RELATED CORRESPONDENCE

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED USNRC DEC 28 1979 Office of the Secretary Docketing & Service Branch

In the Matter of	§	
	§	
HOUSTON LIGHTING AND POWER COMPANY, ET. AL.	§	Docket Nos. 50-498 50-499
	§	
(South Texas Project Units 1 and 2)	§	

ANSWERS OF CITIZENS CONCERNED ABOUT NUCLEAR POWER, INC. TO FIRST SET OF INTERROGATORIES FROM HOUSTON LIGHTING AND POWER COMPANY, ET. AL., APPLICANTS AND TO NRC STAFF INTERROGATORIES AND REQUEST FOR DOCUMENTS

Preface

On Sunday, December 16, 1979, Citizens Concerned About Nuclear Power, Inc. (CCANP) received a bundle of documents pertaining to various contentions previously submitted. The analysis of these documents in an effort to understand their import delayed these answers beyond December 21, 1979. CCANP has done its best to provide these answers as promptly as possible. On December 21, 1979, CCANP notified Ms. Marjorie Rothchild at the NRC and the office of Mr. Melbert Schwarz that the answers would be delayed.

Citizens Concerned About Nuclear Power, Inc. (CCANP) received interrogatories from both the Applicants and the Nuclear Regulatory Commission staff. Each set of interrogatories requests essentially the same information. Therefore, CCANP submits the following answers to both sets of interrogatories.

The numbering of answers conforms to the numbering of the interrogatories submitted by Applicants. Should the Nuclear Regulatory Commission staff find this procedure unacceptable and so inform CCANP, CCANP will resubmit answers in conformance with the form of the NRC interrogatories.

Before answering the interrogatories, CCANP presents the following conerns.

CCANP is disturbed by recent developments which call into question the entire intervention process in which CCANP is now engaged, including the answering of these interrogatories.

First of all, CCANP received a copy of Southwest Energy and Utility Watch; November, 1979; Vol.4, No. 11 attached hereto as Exhibit A. In this document, the following remarks appear on page 3:

> " The essential element, it seems to me, in any regulatory system that reassures more than it regulates is that it have an immense capacity for self-delusion. Let me describe some of the elements of that capacity and leave it to you to determine whether they look familiar.
>
> First, the agency's role must be heavily reactive and defined largely in terms of cases brought to it by those whom it regulates.
>
> Second, the agency's budget must be a tiny fraction (less than one percent) of the gross revenues of those whom it regulates.
>
> Third, regulation should be on an 'audit' basis, examining only a small fraction of the total number of accounts or plant designs or operating practices of the regulated entities.

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Fourth, the system should deal with its critics more of less the way the tar baby dealt with B'rer Rabbit. It should have have an almost infinite capacity for repressive tolerance, the extending of exquisite procedural courtesy to participants who are never, in fact, allowed to get their hands on anything vital.

Fifth, almost a corollary of the preceding point, intervenor funding of any substantial sort is to be avoided like the plague. Discovery and cross-examination must, of course, be allowed on some occasions, but the occasions can be limited and the examining board must be constantly reminded of the need to keep the issues narrowly defined and the proceedings moving along.

Sixth, the enforcement system must be a relatively benign one with only the most distant possibility of a truly severe penalty.

Seventh, though it is not essential, it is very helpful to have the system reenforced by courts which defer copiously to agency expertise in the face of challenges from citizens groups."

The disturbing part of these remarks is that the person quoted is Commissioner Peter A. Bradford, United States Nuclear Regulatory Commission. We hope that in the instance of this licensing hearing CCANP is not receiving "repressive tolerance" but rather that our efforts to expose the collapse of the quality assurance program at the South Texas Nuclear Project are respected as a contribution to the protection of the public interest.

These remarks are not intended by CCANP to offend the members of the Atomic Safety and Licensing Board or the staff of the NRC. CCANP trusts that our being disturbed by these remarks is understandable considering their source.

Secondly, CCANP cooperated in an investigation conducted by the Federal Bureau of Investigation. CCANP's understanding is that this investigation was rather extensive, involving as many as nine agents in the field. Newspaper articles attached as Exhibit B give some particulars of this investigation.

CCANP takes note that on November 12, 1979, Mr. Lanny Sinkin, on behalf of CCANP and Citizens for Equitable Utilities (CEU) filed a supplement to the First Set of Interrogatories of CCANP and CEU which requested from the Nuclear Regulatory Commission (NRC) "to provide all documents developed as a result of the investigations of the South Texas Nuclear Project carried out by the Federal Bureau of Investigation, delivered to United States Attorney Anthony Canales, and subsequently turned over to the Nuclear Regulatory Commission". This request was also submitted pursuant to the Freedom of Information Act.

The Freedom of Information Act provides ten (10) days for a response to a request submitted pursuant to the act. On December 13, 1979, thirty (30) days after the request was submitted, Mr. Lanny Sinkin received the first response from the NRC. This response took the form of a telephone call from Ms. Carol Ann Reed of the NRC. Ms. Reed informed Mr. Sinkin that the NRC was aware that the time had lapsed for a response to the request, that the person working on the request had left the employ of the NRC, that the request was being forwarded to the Federal Bureau of Investigation for response, and that a letter was being sent to Mr. Sinkin from the NRC regarding the request. As of December 21, 1979, Mr. Sinkin had not received said letter.

CCANP had hoped to have the documents from what CCANP knows to have been an extensive and lengthy investigation by

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the Federal Bureau of Investigation available prior to answering these interrogatories as CCANP believes this investigation developed information supporting various contentions submitted by CCANP. Unfortunately, due to no fault on the part of CCANP, these documents are not avialable to CCANP in answering these interrogatories.

As Applicant's attorney, Mr. Robert H. Culp, submitted a similar Freedom of Information Act request to the NRC on November 30, 1979, the Applicant presumably will receive the information when CCANP does.

Additionally, CCANP is given to understand that a four member team from the NRC is currently at the construction site conducting an investigation which has already consumed more than three weeks. CCANP awaits the results of this investigation as CCANP is further given to understand that the contentions of CCANP in part prompted the investigation.

Returning to the FBI investigation, CCANP initiated its own investigation to determine why the United States Attorney decided not to present his findings to a federal grand jury rather than turning the investigation results over to the NRC.

To summarize the results of CCANP's investigation, CCANP believes the FBI, among other things, found extensive evidence of false documentation of cadweld inspections. In discussions with the NRC, however, the FBI was told that the inspection of cadwelds was part of the quality assurance program submitted by Brown and Root to the NRC prior to construction and accepted by the NRC as in compliance with the provisions of 10 CFR, Part 50, but that cadweld inspection inspection was <u>not</u> required by the NRC. If it were shown, then, that personnel at the South Texas Nuclear Project falsified documents related to cadweld inspections, these falsifications would not be a violation of federal laws prohibiting the forging of official documents submitted to the federal government. The NRC told the FBI that Brown and Root could submit a letter to the NRC saying they no longer planned to inspect cadwelds and the NRC would then no longer require cadweld inspection. Further, the FBI was led to believe that these assertions on the part of the NRC would be the position of the NRC in any legal proceeding resulting from the FBI investigation. Given this position on the part of the NRC, the FBI turned their findings over to the NRC rather than presenting them to a federal grand jury.

10 CFR §50.110 titled "Violations" states:

> An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 52, 57, 62, 63, 81, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or <u>any term, condition, or limitation of any license issued thereunder</u>, or for any violation for which a license may be revoked under section 186 of the Act. <u>Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.</u>" (emphasis added)

NRC personnel seem to have interpreted a quality assurance program submitted by Applicants and accepted by the NRC as a requirement of the construction license as not being a term,

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condition, limitation, or regulation pursuant to 10 CFR§50.110.

It is not clear from CCANP's investigation what basis the NRC personnel had for communicating the above interpretation to the FBI. CCANP notes that 10 CFR§50.3 titled "Interpretations" states:

> "Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission."

CCANP is unaware of any such authorized interpretation by the Commission or of any opinion in this regard by the General Counsel of the NRC which would justify the position taken by NRC personnel in response to the findings of the FBI.

Furthermore, CCANP is at a loss to understand the position of the NRC. If a quality assurance program is accepted by the NRC under 10 CFR, Part 50, CCANP would assume that compliance with that program would then be required by federal law and that the sanctions of federal law would be applied for willful and knowing violations of the accepted program. Additionally, the NRC assertion that inspection of cadwelds - mechanical splices of reinforcing bars in critical areas of the nuclear plant - is not required raises a serious question as to just what the NRC believes quality assurance under 10 CFR, Part 50 really means.

Given the position of the NRC in regard to enforcement of 10 CFR, Part 50, the only true enforcement available is the denial of an operating license for failure to effectively implement a quality assurance program. Not to deny the license would be to make a mockery of "quality assurance". Such a denial of license is precisely what CCANP will ask of the Atomic Safety and Licensing Board.

If such a denial is warranted for extensive, pervasive, and willful violations of 10 CFR, Part 50 and if the current NRC investigations confirm such violations, as have past NRC investigations of this plant, CCANP would hope the NRC would issue a stop work order so the Applicants and their rate payers will not continue to spend money on a power plant whose license to deliver power may well be denied.

In answering questions related to documents, CCANP notes that Applicants interrogatories usually requested documents "other than communication between Applicants and the Nuclear Regulatory Commission". CCANP assumes that the Atomic and Safety and Licensing Board will be reviewing the communications between Applicant and the NRC as there are numerous investigations of allegations related to almost all CCANP contentions.

Finally, the rules of the Nuclear Regulatory Commission do not provide job security for personnel at a nuclear plant construction site during the period of construction. Specifically, the Nuclear Regulatory Commission cannot prevent the firing of personnel giving adverse information about the construction of the plant and cannot regain the job of any person fired under such conditions. As a result, the efforts of CCANP to secure corroboration of information contained in these answers has been hampered by a climate of fear at the construction site. Persons believed to have knowledge of value to these proceedings are reluctant to provide such information for fear of losing their job. Mr. Karl Seyfrit, Regional Director of the NRC specifically recognized this problem in an interview broadcast by CBS News on their October Magazine program aired Thursday, October 4, 1979. A transcript

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of this broadcast is attached heretd as Exhibit C. Mr. Seyfrit's contribution regarding lack of protection for inspectors begins on page 18.

I.

Definitions

In responding to interrogatories on Contentions 1 and 2, CCANP's only witness is Mr. Daniel E. Swayze whose address is Route 3, Box 5, Port Lavaca, Texas 77979. Mr. Swayze's current employment is unknown. Mr. Swayze was employed by Brown and Root as a Quality Control Inspector/Sub-Contract Coordinator from December, 1975 to June, 1976; as a Quality Control Inspector from June, 1976 to January, 1977; and as a Senior Quality Control Civil Inspector/Coordinator from January, 1977 to September, 1977. Hereinafter, all references to "Mr. Swayze" relate to the above described Mr. Daniel E. Swayze.

II.

Withholding of Documents

CCANP is withholding from these answers documents supporting CCANP's contention regarding falsification of cadweld records.

If the NRC does not require inspection of cadwelds, the contentions related thereto may need no further elaboration than what is provided herein unless the NRC intends to consider violations of the accepted quality assurance program as grounds for denying the operating license.

More importantly, CCANP believes the documents in CCANP's possession provide a means by which some cadweld records previously falsified can be identified. The rules provide CCANP can attempt to examine these records through discovery but that the Applicants are allowed thirty days to respond to such a request.

Since CCANP's contention would be that these records were knowingly and willfully created, corrected, or completed long after the event documented took place, CCANP is concerned that identifying these records with any specificity or revealing the method by which CCANP believes these documents can be identified will lead to further alteration or destruction of the falsified records.

CCANP is willing to release its information if the integrity of the records in the vault can be assured. CCANP proposes that CCANP reveal its information to the NRC staff with the understanding that the NRC will take protective possession of any vault records identified pursuant to CCANP's information, hold these records for the thirty days provided for Applicants to express objectives to their release, and then release these records to CCANP if the Applicants do not express accepted objections.

CCANP will continue to withhold its information until advised of the acceptability of CCANP's suggested procedure for dealing with this information.

III.

Answers

The following answers of Citizens Concerned About Nuclear Power, Inc. (CCANP) to the First Set of Interrogatories from Houston Lighting and Power Company, et. al, Applicants and to

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NRC Staff Interrogatories is a good faith effort to provide complete information regarding the contentions of Citizens Concerned About Nuclear Power to the Applicants for the operating license for the South Texas Nuclear Project, Units 1 and 2.

CONTENTION 1

1. CCANP relies on no other documents than communications between Applicants and the NRC to support its assertion that the South Texas Nuclear Project Unit 2 Mechanical Electrical Auxiliary Building is being constructed one foot short on the east side of the building.

2. The construction error resulted from survey calculations which were not properly checked by the Field Engineering Supervision. Such failure to check survey calculations is considered to fall under the provisions of 10 CFR Part 50, Appendix B, Section X in that inspection of an activity affecting quality was not executed.

3. The only communications between Applicant and the NRC in CCANP's possession which support the assertion that because of "field construction error ... extensive voids exist in the concrete wall enclosing the STP containment building" are the November 20, 1978; July 16, 1979; and August 15, 1979 reports by Applicants to the NRC.

Additionally, CCANP has the transcript of the December 14, 1978 meeting of the City Council of San Antonio wherein Mr. Jack Spruce and Mr. Jesse Poston of the City Public Service Board of San Antonio discusses the voids. Mr. Spruce's testimony related to voids begins on page 15 and continues on page 16. The pages containing Mr. Spruce's testimony are attached hereto as Exhibit D. Mr. Poston's testimony on voids begins on page 19 and continues on page 20. The pages containing Mr. Poston's testimony are attached hereto as Exhibit E. While the voids referenced in the communications between Applicants and the NRC in the reports noted above in this answer refer to voids in the eighth lift of Unit 1, the voids under discussion before the City Council on December 14, 1978 were the voids in the fifteenth lift of Unit 1. CCANP has also been told that voids have been found in other parts of the plant, but the confirmation of these voids is not currently in CCANP's possession.

The CBS television broadcast transcript (Exhibit C) contains further confirmation of the existence of voids beginning on page 21 of the transcipt.

In addition to documents, CCANP relies on conversations with Mr. Swayze. As developed from those conversations, CCANP's understanding of the inspection process is that there is no uniform, continuous process of testing for voids. Usually, voids are detected by the presence of a surface void visible to an inspector. When such a void is found, the design engineering staff decides to what extent that pour needs to be tested for voids which do not show on the surface.

4. The "field construction error" referred to in CCANP's contention is the improper pouring of concrete. The most specific example is given in Mr. Poston's testimony noted in answer 3 above and attached as Exhibit E. In that testimony, Mr. Poston said:

> "If you would permit me I would like to give one little thirty second human interest story on these voids that have gotten so much attention. When we visited the sites, last time we went up a hundred

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and some odd feet up on the scaffold and viewed this pour where these honeycombing occurances took place. I asked the construction manager on the entire project, how did this happen, why was this pour allowed to proceed. He explained that he had two concrete pumps and one had broken down and so he continued with the other one measuring the slump constantly but feeling that he could get the concrete through the forms Mr. Spruce was talking about. But as it turned out he wasn't able to completely fill the voids of the form, and so he got these honeycombing. I said 'well, what - who is this fellow.' He said, 'he is my best concrete man, he's been with Brown and Root 14 years and he's built 2 other nuclear power plants for me and several fossil plants.' I said 'What did you do with him?' 'I fired him yesterday.'" (emphasis added)

5. The construction errors noted in 4 above are a violation of 10 CFR Part 50, Appendix B, Sections I, IX, and X. The repeated discovery of surface voids and subsequent discovery of hidden voids demonstrates the "need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test." (Section I) Such special controls should include "nondestructive testing ... controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements." (Section IX) As there is no uniform, continuous inspection process for the location of hidden voids, there is an absence of a testing program "to assure that all testing required to demonstrate that structures ...will perform satisfactorily in service ...." (Section XI).

The large number of voids discovered to date suggests strongly that a uniform, continuous process of testing for hidden voids would have uncovered other voids and that more extensive testing for voids was required than was actually conducted. The presence of voids is a failure to comply with the design specifications for concrete work and raises doubts as to the structural integrity of the buildings.

6. Investigation by Mssrs. R. E. Hall and A. B. Rosenberg of the NRC staff during the period September 11, 1978 through September 14, 1978 (NRC report 78-15) confirmed the allegation that: "Cadwell location field sketch No. FSQ 030 had been lost and was no longer available."

7. see 6 above

8. 10 CFR Part 50, Appendix B, Section VI provides that "Measures shall be established to control the issuance of documents ...." The loss of a document is a breakdown in the control of issuance of that document. Section XVII provides that "Sufficient records shall be maintained to furnish evidence of activities affecting quality." Section XVII further provides that "Records shall be identifiable and retrievable." The location field sketch shows the location of the particular cadwelds. If the sketch is lost it would be impossible to relocate the cadweld to verify the quality of the work done on the cadweld. A lost document is, of course, not "retrievable".

9. The only document currently in CCANP's possession to support the contention that "membrane seals in the containment structure" have been "damaged" is a newspaper article from the October 6, 1979 Houston Post written by Mr. Harold Scarlett.

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A copy of this article is attached as Exhibit F. In this article, Mr. Karl Seyfrit, identified above, raises the possibility that membrane inspections were not properly conducted on the Unit 1 reactor building and the Units 1 and 2 fuel handling buildings.

CCANP also relies upon conversations with Mr. Swayze for this contention.

10. The membrane seals or waterproof membranes are installed on the exterior vertical surfaces of buildings from the seal slab to the reglet. The ground water level at the site after construction is estimated to be about five feet below ground level. The area is kept dry during construction through the use of de-watering wells.

Construction of walls below ground in the Unit 1 containment building, the Unit 1 fuel handling building, the Unit 1 mechanical electrical auxiliary building, and the Units 1 and 2 fuel handling buildings all required waterproof membranes to be placed on the exterior vertical surfaces from the seal slab to the reglet. These walls were constructed using taper ties rather than break-back ties. The difference is that after a wall is poured with a taper tie, the tie, or metal reinforcing bar, is removed from the wall leaving a hole. After a wall is poured with a break-back tie, the ends of the tie are broken off and the reinforcing bar is left in the wall. Since taper ties were used in the walls of the building referred to above, the removal of these ties left hundreds of holes in the wall, each hole being approximately two (2) inches in diameter and running completely through the wall. The use of taper ties in this type of construction is believed by CCANP to be a violation of standard construction practices.

When the holes were discovered, the design engineer ordered all the holes to be filled. (See Exhibit F) To date to the best of our knowledge all of these holes have not been filled. a few of the holes were partially filled.

On one occasion, the exact date of which he does not recall, Mr. Swayze found workmen filling one of these holes to a depth of only two or three inches, the hole being two to three feet in length. Furthermore, Mr. Swayze found that the grout being used was mixed with impure sand containing dirt and crumbled under his fingernail. The grout is supposed to withstand significant pounds per square inch of pressure, the exact level of which CCANP does not know.

Once Mr. Swayze discovered the partial filling of holes, he and another inspector, believed to be Mr. Sam Horton, used blunt steel rods to test the filling of other holes. The rod was slid gently down the taper tie hole to check for grout at the other end. On at least one occasion, there was no grout at the other end and the rod passed through the waterproof membrane. Water began to enter the building through the hole.

A second part of this contention if that on at least one occasion Mr. Swayze learned that waterproof membranes were put on at night and never inspected. The area of these membranes was backfilled before any inspection could take place. Mr. Swayze attempted to have the back fill removed so that inspection could take place but this request was refused by persons believed to be Mr. Tom Schraeder and Mr. Tom Warnick.

11. The acts set forth in answer 10 are a violation of 10 CFR Part 50, Appendix B, Sections I, II, III, V, X, XV, XVI, and XVII. Specifically, Section I states: "The quality assurance functions are those of (a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying, such as by checking, auditing,

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and inspection, that activities affecting the safety-related functions have been correctly performed." The absence of inspections at night of the waterproof membranes and their subsequent covering with backfill before inspection could take place is a violation of both functions set forth in Section I.

Section II states: "The quality assurance program shall provide control over activities affecting the quality of the identified structures, systems, and components, to an extent consistent with their importance to safety. Activities affecting quality shall be accomplished under suitably controlled conditions." Absence of inspections at night, the subsequent covering of the membranes prior to inspection, and the use of taper ties show an absence of control over activities affecting quality and that the installation of the membranes was not carried out under suitably controlled conditions.

Section III states: "Measures shall also be established for the selection and review of suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components." The selection of taper ties instead of break-back ties was obviously unsuitable. Had there been any review of this selection, the unsuitability of such ties would have been equally obvious. We therefore assume that no such review took place. The poor selection and the absence of review violate Section III.

Section V states: "Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Either (1) there was a procedure which set forth that the use of taper ties in below grade construction was qualitatively acceptable or (2) there was an absence of any procedure setting forth what type of ties were acceptable in below grade construction or (3) there was a procedure which set forth that the use of break-back ties in below grade construction was acceptable. In case (1), the procedure was obviously inappropriate as taper ties leave holes and therefore Section V was violated. In case (2), the absence of a procedure violates Section V. In case (3), the use of taper ties violated the criteria established under Section V.

Section X states: "A program for inspection of activities affecting quality shall be established and executed by and for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity." The absence of inspections at night and the subsequent back filling prior to inspection is a violation of Section X.

Section XV states: "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation." The use of taper ties is not in conformance with standard construction practice for below grade walls. Apparently, there were not measures established to control the use of such materials and therefore Section XV was violated.

Section XVI states: "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deviations, defective material and equipment, and non-conformances are promptly identified and corrected." The holes were first reported to the NRC in December 1977 according to Mr. Seyfrit (See Exhibit F). Two years later, the holes are still not filled. The non-conformance has not been promptly corrected and therefore Section XV has been violated.

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Section XVII states: "Sufficient records shall be maintained to furnish evidence of activities affecting quality." CCANP assumes and intends to prove through discovery that the absence of inspection at night on the installation of the waterproof membranes and the back filling prior to inspection produces an absence of inspection records which is a violation of Section XVII.

Applicants face four serious problems in any attempt to correct the effects of using taper ties and the absence of inspections at night. First of all, since the back fill is in place, the filling of the holes will have to be done from the inside only. There will be no method for assuring that the grout has completely filled the hole.

Second, to pack the grout will require pressure be applied to the grout from the inside. That pressure will be transmitted to the waterproof membrane and could cause a rupture of the membrane.

Third, with the back fill in place, there is no method for inspecting the waterproof membranes to determine if they are damaged by the corrective action.

Fourth, with the back fill in place, there is no method for inspection to assure the waterproof membranes for which no inspection records exist are actually in place.

The holes in the walls pose serious safety-related threats. There is the possibility of intrusion of water into buildings housing electrical equipment critical to the proper operation of the plant. Such intrusion could short out the equipment causing failures with safety implications.

Similarly, if waterproof membranes were left off of exterior walls, water could move through the concrete and into the buildings housing electrical equipment.

An accident within the plant could produce conditions of high pressure and radioactivity. The pressure would force radioactivity through the holes, spreading it through areas adjacent to the holes. Mr. Seyfrit's contention in the article attached as Exhibit F that "not much radiation would get through the hole" is perhaps correct if there were only one hole. When there are hundreds of holes with a diameter of approximately two (2) inches, high pressures could force substantial amounts of radioactivity out of the building and into adjacent areas.

12. The "equipment door" in question is a round hole in the reactor containment building. Perhaps it is more commonly referred to as an equipment hatch. The concrete work around this hole was poured in two or three tiers.

This is as complete a description of the hatch as we have developed based on our conversations with Mr. Swayze. If this description is insufficient, we will attempt to provide a more precise description.

13. The "equipment door" in question is in Unit 1 reactor containment building.

14. There is no documentation that we know of regarding the missing steel reinforcement bars. Mr. Swayze states that the inspectors who discovered the missing bars were intimidated into not reporting the omission. As the omission was not reported, we do not expect there to be any documentation. Mr. Swayze further states that this is not an isolated instance of failure by inspectors to report steel reinforcing bars being left out. Intimidation of inspectors produced other such instances.

15. The steel reinforcing bars left out around the equipment hatch are a violation of 10 CFR Part 50, Appendix B, Sections

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I, II, III, X, XVI, and XVII.

Specifically, the intimidation of inspectors into not reporting steel left out is not part of "an appropriate quality assurance program" being "established and effectively executed" and therefore violates Section I.

Intimidation of inspectors prevents a "quality assurance program" providing "control over activities affecting the quality of the identified structures ...." and therefore violates Section II.

Leaving out steel reinforcing bars is not a "procedure" for correctly translating "applicable regulatory requirements and the design basis" and therefore violates Section III.

Intimidation of inspectors into not reporting steel left out is not part of executing "a program for inspection" and therefore violates Section X.

Intimidation of inspectors into not reporting steel left out means that deficiencies are not reported and therefore cannot be corrected in compliance with Section XVI.

Inspectors intimidated into not writing deficiency reports cannot be keeping "sufficient records ... to furnish evidence of activities affecting quality" in compliance with Section XVII.

16. In answering this interrogatory, CCANP will break down its answer into nine (9) different parts, all relating to cadwelds. To avoid any difficulty in referencing back to answers to 16, the answers to interrogatory 18 explaining how each item constitutes a violation of 10 CFR Part 50, Appendix B, will be answered for each item as it is presented.

In answering this interrogatory, CCANP uses documents which came to CCANP from persons unknown who apparently previously worked or currently work at the construction site of the South Texas Nuclear Project. CCANP believes these documents to be authentic.

Many of the documents are field notes of cadwell inspectors. Often the findings of the field inspectors were transferred to a form titled "Brown and Root Quality Assurance Department Examination Check". This latter document was then placed in the document vault and the field notes on which the Examination Check was based were thrown away. CCANP considers it fortunate the attached copies of field notes are still avialable as they show a disturbing pattern elaborated below.

Mr. Swayze has assisted us in understanding what the documents contain.

(1) For a period of time which copies of documents attached as Exhibit G show to have been at least from November 10, 1978 to November 14, 1978, cadwelds were shot with staggered witness marks, the marks placed on the steel reinforcing bars prior to shooting the cadweld and used to determine that the sleeve into which the bars are inserted is properly centered after the weld is completed.

Exhibit G-1 is a Brown and Root, Inc. Quality Assurance Department Cadweld Inspection Book which shows in a chart that the witness marks are to be placed 12 inches from the end of the bar. The manufacturer's prescribed method, to the best of our knowledge, is to place witness marks at 12 inches from the end of the bar. The total distance between witness marks will then be something close to 24 inches. We believe Brown and Root adopted the standard of the manufacturer as their own standard. To our knowledge, this standard has never been changed.

Exhibit G-2 dated 11/2/78 shows that cadweld 36V524 was found unsatisfactory because the witness mark was at seventeen inches ("1'5"") rather than 24 inches. (Note: the mark

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surrounding the words "No upper witness" appear on the original in red. This is the only red appearing on the document. Based on examination of other documents, CCCANP believes this mark was placed on the document at a later date to highlight these words.)

Exhibit G-3 dated 11-10-78 shows three cadwelds - 164, 165, and 167, with staggered witness marks found acceptable. (Note: the words "staggered wit marks" appear in red on the original and are the only red appearing on the document. These words are assumed to have been written at a later date than the original.)

Exhibit G-4 dated 11-14-78 shows two cadwelds - 27V1165 and 27H731 - where the witness marks were at 6 inches rather than 12 inches. Both were found satisfactory. Cadweld 36H463 shows staggered witness marks and was found acceptable. (Note: the words "Ck on proc can wit marks be staggered" is another notation in red and considered similarly to the ones noted above.)

These documents show that staggered witness marks were accepted at distances less than the distance prescribed by the manufacturer and Brown and Roots own procedures. They also show confusion on the part of Brown and Root personnel as to what was acceptable. Only a review of other cadweld records, if such records exist, will show how extensive the staggered witness marks problems is.

10 CFR Part 50, Appendix B, Section is violated in that activities affecting quality were not accomplished in accordance with prescribed procedures.

Section IX is violated in that cadwelding was not accomplished using applicable codes.

Section X was violated in that inspectors did not verify conformance with procedures.

Section XVI was violated in that corrective measures were not taken.

(2) On at least two occasions, the decision by a field inspector to reject a cadweld was overriden by the person preparing the Examination Check document without that rejection being noted on the final report.

Exhibit H-1 dated 11/11/78 is a copy of the Examination Check of various cadwelds. Attention is directed to the notation that 42V151 through 42V160 are marked "S" or satisfactory.

Exhibit H-2 dated 11/11/78 with the notation "From 11/9 M.H. Log" is the report on each of the welds summarized in Exhibit F-1. Attention is directed to 42V157 which shows the final inspection resulted in a "U" for unsatisfactory and remarks "Rej due to centering". The "U" is marked through and replaced by an "S" and the remarks are also marked through. Cadweld 42V158 also shows the final inspection resulted in a "U" and remarks "Rej due to centering". Again the "U" and the remarks are scratched through with the "U" replaced by an "S". Additionally, in the remarks area, the following appears "AES 11/10/78 Measurements made at night. Re-measurement shows high side of sleeve in tolerance".

Further in the remarks area of 42V158, the "Rej" has been written in a second time. On the original, the "U" on 42V158 appears to have been marked "U" again after being scratched and replaced with "S".

The appearance of 42V158 suggests that the original inspector disagreed with the override and therefore marked the "U" again and wrote "Rej" again. Nevertheless, Exhibit F-1 shows 42V158 as "S".

The violation of 10 CFR 50 noted here is that while the

team leader, which AES may have been, has the authority to override the inspection judgement of the field inspector, he cannot delete the judgement of the field inspector from the official record. In this example, Exhibit F-1 would show the field inspector rejected 42V157 and 42V158. This omission is even more serious if the field inspector actually objected to the override as the rewritten "U" and "Rej" suggest. (Note: The wavy line on Exhibit H-2 at 42V155 appears in red on the original and is considered similar to other red marks as noted above.)

A similar incident is show in Exhibit I. In Exhibit I-1, the Examination Check shows 27V1139 and 27V1140 as "S".

In Exhibit I-2, 27V1140 shows a "U" scratched through and replaced by an "S" and "Rej" marked through. The notation "Due to no marking" appears in the remarks column.

Again, there is an override of a field inspector's judgement which is not reflected on the official record. (Note: The open end box around remarks noted above, the underlining of remarks at 35V98, and the circle on the star appear in red on the original and are considered similarly to the red marks noted above.)

The deletion of the remarks of the field inspector from the official records is a violation of Section XVII which states in part: "Inspection and test records shall, as a minimum, identify the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with deficiencies noted".

(3) On at least one occasion, a cadweld was approved despite its being in violation of quality assurance standards.

Exhibit J dated 3-22-78 is a cadweld record showing that 27BV418, a #18 bar cadweld, was rejected. Below the cadweld record is the notation "Re 27BV418 (reject) checked by Civil Engineer Alfred Long came up with void area of 3.3. Shot is OK." To the original is stapled a piece of paper saying "Allowable Void Area 2.64." (Note: there is nothing on the cadweld report beneath the stapled paper.)

Exhibit G-4, the cadweld inspection book, shows the maximum allowable void for a #18 bar cadweld is 3.00. The stapled piece of paper seems to indicate that 27BV418 was a #18 RBC-1876(-H) or RBT-1876(-H) (referring to the cadweld inspection book numbers) with a maximum void of 2.64.

The approval of the rejected void was done by a civil engineer, apparently not an inspector. Even had it been done by an inspector, the void exceeds any allowable area for a #18 bar.

A related problem was identified by the NRC in its investigative report 78-15 dated October 6, 1978 in which the NRC investigators found that a piece of wire had been forced into a cadweld sleeve "such that it concealed a rejectable void". (Note: Examination of this report in its entirety is very revealing concerning violations of cadweld procedures.)

The approval of a void in excess of specifications violates Section I in that an appropriate quality assurance program was not effectively executed.

Section II is violated in that the civil engineer referred to is, CCANP assumes, not an inspector and therefore not charged with the responsibility nor given the authority to provide control over activities affecting the quality of the plant.

Section X is violated in that an inspector did not verify conformance of the void to documented procedures.

Section XVI is violated in that corrective action was not taken.

(4) Based on conversations with Mr. Swayze, CCANP contends

that numerous cadwelds placed in the base mat of Unit 1 containment building were taken from a lay down yard where they had been shot and stored months before.

During the time the cadwelds were stored, the numbers identifying the welds wore off. When these welds were placed in the base mat, numbers were randomly assigned from the cadweld shooters log until a sufficient number were assigned to correspond with the total number of cadwelds placed in the base mat.

Section I is violated in that an appropriate quality assurance program was not effectively executed.

Section II is violated in that the quality assurance program did not provide control over activities affecting the quality of the identified structure.

Section X was violated in that quality assurance did not verify conformance with procedures.

Section XIII was violated in that measures were not established to assure storage of material to prevent damage or deterioration.

Section XVI was violated in that no corrective action was taken when the numbers were found to be missing.

Section XVII was violated in that the records made of the cadweld numbers were knowingly inaccurate.

(5) On numerous occasions, the person preparing the Examination Check for the official record changed almost the entire report of the field inspector. Exhibit H-1 shows that preparation of all cadwelds reported was "S" or satisfactory.

Exhibit H-2 shows that the field inspector did not inspect - "N" - preparation of any of the 31 cadwelds recorded on that page.

Exhibit I-1 shows that preparation of all cadwelds reported was "S". Exhibit G-2 shows that the field inspector did not inspect preparation of 19 out of 20 cadwelds recorded.

The Examination Check is prepared after cadwelds are shot. There would thus be no method for the person preparing such a report to check the preparation and state the preparation was satisfactory.

Section XVI is violated in that rather than take corrective action regarding the absence of preparation inspections, these inspections were reported as satisfactory.

Section XVII is violated in that the quality assurance records falsely reflect satisfactory inspections when in fact none were done.

(6) In (5) above, it was noted that in Exhibit F-2 and G-2 the field inspector almost never inspected preparation of the cadwelds. Exhibits K-1, K-3, and K-4 show a similar pattern of not inspecting preparation of cadwelds. Such inspections would normally include the fit-up, alignment, packing, and designation of the cadweld.

Failure to inspect cadweld preparation is a violation of Section I in that an appropriate quality assurance program was not executed.

Section II was violated in that quality assurance did not provide control over activities affecting the quality of the structures into which the cadwelds were placed.

Section IX was violated in the control of cadwelding did not take place as the preparation of the cadwelds was not inspected.

Section X was violated in that no program of inspection of preparation of cadwelds was carried out.

Section XVI was violated in that the report that cadwelds inspections were satisfactory was false.

Section XVI was violated in that no efforts were made to

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correct the lack of inspection of cadweld preparation.

Section XVII was violated in that the quality assurance records falsely record the results of the inspection.

The procedures set forth In Appendix A, Brown and Root Quality Construction Procedure A040KPCCP-11 were also not followed.

(We note in passing that Exhibits K-2, K-3, and K-4 contain the initials of "JFE" which comparison with K-1 show to have been written by someone else. There is a strong indication that AES wrote in JFE's initials.)

(7) Witness marks are the marks placed on steel bars prior to being inserted in a sleeve and then shot (cadweld). When the cadweld is shot, the smoke and powder spread out along the pipe and smudge the witness marks.

Mr. Swayze recounts that he used to go over to the plant at night when not on duty. He would examine witness marks on cadwelds already shot and find them to be bright and shiny, an indication the marks were placed on the bars after the weld was shot. The advantage of such a procedure is that the witness marks would be the proper distance out every time and thereby show the sleeve to be centered whether the sleeve was centered or not.

This observations of Mr. Swayze were confirmed by an investigation conducted by Messrs. R. E. Hall and A. B. Rosenberg of the NRC staff in Rpt. 78-15 dated October 6, 1978 wherein the following appears: "The allegation regarding application of centering marks to rebar after firing was substantiated by direct observation". (emphasis added) This confirmation came months after Mr. Swayze had witnessed similar activities.

CCANP is unaware of any NRC efforts to determine how long such false marking had gone on or how many bars had been so marked.

Section X requires a program for inspection of activities affecting quality be established and executed to verify conformance with instructions, procedures, and drawings. The falsification of witness marks is a violation of this section.

(8) According to Mr. Swayze, no cadwelds were inspected at night during a substantial period of time.

The CBS transcript (Exhibit C) at page 20 addresses this question. In that transcipt, Mr. Tom Gammon of Brown and Root says:

> "[Inspectors] weren't inspecting Cadwelds. It is simply that they chose to do other work than night that they were supposed to do rather than Cadwelds."

[CBS]: "Those nights."

Gammon: "Those nights."

In the NRC investigation report 78-15 referenced above, the following appears: "The allegation regarding lack of second shift Quality Control inspection coverage of Cadwelding operations was confirmed." And further: "Review of the records and discussions with assigned Brown and Root Cadweld inspectors confirmed that during the period August 1 through September 10 [1978] essentially no second shift inspection of in-process Cadwelding operations had been performed."

Based on figures in this NRC report, CCANP concludes that the minimum number of cadwelds not inspected each day was 4 and the maximum number not inspected each day was 25. During the forty-one days from August 1 through September 10, then, a minimum of 164 cadwelds were not inspected and a maximum of 1,025.

Section X was violated in that a program for inspection of activities affecting quality was not established and

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executed to verify conformance with the documented instructions, procedures, and drawings for accomplishing an activity affecting quality.

(9) Mr. Swayze states that the abuses of the required inspection process increased as the project fell further and further behind schedule. As pressure increased to get things done, there were more and more instances of shoddy workmanship, inspections not done, and records created on a false basis.

Section X was violated in that a program for inspection of activities affecting quality was not established and executed to verify conformance with the documented instructions, procedures, and drawings for accomplishing an activity affecting quality.

17. The cadwelds not capable of being verified are all over the plant. They cannot be verified because they are buried under tons of concrete.

18. Answered in 16.

19. NRC report 78-12 dated August 12, 1978 concludes that "[t]he allegation of inaccessability to upper management was expressed by a majority of the QC inspectors".

The only document, other than communication between Applicants and NRC, which CCANP currently has access to supporting CCANP's contention that "[e]fforts by quality control inspectors to verify that design changes were executed in accordance with the purposes of the original design were repeatedly and systematically thwarted" is a copy of a Brown and Root handwritten memorandum by C. M. Singleton, Civil Quality Control Engineer, dated 4-1-79 attached as Exhibit L. The text of the memorandum is:

> "As of this date, all communication between Civil Q.C. and Design Engrs. and/or their site representatives, will be handled at a level no lower than the Lead Inspectors. There will be <u>no</u> deviations from this memo unless approved by the Civil Q.C. Supv. only." (emphasis in original)

Mr. Swayze has stated that during the period of his employment with Brown and Root, Inc., the policy was evolved that where construction work varied from the requirements of design engineering, the construction personnel would explain to design engineering the nature and extent of the variance. Based on communications from construction personnel, design engineering would determine what corrective action, if any, would be necessary.

Subsequent conversations between quality control inspectors and the design engineers, however, revealed that the design engineers were being lied to by the construction personnel. For example, where eight rebar were missing, the design engineers might have been told that only two were missing.

Rather than encouraging the inspectors to communicate directly with the design engineers to ensure that design engineering would have an accurate description of the problem, Brown and Root, Inc. directed that inspectors not communicate with design engineers. Thus, the quality control inspectors could not verify that the engineering action taken in response to the field request for engineering action was based on the actual problem as it existed in the field.

Furthermore, Mr. Swayze states that as construction work fell further behind, the contractor permitted site representatives of the design engineering department to accept design changes without submitting the changes to Houston. Such

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field requests for engineering action due to deviations from design specifications ofter were handled verbally with the paper work to follow later.

20. CCANP does not have specific names, dates, and incidents confirmed to sufficient specificity to provide as an answer to this interrogatory. CCANP recognizes these interrogatories as continuing and will provide more information as developed.
21. See 20.

22. Yes. Quality control inspectors are supposed to have confidence that design changes are made by qualified people in conformance with accepted procedures. Quality control inspectors, when they deem it necessary, should verify that the design change approved by the design engineers was approved based on accurate information on what was happening at the construction site.

23. Yes. To the extent that design is done to achieve a purpose, changes in design should achieve that same purpose. Additionally, the changes in the field should conform to the as-built drawings.

24. Exhibit L, the memorandum quoted above, shows a clear violation of Section I which states in part: "Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this Appendix are being performed shall have direct access to such levels of management as may be necessary to perform this function". (emphasis added) The decision on what level of management an inspector may find necessary to communicate with is clearly in the hands of the quality control inspectors, not Mr. Singleton.

Section III is violated in that "design changes, including field changes," were not "subject to design control measures commensurate with those applied to the original design". Specifically, verbal approval by on site personnel is not subject to design control measures commensurate with those applied to the original design.

Section XVI is violated in that there is no assurance the design changes authorized were an adequate corrective action relating to the original deficiency.

25. CCANP relies on the statements of Mr. Swayze regarding design changes made by personnel with no first hand knowledge of the original design. Again specific instances are yet to be confirmed with sufficient specificity to be provided at this time.

26. see 25.

27. see 24.

28. On site approvals of design changes violate Section III in that "design changes, including field changes," were not "subject to design control measures commensurate with those applied to the original design". Specifically, verbal approval by on site personnel is not subject to design control measures commensurate with those applied to the original design.

29. The only specific information CCANP has to support its contention that design changes were approved by personnel unqualified in the type of design where the changes were made is the information that on site, verbal approvals of design

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changes were made by Mr. Doug Robertson, on site representative of design engineering.

CCANP's information is that Mr. Robertson was a geotechnical engineer, sometimes called a "dirt engineer", not qualified in design involving concrete and steel.

CCANP does not have specific instances sufficiently documented to present at this time. CCANP contends that all design changes outside his expertise authorized by Mr. Robertson are improper.

30. See 29.

31. Section III is violated in that "design changes, including field changes," were not "subject to design control measures commensurate with those applied to the original design". Specifically, approval by unqualifiede personnel is not subject to design control measures commensurate with those applied to the original design.

Section XVI is violated in that there is no assurance the design changes authorized were an adequate corrective action relating to the original deficiency.

32. Mr. Swayze has stated that as a result of extensive intimidation of inspectors, the inspectors voted to play cards rather than risk their safety on the site. During the four month period of the card game, civil quality control inspectors went through the motions of inspecting, in some cases, and, in other cases, merely signed off on pour cards without doing any inspection. In either case, they noted no deviations from design engineering requirements. They either ignored what they saw or did not inspect. Thus, except for instances where construction wanted a field request for engineering action or a design deficiency report, no exceptions were taken by these inspectors to the quality of the construction. The construction personnel would want an FREA or DDR where there was an obvious defect in the work which could not go uncorrected.

The participants in the card game, to the best of CCANP's knowledge, were: Mr. Rocky Crisp, Mr. Ja[illegible] Duke, Mr. Roger Forte, Mr. Allen Hammons, Mr. Sam Horton, M[illegible]. N. Kesarinath, Mr. Carl King, Mr. Bill Lazear, Mr. Paul Pelingaris, Mr. Suresh H. Shah, and Mr. Daniel E. Swayze.

33. As noted in 32, the falsification consisted of inspectors signing off on concrete pours as if a true inspection had taken place when in fact the inspection was cursory or not done at all.

34. CCANP has no documents to support this contention other than printed or broadcast reports of Mr. Swayze's statements, such as the CBS broadcast transcripts referred to above. CCANP has reason to believe that the FBI succeeded where the NRC investigators had failed in securing corroborating testimony from other participants in the card game. CCANP awaits the response of the FBI to the Freedom of Information request submitted by CCANP and referred to in the preface to these answers.

35. (a) In July, 1977, Mr. James Marshall was hospitalized after being assaulted by a craft concrete foreman.

Mr. Jerry Lacey was assaulted in the spring of 1979.

CCANP has reason to belie[illegible] the NRC regional office can provide the names of other ins[illegible]ctors assaulted while working at the South Texas Nuclear Pro[illegible]ct.

(b) Mr. Swayze's life was threatened by Mr. Ron Ferguson,

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a concrete foreman, in July, 1977. Mr. Swayze states that the NRC investigation confirmed the threat and NRC investigators so informed Mr. Swayze. As best Mr. Swayze can recall, the NRC personnel giving him this information were Mr. Bob Taylor and Mr. Bob Foster. The official NRC report, however, stated that the allegation was not confirmed. (Number unavailable at this time. See Exhibit M.)

In the CBS transcript, Exhibit C, pages 16 through 18, the topic of assaults and harrassment are discussed.

(c) Mr. Swayze was fired in August, 1978.

Mr. Larry Perry was fired after calling in the NRC on, among other things, the falsification of witness marks on cadwelds. (NRC 78-15, October 6, 1978)

(d) Intimidation was endemic at the plant and experienced by almost every inspector. The assault on Mr. Marshall and the death threat against Mr. Swayze both took place at the same time, culminating a long series of abuses and precipitating the vote which led to the card game.

36. CCANP can only identify the inspections which were not carried out as those inspections made in the time period of the card game, which to the best of CCANP's knowledge extended for a period of four or five months beginning in July, 1977. CCANP believes the buildings under construction at that time were Reactor Containment Building Unit 1, Mechanical Electrical Auxiliary Building Unit 1, Fuel Handling Building Unit 1, Fuel Handling Building Unit 2, and Reactor Containment Building Unit 2. [Note: CCANP disagrees very strongly with the remarks of Mr. Karl Seyfrit, Regional Director, NRC as recorded in the newspaper articles (Exhibit B) in which Mr. Seyfrit states that the work going on at the time of the alleged card game was not "critical".]

37. NRC reports 78-12 dated August 22, 1978 and 78-13 dated August 25, 1978 discuss the problems faced by inspectors at the South Texas Nuclear Project.

Documents relied on, other than NRC reports, are Brown and Root, Inc. Interoffice Memo dated July 27, 1977 from Mr. T. P. Gardner attached as Exhibit N; Brown and Root, Inc. Interoffice Memo dated August 8, 1978 from L. A. Watkins attached as Exhibit O; and assorted "punch lists" attached as Exhibit P.

Exhibit N clearly shows that Brown and Root, Inc. was aware of at least one instance of assault and that while investigating this assault Brown and Root, Inc. found "that there existed an inordinate amount of friction between Construction Concrete craft and Civil QC".

CCANP is not certain, but it appears from the Q. A. Records Routing box stamped on the second page of this memorandum that someone with the initials TKH short circuited the filing and circulation of this document.

Exhibits O and P show that pervasive construction errors produced much of the tension between construction workers and inspectors. A close reading of Exhibit O provides a fairly clear picture of the attitudes and opinions which led to the tension between construction and inspection and the subsequent breakdown of the quality assurance program.

38. Mr. Daniel E. Swayze.

CONTENTION 2

1. through 4. Except as answered above, CCANP's information

related to falsification of construction records is subject to the withholding of documents set forth in section II above.

CONTENTION 3

1. None of the overpressurizations referenced have occured since 1976.

2. As no instances of overpressurization are listed in 1, this question is not applicable.
3. CCANP does not suggest and does not consider itself required to suggest any specific designs and procedures for the South Texas Nuclear Project. Correction of this safety related deficiency is the task of the Applicants. CCANP does contend that corrections acceptable to the NRC should be in place prior to granting of an operating license.

4. If the pressure increased above specified limits and was allowed to go unchecked, fracture or rupture of the vessel would ensue.

OTHER

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Respectfully submitted,

CITIZENS CONCERNED ABOUT NUCLEAR POWER, INC.
116 Villita
San Antonio, Texas 78205

By: Lanny Alan Sinkin
Lanny Alan Sinkin, Co-coordinator

STATE OF TEXAS §
§
COUNTY OF BEXAR §

BEFORE ME, the undersigned authority, a Notary Public in and for Bexar County, Texas, on this day personally appeared LANNY ALAN SINKIN, known to me to be a credible person, who on his oath says that he is the co-coordinator of Citizens Concerned About Nuclear Power, Inc. and that he has read the foregoing Answers of Citizens Concerned About Nuclear Power, Inc. to First Set of Interrogatories from Houston Lighting and Power, et. al. and to NRC Staff Interrogatories and Request for Documents and knows the same to be true and correct.

Lanny Alan Sinkin
Lanny Alan Sinkin, Co-coordinator

SUBSCRIBED AND SWORN to before me by LANNY ALAN SINKIN on this 26th day of December, 1979.

Dorothy M. Smith
Notary Public in and for Bexar County, Texas

My Commission Expires:
3/31/81

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NATIONAL ENERGY ACT II

Congress has passed and sent to Pres. Carter a bill containing the major parts of the energy legislation he requested in April. Only the windfall profits tax remains to be enacted.

The latest legislation establishes an Energy Mobilization Board and program to expand existing and alternative energy supplies. The 5-member Board will spend $19 billion to establish and subsidize a synthetic fuel industry during the next five years. The money is expected to come from a tax on part of the windfall profits the oil industry has been enjoying.

Congress retained an important feature in the bill only after a close vote; it permits a federal Energy Security Corp. to be established that would build and operate the processing plants if private industry fails to cooperate in the program.

The amount of synthetic fue' that the bill proposes to provide will have a small impact on the nation's dependence on foreign crude oil; it calls for a supply of only 1.5 million barrels per day by 1995. That would be less than 10% of the total liquid fuel requirement. # # #

BELL GETS $139 MILLION

The PUC has granted Southwestern Bell Telephone $139 million of a $144 million request. The increase is the third for Bell in 3 years.

It will be the first increase in local (basic service) rates since the PUC assumed authority for setting telephone rates in 1976. The charge for 1 or 2 party service will increase 10 to 12% to reflect the 15% increase in local service revenues granted. Pay phones will increase from 20¢ to 25¢; installation charges will increase 12%.

(Con't. p. 3)

ONE FRAGILE REGIME

It is no wonder the United States regards the Arab/Persian Gulf as a security problem second only to that posed by the Soviet Union. The massive dependence of the industrial world on one fragile regime is a frightening reality of modern life.
--Stobaugh & Yergin, Energy Future.

Iran's use of oil as an economic weapon for political purposes is neither the first nor the last time it will be used by oil producers--countries or companies.

The countries learned it from the oil companies and their history, from John D. Rockefeller to John J. McCloy. As Iran's revolution shows, when countries use the weapon, like the Sorcerer's Apprentice, it can take its own course, with unforseeable consequences.

Adding to revolution to make world oil supplies more unstable is the Palestinian-Israeli conflict. As John Connally has shown, politicians will use this or any other such volitile issue for their advantage. If politicians use it who have relatively little to gain, every loudmouth with any leadership ambition in every OPEC country will use it.

The $10-12 billion Iran holds could have caused some disruption on withdrawal from the U.S. banking and economic system; but the $45 billion OPEC holds certainly would have. Hardly anyone of those countries--certainly not Saudi Arabia, or Kuwait--have a stable political system. One--Lybia--offers an example of how hostile the rest can become.

The 1960's were called the Vietnam Decade because of American preoccupation with Southeast Asia; the 1980's will surely be the Mid East Decade. It has started early. # # #

EXHIBIT A

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THE PUBLIC ADVOCATE'S PAGE

DEPENDENCE AND INDEPENDENCE

Events in Iran underscore the unstable condition the U.S. and the world economy faces with energy--its dependence on Middle East Oil, surplus petro-dollars and oil-induced inflation. These conditions are the basis for the hair-raising plot in Paul Erdman's The Crash of '79. While the military events depicted in Crash have not occurred, the economics seem to be--right on schedule.

Everyone agrees on the need to reduce U.S. dependence on imported oil. Despite the obvious, we have made little progress in reducing that dependence. Our choices are limited: 1) increase domestic oil production, 2) conserve, or 3) increase production and conserve.

Even the energy industry agrees that production alone will not relieve our dependence. But the determination of the more rapacious to squeeze maximum profit out of this crisis has led the industry to covertly oppose any serious national or state conservation efforts. They and their allies have blocked the establishment of all effective programs.

Conservation is an inexact name for Energy Efficiency, but the industry has distorted the whole concept. It successfully equates conservation with sacrifice; its propagandists have tied it to "no-growth," to unemployment, loss of income, and to economic disaster in general.

Since oil, utility, and nuclear corporations, with income derived from windfall profits, government subsidies, and cost-plus regulation, have available millions to bribe political candidates, production programs abound. There has been hardly any government support for improving the efficiency with which this country uses energy.

So here we are, three presidents and two governors after 1973, and they all continue to support the production option, suppress conservation, and complacently watch our dependence increase.

# # #

REPUBLICAN RETREADS

Is it any wonder that even Democrats are lukewarm on Jimmy Carter? He welched on his promise to depend on people other than the same gang of Washington Insiders to run his administration.

In addition to many of the same Old Democratic Gang at Treasury, State, and Defense, he also got some of the cast off Old Republican Gang. He even created a new department for James Schlesinger, the Nixon-Ford reject.

The latest Carter recruits are James Dunlap, Nixon's former Secretary of Labor, appointed to Chairman of a new anti-inflation committee; and John Sawhill, who will replace John O'Leary as Deputy Secretary of Energy. Sawhill was one of Nixon's first administrators of the old Federal Energy Agency. He, like Schlesinger, was fired by the Republicans.

# # #

WHAT'S A UNIVERSITY FOR?

Governor Clements has appointed W. Durham Crawford to the Lamar University Board of Regents. Crawford, the former head of the Edison Electric Institute, became board chairman of Gulf States Utilities in 1978.

This appointment tells you two things: 1) the influence the electric utilities have in the Governor's office. 2) Lamar's technical experts, like most of those in the other state schools, will support GSU in its pro-nuclear, pro-utility propaganda program.

# # #

BROWN & ROOT'S INFLUENCE

Nuclear cost overruns are not the only place where Brown & Root projects are driving up Central Texas electric rates. Only a month after it was completed, Fayette No. 1 generating plant broke down for a month. Austin and LCRA were forced to spend $1 million to replace its coal-fired electricity with expensive gas-fired. That extra cost begins to flow through on the fuel adjustment in October.

LCRA and B&R have endured an off-again-on-again friendship. When union leader Bill Petri became chairman of LCRA's Board, one of the first moves the Board made was to kick non-union B&R off LCRA projects. The second was to fire Sim Gideon, LCRA long-time manager. The third was to hire Herring to replace Gideon.

Charles Herring brought B&R back, thus creating the feud between him and Petri. It finally resulted in the Senate's refusal to confirm Petri last spring, and Clements replacing him.

In contrast, Austin has always had a plywood-layer relationship with B&R: indivisible. That's the reason why Austin, despite the overwhelming evidence against, has stayed in the STNP, all the way to the bottom of the rathole (or concrete voids?).

The Browns and their henchmen are part of the State, Austin, and University of Texas political and economic establishment, and they influence policy in B&R and their utility clients' benefits.

Normally, a million dollar breakdown would lead to a damage settlement or a lawsuit. But given the Brown Influence, its no suprise that nothing has been said at either place about fault or recovery of the $1 million.--J.H.

# # #

NEW MEXICO AG APPEALS

The Attorney General of New Mexico has filed an appeal with the Santa Fe District Court against the New Mexico Public Service Commission's order in an electric rate decision. The AG seeks to reverse the order for the Public Service Company that:

- --granted 13.5% on year-end equity
- --allowed some CWIP without AFUDC offset
- --refused to require a refund on overcharges ($27 million)

Texas Consumers can get no such appeal protection from arbitrary PUC or RRC decisions, because our AG must defend the agencies' decisions, good and bad. That means consumers must ante up money from their own pockets to bring court action on utility decisions, and then watch the AG spend their tax money to defend anti-consumer decisions. When the utilities appeal, they make their consumers pay all the court costs.

This inequitable situation shows the obvious need to establish a state agency to be the consumers' advocate--the Office of Public Counsel.

# # #

The Southwest Energy & Utility Watch, Box 13052, Austin, Tx. 78711. The editor is Jack Hopper, who is responsible for all content, mistakes, etc. Reprinting any part of this newsletter is permitted as long as credit is given.

HIGHWAYS: SOME THINGS NEVER CHANGE

There seems to be something irresistible about money for building more Texas highways. Take the Good Roads Association's blood-brother relationship with the Governor, and through him, the Lion's share of state tax money. The only issue that ever stirred Dolph Briscoe was more highways.

Legislators still tell stories about his bending their ears and arms in 1977 to lock up half the state's $1 billion surplus for highways. Nothing, not even gas deregulation, stirred him out of his torpor like highway construction.

Now Gov. Clements is doing it. He proposes to change the gasoline tax from the flat 5¢ per gallon to a graduated rate that would allow the state to fund another surge of highway building.

A 5¢ tax on $1 gasoline would double the Highway Department's income. Think of all the PAC money and other bribes that tax would provide the Good Roads members to contribute to keep Highways First in the Hearts of Texas Politicians.

Who will need those new roads when gas gets to $2? That question never gets asked because in Texas its more important to build than to use.

Maybe cities like Austin, which is debating a new $120 million airport, can lift some of those highways-to-nowhere and use them for runways.

# # #

ENOUGH TO GAG A MAGGOT

As the Three Mile Island incident graphically illustrated, all nuclear-power plants aren't created equal. Although the NRC sets out general design criteria, the utilities and their contractors are entrusted with devising specific plans for the facility to meet these criteria.

"There is just too much conflict of interest when the utilities inspect themselves," says Robert Pollard, a former NRC official and now an outspoken critic of the commercial reactor program.

The NRC also appears to need more power to punish transgressors. Currently the agency can only levy fines of up to $5,000 each time a company breaks the rules. A company has "everything to gain from cutting corners on the theory that even if you get caught you really aren't punished," says Peter Bradford, one of the NRC's five commissioners.

--WSJ.

The nuclear power generating industry took a double blow with the much-publicized accident at Three Mile Island this spring.

Fortunately the nation's electric utility companies understand the problem. And in the best free-enterprise tradition, they are moving to restore confidence and to eliminate safety problems in nuclear generating plants.

At the hub of the program is the Institute of Nuclear Power Operations that will set safety standards in construction, training and operation for nuclear power plants, and it will make periodic audits of compliance with the benchmarks.

F. L. Austin, Jr., president of Texas Utilities, said a "cosmetic" program wouldn't work.

Self-regulation, when it is tough-minded, is still the best type of control.

--Dallas Morning News.

The Dallas Morning News editorial writers are famous for their make-you-want-to-throw-up style of editorials. This one exceeds their usual standards.

It would be funny if Texas Utilities' Commanche Peak didn't pose such a deadly serious problem for Dallas and Texas.

# # #

EXHIBIT A
PAGE 2

90026179

NUCLEAR BLITZ

Watch out citizens--the nuclear power industry is about to fight back.

Reeling from the effects of Three Mile Island and suffering a sharp decline in public confidence, the embattled nuclear industry is about to launch an unprecedented national media campaign that will reportedly cost at least $1.8 million over the next six months.

Industry representatives who are coordinating the media blitz freely admit that the effort is designed to upgrade the image of an industry whose sagging fortunes took a major plunge last March when the TMI accident traumatized a nation.

The first visible "tip" of the new pro-nuclear campaign emerged on Sept. 18 when the Atomic Industrial Forum announced the creation of what Smith & Harroff called an "energy truth squad" to pursue Hayden and Fonda and their organization, the Campaign for Economic Democracy (CED).

The squad consists of Sandra Keifer, an "independent consultant" who has worked with nuclear companies in Pittsburgh, where Westinghouse and GE have corporate nuclear divisions, and E. Linn Draper, the technical assistant to the chairman of the board of Gulf States Utilities Co..

The media blitz is expected to extend from October to March, 1980.

--Richard Pollock, Critical Mass Journal

I like the word lobby--it's not a dirty word to me. This industry has been stomped on. I was hired in February with a mandate to create a more effective presence in Washington.

We'll have about 110 people and the government affairs group alone will have eventually nearly 40.

In two years or so we could make up the ground lost at Three Mile Island, assuming two things: one, that we--politicians and industry alike--educate the American public, two, that the industry itself properly responds to the lessons learned from TMI.

I think that if we have a positive attitude and keep our credibility intact, working on the Hill will be quite easy.

--Frederick Webber, VP, Edison Electric Institute.

# # #

SOVIETS: SERIOUS DOUBTS

After years of praising nuclear power, the Soviet Union is openly conceding serious doubts about the scope, safety and environmental consequences of its ambitious atomic power program.

Western scientific sources in Moscow said they were astonished at the critical frankness of the Kommunist article, contrasting sharply with the upbeat tone typical of most nuclear power coverage in the government-controlled Soviet press.

--WSJ.

# # #

GENERATING COSTS FOR NEW
U.S. POWER PLANTS GEOGRAPHICAL COMPOSITE

	Nuclear	Coal
Unit Size	1200 MW	300 MW
Capacity	2400 MW	1800 MW
Capital Cost	$2464/kw	$1257/kw
Fixed Charge Rate	17%	15%
Ann. Fixed Cg.	$1005 Mil.	$ 339 Mil.
Ann. Op. & Mt. Exp.	$ 70 Mil.	$ 70 Mil.
Cap. Factor	50%	70%
Ann. Gen., MWH	10,614,000	11,038,000
Fuel Cost, KWH	2.5¢	3.3¢
Ann. Fuel Cost	$ 315 Mil.	$ 364 Mil.
Total Ann. Cost	$1390 Mil.	$ 773 Mil.
Gen. Cost, KWH	11.0¢	7.0¢

From Charles Komanoff testimony, Subcommittee on Energy & the Environment, House Interior Committee, July 12, 1979.

SOUND FAMILIAR?

The essential element, it seems to me, in any regulatory system that reassures more than it regulates is that it have an immense capacity for self-delusion. Let me describe some of the elements of that capacity and leave it to you to decide whether they look familiar.

First, the agency's role must be heavily reactive and defined largely in terms of cases brought to it by those whom it regulates.

Second, the agency's budget must be a tiny fraction (less than one percent) of the gross revenues of those whom it regulates.

Third, regulation should be on an "audit" basis, examing only a small fraction of the total number of accounts or plant designs of operating practices of the regulated entities.

Fourth, the system should deal with its critics more or less the way the tar baby dealt with B'rer Rabbit. It should have an almost infinite capacity for repressive tolerance, the extending of exquisite procedural courtesy to participants who are never, in fact, allowed to get their hands on anything vital.

Fifth, almost a corollary of the preceding point, intervenor funding of any substantial sort is to be avoided like the plague. Discovery and cross-examination must, of course, be allowed on some occasions, but the occasions can be limited and the examining boards must be constantly reminded of the need to keep ths issues narrowly defined and the proceedings moving along.

Sixth, the enforcement system must be a relatively benign one with only the most distant possibility of a truly severe penalty.

Seventh, though it is not essential, it is very helpful to have the system reenforced by courts which defer copiously to agency expertise in the face of challenges from citizens groups.

--Comm. Peter A. Bradford, U.S. Nuclear Regulatory Commission.

# # #

3-MILE ISLAND

Who can forget the apprehension that gripped the nation as the events at Three Mile Island unfolded last March? At movie theaters around the country, "The China Syndrome" was depicting a near-disaster at a nuclear plant. Then, suddenly, it came to life.

The report offers a troubling catalog of blunders and failures by Metropolitan Edison, the utility, and by the firms that manufactured the reactor and designed the plant.

What is truly alarming about all these findings is that Metropolitan Edison is not atypical rotten apple among utilities. Far from being atypically bad, Metropolitan Edison's capacity to operate Three Mile Island may even have been atypically good. And that leaves a burning question: How many other utilities are unprepared to cope with this complex, unforgiving technology?

The nation is now on notice that the nuclear enterprise is dangerously flawed. Unless there is drastic improvement, there will be another Three Mile Island--and it will be worse.

--New York Times. # # #

THEY'RE ALL DOING IT

Southern Union Co. said its Southern Union Financial Corp. unit has agreed to purchase 85% of the common stock of First Savings & Loan Association of Midland, Texas, for $60 a share.

Southern Union said it plans a tender offer for the rest of First's 178,000 shares outstanding at $50 each. If all shares are tendered, Southern Union said, the transaction would be valued at $8.8 million.

--WSJ. # # #

> *Our elected leadership has tied Texans to the dead weight of oil, gas, uranium, coal and other non-renewable, very costly resources.*
>
> *No doubt their vision is clouded by the fact that their own financial interests and their campaign contributions are linked directly to oil, gas, uranium and coal developers.*
>
> *It is a serious crisis that we face. If we don't get it, it will get us, and paying Exxon $1 a gallon is not going to get it, no matter what the Railroad Commission says.*
>
> --Jim Hightower, candidate for RRC.

PEOPLE DESERVE A BREAK

The chairman of the House Environmental Affairs Committee is considering stiff new requirements for Texas drillers who search for oil in international waters.

"The people of this state deserve this break," said Rep. Bennie Bock of New Braunfels, "Perhaps we can't control some outlaw or bandit from outside, but we can protect them from Texas companies."

Bock's committee is investigating the Mexican oilspill that blackened Texas beaches and cost millions in clean-up funds this summer.

--Dallas Times Herald.

STNP--CWIP

Houston L&P has not shown the expenditures included in CWIP to be reasonable. In particular, the massive deficiencies and cost overruns at South Texas Project raise issues as to the whole efficacy of the construction management process there.

The applicant can aver that Brown & Root, Inc., deceived their company, or that HL&P is not totally responsible for the cost increases. But that does not mean the ratepayer should be responsible for these problems. It was the applicant and not the ratepayers who was responsible for choosing the architect/engineer of STNP.

--Tex PIRG brief in PUC Doc. 1676. # # #

# # #

> *Connally has now delivered a historic speech, making him the first presidential candidate ever to adopt a thoroughly anti-Israel policy. His policy is extreme, reckless and self-defeating.*
>
> *Self-defeating because, far from making the nation and John Connally seem strong, his pronouncements makes the nation seem obsequious toward oil sheiks and makes Connally seem frantic about finding something to energize his sputtering campaign.*
>
> --George Will.

BELL (Con't.)

Intrastate long-distance rates will not change.

The PUC raised the rate of return on Bell's equity from 12.4% to 13.1%; it granted a return on total capital of 10.2%.

The commissioners split on the decision; Cowden and Rollins voting for $139 million, and Morris voting for $98 million. Morris proposed in this case, as he did for TESCO and DP&L, that consumers get some credit for the federal income taxes Bell collects. This "phantom" tax may or may not be paid to IRS under the law relating to the Investment Tax Credit.

The intervenors--Texas Municipal League, ACORN, competitors, and trade groups--complained again that the PUC based its decision on the studies and reports Bell prepared; and that these reports could not be verified. This complaint, which was also made in earlier cases, caused the PUC to order a hearing to establish standards for the studies Bell will make to justify its next rate case.

# # #

EXHIBIT A
PAGE 3

PAY PHONES: 25¢ + R. .I & SUN

Ma Bell is putting a Double Whammy on its pay phone customers. Not only is the price going up, but the quality is going down.

If you have tried to use a pay phone recently, you may have noticed how hard it has become to find one that gives you even a little privacy or shelter. That's no accident--its a deliberate effort Ma Bell is making to eliminate the phone booth.

The day when you can make a pay call protected from the elements is fast disappearing. You must make your call from unprotected "posts"--(Bell has no name for them) at the side of the road, diesel engines drowning out all conversation, the sun in your eyes, the wind howling, and the rain dripping in your face. There's nothing like sharing intimate secrets with the world as you scream to be heard over the new pay-phones.

Of the 76,000 pay phones in Texas, only 15,000 are in booths, and those will be gone as soon as Bell can get around to their removal.

According to Southwestern Bell's Carlin Brandt, "the booths have a very high maintenance cost due to broken glass, inoperative lights, fans, etc." Carlin claims pay phone customers don't mind: "We recently utilized an independent marketing research study to determine that over 75% of the people questioned had no preference as to the type of coin telephone enclosure. It's primarily a matter of cost."

Notice the Bell sequence: they decide to cut costs by eliminating booths, then they justified the decision with an "independent" survey. I don't know about anybody else, but I like shelter when I phone and I believe more than 25% of the public does too.

The pay phones bring Bell $7.8 million a year in revenues; so there's not a reason in this world why Bell Laboratories, AT&T's gold-plated, customer-financed research giant, could not develop a simple shelter to replace the booth.

The tariff under which Bell operates it's pay phones specifically uses the word

(Con't. next col.)

****
* *There is no reasonably predictable* *
* *relationship between money spent on* *
* *exploration and the amount of gas (and* *
* *oil) discovered.* *
* --Stobaugh & Yergin, Energy Future. *
****

"booths;" so as far as I'm concerned, any change that eliminate booths is illegal. It certainly lowers the quality of service, and should receive PUC approval.

The PUC supervises and approves changes in telephone service--when it knows about them; but don't expect the PUC to pay any attention to such insignificant matters. PUC policy runs on the assumption that Bell knows what is best for it's customers.

Besides, "apparently the public doesn't see these changes as a decline in service," says PUC's telephone engineer Charles Land. "No one has complained." And if anyone did, the PUC would pay little attention to what it would probably call a "frivolous" complaint.

This may be "frivolous" to the PUC, but to thousands of poor people without telephones and to travelers, its just another arbitrary Bell decision. Bell seems determined to take an example from another of our sensitive, customer-concerned industries--the railroads--on How To Drive Away Customers.

Raising prices and reducing quality of service, as Bell knows, is self-defeating. People will use pay telephones less and less; Bell will ask and get higher rates until the PUC raises pay phone rates to unreasonable heights. It's also self-fulfilling: like passenger train service, Bell can then say: "We told you nobody wants to use the service." It's a cinch that when the booths are all gone, and Bell has caused pay-phoning to reach its maximum level of discomfort, people will use the pay phone only in dire circumstances.

But there's one place you can still go to make a pay call in comfort in one of the old-style, plush, glass-and-chrome, fan-cooled, brightly-lighted, insulated phone booths.

Where? Not by the side of any road, but right outside the main door of the PUC's offices at 7800 Shoal Creek in Austin.--J.H.

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90026181

The Houston Post

Good morning!

It's Wednesday, October 3, 1979

25 cents

FBI involved in S. Texas N-project probe

Radioactive steam escapes/page 2A
Reports released by mistake/page 14A

By [illegible] ALD SCARLETT
Post [illegible] Government Writer

The FBI has been investigating the South Texas Nuclear Project, it was learned Tuesday, while a fired Brown & Root inspector charged that the $2.7 billion nuclear plant went five months in 1977 without any quality control checks of concrete work.

Regional director Karl Seyfrit of the Nuclear Regulatory Commission disclosed the FBI investigation while commenting on the ex-inspector's allegations.

"The FBI investigation has been going on about three months, and I think it's pretty well wound up now," Seyfrit said. "My understanding is that they have found essentially nothing."

Seyfrit said the FBI was apparently looking at "a wide variety of things," including possible falsification of construction records, in response to a request several months ago by U.S. Rep. Henry B. Gonzalez of San Antonio for a Justice Department inquiry.

An FBI spokesman in Houston refused to confirm or deny an investigation of problems at the nuclear plant, being built near Bay City by Houston Lighting & Power Co. and three partners.

The spokesman referred a reporter to U.S. Attorney J.A. "Tony" Canales, who was unavailable for comment.

The charge of a five-month lapse in quality control inspections came from ex-inspector Dan Swayze. He made the allegation on a CBS News television feature to be shown at 9 a.m. Thursday on the season premiere of the network's *Magazine* show.

CBS picked the South Texas Project for a case study of how safety nuclear plants are constructed.

Swayze filed a $2 million libel and slander suit against Brown & Root last Jan. 11, charging the construction firm fired him on the basis of a false accusation that he solicited bribes for approving faulty construction work.

Swayze contends he was actually dismissed because he did his inspection work too zealously.

Brown & Root declined any immediate comment on Swayze's new charges, saying it first wanted to see the full script of the CBS show or the show itself.

A Brown & Root spokesman pointed out, however, that Swayze had withdrawn his suit against the company on July 20.

On the CBS show, Swayze asserts that after a Brown & Root construction foreman beat up a quality control inspector in about July 1977, the inspectors decided the company did not really want them to do anything except "fill papers out."

He said the inspectors voted unanimously to stop doing anything except signing inspection approval forms.

"For five months, we did no inspection whatsoever," Swayze said. "We sat in our office. We had radios. When they wanted a (concrete) pour signed off, we went down. The man assigned to that area went down, signed the pour [illegible] came back and played cards for the [illegible] of the day."

In a telephone interview elaborating on his remarks to CBS, Swayze said at the time of the five-month hiatus, he was a lead inspector in charge of about six inspectors who handled all the concrete-related work on the big nuclear plant.

"Nobody wanted to go in the field after management went home in the evening because they were afraid of," Swayze said.

He said husky construction foremen

Please see FBI/page [illegible]

From page 1

threate over delays and extra work caused by the inspections, had once threatened to kill him.

Swayze said construction foremen in at least three other instances had attacked quality control inspectors, including one just a few months ago.

Seyfrit of the NRC confirmed that it had verified a report of a construction supervisor hitting an inspector last March 7. He said the supervisor was later fired.

Seyfrit said the NRC had received a number of allegations and complaints from Swayze, including some after Swayze was dismissed from his job on Aug. 2, 1978, and has never substantiated any.

But he said Swayze had never told the NRC about the five-month "card game" by the inspectors.

The NRC regional chief said he did not consider the reported five-month lapse in inspections too serious, however, because "very little work was going on at that time, and it was not critical work."

Swayze scoffed at this and retorted that during the card games, concrete was being poured on the Unit 1 nuclear reactor containment building, the fuel storage building and the auxiliary turbine-generator building.

"All these are Class I safety-related structures," Swayze said. "I don't know how much more critical you could get. After all, we started pouring concrete in March 1976."

Swayze, contradicting Seyfrit, said he told NRC inspectors W.G. Hubacek and W.A. Crossman of the five-month card game "about four to six months ago."

He said he has been told the NRC was investigating his charge as recently as three weeks ago, and had talked to one man who took part in the card games and confirmed them.

Swayze said he did not report the inspection breakdown to the NRC earlier because "we didn't have any faith in the NRC and didn't know what to do."

The inspectors finally went back to inspecting, he said, when a new "gung ho" inspection supervisor was appointed and started backing up the inspectors, at least for a time.

Swayze declined to talk about why he dismissed his suit against Brown & Root, saying "It's not over with yet."

Seyfrit of the NRC said that "construction people understandably get annoyed when their work is delayed or they have to do it over, and there's a natural adversary relationship."

However, he said he did not believe there is any more friction between construction and inspection people on the South Texas Project than at other nuclear jobs.

Seyfrit said there is no way the NRC, with its limited manpower, can inspect every last phase of nuclear construction around the clock.

"But we don't rely on records alone," he said, "and we feel pretty comfortable the overall job has been performed in a satisfactory way."

Disputing this, Swayze estimated that 30 percent of the huge cost overruns on the nuclear plant, originally priced at $1 billion, have been due to negligence. He said faults in pending concrete work were often pointed out days ahead of time, but just weren't corrected.

"They have all the manpower in the world, the best equipment money can buy," Swayze said. "But they just seem to want to make things go wrong, like they were doing it on purpose. We could never understand why.

"The whole thing is a farce. I've seen stricter quality control on a beer-joint slab."

EXHIBIT 1-A
0020619 28

San Antonio Light
FIRST IN TEXAS COMMUNITY SERVICE
WEDNESDAY, OCT. 3, 1979

FBI S. TEXAS NUKE PROBE REVEALED

NRC: No Errors In Papers

The FBI has been investigating allegations of record falsifications in the construction of the South Texas Nuclear Project for the past three months, but apparently has found nothing irregular, the regional administrator of the Nuclear Regulatory Commission confirmed Wednesday.

Karl Seyfrit, NRC regional head, said from Arlington he understood the FBI has found "essentially nothing" wrong in the construction of the nuclear power plant at Bay City, which is months behind schedule and $1 billion over budget. San Antonio has a 28 percent interest in the nuclear project.

FBI officials would neither confirm nor deny there was any investigation.

Seyfrit first disclosed the investigation while commenting on the charge of a former STNP construction inspector that there was no quality control over concrete pouring for five months at the construction site. The man's charges will be aired during the premiere of CBS "Magazine" on Channel 5 at 9 a.m. Thursday.

While Seyfrit said the investigation was instigated at the request of U.S. Rep. Henry B. Gonzalez, the congressman told The Light that Seyfrit must be referring to requests Gonzalez made for investigations in April to the Department of Energy and the Justice Department.

Gonzalez, in San Antonio during a break in House work, said he asked the Energy Department to look into allegations of construction record alterations, and if the FBI was investigating it must be at the subsequent request of the Energy Department.

Brown & Root Inc., the construction contractor, declined immediate comment.

Gonzalez and Seyfrit said the FBI investigation had no connections with allegations made by the former construction inspector.

Former inspector Don Sanders

EXHIBIT B-2

90026183

STNP Probe

(Continued from Page 1)

charged during the TV interview that a construction foreman beat a quality control inspector in July 1977, and that subsequently Swayze and six other inspectors decided to stop doing anything except sign approval forms.

"For five months, we did no inspection whatsoever," Swayze is quoted as stating in a transcript of the telecast. "We sat in our office. We had radios. When they wanted a concrete pour signed off, we went down. The man assigned to that area went down, signed the pour card, came back and played cards for the rest of the day."

Seyfrit said the NRC had verified that a supervisor had struck an inspector March 7, and that the supervisor had been fired. He said he did not consider the five-month lapse in inspections described by Swayze as serious because, "very little work was going on at the time, and it was not critical work."

Swayze also charged that he was continually harassed when he did his job, that his life was once threatened, that the company did not want them to do anything except fill out papers and that he was fired on the pretext that he solicited a bribe to approve faulty work.

Seyfrit said that Swayze had made a number of allegations, of which only the assault was substantiated. He said Swayze had never previously informed the NRC about the five-month lapse in inspections.

Seyfrit also said the NRC did not investigate the alleged lapse in inspections because the charges probably could not be proved or disproved.

"We ran into a situation where it was strictly one man's word against another and couldn't find witnesses to corroborate one way or the other," said Seyfrit. "More recently Mr. Swayze had a long conversation with some lawyers and that conversation was recorded on tape and eventually a copy was given to us," Seyfrit said. "We have never looked into that portion of the allegations. It came to us rather late. That was one from indication that we had about this so-called, alleged period of time when they were not doing any inspections.

"We haven't gone back and specifically tried to prove or disprove (the allegations), which at this point, probably would be an impossibility anyway. However, we have checked the records and during that period not much activity was going on in critical areas."

Swayze said the lapse was not reported because "we didn't have any faith in the NRC and didn't know what to do." He also disputed Seyfrit's assessment that the lapse was not serious, saying the ignored structures were "Class I safety-related structures. I don't know how much more critical you can get."

EXHIBIT B-3

9 0026184

OCTOBER MAGAZINE

#43

TO AIR: THURSDAY, OCT. 4, 1979
10:00AM to 11:00AM EDT

HOW OLD IS TOO OLD?	PRODUCED BY JUDITH HOLE
THE NUCLEAR WATCHDOGS	PRODUCED BY ESTHER KARTIGANER
THE "NEW GIRL" NETWORK	PRODUCED BY BARBARA J. FLACK

EXECUTIVE PRODUCER: GRACE DIEKHAUS

DIRECTED BY: ALLEN MACK

CORRESPONDENT: SHARRON LOVEJOY

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EXHIBIT C

90026185.

"THE NUCLEAR WATCHDOGS"

STUDIO INTRO (FIRST DRAFT)

LOVEJOY: (O.C.)

Ever since the near-miss at Three Mile Island, attention has been focused on the issue of nuclear safety. But almost everyone -- the congressional committees, the Nuclear Regulatory Commission panels, the presidential commissions and the public has been concentrating on operating nuclear power plants.

But there are 91 new nuclear reactors under construction and hardly anyone is paying attention to the question of how safely they are being built.

So MAGAZINE decided to go to a nuclear power plant under construction to take a look.

George Crile is the reporter.

9 0026186

CRILE: (V.O.)

This is the South Texas Nuclear Project. Once completed it will supply electricity to the cities of Houston, San Antonio and Austin.

Because the potential for a nuclear accident at these plants is always present, every piece of construction considered safety related is guided by a federal regulation. And at every step of the way there is an inspector to certify the work is being done correctly.

This story is about those inspectors, our nuclear watchdogs, and whether the system that's designed to guarantee safe construction at these plants, actually works.

SWAYZE: (SOF)

If they ever get a license to operate, it is criminal, because it is structurally unsound.

CRILE: (V.O.)

For two years, Dan Swayze was a quality control inspector at the South Texas Nuclear plant.

SWAYZE: (SOF)

I have engineers that work for me and it is structurally unsound, period.

CRILE: (SOF)

We came here to the South Texas Nuclear Project because of a series of disturbing allegations about the plant's safety. The charge was that safety standards were being compromised, inspectors intimidated into looking the other way. We wanted to find out if the safety of this particular plant was being put in jeopardy. Instead, we found ourselves examining the entire system the federal government has adopted to insure that its safety standards are obeyed. It is the story of one nuclear power plant. But it applies to them all.

9 0026187

CRILE: (V.O.)

Federal inspectors from the Nuclear Regulatory Commission. They were at the plant on one of the days we were there. But according to a Government Accounting Office study, the NRC spends only 16 days a year conducting on site inspections.

This is the principal way our federal regulators make sure nuclear power plants are safe: by inspecting the written reports of inspections carried out by other insectors.

The ones really watching over the thousands of men working round the clock here are these men in the gold hats known as quality control inspectors. They're on the job when basic reinforcing bars are joined. They are always present when concrete is poured. The problem is, those quality control inspectors are recruited, trained and paid by the company building the plant. In this case, that company, Brown and Root, has already fallen four years behind schedule and gone one and a half billion dollars over budget.

Dan Swayze told us what it was like when he spotted construction violations and tried to get his company to spend the time and money to correct them.

SWAYZE: (SOF)

So you can go down there in a few hours and you can cite everything wrong with what they've done in a week. You're immediately surrounded by the superintendant, the general foreman, the foreman and the craft foreman for each individual craft participating in that pour.

CRILE: (SOF)

That's not intimidation is it?

9606026188

SWAYZE:

Well, when eight of them are huddled around you and most of them are in pretty good shape, because they've been doing manual labor most of their lives. And they, well, what do you want me to say? Exactly what they say?

CRILE:

Yeah.

SWAYZE:

They say, "You son of a bitch, if you don't sign the bastard at eight o'clock, we're gonna kick your ass." Is that what you want? That's what they say.

GAMMON: (SOF)

The public should have a high confidence level in the safe construction of the plant.

CRILE: (V.O.)

Tom Gammon is chief of Quality Programs for Brown and Root. We asked him about the problems between the construction people and inspectors on the job site.

GAMMON: (SOF)

When one of these groups of people measures the performance of another, there is a natural adversary situation such as a lawabiding citizen might have with the policeman when he's caught for speeding.

CRILE: (SOF)

All right now if you use the analogy of the citizen who's caught speeding, it's hard to sympathize with him if he wants to beat up the policeman.

90026189

GAMMON:

That.. and we don't necessarily sympathize with the construction worker if he wants to beat up the inspector. I think that.. the point is...

CRILE: (Overlapping)

And that's happened hasn't it?

GAMMON:

To extremely limited extent. There have been some cases...

SWAYZE:

It went from verbal, continuous harassment, verbal abuse. It finally reached a point in '77 of July that we attempted to stop a pour for major deficiencies. They threatened to kill me. That night, they assaulted one of my inspectors. The next day ...

(MORE)

9 6026190

CRILE:

Physically?

SWAYZE:

Physically, beat the hell out of him. Put him in the hospital for doing his job. The next day we took a vote. It was 100%. All of the inspectors decided obviously they wanted us to do exactly nothing but fill paper out. We took a vote, we started filling paper out, and we did it for 5 months.

CRILE:

Are you saying that for 5 months you did nothing?

SWAYZE:

For five months we did no inspection whatsoever. We sat in our office. We had radios. When they wanted a pour signed off, we went down. The man assigned to that area went down, signed the pour card, came back and played cards the rest of the day.

CRILE:

All of the papers that bear your signature from that time are based on...

SWAYZE:

Absolutely nothing. They are based on nothing.

CRILE:

How could you have done that?

SWAYZE:

When you are hired to do a job and they threaten to kill you and they start beating the hell out of the people who work for you- what would you do?

CRILE: (V.O.)

The charge is that quality control inspectors here have been intimidated ,that portions of this plant have never been properly inspected. These allegations were passed on to the Nuclear Regulatory Commission, but they found nothing to be disturbed about. So we went to the NRC's regional chief, Karl Seyfrit, to ask if his men had checked out the story with the other inspectors who work with Swayze.

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SEYFRIT: (SOF)

I am informed that we did not interview the other men that he named and I understand that some number of those at least are no longer at the site.

CRILE:

But how did you go about deciding whether his allegations were valid or not?

SEYFRIT:

There were interviews made with supervisory personnel who would have had some knowledge of these activities and there was a review of records made and there was nothing in the records or in the interviews with the other people that would substantiate the allegation that Mr. Swayze made in this regard.

CRILE:

But in this case the man said he was feeding you documents that were unrealiable. They went and they may have gone on the scene.

SEYFRIT:

I just told you Sir that we did more than look at records. We did talk to other people and these are people who would have some knowledge of whether or not these actions have taken place. We couldn't get to all of the inspectors that he named.

CRILE:

You didn't get to any of them, apparently.

SEYFRIT:

That may be true. I am not willing to concede that that is an absolute fact at this point.

CRILE:

But it is definitely a possibility.

SEYFRIT:

Sure, I will agree to that. It is a possibility that we did not talk to any of them.

CRILE: (VO)

Just such reliance on the company's self-evaluations and written reports was criticized by a government accounting office study. Its conclusion was that the NRC's inspection program cannot independently assure that nuclear power plants are constructed adequately.

This is an example of how the system can go awry. We're looking at a routine cadwelding operation-- a method used to join the reinforcing bars that strengthen concrete walls. Cadwelds -- one of which is being tested here -- are used only in structures that might be subjected to the greatest possible shocks.

Brown and Root had promised to inspect all of them. But for a period of time the cadwelds weren't being inspected on the nighttime shift and nothing was done about it, until a Brown and Root inspector went secretly to the NRC.

Again Brown and Root's Tom Gammon.

CRILE: (SOF)

What reason do we have to believe that you would have begun inspecting that Cadweld operation at night if you had not been caught?

GAMMON:

It was intended to be done at night and we had inspectors on the shift who performed the inspections and--

CRILE:

Inspectors who were not inspecting.

GAMMON:

Weren't inspecting Cadwelds. It is simply that they chose to do other work that night that they were supposed to do rather than Cadwelds.

CRILE:

Those nights.

GAMMON:

Those nights.

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CRILE:

And they ultimately began inspecting the Cadwelds because the NRC discovered it, embarrassed you...

GAMMON:

That's right.

CRILE: (VO)

A far greater embarrassment for Brown and Root involved this containment building, the building that houses the nuclear reactor. Its containment wall is the last line of defense in case something goes wrong.

By the time we arrived, all pouring of concrete on the containment walls had been halted because something had already gone wrong.

That hollow sound indicates air bubbles, known as voids in the concrete wall. As in the case of the Cadwelds operation, the voids were only discovered and steps taken to correct them when yet another man from quality control went over the head of Brown and Root to report the problem.

CRILE: (SOF)

Don't you see a pattern here?

GAMMON:

I see some instances that are... disturbing and unfortunate and we have strived to avoid these things and to encourage our people to work through our own organization.

CRILE:

But we have just heard about a concrete containment wall which was poured and had voids in it and your own quality control inspector sensing there were voids there didn't dare go to Brown and Root.

GAMMON:

I feel that he could have and should have and we have tried to encourage them to and I know of no case....

CRILE:

But it means that he didn't believe he could.

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GAMMON:

I don't know what it means. It only means that he didn't.

CRILE: (V.O.)

Brown and Root was hired by a group of utilities to build this plant. But once it is finished, the utilities must get a license to operate it. They're the ones who ultimately must convince the federal government that it's safe. So, before leaving, we went to the project manager of Houston Lighting and Power, Dave Barker- to ask if he was concerned by the history of construction problems at the plant.

CRILE:

Is it safe?

BARKER:

Yes, I can tell you that everything we have done so far to date is safe, that every effort has been made to carry the quality standard that we have had so far through to completion.

CRILE:

And nothing in the process worries you.

BARKER:

Nothing in the process worries me. And it has the top executive management support of my own company as well as Brown and Root.

CRILE: (V.O.)

And so we are told everything is fine at the South Texas Nuclear Project. They're pouring concrete in the containment wall again; the cadwelds are being inspected, the voids will be filled. And as part of a new program, there's even a resident inspector from the NRC on duty.

But what about the quality control inspectors like Dan Swayze? He says that after looking the other way for five months, he once again tried to do his job. He was fired by Brown and Root, they say, for soliciting bribes. He claims it was because he was doing his job too well. During this time he had also reported violations to the NRC. We can't say for sure there is a connection. But Karl Seyfrit admits that there are few protections for nuclear whistle blowers.

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SEYFRIT:

We are not able to completely protect identity, and there is nothing in the legal process that permits us to provide the kind of protection that you're suggesting would be nice to have.

CRILE:

Don't we need to have some way to protect them?

SEYFRIT:

Philosophically, I don't disagree that such protection is desirable. But we simply do not have the authority to provide that kind of protection at the moment. It's not... not there.

CRILE:

In your opinion, is the South Texas Nuclear Project any better or worse in terms of its safety record so far, than other nuclear plants?

SEYFRIT:

I don't think that it's significantly different.

CRILE:

Like most of the rest of them, hm?

SEYFRIT:

Pretty much the same.

90026196

REGULAR MEETING OF THE CITY COUNCIL
OF THE CITY OF SAN ANTONIO HELD IN
THE COUNCIL CHAMBER, CITY HALL, ON
THURSDAY, DECEMBER 14, 1978.

* * * *

The meeting was called to order at 1:00 P.M. by the presiding officer, Mayor Lila Cockrell, with the following members present: CISNEROS, WEBB, DUTMER, WING, EURESTE, ORTIZ, ALDERETE, PYNDUS, HARTMAN, STEEN, COCKRELL; Absent: NONE.

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78-56 The invocation was given by The Reverend James Puckett, Harlandale Southern Baptist Church.

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78-56 Members of the City Council and the audience joined in the Pledge of Allegiance to the flag of the United States.

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78-56 CONSENT AGENDA

Councilman Pyndus moved that Items 4-22, constituting the consent agenda be approved with the exception of No. 9, which was requested by Councilwoman Dutmer to be pulled for separate consideration. Mr. Steen seconded the motion.

On roll call, the motion, carrying with it the passage of the following Ordinances and Resolution, prevailed by the following vote: AYES: Webb, Dutmer, Wing, Eureste, Ortiz, Pyndus, Hartman, Steen, Cockrell; NAYS: None; ABSENT: Cisneros, Alderete.

AN ORDINANCE 50,154

ACCEPTING THE LOW QUALIFIED BID OF R.A. BAYLOR CO., IN THE SUM OF $44,818.00 FOR CONSTRUCTION OF URSULINE LANDING AND SOUTHWEST CRAFT CENTER RIVER ENTRANCE; AUTHORIZING EXECUTION OF A STANDARD PUBLIC WORKS CONTRACT; AND AUTHORIZING PAYMENT FROM FUND 27-008 OF $44,818.00 FOR SAID WORK AND $2,069.00 FOR CONTINGENT CONSTRUCTION EXPENSES.

* * * *

AN ORDINANCE 50,155

ACCEPTING THE LOW QUALIFIED BID OF JOE F. MORALES CONSTRUCTION CO., IN THE SUM OF $76,157.00 FOR OAKHAVEN PARK CONSTRUCTION; AUTHORIZING EXECUTION OF A STANDARD PUBLIC WORKS CONTRACT; AND APPROPRIATING $80,000 FROM 1970 PARK BOND FUND FOR SAID WORK AND CONSTRUCTION CONTINGENCY EXPENSES.

* * * *

AN ORDINANCE 50,156

ACCEPTING THE QUALIFIED BID OF INDEPENDENT ROAD BORING AND TUNNELING, INC., FOR CASTLE HUNT RECONSTRUCTION AND SANITARY SEWER OUTFALL-RAILROAD CROSSING IN THE SUM OF $14,630.00; AUTHORIZING EXECUTION OF A STANDARD PUBLIC WORKS CONTRACT AND APPROPRIATING $15,500.00 OUT OF FUND 52-008 FOR SAID WORK AND CONTINGENT CONSTRUCTION EXPENSES.

* * * *

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legal channels to attempt to delay and stop the last bond issue. Those sort of things can happen. I for one, am not comfortable with the delay but hope the Council does see fit to go ahead and adhere to the time schedule that has been proposed in this issue.

Going on to the other questions. There is a lot of talk about the cost plus contract and the impression is left that the contractor is more or less on his own to do whatever he sets out with no regard for due diligence or professional workmanship or care and so on. There are some two hundred inspectors of different categories on this job. Many of these are required by law, by the Nuclear Regulatory Commission. They have a quality assurance and quality control section, whose sole job is to monitor quality construction, that proper accounting records are kept. A nuclear plant if anything, is probably the most over inspected or lets say thoroughly inspected major construction activity in the world, at least in the United States.

There are people from the Houston Lighting and Power also on the project. They being the project manager. Those people review the invoices and charges that are brought in by Brown and Root and recommend them to the Project Management Committee for final approval. So there are always delays between billings and when they're paid.

Brown and Root is limited by the contract to a profit of $12 million. It doesn't make any difference if the job lasts two years or seven years the way the contract is written. There are incentives in there for them to complete the project with a lower then estimated number of man hours and there are penalties imposed for the exceeding of a certain number of man hours.

With the approval of invoices by the project manager of Houston Lighting and Power and by the project management committee, control can be exercised for recovery of anything that would be of negligence on the job. I don't think it's possible on that job to identify every minute or hour that might be lost due to an employee going off in the wrong direction. Anything that involves a work authorization for something in addition to the scope of the original contract, certainly would show up. We would hope that in reviewing the issues that have been brought forth publicly that we could begin to be specific about them. There seems to be a lot of general allegations. We feel that a lot of this is generated by the fact that a nuclear power plant is an emotional thing to begin with. We know that there are many active forces at work that would like to see the project completely stopped. Most of you, no doubt know that there is a telephone number, a toll free number in Fort Worth, that is administered by the Nuclear Regulatory Commission, where anybody can pick up the telephone and call them and make anonymous complaints that such and such happened or so and so occurred or you'd better look into this. The Nuclear Regulatory Commission will send someone to investigate. They will make a report. The reports are on public file in Bay City, Texas. Both the allegation and the investigative report. Some things have been brought forth that are of substance. Many things have been brought forth that are not of substance.

The three specific items that keep coming up of late and have been reported in the press are the fact that a building was staked out one foot over from where it should have been and the beam was poured and the building was substantially advanced before this particular construction error was caught. That doesn't mean that the building was going to be torn out. It means that there will have to be some make-up and modifications to accomodate the equipment that will go in that building. That could involve a fair amount of cost. It is a substantial item. We don't quarrel with that.

In the so called honeycombing in the reactor building or in the containment building. What that is, is where concrete is poured from up above and had to filter down through this very massive re-enforcing steel. It is so interwined and massive that is very difficult, to first of all work. It's also difficult to get the concrete to move down

through it. If the concrete is too soft, it falls and loses some of its strength. And if it's too heavy or too thick, it has difficulty in filtering down through the interwined re-enforcing steel. This was discovered after it was poured. I'm told by our people who have been talking about this particular problem that none of the boys in the shell exceeded a volume of approximately two cubic feet which is very miniscule considering the size of the containment vessel which is built with a very heavy safety factor. There have been numerous other allegations some responsible, some irresponsible. Another one concerns cadwelding of reinforcing steel. Because of the difficulty in being able to tie all that steel in the space that's provided some of the steel joints are secured by a process called cadwelding. It merely is there to hold the steel together until the concrete is poured. We don't regard that as a major problem.

We believe that the major contributors to the so-called overruns and additional cost on the project are certainly much greater. We believe we can demonstrate to you - caused by regulatory requirement and changes in the scope of the project rather than slip shod workmanship or carelessness. There has nothing been reported to us that the inspection has not already been aware of. We would hope that we could filter out responsible reports from so-called irresponsible reports and not be required to answer everything that comes along most of which is already known about.

We certainly do want to provide you with the answers. There is no intent on our part to withhold anything or hold anything back from the Council.

I have some people here today that, it might be better to permit you to ask them some questions if you want to about some of the allegations that have been made on the project. Mr. Poston is our Assistant General Manager for operations. He serves as Chairman of the Project Management Committee. On this Committee are representatives of the four nuclear power plant participants. We have Mr. Mike Hart here who is a nuclear engineer and who has been one of Jesse's assistants and working on the project. He is familiar with the contract. He is familiar with inspection forces. He is familiar with the NRC proceedings and with these various discrepancies that have been reported and maybe I would do better to let you ask some questions and us try to provide answers along that line.

MAYOR COCKRELL: All right, let me just ask, we've had a lot of the Council persons waiting and let me go through this list and clear the board right now of the Council person's information and we'll come back to staff.

DR. CISNEROS: I have a series of questions for Mr. Spruce and I'd like to tick off very little quickly and get a yes or no answer. What I would like to do is try to basically summarize for my information what I've understood to be the most salient points about the financial aspects and financial implications of the delay that might be proposed. But before I do that, I would like to compliment you first of all, on all the staff that you have, particularly I've had the opportunity to work with Mr. Hart lately, and I've found him to be a most knowledgeable and most candid individual. I want to compliment Mr. Hart for his knowledge of the nuclear project. It's just the best pinpoint information I've found on the subject. Question no. one, is it my understanding from your comment and also from Mr. Freeman earlier that there is a loss of advantageous position by slipping the sale of the bonds beyond the start of the new year?

MR. SPRUCE: That's my opinion.

DR. CISNEROS: Okay, I just wanted to clarify that. It really requires just a yes or no answer but there is a loss of advantage in slipping the sale date beyond the first of the year. Is that correct?

MR. SPRUCE: In my opinion, it is dangerous to slip the sale date for a number of reasons to begin with, we can't predict the interest rate. I'm uncomfortable with the slipping the sale date.

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MR. SPRUCE: Well, I would say that a lot of this is a degree thing. You can decide if this welder should have finished this weld four minutes sooner than he did. Maybe one worker finished it too fast or maybe he finished it in record time and then had to redo it. When you begin to get down to measure productivity, you get down to the sort of human behavior and the skills of the crafts and the rate in which work has performed, just as any of us have. If you have a lump sum contract, you can be sure that that contractor is protecting himself against difficulties in productivity and wasted material that he has to furnish, etc. This particular contract, the contractor has no provision for contingencies in there, he does not have a contingency fund, he does not have a betterment fund. On almost all lump sum contracts, there are usually extras that come along, engineering changes, or other difficulties that are encountered on the job. We don't know of any case where anybody in recent years at least has been able to negotiate a lump sum bid for a nuclear power plant. There are too many other things that are involved.

MR. HARTMAN: I recognize that.

MR. SPRUCE: But, unquestionably there are everyday, on every job in CPSB, City of San Antonio, in any business, there are productivity angles where people could have done a job quicker and better and save money for the employer or for whoever is paying for it.

MR. HARTMAN: I don't doubt that. All I'm saying is very simply that what I'm looking for, and this is all I'm looking for, is an opportunity for us to sit down and for you to tell us every instance where there has been overrun and how much it costs and what was the cause of the overrun. What was the nature of the incident. That is not with the idea that this will kill the project or not anything else. It's just simply knowing what is the nauure of these overruns and is there negligence involved or apparent negligence or whatever? Can we recover? Those are the questions that I have.

MR. SPRUCE: I think it's going to be most difficult to try to extract that out - it's a degree thing. I think we're going to have to decide how we measure this. What I would like to try to develop would be a relationship of how much of this reworking there is as opposed to what's brought about by scope changes. I think we're going to find that it is relatively small, I think we're going to find that it is very small.

MR. HARTMAN: That's what I want to know, those are the questions I'm asking.

MAYOR COCKRELL: Fine, in order to get at what Mr. Hartman is asking, how would we get a picture of this as to the scope. He'd like to know how much of it overall is related to the changes in requirements let's say, from the National Energy Regulatory Commission. Really, we are not trying to get the bottom answer. We are just trying to get a feel for how soon you can address this question.

MR. SPRUCE: The job down there is broken up into thousands of work functions and, of course, these show various degrees of completion and that's what the project completion reports are based on. In some instances I'm sure we issue additional work authorizations for scope changes and others, I'm sure we will have to issue some to correct deficiencies where they're measured. I think there are probably a lot of them that are just going to be identifiable. I'd like to ask Mr. Poston if he can add to that.

MAYOR COCKRELL: Is there just any way that we can just get the feel of what Mr. Hartman is asking?

MR. JESSE POSTON: Yes, yes and I was talking to Mike over there when the questions were developing and we are going to strive to set up a mechanism to be able to report and to be able to get definitive handles on cases where there have been construction or planning malfeasances which have

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EXHIBIT E

occasioned or will occasion or have the prospect of causing cost overrun.

If you would permit me I would like to give one little thirty second human interest story on these voids that have gotten so much attention. When we visited the sites, last time we went up a hundred and some odd feet up on the scaffold and viewed this pour where these honeycombing occurances took place. I asked the construction manager on the entire project, how did this happen, why was this pour allowed to proceed. He explained that he had two concrete pumps and one had broken down and so he continued with the other one measuring the slump constantly but feeling that he could get the concrete through the forms Mr. Spruce was talking about. But as it turned out he wasn't able to completely fill the voids of the form, and so he got these honeycombing. I said "well, what - who is this fellow." He said, "he is my best concrete man, he's been with Brown and Root 14 years and he's built 2 other nuclear power plants for me and several fossil plants." I said "What did you do with him?" "I fired him yesterday." And I thought, it doesn't make anyone very happy, but it shows you, I think the spirit that Brown and Root has to assure the owners that we can get continued good work.

We will try to identify in our future, and set up mechanisms to identify, cost excursions by virture of scope change, and cost excursions by virtue let's say construction goof-ups or what have you. We also want to stress to the Council that we will pursue to the end, cost recovery procedures on any goof-ups by any contractor, vendor, supplier or other service agency which is cost impacting the project.

MAYOR COCKRELL: Thank you, let me just advise Council we got seven Council people ready, we've got at least 4 citizens I know who want to speak and so . . .

MR. HARTMAN: The statement was made by Mr. Poston, we will strive to set up the mechanism. That is not what I'm asking for, I'm asking for an opportunity to actually be given an incident by incident review of what has happened, why it happened, what it cost and who paid for it and is there any chance for recovery. That's all I'm looking for, that is it, I'm not looking for anybody to strive to set up a mechanism because we have strived to set mechanisms before and we have strived, for example, to change our load forecasting technique. We have strived to do other things, and over voltage, we never seem to get there.

MR. RUDY ORTIZ: Mr. Spruce, I don't want to be fighting CPSB every time that you come here for your bond issues. It's not good for CPSB. It's not good for this Council, not good for the community. I'd like to see if we could sit down as reasonable people and try to see if we could find some kind of middle ground on which to negotiate on this thing. Between the extreme of just dropping out completely which as I review more and more of the facts and figures and the arguements, I see that it comes highly unlikely, improbable simply because of the investment we have made. At the same time, though I do have a very grave concern and I'm sure it's your concern, Mr. Spruce, as well as the concern of the other members of the Council, as far as the cost overrun that is pushing the cost to the citizens of San Antonio, the rate payers of San Antoio higher and higher and higher. What I'm basically asking is that we have to do something specific, something concrete, that will show our citizens, that will show this Council that we are taking steps to bring the cost of the project more in line with our means here in San Antonio.

So I urge you to come in for this session. I spoke with Mr. Eloy Centeno on the phone and he volunteered to come down here personally and give me the assurance I wanted but I felt this project is worth - I took his word over the phone - that he gave me his commitment that he would give serious consideration to reducing half of our share in the South Texas Nuclear Project by half, 50% Mr. Spruce, from 28% down to 14% . He didn't commit himself to do it, but to give very serious consideration, very serious studying to that possibility, that's important in the future. So, what I'm going to ask you, Mr. Spruce, are you as the general manager also willing to give very serious consideration to a possible reduction in our 28% share down to 14%? Are you willing to give that serious consideration?

90026201

Ex-inspector says STNP 'tie holes' faulty

By HAROLD SCARLETT
Post Environment Writer

Concrete walls at the South Texas Nuclear Project contain hundreds of improperly plugged construction holes that could leak radioactive steam or gases in an emergency, an ex-inspector on the job claims.


Swayze

The Nuclear Regulatory Commission said it investigated the so-called "tie holes" in recent weeks and substantiated the charge by fired inspector Dan Swayze that the holes were inadequately closed.

Regional director Karl Seyfrit of the NRC said, however, that Brown & Root Inc., the construction contractor, first reported the problem to the NRC in December 1977.

Seyfrit said Brown & Root plans corrective action, and the possibility of a safety hazard is pretty remote.

Swayze, in turn, said Brown & Root started a hole-plugging program in the first half of 1978, but halted it for other work after only about five holes were fixed.

Seyfrit acknowledged the hole-plugging "is not a high-priority item, so it wouldn't surprise me to see it drag on for awhile."

Swayze is the former Brown & Root employee who charged in a nationally televised CBS program Thursday that the $2.7 million nuclear power project is structurally unsound and should not be licensed.

Brown & Root retorted that Swayze had no grounds at all for such a statement, and that earlier allegations by him were discounted by the NRC.

Swayze explained that the holes in concrete walls at the project were left by taper ties used to hold forms in place while concrete is poured.

After the pour in completed, he said, the steel ties are removed, leaving a hole through the concrete. Swayze said these holes are then supposed to be completely filled with grout, equal in strength to the concrete itself.

But Swayze said he and another inspector discovered the holes were being plugged with only an inch or two of low-strength grout at each wall surface. Many of the walls are two or three feet thick.

Swayze said when this was brought to the attention of the Brown & Root design engineer, "he ordered every tie hole on the job patched properly."

The ex-inspector contends that breakaway ties — another type in which the steel bar remains in place — should have been used in all exterior walls and throughout the nuclear reactor containment building.

Seyfrit of the NRC said he was not aware of such a requirement, although there might be one.

Swayze conceded there are no holes in the massive outer wall of the reactor building, which is poured with special steel forms that do not require ties.

However, he contended a steam blowout or fire or other emergency could blow out the improperly plugged tie holes in the inner safety walls of the reactor building.

"This would compound the problem and spread radioactivity through the entire building, making it harder to clean up," Swayze said.

The NRC's Seyfrit agreed this could conceivably happen, but he maintained that "the chances of blowing a plug out are pretty small, and not much radiation would get through the hole."

Swayze said the tie holes average 1.5 to 2 inches in diameter, and there are hundreds in each building.

He claimed the removable ties, which can be reused, were used in the exterior walls of the nuclear fuel handling buildings and the mechanical-electrical auxiliary buildings.

The improperly plugged tie holes below ground level, he said, could also leak water into building basements, causing corrosion and shorting out electrical equipment.

Plans call for a waterproof membrane on the outside of the walls below grade, he said, but in some cases the excavation around the walls was backfilled overnight with no inspection of whether the waterproof membrance was even installed.

Seyfrit said the NRC also recently investigated possible membrane damage or backfilling without inspections, but could not substantiate these allegations.

He said the investigation did raise a question about whether membrane inspections are being properly conducted, and the matter is being carried as an "unresolved" item involving the Unit 1 reactor building and Units 1 and 2 fuel handling buildings.

THE HOUSTON POST
OCTOBER 6, 1979

EXHIBIT F

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ST-QA-318-1

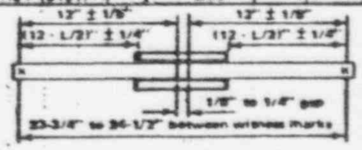
INSPECTED BY:				DATE: / /											
					PREPARATION				FINAL						
CADWELD NO.	SLEEVE LOT NO.	POWDER LOT NO.	DRAWING OR SCHEDULE NO.	BAR SIZE	RUST & DIRT	PREHEAT	WITNESS MARKS	FIT-UP	ON-CENTER	SLAG & POROSITY	MARKING	SLEEVE TYPE	VOID AREA	TEST

EXHIBIT G-1

BAR SIZE	SPLICE CAT. NO.	ALLOWABLE VOIDS (IN²)	
		SPOT VOIDS	FULL LOW
# 4 4/5	RBT-4101(-H) RBT4-5101(-H)	0.47 0.47/0.53	1/2 1/2 / 1/2
# 5 5/6	RBT-5101(-H) RBT5-6101(-H)	0.53 0.91/1.05	1/2 11/16 / 5/8
# 6 6/7	RBT-6101(-H) RBT6-7101(-H)	1.06 1.06/1.03	5/8 5/8 / 9/16
# 7 7/8	RBT-7101(-H) RBT7-8101(-H)	1.03 1.03/1.02	9/16 9/16 / 1/2
# 8 8/9	RBT-8101(-H) RBT8-9101(-H)	1.02 1.02/1.02	1/2 1/2 / 1/2
# 9 # 9/10	RBC-976(-H) RBT-9101(-H) RBC9-1076(-H) RBT9-10101(-H)	0.90 1.02 0.90/0.81 1.02/1.03	3/8 1/2 3/8 / 5/16 1/2 / 7/16
# 10 # 10/11	RBC-1076(-H) RBT-1081(-H) RBT-10101(-H) RBC10-1176(-H) RBT10-11101(-H)	0.81 1.03 1.56 1.03/1.03 1.56/1.53	9/16 7/16 5/8 7/16 / 7/16 5/8 / 9/16
# 11 # 11/14 # 11/18	RBC-1176(-H) RBT-11101(-H) RBC11-1476(-H) RBT11-14101(-H) RBC11-1876(-H) RBT11-18101(-H)	1.03 1.53 1.03/1.34 1.53/1.52 1.53/1.70 1.53/1.99	7/16 9/16 7/16 / 1/2 9/16 / 5/8 9/16 / 7/16 9/16 / 1/2
# 14 # 14/18	RBC-1461(-H) RBC-1476(-H) RBT-1476(-H) RBT-14101(-H) RBC14-1876(-H) RBT14-18101(-H)	1.34 1.52 2.15 2.15 1.52/1.70 2.15/1.99	7/16 1/2 5/8 5/8 1/2 / 7/16 3/8 / 1/2
# 18	RBC-1861(-H) RBC-1876(-H) RBT-1876(-H) RBT-1881(-H) RBT-18101(-H)	1.99 2.64 2.64 3.00 3.00	1/2 9/16 9/16 5/8 5/8

L = Sleeve Length

Gap to be checked at freq



Brown & Root, Inc.

QUALITY ASSURANCE DEPARTMENT

CADWELD INSPECTION BOOK

PROJECT: SOUTH TEXAS J. O. NO. 35-1787

DATE OF CADWELDING: / /	UNIT NO.(S):

INSPECTION & TEST SYMBOLS

INSPECTION SYMBOLS:
S - Satisfactory
U - Unsatisfactory
N - Not Inspected

TEST SYMBOLS:
PR - Production Splice
SI - Sister Splice

REMARKS

If any inspection results were unsatisfactory, provide additional details here:

ST-QA-318-1

REVIEWED BY: _____ / /

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	FSΦ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS	LOCATION	PLOTTED ON FSΦ
									From Mat. Log 4/4/78	Seaway Shield Wall, East (2W1) 1-C-1515-3	
~~36W 452~~	~~1314~~	~~21275~~		~~11~~	~~N~~	~~S~~	~~[illegible]~~	~~4/2~~			
36W 523	1314	21275		11	N	U	[illegible]	4/2	No [illegible] WITNESS	A=12'0" ELEV 30'9" IN Φ	X
36W 524				11	N	U	[illegible]	4/2	STAGGER 1'5" (VS 34") SCRAPPED BY CONSTRUCTION, FAB ERROR	A=12'6" ELEV 32'2" IN 4"	X
~~36W 525~~				~~11~~							
~~36W 526~~	~~1314~~	~~21275~~		~~11~~							
36Y 519				11	N	S	[illegible]	4/2		A=3'6" ELEV=42'6" IN Φ	X
36Y 522				11	N	S	[illegible]	4/2		B=12'9" =32'0" IN 7"	X
36Y 521				11	N	S	[illegible]	4/2		B=12'9" =33'9" IN Φ	X
36Y 520				11	N	S	[illegible]	4/2		B=13'7" =31'0" IN Φ	X
~~93Y 298~~									~~See 4-3-78~~		
~~93Y 299~~									~~See 4-3-78~~		

90026204

EXHIBIT G-2

REVIEWED BY: A.E. Schlanfer 11/13/78

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	FSQ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS (MK LOG 11-10-78)	LOCATION ACCESS OPENING UNIT #3
51V162	1251	21280	0070	11	N	S	HJG			A= 3'0" EL=13'2" OF
163				11	N	S	HJG	11/10		A=3'7" EL=13'2" IF
164				11	N	S	HJG	11/10	12" Top & 6" Bottom Witness	A=2'7 EL=11'2" IF
165				11	N	S	HJG	11/10	12" Top & 6" Bottom Witness	A=2'1" EL=11'3" OF
166				11	A	S	HJG	11/10		A=2'7" EL=13'1" OF
167	1257	21280		11	N		HJG	11/10	6" Bottom & 12" Top Witness Mark	A=3'9" EL=11'3 OF

STAGGERED WIT MARKS

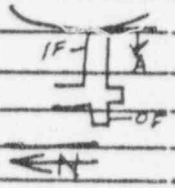


exhibit G-3

A.E. Schlanfer 11-16

90026205

REVIEWED BY: [illegible] 11/13/78

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	FSQ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS EC 118 11-14-78	LOCATION Various
27N1165			0083	18	N	S	[illegible]	11/14	S Refill EAST Witness Marks 6" + 6"	B=5'8" Elev 39'5" OP
27H731			0067	6	N	S	[illegible]	11/14	EAST WALL Witness Marks 6" 6"	A=4'-3" Elev 42'6" OP
~~36H463~~										
36H463			0205	6	N	S	[illegible]	11/14	~~Left 6" R+10 Witness Mark~~	Mechanical Aux ~~[illegible]~~ NCR 1264
									CK ON PROC CAN WIT MARKS BE STAGGERED	

EXHIBIT G-4

[illegible] 11-13-78

90026206

STE# 6353

Q.A. RECORD

NO ACTION REQUIRED

Brown & Root, Inc.
QUALITY ASSURANCE DEPARTMENT
EXAMINATION CHECK

RTN.	G. OF M&W
O	99C
FILE NO.	A8229R
SUBFILE NO.	CFB

ROUTING
1.
2.
3.
4.
5. 405

E.C. NO. CCP-11- ~~0112~~ 0113 11-3-78

PROJECT: SOUTH TEXAS JOB NO: 35-1197 UNIT: 2 PAGE 1 OF 5

EQUIPMENT/COMPONENT/MATERIAL: N/A

APPLICABLE TO ASME: YES ****

PROCESS/ACTIVITY: CADWELDING

LOCATION: SHELL WALL ELEV 40' to 50'

DWG. NO. 2-C-1023

PLAN/PC.MK.NO. CCP-11-A

VENDOR/PC. MK. NO. N/A

P.O. N/A

OTHER: FSQ-0064

DETAILS OF EXAMINATION

ITEM NO.	DESCRIPTION OF ITEMS INSPECTED, SURVEILLED OR REVIEWED	RESULTS	REMARKS
00	GENERAL	S	CADWELDS NO.
10	PREPARATION	S	27V 1154 THRU 27V 1162 39V 532 " 39V 544
20	FINAL	S	42V 151 " 42V 160 43V 329 " 43V 340 ~~SEE 42 NCG~~ 11-15-78
			Reject 43V330 Reject 42V158

EXAMINED BY: A. Schlaifer L-II DATE: 11/11/78

IF DISCREPANCY IS FOUND, COMPLETE THE FOLLOWING SECTION

CATEGORY OF DISCREPANCY:

MAJOR (SEE DDR#)

NOT MAJOR (SEE RESOLUTION BELOW)

RESOLUTION:

CRAFT SUPERVISOR: QUALITY CONTROL: DATE: / /

EXHIBIT H-1

1281480122 3

9002620 7

REVIEWED BY: [illegible] 11/8/78

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT NO.	FSQ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS FROM 11/9 M.H. LOG.	LOCATION SHELL WALL UNIT #2 L-C-1023	
27V1154	1251	21280	0064	11	N	S	[illegible]	11/9		Az=336°52' EL=50'3	[illegible]
1155				11	N	S	[illegible]	11/9		Az=335°48' EL=50'3" EF	
1156				11	N	S	[illegible]	11/9		Az=334°44' EL=50'3 IF	
1157				11	N	S	[illegible]	11/9		Az=332°36' EL=50'3 IF	
1158				11	N	S	[illegible]	11/9		Az=331°32' EL=50'3 IF	
1159				11	N	S	[illegible]	11/9		Az=330°28 EL=50'3" IF	
1160				11	N	S	[illegible]	11/9		Az=328°20' EL=50'3 IF	
1161				11	N	S	[illegible]	11/9		Az=327°16' EL=50'3 IF	
1162				11	N	S	[illegible]	11/9		Az=326°12' EL=50'3" IF	[illegible]
~~1163~~				11					SEE 11/9 PKG		
39V 532	1251	21280		11	N	S	[illegible]	11/9		Az=345°20' EL=50'3	[illegible]
533				11	N	S	[illegible]	11/9		Az=344°16' EL=50'3" IF	
534				11	N	S	[illegible]	11/9		Az=343°12' EL=50'3"	
535				11	N	S	[illegible]	11/9		Az=342°08 EL=50'3" IF	
536				11	N	S	[illegible]	11/9		Az 341°04' EL=50'3" IF	
537				11	N	S	[illegible]	11/9		Az=340°00' EL=50'3" IF	
538				11	N	S	[illegible]	11/9		Az=338°56' EL=50'3" IF	
539				11	N	S	[illegible]	11/9		Az=346°24' EL50'3 IF	
540				11	N	S	[illegible]	11/9		Az=347°28' EL=50'3" IF	
541				11	N	S	[illegible]	11/9		Az=348°32' EL=50'3" IF	
542				11	N	S	[illegible]	11/9		Az=349°36' EL=50'3 IF	
543				11	N	S	[illegible]	11/9		Az=350°40' EL=50'3" IF	[illegible]
544				11	N	S	[illegible]	11/9	SEE 11/9 PKG	Az=352°48' EL=50'3 IF	[illegible]
~~43V148~~	~~1251~~	~~20197~~									
~~149~~											
~~150~~											
42V 151				11	N	S	MJE	11/9		Az=304°38' EL=50'3" IF	[illegible]
152				11	N	S	MJE	11/9		Az=306°42' EL=50'3" IF	
153				11	N	S	MJE	11/9		Az=306°46' EL=60'3" IF	
154				11	N	S	MJE	11/9		Az=307°50' EL=60'3" IF	
155				11	N	S	MJE	11/9		Az=308°54' EL=60'3" IF	
156				11	N	S	MJE	11/9	[illegible]	Az=309°58' EL=50'3" IF	
157				11	N	S	MJE	11/9	[illegible]	Az=311°02' EL=50'3 IF	
158				11	N	S	MJE	11/9	[illegible]	Az=312°20' EL=50'3 IF	[illegible]
159	1251	20197	0064	11	N	S	[illegible]	11/9		Az=253°52 EL=50'3" IF	

EXHIBIT H-2

90026208

RTN.	QA REVIEW
FILE NO.:	
SUBFILE NO.:	

ROUTING
1.
2.
3.
4.
5. 401

Brown & Root, Inc.
QUALITY ASSURANCE DEPARTMENT
EXAMINATION CHECK

E.C. NO. CCP-11-

PROJECT: SOUTH TEXAS JOB NO: 35-1197 UNIT: 1 PAGE 2 OF 4

EQUIPMENT/COMPONENT/MATERIAL: N/A		
APPLICABLE TO ASME: YES ****	PROCESS/ACTIVITY: CADWELDING	LOCATION: CENTRAL REFUELING POOL
DWG. NO.: 1-C-1515 & 1-C-1516	PLAN/PC.MK.NO.: CCP-11-A	VENDOR/PC. MK. NO.: N/A
P.O. NO.: N/A	OTHER: FSQ-0083	

DETAILS OF EXAMINATION

ITEM NO.	DESCRIPTION OF ITEMS INSPECTED, SURVEILLED OR REVIEWED	RESULTS	REMARKS
00	GENERAL	S	5V1539 THRU 5V1540 27V1139 " 27V1140
10	PREPARATION	S	32V815 " 32V817 ~~36V539 " 36V541 & 36H~~
20	FINAL	S	39V514 " 39V516 48V99 " 48V101
			49V48 " 49V50 51H23 " 51H25
			55V98
			39V516 Replaced 51V48 Reject

EXAMINED BY: [signature] L-II DATE: 11/8/79

IF DISCREPANCY IS FOUND, COMPLETE THE FOLLOWING SECTION

CATEGORY OF DISCREPANCY:	
MAJOR (SEE DDR#)	NOT MAJOR (SEE RESOLUTION BELOW)

RESOLUTION:

CRAFT SUPERVISOR:	QUALITY CONTROL:	DATE: / /

1281480217

EXHIBIT I-1

90026209

REVIEWED BY: [illegible] 11/8/78

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	FSQ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS (TAKEN FROM M.R. Log 11-7-78)	LOCATION CENTRAL REFUELING WALL UNIT #1
·5V1539	1298	21047	[illegible]	18	N	S	[illegible]	11/7	6" BOTTOM WITNESS MARK	E=0'-0" EL.=40'-0" I.F. EAST
·5V1540	1298	21047		18	N	S	[illegible]	11/7	9" Bottom witness mark	P=[illegible]" EL=40'-0" IF EAST
·27V1139	1323	21424		18	N	S	[illegible]	11/7	6" Bottom Witness Mark	C=12'2" EL=40'3" IF EAST
·27V1140	1298	21424		18	N	[illegible]	[illegible]	11/7	[illegible] DUE TO NO MARKING	C=10'1" EL=40'3" IF EAST
·48V99	1342	20273		11	N	S	[illegible]	11/7	11 [illegible] from cadwelding person on the day shift following [illegible]	A=0'6" UP 1'9" IF EL=41'1" EAST
·48V100	1342	20273		11	N	S	[illegible]	11/7		A=-0'4" UP 3'8" IF EAST
·48V101	1342	20273		11	N	S	[illegible]	11/7		E=10'(0'10") UP 3'9" IF EAST
·49V48	1323	21424		18	N	S	[illegible]	11/7		B=2'7" UP 3'8" IF 42'2" EAST
·49V49	1323	21424		18	N	S	[illegible]	11/7		B=0'5" UP 3'8" IF 42'2" EAST
·49V50	1298	21390		18	N	S	[illegible]	11/7		C=4'3" UP 1'3" IF 39'9" EAST
·32V815	1323	21421		18	N	S	[illegible]	11/7		A=2'7" UP 3'8" IF 42'2" EAST
·32V816	1323	21424		18	N	S	[illegible]	11/7		A=0'10" UP 3'8" IF 42'2" EAST
·32V817	1298	21424		18	N	S	[illegible]	11/7		C=2'3 EL=40'0" IF EAST
·39V514	1323	20352		18	N	S	[illegible]	7/11	6" BOTTOM WITNESS MARKS	E=12'-0" EL.=40'-0" I.F. EAST
·39V515	1323	20362		18	N	S	[illegible]	7/11	6" BOTTOM WITNESS MARKS	E=2'-0" EL.=40'-0" I.F. EAST
·39V516	1274	21370		18	N	S	[illegible]	7/11	REPLACES 51V148	C=15'1" EL=40'2" IF EAST
~~51V152~~	~~1328~~	~~20273~~		~~11~~						
~~51V153~~	~~1328~~	~~20273~~		~~11~~						
~~51V154~~	~~1328~~	~~20273~~		~~11~~						
~~51H22~~	~~1328~~	~~20273~~		~~11~~						
·51H23	1328	20273		11	N	S	[illegible]	11/7	WEST IF	B=1'1" EL=42'6" 4" from SS Liner
·51H24	1328	20273		11	N	S	[illegible]	11/7	WEST IF	B=3'0" EL=41'9" 4" from SS LINER
·51H25	1328	20273		11	N	S	[illegible]	11/7	WEST IF	B=1'1" EL=41'3" 4" from SS Liner
·55V98	1298	20356		11	S	S	[illegible]	11/7	NO Bottom witness mark possible	C=5'2" EL=39'9" IF SS LINER

Elev of concrete: 38'6"

[illegible] 11/8/78

(*) THIS SHOT HAS NO NUMBER - I can only assume that it is 27V1140 since this is the only shot in this area for a #18 bar that hasn't been accounted for.

exhibit I-2

9[illegible]026210

CADWELD MATERIAL LOG

SOUTH TEXAS PROJECT

PAGE ___ OF ___

DATE	CADWELDER NO.	POSITION		DATE	CADWELDER NO.	POSITION	
3-22-78	27	UNIT #II					

Cadweld No.	Bar Size	Sleeve Lot No.	Powder Lot No.	DWG. or Sched. No.	REMARKS	Cadweld No.	Bar Size	Sleeve Lot No.	Powder Lot No.	DWG. or Sched. No	REMARKS
27BU417	18	S962	P17152		Replaced 23BU433						
27BU418	1	1	1	(Rej)	Replaced 14BU834						
27U419	1	S1081	P17232								
27U420	1	S1046	1								

* Re - 27BU418 (reject) checked by Civil Engineer Alfred Tong came up with a void area of 3.3. Shot is OK.

ALLOWABLE VOID AERA 2.64

EXHIBIT J

9002762211

REVIEWED BY: [illegible]
11/15/78 11/17/78

EC 119
ELEV. OF CONCRETE 117' –
11-15-78
11-16-78

DWG. 1-C-1077
SHELL WALL - UNIT 1
ABOVE EQUIPMENT HATCH
LINES 14-15

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	DWG/ FSO NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS	LOCATION (OUTSIDE FACE RADIUS)
62H11 (11 REV)	1328	21270	0069	11	N	S	[illegible]		[illegible]	166'08, EL 132'2" [illegible]
62H12 REV	"	"			N	U	[illegible]		REPLACED BY 62H13 62H14	
62H14	1328	21271			N	S			splice	166'08 EL 128'2"
62H13	"	"			N	S			"	164'08 EL 128'2"
48H161		21271			N	S				164'08 EL 129'2"
62H15	1328	"			N	S				164'08 EL 130'2"
48H159	1328	21271			N	S			splice REPLACED 62H10	165-52 EL 132'8"
48H160					N	S			" "	163-52 EL 133'8"
48H163					N	S				162-23 EL 129'8"
48H164					N	S				162-23 EL 130'8"
62H16					S	S				164'08 EL 131'2"
48H162		21278			N	S				162-23 EL 128'8"
62H17					S	S				163-36 EL 131'8"
32H618	1328	21271	0056		N	S				130'00 EL 118'3"
32H620		"			N	S				130-00 EL 120'3"
32H623		21279			N	S				130-00 EL 122'11"
32H625		"			N	S				130-00 EL 124'11"
32H627		"			N	S				130-00 EL 126'11"
32H629		"	0069		N	S				130-00 EL 128'0"
59H12	1328	21271			N	S				130-00 EL 130'0"
59H13					N	S				130-00 EL 132'0"
59H11 REV					N	U				130-00 [illegible]
32H621		21271	0056		N	S				128'26 EL 121'0"
32H619		"			N	S				128-26 EL 119'0"
32H624		21279			N	S				128-26 EL 123'10"
32H626					N	S				128-26 EL 125'10"
32H628			0069		N	S				128-26 EL 127'3"
32H622		21271	0056		N	S				131-30 EL 121'9"
62H18					S	S				162-36 EL 132'2"
59H14					S	S			splice replaced 59H17	130-40 EL 128'0"
59H15					S	S			" " "	132-40 EL 129'0

EXHIBIT K-1

9002.6212

Page 2 of 2

REVIEWED BY: [illegible]

11/17/78

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	DWG/ FSD NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS 11/17/78	SHELL WALL U1 LOCATION
55H 13	1328	21271	0069				JFE	4/1	[illegible]	[illegible]
14			0069				JFE	4/1	[illegible]	[illegible]
59 H 11	1328	21271					JFE		REST	
12							JFE			
13							JFE		REA [illegible]	
14							JFE		REA [illegible]	
15							JFE	4/1	~~REA [illegible]~~	[illegible]
16							[illegible]	4/1		AZ = 130°00' ELEV 131'0" [illegible]
62 H 13	1328	21271					JFE	4/1		[illegible]
14							JFE		REP [illegible]	
15							JFE		REP [illegible]	
16							JFE			
17							JFE			
18							JFE	4/1		[illegible]

exhibit K-2

90026213

...EWED BY: Alblair 11/17/78

CADWELD NO.	SLEEVE LOT NO.	POWDER LOT. NO.	DVVG/ FSQ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS CPR 11/15/78 ~~[illegible]~~	SHELL WALL, U1 LOCATION			REJECTED ON FSQ by
32H618	1328	21271	0056				JFE	11/15	LIFT 18	130°00'	118'3		
619							JFE			128°26'	119'0"		
620							JFE						
621							JFE						
622							JFE						
623		21279					JFE						
624							JFE						
625							JFE						
626							JFE						
627							JFE						
628			0069				JFE		LIFT 15				
629			0069				JFE	11/15	"				
39V 584	1342	21271	0073		N	S	[illegible]	11/16	LIFT 17	273°20'	149'3"	75°10"	
585	1342	21271	0073		N	S	[illegible]	11/16	"	272°16'	149'3"	75°10"	
48H 159	1328	21271	0069				JFE	11/15	LIFT 15 REF 62HH2				
160							JFE		LIFT 15 REF 62HH2				
161							JFE						
162		21279					JFE						
163							JFE						
164							JFE	11/15					
49V 55	1342	21271	0073		N	S	[illegible]	11/16	LIFT 17	228°40'	149'3	75°10"	
56					N	S	[illegible]	11/16		278°44'	"	"	
57					N	S	[illegible]	11/16		280°48'	"	"	
58					N	S	[illegible]	11/16		282°52	"	"	
55H 163	1328	21271	0056				JFE	11/15	LIFT 18				
164			0069				JFE		LIFT 15				
165							JFE		~~[illegible]~~				
166							JFE						
167							JFE						
168							JFE						
169							JFE						
170							JFE						
171							JFE						
172							JFE	11/15					

exhibit K-3

90026214

125-2

EVIEWED BY: [illegible] 12-5-78

ADWELD NO.	SLEEVE LOT NO.	POWDER LOT NO.	FSQ NO.	BAR SIZE	PREPARATION	FINAL	INSPECTED BY	DATE	REMARKS		LOCATION		PLOTTED-FSQ BY
									CADWELD MATERIAL LOT DATE 11-21-78 1-C-1024 1-C-1026		RCB-2 SHELL WALL		
										ALL LIST	INNER FACE ELEV		
12V69	1342	21287	0064	11	N	S	HJG	11-22		7	116°36'	58'10"	12-5
70					N	S	HJG			7	113°52'	58'10"	
71					N	S	HJG			7	112°48	58'10"	
72					N	S	HJG			7	111°44'	58'10"	
73					N	S	HJG			7	110°40'	58'10"	
74					N	S	HJG			7	109°36'	58'10"	
3V19	1314	21271	0064		N	S	AEJ			6	295°12'	40'3"	
20		21271			N	S	AEJ		REP 431330	6	314°24'	40'3"	
21					N	S	HJG		42V158	6	312°16'	35'0"	
22					N	S	HJG		42V158	6	312°16'	41'8"	
23			0060		N	S	HJG		324826	5	301°04'	29'6"	
24			0060		S	S	HJG		324826	5	301°04'	31'7"	
4V34		21279	0064		N	S	JFE	11-21	59V53	6	107°28'	38'10"	
35					N	S	JFE		59V51	6	108°36'	28'10"	
36					N	S	JFE		59V53	6	107°28'	41'6"	
37					S	S	JFE		59V51	6	108°36'	41'6"	12-5

BROWN & ROOT, INC.
RECEIVED
DEC 19 1978
QUALITY ASSURANCE
STP FILES NOTED

EXHIBIT K-4

W. B. M Printers · Bay City · Tel. 245-[illegible]

Brown & Root, Inc.

P. O. BOX 963 BAY CITY, TEXAS 77414

MESSAGE	REPLY
To [ALL CIVIL QC INSPECTORS]	DATE
SUBJ: [COMMUNICATION WITH DESIGN ENGINEERING]	
DATE 4-18-79	
AS OF THIS DATE, ALL COMMUNICATION BETWEEN CIVIL Q.C. AND DESIGN ENGRS. AND/OR THEIR SITE REPRESENTATIVES, WILL BE HANDLED AT A LEVEL NO LOWER THAN THE LEAD INSPECTOR. THERE WILL BE NO DEVIATIONS FROM THIS memo UNLESS APPROVED BY THE CIVIL Q.C. SUPV. ONLY.	
BY C M Singleton QCE	SIGNED

INSTRUCTIONS TO SENDER:
1. SEND TO FOR. FILE 2. SEND WHITE AND PINK COPIES WITH CARBON INTACT.

INSTRUCTIONS TO RECEIVER:
1. WRITE REPLY. 2. DETACH PINK, KEEP PINK COPY, RETURN WHITE COPY TO SENDER.

EXHIBIT L

TEMS AFFECTING THE DECISION TO ISSUE AN OPERATING LICENSE

FUEL LOAD DATE DELAYS REPORTED BY UTILITY - A CRITICAL PATH DELAY

REPORT DATE	ORIGINAL SCHEDULE	NEW SCHEDULE	REASON FOR CHANGE
NONE			

OTHER DELAYS - NOT AFFECTING THE CRITICAL PATH

NONE

REGIONAL COMMENTS ON CONSTRUCTION SCHEDULE STATUS:

SUMMARY:

INSPECTION SUMMARY:

Inspection on July 7-8, 1977 (77-08): Was routine, announced investigation of telephone allegation received on July 1, 1977 that Brown and Root Quality Control personnel were being threatened by craft and Room Construction labor supervision. The investigation involved twenty-four inspector hours by two NRC inspectors. The allegation was not substantiated. No items of noncompliance or deviations were identified.

PLANT STATUS:

Design and Engineering reported as approximately 83%. Procurement, approximately 97% and overall construction 76% complete as of 8/1/77.

* INDICATES A CHANGE OF INFORMATION

EXHIBIT M

0026217

Brown & Root, Inc.

INTEROFFICE MEMO

TO: C. W. Vincent

DATE: August 8, 1978

FROM: L. A. Watkins

CORRES. NO: STQ-3129

SUBJECT: Validity of Inspection "Punch Lists" and Civil Quality Control Inspection Interface Relationship with Other Disciplines

The week of July 31 thru August 4 was spent on the South Texas Project to determine the validity of Civil QC Inspection "punch lists" and to observe the interface of the Civil QC group with QA and the Construction Department (Crafts, Management and Field Engineers).

Time was spent in the field with six of the seven QC inspectors which were doing preplacement inspections that week. All of the "punch lists" attached to the pour cards were reviewed. It was determined that all items identified on the punch lists were valid. The items identified by the inspectors were addressed by the specifications or procedures. Construction had no basis to complain about the items addressed.

NO ACTION REQUIRED

I attended the Monday morning Civil QC Construction Engineering meeting. The Chief Construction Engineer made two statements which were very concerning. They were as follows:

~~Statement #1 - "We (Construction) understand that QC is bound to follow the existing procedures" / end;~~

Statement #2 - "Some of our foremen can't read or write very well, so it is up to the field engineers and QC to keep these people informed of the problems and QC to make sure they are right".

It was apparent in the field that this attitude was prevailant and followed by construction crafts. It was noted that the construction crafts were heavily relaint upon QC for direction and instruction. Many items identified by the QC inspector could have just as easily been found by the craft foreman.

In a meeting with the Assistant Project Manager and the Chief Construction Engineer, I asked if there existed any major problems between Civil QC preplacement inspectors and construction. The Assistant Project Manager stated that the inspectors had bad attitudes. He tried to justify this by stating they (inspectors) would hold up concrete placements intensionally by not identifying items until immediately prior to the concrete placement. He stated that the majority of the items on the punch lists were "Nit Picky". It was the feeling of the Assistant Project Manager that the QC Inspectors should approve an area if it had the general configuration of the representative design drawing. He also stated that the QC Inspectors

REFERENCE

RTN.	QA REVIEW
V	
FILE NO. A800G	
SUBFILE NO.	

ROUTING

1. CWV
2. JBS
3. TW
4. AJH
5.

exhibit N

90026218

were working for the wrong department and they should be able to make more engineering type decisions. The Chief Construction Engineer did not differ with the opinion of the APM. Construction Management felt that the inspectors should overlook "minor" discrepancies because in their opinion, these items would have no adverse affect on the structure. The APM fails to see that these types of decisions are not for the inspector but for the design engineer. It was the opinion of the APM that the project was behind schedule because of QC and the Houston Design Engineering staff.

I personally feel that the attitude taken by Construction Managment at STP is causing a great deal of uncooperation between construction crafts and the Civil QC inspectors. There were numerous cases of construction supervisors acting unprofessional toward the QC Inspectors during discussion of the specification because the inspectors would not accept the interpretation presented by construction.

In all cases witnessed, the Inspectors remained very professional in his speech and attitude. In many cases, the QC inspector would request action by construction to get a FREA to clarify a problem. Construction and the engineers assigned to the field did not feel a FREA was warranted. This type of hesitation on specification disagreement could be causing the majority of the delays. This point was addressed and discussed with one of the field engineers. He agreed that more timely action by the construction staff could possibly offset and prevent some of these delays.

The Civil QC inspectors did not seem to have confidence in the site QA staff. It was generally felt by the inspectors that the QA staff did not know enough about their field activities to provide the necessary support required. This confidence needs to be established through good communication.

Another area of interest was the support given to the QC inspectors by the QC Supervisor. In my opinion, the QC Supervisor does not communicate the ideas of the QC Manager to the inspectors. Also, the QC Supervisor will make a decision without proper explanation to the inspector. This appears to the inspector that the supervisor is willfully violating a specification or procedure to progress with the construction. This point was discussed with the QC Supervisor.

It would be beneficial to do a resurvey of these areas in three months. It is recommended that an outside person representing Construction also be involved to make suggestions on possible areas of improvement.

In summary, the QC inspectors were adequately performing their duties. All items on the punch lists were legitimate in regards to specifications and procedures. A major area of concern was Construction Managements' attitude toward the QC staff and their purpose. Better communication between the QC Supervisor and inspectors will possibly improve the job conditions. The QA staff function needs to be redefined to the field inspectors.

L. A. Watkins III

L. A. Watkins, III
QA Specialist

LAW/clr

cc: P. L. Bussolini

90026219

Brown & Root, Inc.

35-1197
7-27-77

INTEROFFICE MEMO

TO: All QA/QC Personnel DATE: July 27, 1977

FROM: T. P. Gardner JOB NO: 35-1197

SUBJECT: Construction/Quality Assurance Interfacing

Recently we experienced an unfortunate incident in which one of our people was hurt. This occurred during a confrontation between a craft concrete foreman and a Civil inspector over the support of a concrete pump slickline. Heated words were exchanged and the craft foreman grabbed the inspector's shirt and forced him down on the reinforcing mat. The concrete foreman no longer works on the job and the inspector has now returned to work. As a result, an extensive investigation was conducted by B&R into the matter. In addition, the Nuclear Regulatory Commission became involved in a separate investigation of the incident.

It was discovered during both investigations that there existed an inordinate amount of friction between the Construction Concrete craft and Civil QC. The NRC described the friction as a two-way street and both groups were at fault for the friction. Our main concern and the NRC's is inspector intimidation and whether because of intimidation that the inspectors would overlook quality aspects of the job. It was determined through interviews with the inspectors that they do not accept any unacceptable conditions. If the friction is allowed to continue, however, it is felt that it could affect the quality of the work.

The steps that follows have been taken to eliminate the friction between the two groups:

1. Requiring all personnel (Construction and QA/QC) to assume a professional and businesslike approach when in contact with each other.

2. If it is apparent that either party is becoming angry or beligerent in his attitude the other party shall immediately leave the area and report the problem to his supervisor. The supervisor shall immediately report the incident to the Site QC Supervisor or the Project QA Manager.

3. Explain to both groups what each others responsibilities are, i.e., Construction is responsible for providing production, meeting schedules, and maintaining quality; QA/QC is responsible for ensuring quality is maintained and is obligated to report any deficiencies discovered during construction for proper disposition.

4. Stressing that whatever the circumstances, physical contact or verbal abuse is never a solution and shall not be condoned.

The following practical considerations will be found helpful in maintaining a professional attitude on your part and in securing and maintaining a working relationship with interfacing organizations and individuals:

1. Attempt to tell Construction when they have done a good job. A continuous negative approach tends to precipitate a negative attitude.

EXHIBIT O

90026220

0874600568

2. The approach to problems or discrepancies should be with the attitude that it is a B&R problem, not a Construction, Engineering, and/or QA problem. As such, it is a shared concern. Use of the word, "WE", will be found helpful in promoting this attitude.

3. Try to avoid an impression of arrogance. The person(s) with whom you are dealing should be assumed to be competent and in any case is entitled to his own dignity as a human being. Talking down to him will not contribute to the problem solution. Use of the words, "MR.", "PLEASE", and "THANK YOU", as appropriate, will assist you in this effort. Use of such words does not detract from your own position.

4. Try to take advantage of any opportunity to improve your own technical competence.

All of the above items shall be used as guidelines for all QA/QC personnel in their association with Construction or any interfacing organization.

0 8 7 4 5 0 0 0 5 6 9

Tony Gardner
T. P. Gardner
STP Project QA Manager

TPG/TBS/clm

cc: P. J. Karnoski
C. L. Crane
J. R. Monroe
R. A. Sanford
S. A. Visclovsky (HL&P)
F. D. Asbeck (HL&P)
All QA/QC Personnel

FILE: A450Q - General

tbh

FILE NO. A450Q

GEN

90026221

Punch List for CSI-WS

Noted by CAC-T (72)

1. Wooden panels that have been installed to support the trumplates at the buttresses are not mortar tight. (All locations)

2. Wood chips and other trash has accumulated directly below the Bulkhead of the Construction opening.

3. 2" x 4" located in the bottom of the pour at approximately 200° azimuth.

4. At all buttresses, the 1½" design dimension to the trumpet cage is not maintained.

5. At all buttresses, several shear ties do not maintain ¾" minimum clearance to outside of forms.

6. Clean-up is incomplete from 64° Buttress to ≈ 120° azimuth.

7. A bolt and a nut in the bottom of the 64° buttress.

8. Shear ties at ≈ 50° azimuth do not maintain ¾" minimum clearance.

9. Minimum ¾" cover requirement not maintained at ≈ 90° azimuth.

EXHIBIT P

90026722

PRIMARY SHIELD (7/20/78)

1. #18, #11 HORIZONTAL BARS STOP AT THE FACE OF VESSEL SUPPORT, THEY SHOULD CONTINUE OVER THE SUPPORT. (NCR)
2. 3 PAIRS #11 BUNDLE BARS CALLED FOR BELOW VESSEL SUPPORT (SECT. E-E 1-C-1535-2) AT TWO SUPPORTS. AT TWO SUPPORTS, ONLY TWO PAIRS PUT. BELOW TWO OTHERS, BUNDLED BARS STOP AT THE FACE OF SUPPORT, INSTEAD OF CONTINUING BELOW. (NCR)
3. HORIZONTAL #11 ⊂ BAR IN FRONT OF VESSEL SUPPORT, 3" TO 4" BELOW GRADE. (NCR)
4. ALL THREE #11 HORIZONTAL BARS IN FRONT OF VESSEL SUPPORTS (ALL 8 SUPPORTS) PLACED BELOW GRADE, TOP BAR 10"-12" ~~DOWN~~ BELOW GRADE. (NCR)
5. END STUDS AT BOTH ENDS OF 1/2" x 4" R ON ~~BOLT PLT.~~ AT LOCATION 9'-8" RADIUS FROM ℄ REACTOR MISSING.
6. TOLERANCE OF PLACEMENT OF LATERAL SUPPORTS REQUIRED.
7. SQUARE R'S AT THE END OF A.B.'S REDUCED IN SIZE BY CUTTING.
8. #11 RADIAL BAR SHOWN IN SECT. L-L ON 1-C-1534-2 TIED 4" LOW.
9. #18 DOWELLS BETWEEN COLD LEG BLOCK OUTS ON NORTH FACE, PLACED MORE THAN CALLED FOR IN THREE ROWS. DWG 1-C-1535-2
10. SECTION K-K (1-C-1535-2) CALLS FOR #11 ⊓ TO MATCH #18 BELOW HOT & COLD LEG OPENINGS. INSTEAD ONE SINGLE #11 ⊓ HAS BEEN CADWELDED TO CUT #18 BELOW ALL THE HOT & COLD LEG OPENINGS. (NCR)
11. #11 - 9'-6" LG. DIAGONALS ON EITHER SIDE OF HOT & COLD LEG OPENINGS NEEDS TO BE CENTERED AT ALL THE OPENINGS.
12. #11 ∩ BARS BETWEEN THE FORM FOR THE BARREL AND LATERAL VESSEL SUPPORT NOT PLACED ON THE SAME LINE AS THE MAIN RADIAL BARS. ALSO #11 ∩ SHOULD GO UPTO THE LATERAL SUPPORT, (PLAN @ EL 24'-11"; 1-C-1534-2) BUT THEY STOP IN FRONT OF STIFFNER FOR LATERAL SUPPORTS.

90026223

1S1514 1C1537-3 1C1528-3

SOUTH FUEL POOL AREA 6/8/78.

In process inspection

① Vertical construction joint on 1-C-1528 between EL. 26'-2" and 31'-2" within secondary shield wall shifted North. Need FREA

② Few #11 vertical bars adjacent to North side stainless steel liner plate missing.

③ Cantilever bars (#11's) running E-W. (@ EL. 28' approx.) not placed at proper elevation. Also needs to be spaced and tied properly.

④ Dwg. 1-S-1514, section H-H shows embed. referring to detail 52 on dwg 1-S-135 can not be found.

⑤ West face of West wall needs to be plumbed

⑥ #11 bars for bottom mat of 31' slab have short embedment length within "primary" shield wall

⑦ Vertical construction joint within south wall of fuel pool area moved > 6". Needs FREA.

⑧ #6 two piece [L] shear ties replaced by one piece #6 shear ties. Needs FREA

⑨ #4 two piece shear ties used instead of #4 one piece shear ties. Needs FREA.

⑩ P.D.M. anchor bolts taped at bottom. ~~Needs~~ Tape needs to be removed.

⑪ Construction joint shown in Section H-H dwg. 1-C-1536 ~~was~~ (within secondary shield wall) has been moved. Needs FREA

⑫ Hor. construction joint shown @ EL. 26'-2" in Section A-A, dwg. 1-C-1528 is eleminated, needs FREA

⑬ Vertical construction joint shown @ 6" from West face of West Wall (dwg. 1-C-1514-1) has been moved 36". Needs FREA

90026224

2C1501-1
IC1502-1

IN PROCESS INSPECTION 5/10/78

FILL SLAB

① N-E section E36 & E37, bottom layer not bundled.

② E-42 at sump need to go straight instead of 180° hook.

③ Normal sump ~~wall reinf.~~ (N-E section) wall reinf. not located as per dwg. 1C-1573

④ ~~#11 rebar E-95 in top mat~~ (N-E section) missing.

⑤ #11 splice (N-34 bar) in N-E section short splice (6" short)

⑥ E27, E28 & E29 in N.E section, bundling bars to move south by 1½' (top & bot.)

⑦ Cadweld splices not staggered by 2'-6" (many locations)

⑧ Top W21 bundled missing.

90026225

IC1544-3 IC1548-3
45-3 49-3
46-3 50-3
47-3 51-3

6/22/78

SECONDARY SHIELD WALL EL 19'-0" to 23'-9"
(SSW)

1. Plate at 6'-4½" from W.P. 46 displaced by 1½"
2. Plate on inside face of East S.S.W, 5'-9" South of ℄ Reactor, gap between forms and plate.
3. Plate located at 1'-5" from W.P. 10 displaced by 1½"
4. Plate on of of N-W SSW (1'-6" from W.P. 22) not according to drawing (drawing shows continuous plate).
5. Shear ties not placed incorrectly at 6' from W.P. 22 on N-W SSW.
6. At W.P. 14 shear ties touching forms.
7. ¼" gap between forms and plate at 4' from W.P. 14
8. ¼" gap between forms and plate at 8'-8" from W.P. 14
9. 1 # 11 vertical dowel ~~bent~~ ~~go~~ cut halfway through on West SSW
10. OK Shear ~~ties~~ and ~~touching forms~~ near W.P. 13.
11. At W.P. 73 insufficient cover.
12. ¼" Gap between forms and plate @ 6'-3" south of ℄ Reactor (Gap at bottom)
13. ¼" Gap between forms and plate @ 5'-6" South of ℄ Reactor (Gap at top)
14. ¼" Gap between forms and plate @ 13'-10" South of ℄ Reactor.
15. West SSW dowels (#11) for wall ~~not~~ skew to SSW. Should be perpendicular to secondary shield wall
16. OK #8 dowels for small wall, from North Secondary Shield Wall should be perpendicular to secondary shield wall.
17. In North SSW. 8" pipe sleeve by the side of 16" pipe sleeve needs additional vertical bars.

90026226

RELATED CORRESPONDENCE

DOCKETED USNRC DEC 26 1979 Office of the Secretary Docketing & Service Branch

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	§	
	§	
HOUSTON LIGHTING AND POWER COMPANY, ET. AL.	§	Docket Nos. 50-498 50-499
	§	
(South Texas Project Units 1 and 2)	§	

I hereby certify that copies of "ANSWERS OF CITIZENS CONCERNED ABOUT NUCLEAR POWER, INC. TO FIRST SET OF INTERROGATORIES FROM HOUSTON LIGHTING AND POWER COMPANY, ET. AL., APPLICANTS AND TO NRC STAFF INTERROGATORIES AND REQUEST FOR DOCUMENTS" in the above captioned proceeding have been served on the following by deposit in the United States mail, first class, this 26th day of December, 1979:

Charles Bechhoefer, Esq., Chairman
Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. James C. Lamb, III
313 Woodhaven Road
Chapel Hill, North Carolina 27514

Dr. Emmeth A. Luebke
Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Henry J. McGurren, Esq.
Counsel for NRC Staff
Office of Executive Legal Director
Washington, D.C. 20555

Melbert Schwarz, Jr., Esq.
Baker and Botts
One Shell Plaza
Houston, Texas 77002

Mrs. Peggy Buchorn
Executive Director
Citizens for Equitable Utilities
Route 1, Box 432
Brazoria, Texas 77422

Richard W. Lowerre, Esq.
Assistant Attorney General
Environmental Protection Div.
P. O. Box 12548
Austin, Texas 78711

Jack R. Newman, Esq.
Lowenstein, Newman, Reis, Axelrad and Toll
1025 Connecticut Avenue
Washington, D.C. 20036

Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Comm.
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Panel
U. S. Nuclear Regulatory Comm.
Washington, D.C. 20555

Docketing and Service Section (4)
Office of the Secretary
U. S. Nuclear Regulatory Comm.
Washington, D.C. 20555

Lanny Alan Sinkin
Lanny Alan Sinkin
Co-coordinator
Citizens Concerned About Nuclear Power, Inc.

9001026227

400 North Akard Street
Dallas, Texas 75201
Telephone 214 742-1941

January 14, 1980

Mr. Jerome Saltzman, Chief
Office of Antitrust & Indemnity
Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D. C. 20555

M&M Nuclear Consultants

Tennessee Valley Authority
Browns Ferry Nuclear Plant
ANI Facility Policy #NF-198
Endorsement #50
CERTIFIED COPIES

Dear Mr. Saltzman:

Enclosed for your records are eight certified copies of Endorsement #50 to ANI's Facility Policy NF-198 on Tennessee Valley Authority's Browns Ferry Nuclear Plant. This is the endorsement showing the list of Subscribing Companies.

Sincerely,

Jean

Jean Fielder (Mrs.)

C. R. Dodson
cc: W. Smythe

jf

Enclosures

8001170348

M001
S
1/1

9D026228

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 61201	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258426
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Barden, Vice President-Liability Underwriting
American Nuclear Insurers

Effective Date of this Endorsement January 1, 1980
12:01 A.M. Standard Time

To form a part of Policy No NF-198

Issued to Tennessee Valley Authority

Date of Issue January 15, 1980

For the subscribing companies

By [signature]
General Manager

Endorsement No 50

Countersigned by

90026229

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

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Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258426
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Bardes, Vice President-Liability Underwriting
American Nuclear Insurers

Effective Date of this Endorsement January 1, 1980
12:01 A.M. Standard Time

To form a part of Policy No NF-198

Issued to Tennessee Valley Authority

Date of Issue January 15, 1980

For the subscribing companies

By [signature]
General Manager

Endorsement No 50

Countersigned by 90026230

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 61201	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258428
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Barden, Vice President-Liability Underwriting

Effective Date of this Endorsement January 1, 1980 12:01 A.M. Standard Time

To form a part of Policy No. NF-198

Issued to Tennessee Valley Authority

Date of Issue January 15, 1980

For the subscribing companies

By [signature]
General Manager

Endorsement No 50

Countersigned by 90026251

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 61201	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258426
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Barda, Vice President-Liability Underwriting
Nuclear Energy

Effective Date of this Endorsement January 1, 1980 12:01 A.M. Standard Time To form a part of Policy No. NF-198

Issued to Tennessee Valley Authority

90026232

Date of Issue January 15, 1980

For the subscribing companies

By _____
General Manager

Endorsement No 50

Countersigned by _____

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 61201	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258426
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Barder, Vice President-Liability Underwriting
Association Nuclear Insurers

Effective Date of this Endorsement January 1, 1980
12:01 A.M. Standard Time

To form a part of Policy No. NF-198

Issued to Tennessee Valley Authority

Date of Issue January 15, 1980

For the subscribing companies 90026233

By [signature]
General Manager

Endorsement No 50

Countersigned by

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 61201	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258428
NE-80	

This is to certify that this is a true copy of the original endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Barden, Vice President-Liability Underwriting
Nuclear Insurance

Effective Date of this Endorsement January 1, 1980 12:01 A.M. Standard Time To form a part of Policy No NF-198

Issued to Tennessee Valley Authority

Date of Issue January 15, 1980

For the subscribing companies 90026234

By [signature]
General Manager

Endorsement No 50

Countersigned by

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 6120.	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 731 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104869
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258426
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Burden, Vice President-Liability Underwriting
Nuclear Insurance

Effective Date of this Endorsement January 1, 1980
12:01 A.M. Standard Time

To form a part of Policy No NF-198

Issued to Tennessee Valley Authority

Date of Issue January 15, 1980

For the subscribing companies

By [signature]
General Manager

Endorsement No 50

Countersigned by 90026235

(1/80)

Nuclear Energy Liability Insurance

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

CHANGES IN SUBSCRIBING COMPANIES AND IN THEIR PROPORTIONATE LIABILITY ENDORSEMENT
Calendar Year 1980

1. It is agreed that with respect to bodily injury or property damage caused, during the effective period of this endorsement, by the nuclear energy hazard:

   a. The word "companies" wherever used in the policy means the subscribing companies listed below.

   b. The policy shall be binding on such companies only.

   c. Each such company shall be liable for its proportion of any obligation assumed or expense incurred under the policy because of such bodily injury or property damage as designated below.

2. It is agreed that the effective period of this endorsement is from the beginning of the effective date of this endorsement stated below to the close of December 31, 1980, or to the time of of the termination or cancellation of the policy, if sooner.

SUBSCRIBING COMPANIES	PROPORTION OF 100%
Aetna Casualty and Surety Co., The, 151 Farmington Ave., Hartford, CT 06156	10.067410
Aetna Insurance Company, 55 Elm St., Hartford, CT 06115	2.516852
Affiliated FM Insurance Co., Allendale Park, P.O. Box 7500, Johnston, RI 02919	.251685
Allianz Insurance Company, 6420 Wilshire Blvd., Suite 500, Los Angeles, CA 90048	1.342321
Allstate Insurance Co., Allstate Plaza, Northbrook, IL 60062	4.194754
American Home Assurance Co., 102 Maiden La., New York, NY 10005	.880898
American Motorists Insurance Co., Long Grove, IL 60049	.419475
Bituminous Casualty Corporation, 320 18th St., Rock Island, IL 61201	.419475
Centennial Insurance Co., 45 Wall St., New York, NY 10005	.576779
Commercial Union Insurance Co., One Beacon St., Boston, MA 02108	3.020223
Connecticut Indemnity Company, The, 1000 Asylum Ave., Hartford, CT 06101	.419475
Continental Casualty Co., CNA Plaza, Chicago, IL 60685	4.194754
Continental Insurance Co., The, 80 Maiden La., New York, NY 10038	7.508610
Federal Insurance Co., 51 John F. Kennedy Pkwy., Short Hills, NJ 07078	1.510112
Fireman's Fund Insurance Co., 3333 California St., San Francisco, CA 94119	5.033705
General Accident Fire and Life Assurance Corp., Ltd., Fourth and Walnut Streets, Philadelphia, PA 19105	1.342321
Great American Insurance Co., 580 Walnut St., Cincinnati, OH 45201	1.342321
Hanover Insurance Co., The, 440 Lincoln St., Worcester, MA 01605	.503371
Hartford Accident and Indemnity Co., Hartford Plaza, Hartford, CT 06115	7.131082
Hartford Steam Boiler Insp. & Ins. Co., The, 56 Prospect St., Hartford, CT 06102	.503371
Highlands Insurance Co., 600 Jefferson Street, Houston, TX 77002	.419475
Home Indemnity Co., The, 59 Maiden La., New York, NY 10038	3.691384
Insurance Co. of North America, 1600 Arch Street, Philadelphia, PA 19101	1.677902
Monarch Insurance Co. of Ohio, The, 19 Rector St., New York, NY 10006	.335580
National Casualty Company, 28333 Telegraph Road, Southfield, MI 48034	.335580
Northern Insurance Company of New York, 59 John Street, New York, NY 10038	1.845692
Northwestern National Ins. Co., 733 No. Jackson Street, Milwaukee, WI 53201	.671161
Ohio Casualty Insurance Company, The, 136 North Third Street, Hamilton, OH 45025	.167790
Pacific Indemnity Co., 3200 Wilshire Blvd., Los Angeles, CA 90010	.335580
Peerless Insurance Co., 62 Maple Ave., Keene, NH 03431	.125843
Protective Insurance Co., 3100 No. Meridian St., Indianapolis, IN 46208	.251685
Providence Washington Insurance Co., 20 Washington Place, Providence, RI 02903	.104868
Puritan Insurance Company, 1515 Summer St., Stamford, CT 06905	.251685
Reliance Insurance Company, 4 Penn Center Plaza, Philadelphia, PA 19103	1.484943
Royal Globe Insurance Company, 150 William Street, New York, NY 10038	3.355803
St. Paul Fire & Marine Ins. Co., 385 Washington St., St. Paul, MN 55102	4.751817
Seaboard Surety Co., 90 William St., New York, NY 10038	.419475
State Farm Fire & Casualty Company, 112 East Washington St., Bloomington, IL 61701	.838951
Transamerica Insurance Co., 1150 So. Olive St., Los Angeles, CA 90015	.838951
Travelers Indemnity Company, The, One Tower Square, Hartford, CT 06115	10.906361
United States Fidelity and Guaranty Co., 100 Light Street, Baltimore, MD 21202	10.067410
United States Fire Insurance Co., Madison Ave. at Canfield Rd., Morristown, NJ 07960	2.684643
Zurich Insurance Co., 111 W. Jackson Blvd., Chicago, IL 60604	1.258426
NE-80	

This is to certify that this is a true copy of the original Endorsement having the endorsement number and being made part of the Nuclear Energy Liability Policy (Facility Form) as designated hereon. No Insurance is afforded hereunder.

Charles R. Barden, Vice President-Liability Underwriting
Facility Nuclear Insurance

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