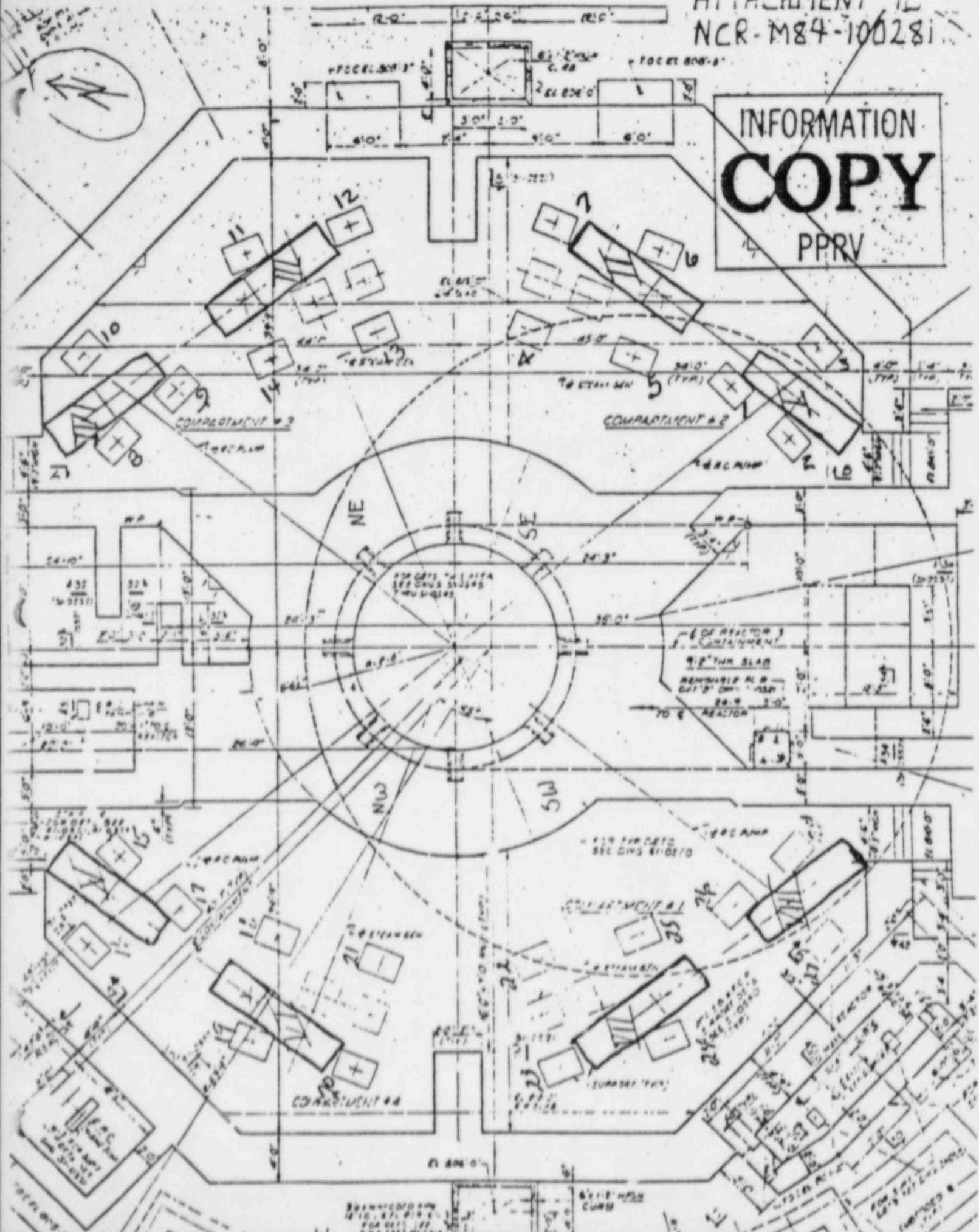


SG & RC CROSSOVER LEG SUPPORTS.

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2	II	SG	A113C
3	III	SG	A113D
3	IV	RC	A112D
4	V	RC	A112A
4	VI	SG	A113A
1	VII	SG	A113B
1	VIII	RC	A112C

INFORMATION
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INFORMATION
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Brown & Root Inc.
QUALITY ASSURANCE DEPARTMENT

ATTACHMENT TO
NCR M84-100281

PRELIMINARY INSTALLATION AND ERECTION CHECKLIST

PLANT CODE	SYSTEM CODE	COMPONENT CODE
14	N555	SUPPORT

TAG/SPIN/IDENT NO						DRAWING/SPECIFICATION NO		SERIAL NO	
A	B	C	D	E	F	G (Units)		H (Units)	
						1765		A112B A113C	

VENDORS HEAT/LOT/BATCH NO
86-96

PURCHASE ORDER NO.	VEND CODE
MRR-51709 56-69	70-73

RLS/HOLD NO	CODE	INPUT DATE
112-121		122-127

PART A

PRIOR TO ITEM LEAVING WAREHOUSE STORAGE FOR IN-PLACE STORAGE

- TAG NUMBER
- PURCHASE ORDER NUMBER
- SERIAL NUMBER
- MANUFACTURER
- PHYSICAL DAMAGE
- CLEANLINESS
- ALL NCR'S CLOSED
- TRACEABILITY MAINTAINED

INFORMATION
COPY
PPRV QC SIGNATURE

DATE 4/25/78

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PART B

PRIOR TO ITEM LEAVING STORAGE FOR INSTALLATION

- REVIEW INSTALLATION & ERECTION INSTRUCTIONS FORM
- CORRECT ITEM FOR THIS LOCATION
- FOUNDATION ACCEPTABLE
- LATEST DOCUMENTS AVAILABLE
- WARNING & SAFETY NOTICES AVAILABLE
- INSTALLATION AREA IS CLEAN
- AREA PROTECTED FROM ADJACENT WORK
- COMPONENTS PROPERLY ORIENTED
- MATING PARTS IN PLACE
- CORRECT SHIM STOCK AVAILABLE
- COATINGS & PRESERVATIVES REMOVED
- PHYSICAL CONDITION OF ITEM
- LIFTING AND HANDLING

QC SIGNATURE L.P. Shaw DATE 6/4/78

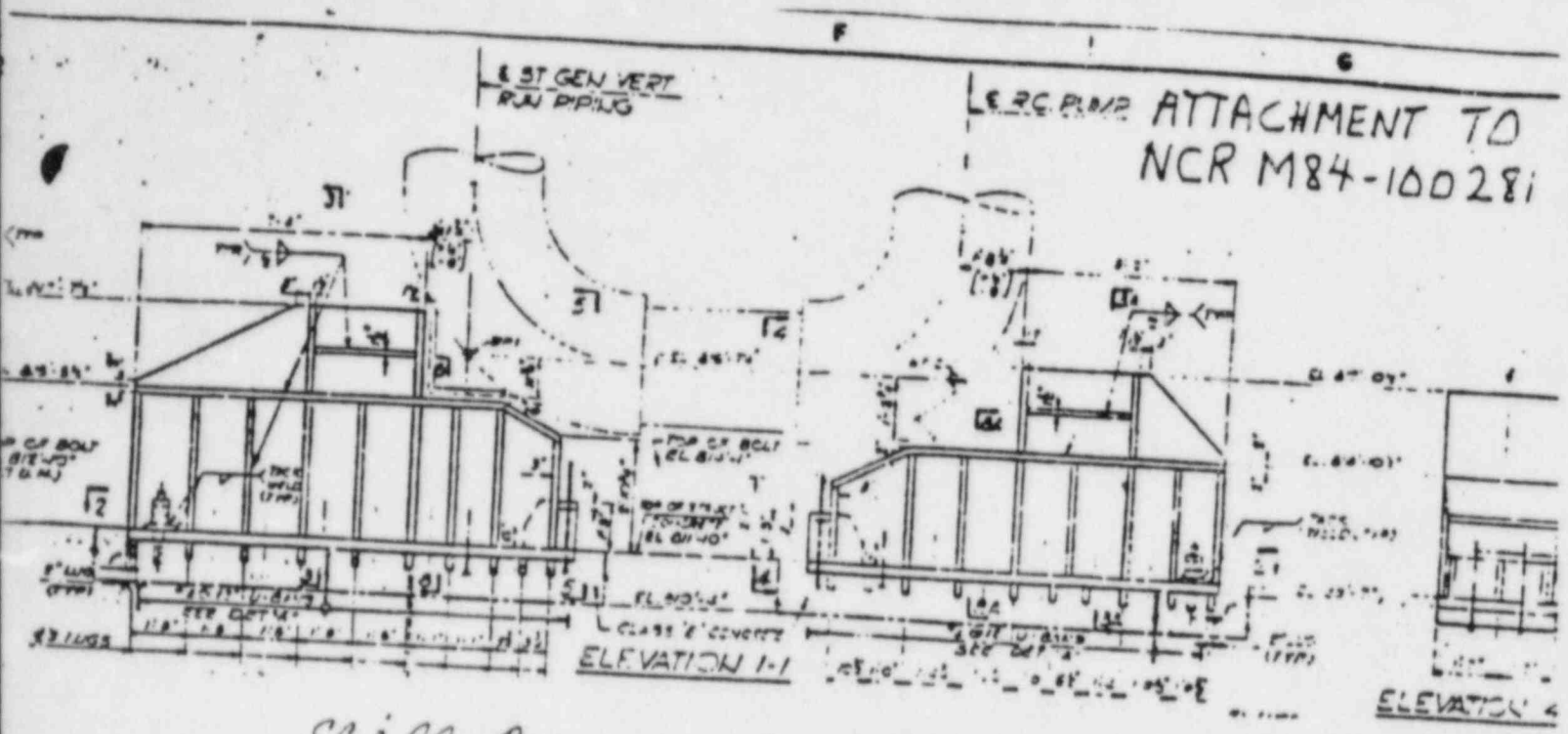
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- ITEM LEVELED PROPERLY
- ITEM SHIMMED PROPERLY
- BOLTS TORQUED PROPERLY

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QC SIGNATURE _____ DATE _____



SG & RC CROSSOVER LEG SUPPORTS.

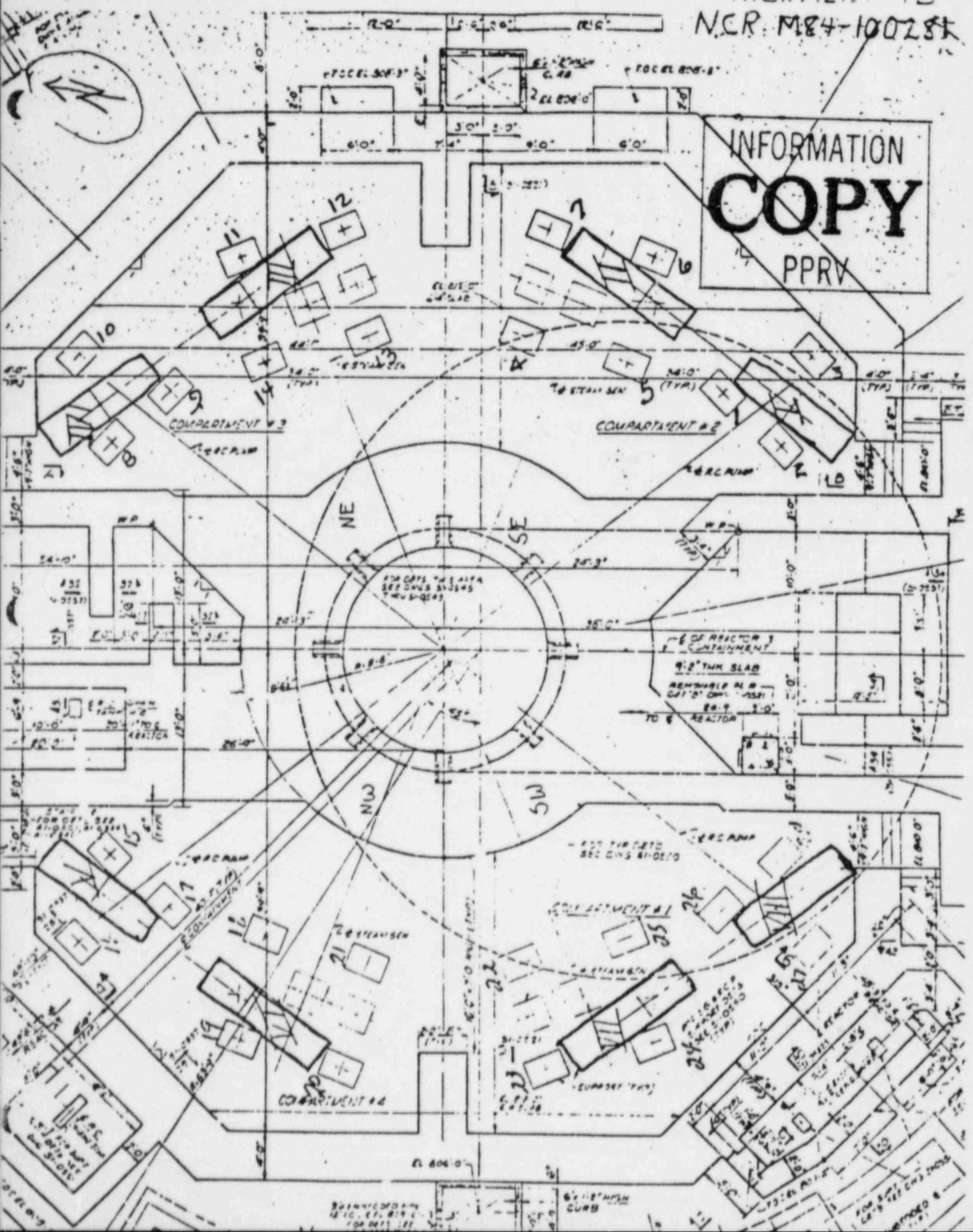
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1	VII	SG	A113B
	VIII	RC	A112C

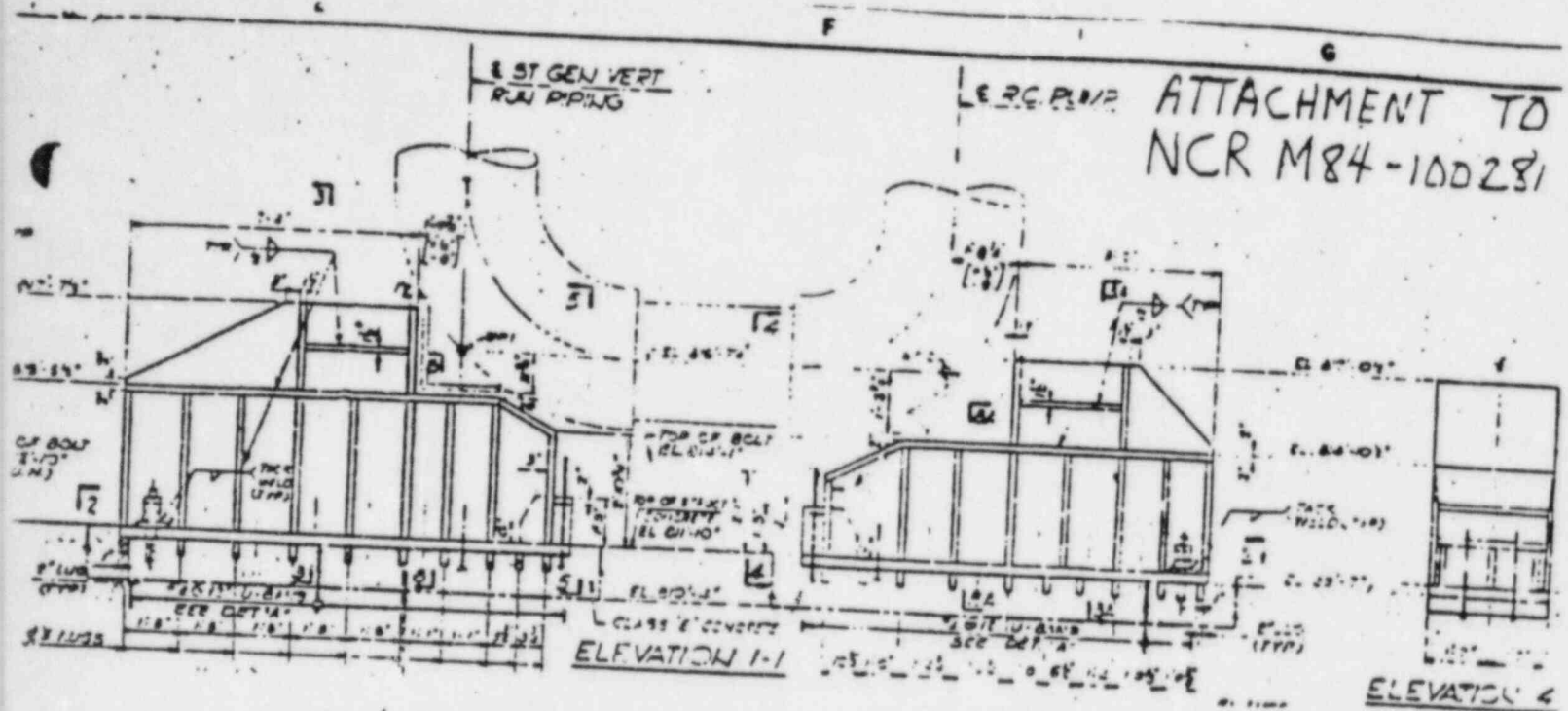
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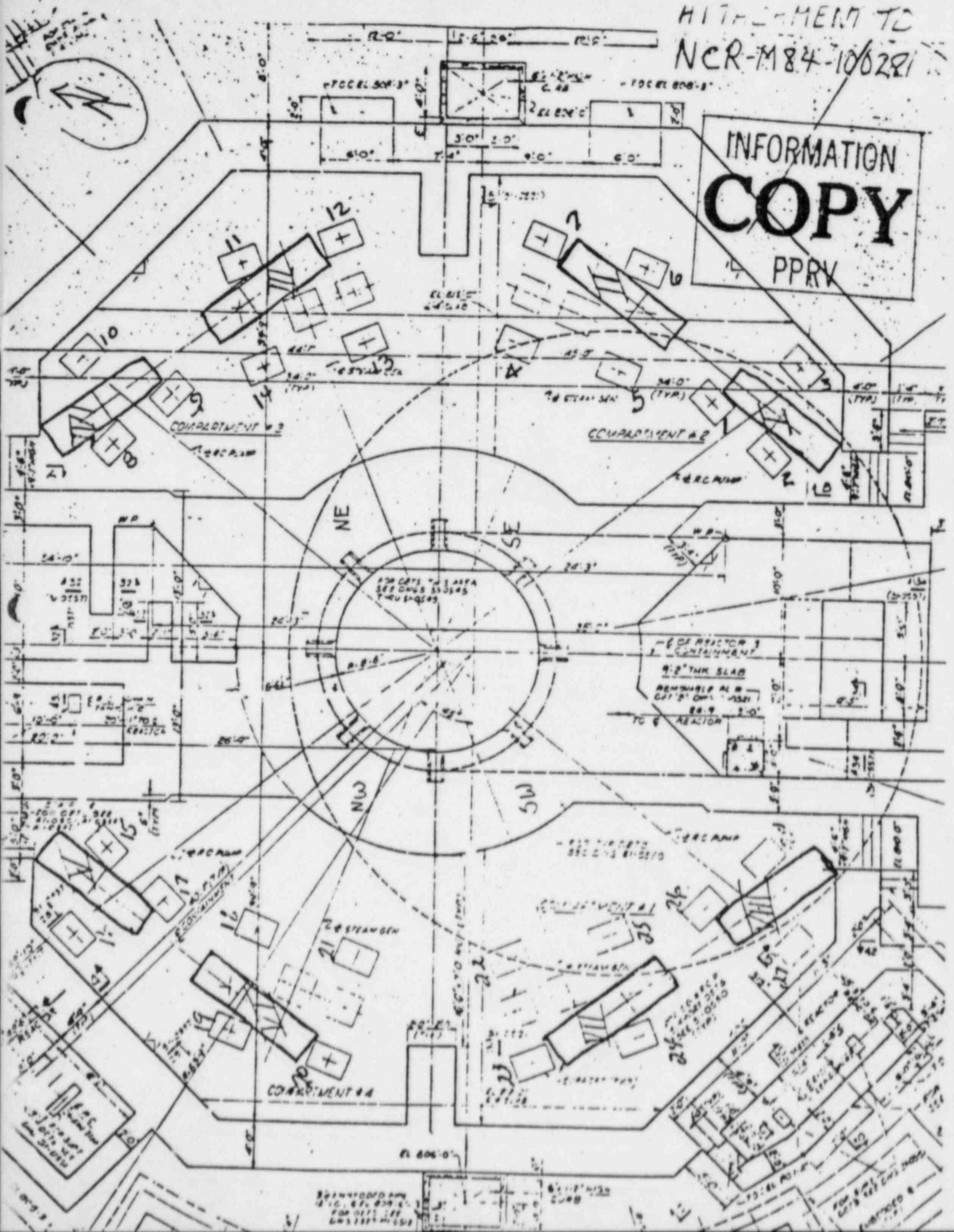
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3	IV	RC	A112D
4	V	RC	A112A
4	VI	SG	A113A
1	VII	SG	A113B
1	VIII	RC	A112C

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NCR-M84-106281

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Brown & Root, Inc.
 QUALITY ASSURANCE DEPARTMENT

ATTACHMENT TO
 NCR M84-100281

PRELIMINARY INSTALLATION AND ERECTION CHECKLIST

	N555	SUPPORT
PLANT CODE	SYSTEM CODE	COMPONENT CODE
14		11-16

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17-55											

VENDORS HEAT/LOT/BATCH NO
86-95

PURCHASE ORDER NO.	VEND CODE
MRR-51709	56-69
	70-73

RLS/HOLD NO	CODE	INPUT DATE
STATUS		
112-121		122-127

PART A

PRIOR TO ITEM LEAVING WAREHOUSE STORAGE FOR IN-PLACE STORAGE

- TAG NUMBER
- PURCHASE ORDER NUMBER
- SERIAL NUMBER
- MANUFACTURER
- PHYSICAL DAMAGE
- CLEANLINESS
- ALL NCR'S CLOSED
- TRACEABILITY MAINTAINED

INFORMATION
COPY
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QC SIGNATURE [Signature]

DATE 4/27-2

PART B

PRIOR TO ITEM LEAVING STORAGE FOR INSTALLATION

- REVIEW INSTALLATION & ERECTION INSTRUCTIONS FORM
- CORRECT ITEM FOR THIS LOCATION
- FOUNDATION ACCEPTABLE
- LATEST DOCUMENTS AVAILABLE
- WARNING & SAFETY NOTICES AVAILABLE
- INSTALLATION AREA IS CLEAN
- AREA PROTECTED FROM ADJACENT WORK
- COMPONENTS PROPERLY ORIENTED
- MATING PARTS IN PLACE
- CORRECT SHIM STOCK AVAILABLE
- COATINGS & PRESERVATIVES REMOVED
- PHYSICAL CONDITION OF ITEM
- LIFTING AND HANDLING

SAT.	UNSAT.	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QC SIGNATURE [Signature]

DATE 6/1/28

PART C

AFTER POSITIONING AND LEVELING BUT PRIOR TO GROUT

- ITEM POSITIONED PROPERLY
- ITEM LEVELED PROPERLY
- ITEM SHIMMED PROPERLY
- BOLTS TORQUED PROPERLY

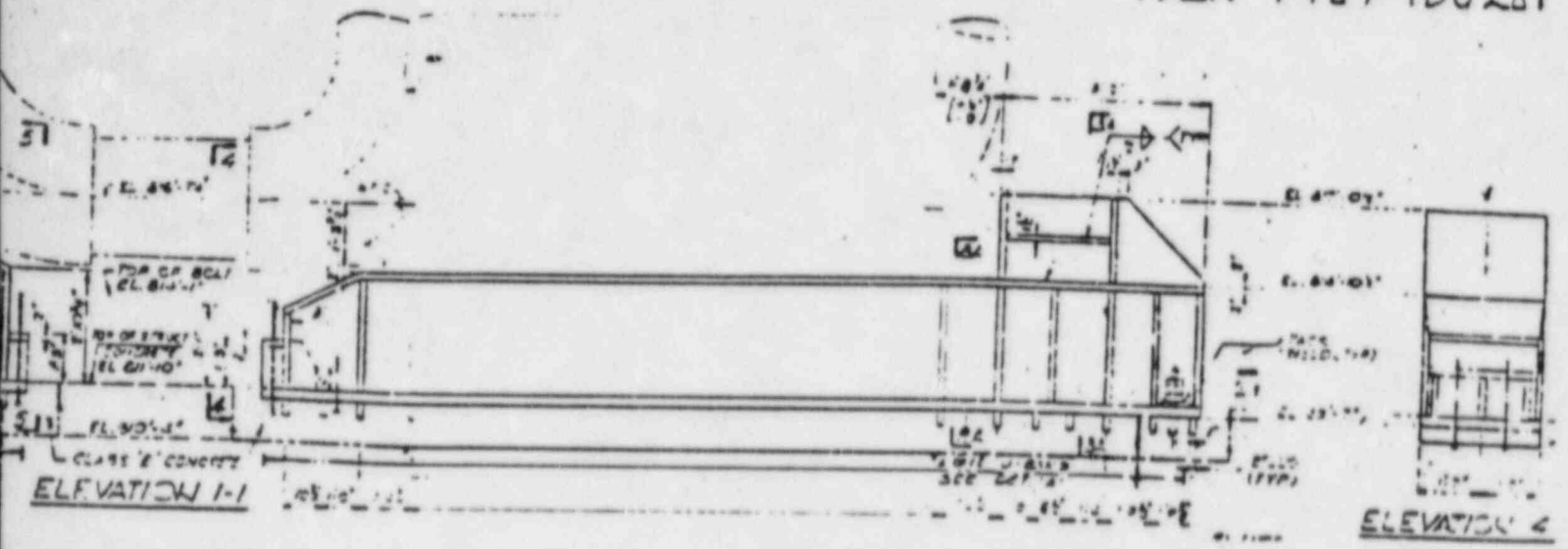
SAT.	UNSAT.	N/A
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

QC SIGNATURE _____

DATE _____

GEN VERT
PPRJV

ATTACHMENT TO
NCR M84-100281



CROSSOVER LEG SURF

PORTS

IDENTIFICATION #

TYPE

SIZE

SERIAL #

I

I

10

A112B

II

SG

7

A113C

III

SG

2

A113D

IV

RC

-

A112D

V

RC

-

A112A

VI

SG

-

A113A

VII

SG

-

A113B

VIII

RC

-

A112C

INFORMATION
COPY
 PPRV

ATTACHMENT TO
NCR M84-100287

INFORMATION
COPY
PPRV

