APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Report: 50-445/82-11 & 50-446/82-10

Dockets: 50-445 & 50-446 Category: A2

Licensee: Texas Utilities Generating Company
2001 Bryan Tower
Dallas, Texas 75201

Facility Name: Comanche Peak, Units 1 and 2

Inspection At: Comanche Peak Steam Electric Station, Glen Rose, Texas

Inspection Conducted: April through September 1982

Inspector: T. F. Westerman for 12-3-82
R. G. Taylor, Senior Resident Inspector - Construction (SRIC) Date

Approved: T. F. Westerman 12-3-82
T. F. Westerman, Chief, Reactor Project Section A Date

Inspection Summary

Inspection Conducted During the Period April through September 1982 (NRC Report 50-445/82-11)

Areas Inspected: Routine and special inspection, announced, by the Senior Inspector (Construction) including facility tours, as-built pipe and support program, investigation of allegations, and participation in ASLB hearing. The inspection involved 94 inspector-hours onsite and 510 hours on ASLB by one NRC inspector.

Results: Within the areas inspected, two violations were identified: (1) failure to inspect installation of seismic shims in polar crane brackets, and (2) failure to properly train and indoctrinate QC personnel.

Inspection Conducted During the Period April through September 1982 (NRC Report 50-446/82-10)

Areas Inspected: Routine, announced inspection by the Senior Resident Inspector (Construction) consisting of plant tours. The inspection involved 35 inspector-hours by one NRC inspector.

Results: Within the areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Texas Utilities Generating Company (TUGCO)
*R. G. Tolson, Site Quality Assurance Supervisor
*D. N. Chapman, Quality Assurance Manager
*B. R. Clements, Vice-President, Nuclear

Texas Utilities Services, Incorporated (TUSI)
*J. T. Merritt, Engineering and Construction Manager
R. Kissinger, Project Civil/Structural Engineer
J. Finneran, Project Pipe Support Engineer

Other Personnel
*G. R. Purdy, Project Quality Assurance Manager, Brown & Root

The SRIC also interviewed other licensee and Brown & Root (B&R) employees during the inspection period.

*Denotes those persons who attended management meetings with the SRIC during the inspection period.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (50-445/82-09-01; 50-446/82-04-01): Procurement Documentation. These items involved inadequacies of vendor test documentation relative to the physical properties of 10,000 bolts in accordance with ASTM A-325. The licensee obtained proper test documentation from the vendor which indicate proper physical property values. The licensee has also performed confirmatory tests of an additional 20 bolts which closely correlate with the vendor documentation. The licensee has reported that the majority of bolts were used for electrical cable tray and conduit applications. The licensee has reported that he has screened all other purchase orders for fastener materials for strict compliance to the terms of the respective orders. Four errors were identified relative to vendor documents which have been corrected. The SRIC has reviewed the confirmatory tests discussed above and found them satisfactory. This item is, therefore, considered closed.

3. Site Tours

The SRIC made a number of general site tours during the inspection period to keep abreast of the status of construction and of the overall housekeeping for both Units 1 and 2. At the end of August, the licensee estimated that Unit 1 was approximately 91% complete in regard to construction. On the basis of his tours, the SRIC believes this estimate to be substantially correct.

No violations or deviations were identified.

4. Piping and Support As-built Verification Program

The licensee has developed a comprehensive as-built verification program for piping systems and the supports thereof in response to IE Bulletin 79-14. The primary onsite participants in the program are the licensee's Technical Services group which initially updates pipe support isometric drawings and support drawings based on all available information at a given point in time. Essentially this effort consists of incorporating into the original design drawings the various design change authorizations and component modification card (CMC) changes that have been made. The updated package is then provided to the as-built unit of quality assurance that has the responsibility to survey the pipe run involved, including the location and configuration of the supports. Variations from the provided design are noted in the isometric and/or individual support drawings, as appropriate. The information is returned to Technical Services and is then transmitted to the architect-engineer for review and for inputing to the stress analysis of the piping run.

The SRIC selected a portion of one pipe run that he observed to have a peculiar support scheme as a means of verifying the effectiveness of the program. The support scheme was peculiar in that there was an uninstalled but simulated seismic snubber approximately 6 inches from another support that had been installed such that the motion the snubber was designed to allow was already solidly blocked. The SRIC contacted the appropriate personnel in both of the site groups involved in the as-built program and found that the run had been as-built verified several months ago without notation of the blocked condition. During the interview process, it was discovered that a CMC had been issued since the as-built verification had been made that altered the support the SRIC had observed as blocking the snubber action and on the basis of the SRIC's observation, it was apparent that the craft had implemented the CMC but that the documentation of the QC inspection of the modification had not yet flowed through the administrative network to Technical Services and on to the QA verification group. Subsequently, the licensee's engineering manager informed the SRIC

that there were design problems involved with the run that he and his people were working on, and that it would be several days before they would reach a conclusion. This matter will be considered as an unresolved item until such time as the resolution of the engineering problem is developed. The piping run involved in this matter is that displayed on isometric drawing BRHL AF-1-SB-003 and the supports are AF-1-058-004-S33K and AF-1-008-005-S33R. (Unresolved item 8211-01)

No violations or deviations were identified.

5. Investigation of Allegations Pertaining to the Unit 1 Polar Crane

During June 1982, the SRIC was informed that allegations had been made by a former construction worker regarding the construction and operability of the Unit 1 polar crane 1/. The allegations were:

a. Shims for the rail support system had been altered during installation in some unacceptable manner.

b. The crane rail moves during crane operation such that a large gap develops that could lead to failure.

The SRIC obtained Drawing 2323-S1-0515, "Reactor Building Liner Details and Crane Support Details," in order to better understand the support and restraint system. The drawing indicated that the single circular rail was supported by a series of 28 girders which were supported by a series of brackets welded into the building liner with anchorage into the building concrete. In addition, between each set of supports at about the mid-point of each girder, there was a radial type restraint also welded into the liner and anchored in the concrete. The drawing indicated that the girders should be shimmed, as required, off of the support brackets to provide a substantial degree of levelness. The radial restraint brackets were also indicated to have a uniform 1/4-inch shim between that portion attached to the building and the portion attached to the top of girders. The rails were shown to be attached to the girders by several welded clips per girder. The welding was shown only to the girder which would provide radial restraint to the rails but would also allow the rail to slip in a circumferential direction.

The SRIC learned that Chicago Bridge & Iron Company (CB&I) had been contractually responsible for the erection of the reactor building liner, including installation of the entire crane support system but excluding erection of the crane itself. The SRIC interviewed the onsite CB&I project superintendent and learned that they had installed the crane rail support system in accordance with their contract, including the referenced drawing. He stated that when his company had finished their work, there were gaps left in the

1/ The alleger, Mr. Miles, subsequently testified at the Atomic Safety and Licensing Board hearing relating to Comanche Peak on July 28, 1982, about these allegations to the NRC relating to the polar crane.

restraint brackets since the reactor building was locally out-of-round while the rail system has been required to be round and centered on the as-built center of the building. He indicated that B&R had had considerable difficulty in erecting the crane because of interferences and because the crane wheels did not seem to fit the rails. He indicated that he thought that B&R had later installed additional shims in the laterial restraints and indicated that neither his company nor himself were responsible for that work.

The SRIC then obtained a design change authorization that depicted the installation of shims of a relatively special design to fill the restraint gaps based upon measurements apparently supplied by B&R field personnel to the engineer. Drawing SK-82032, "Polar Crane Supports - Additional Shim Requirements," had been issued by the engineer during November 1977, but was not released via Design Change Authorization 9872 until March 1981. Noting that the design change authorization was annotated to be a safety-related document, the SRIC requested that any germaine quality control documentation on file be provided to him as soon as possible. After a short period of time, the SRIC was informed that no such documentation appeared to have been generated. The SRIC then asked that the crane be operated in a slow manner such that it would transverse the entire reactor building circumference at least once and that it then be placed in a de-energized condition for an inspection as soon as reasonably possible, considering that it was in nearly constant use. On or about June 22, 1982, the crane was transversed for the SRIC and was noted to operate very smoothly. Based on hearsay that the structural iron workers had probably installed the additional shims, if indeed they were installed, the SRIC encountered the general foreman of this group after the crane run observation. The SRIC asked the general foreman if he could recollect if his people installed the shims in question. He indicated that he did remember the work and, further, that it had been done over several weekends during May or June of 1981. When asked if he could remember whether QC had been involved he said he was not really sure but did not think so.

A short time later, the licensee's civil structural engineer visited the SRIC and stated that his group, which had the responsibility, had failed to issue an "Operational Traveler" that would have provided the interface between QA/QC and the craft labor force to have had the fabrication and installation of the shims inspected. At this point the SRIC determined that a violation of Appendix B had occurred regardless of exact status of the shims themselves. The licensee subsequently disabled the crane and inspected several of the radial restraints and found that indeed some of the shims had been altered to a condition other than that contemplated by the designer.

Regarding the matter of the operability of the crane because of rail gaps, the SRIC has previously indicated that the crane ran very smoothly during a demonstration run in June 1982. The SRIC ascertained that additional rail clips of a forged type designed to hold heavy railroad rail were installed via Design Change Authorization 6437 and that these clips should have the effect of preventing circumferential rail movement. The SRIC was also informed by the licensee that the basic cause of the earlier rail movement was an inadequate design by the crane manufacturer in that he had failed to provide a tangential offset within the crane trucks that caused the wheels of a given truck to bind on the curved rail and thus drag the rail around. The licensee has stated that this design error has been corrected which is apparent from the way the crane now operates.

For the record, the SRIC would note that the polar crane is classified in the licensee's FSAR as seismic Category II with no nuclear safety aspects. During normal power operation of the facility, the crane is parked and in a de-energized condition. Its primary use, during refueling operations, is to lift the reactor vessel head. Seismic Category II is defined in the FSAR Section 3.2 as those components or systems whose continued function (during or after a seismic event) is not required, but whose failure could damage another component such that it could not satisfy its safety function. In effect, the crane must only stay in place during a seismic event and thus not damage another component.

The SRIC accompanied a Region IV investigator during an interview of the former construction worker who made the actual allegation. The interview was conducted several days after conclusion of the SRIC's investigation. The alleger provided more details about his allegation than was originally given to the NRC but without adding any information that changed the results or conclusions of the investigation. The alleger made an appearance before the Atomic Safety and Licensing Board in the matter of TUGCO during the hearing phase that took place from July 26-29, 1982. Neither the alleger's prefiled testimony nor his statements during the hearing revealed a need for any change in the investigative findings.

6. Investigation of Allegations Relative to Qualifications of Personnel and Adequacy of Procedures

The SRIC investigated allegations obtained during an interview with an alleger on August 24, 1982 2/. The allegations were as follows:

a. Eight B&R quality control personnel may not have either high school diplomas or General Educational Development (GED) certificates and, therefore, are not qualified to be inspectors. The alleger stated that his information was based on either direct conversations or overheard conversations among the various persons he associated with.

b. One relatively new B&R quality control inspector who had been a craft-force person was being certified in the various QC disciplines at a far faster rate than seemed reasonable to the alleger.

c. Two B&R quality control personnel assigned to the alleger's work group were being trained for something but the alleger could not determine what it was or why.

d. B&R quality control procedures do not provide for the maximum allowable reinforcement on flare-bevel welds used on component (pipe) supports. An example was stated to be a large frame located in a stairwell of the Unit 1 safeguards building.

e. The alleger stated that he had seen documents that indicated that he had been given 175 hours of training in the performance of liquid penetrant testing (PT) during the month of April 1982. He stated that he had received no such amount of training and that the document was, therefore, false.

The alleger provided the SRIC with specific names of persons in regard to allegations a, b, and c during the interview.

The SRIC has made the following findings regarding each of the above specific allegations:

a. Of the eight persons identified by the alleger as not meeting the minimum educational requirements, five were found to have documents verifying their high school graduation obtained by B&R from their respective schools. The remaining three had GED certificates on file in their personnel jackets. This allegation is refuted.

2/ The alleger, Mr. Bronson, subsequently appeared at the Atomic Safety and Licensing Board hearing relating to Comanche Peak on September 15, 1982, and discussed his prior allegations to NRC expanding on some points. The allegations made at the hearing are discussed in section 7.

b. The person singled out by the alleger as acquiring certifications too fast was found by SRIC to have acquired discipline certifications in areas where his resume would indicate prior experience gained both as a craft employee of B&R and during other past employment. In each case the records indicated that the person had passed the necessary examination prerequisite to certification. This allegation is also refuted.

c. Two persons singled out by the alleger as being trained for some unknown purpose were found to be young, inexperienced persons who were being given training in one or more of the quality control discipline areas essentially as contemplated by industry standards (ANSI N45.2.6 and/or SNT-TC-1A) and the B&R procedures. The training involves some amount of formalized classroom training in quality control as a generality and in specialized fields. In addition, the person receives on-the-job training under the supervision of certified inspectors. Depending on the exact discipline area, this training may involve from 3 months to 1 year before they are considered to be qualified. Each candidate for certification must also take and pass an examination pertaining to the discipline area in which he will work. The nature of the allegation was such that it was speculative on the part of the alleger and thus cannot be either substantiated or refuted, although the information obtained from the training records indicated nothing unusual to the SRIC.

d. Relative to the lack of procedural controls of the amount of reinforcement on flare-bevel welds, the SRIC found that the procedures provide criteria if the flare-bevel weld is a butt weld, but have no criteria if the weld is of a different configuration such as a tee or corner joint. The applicable code for the component supports involved is subsection NF of Section III of the ASME Boiler and Pressure Vessel Code. None of the various subsections of Section III, including NF, contain any criteria for control of weld reinforcement other than that pertaining to butt joints which is defined by the code as "A joint between two members lying approximately in the same plane." Hence, the B&R procedures are commensurate with the code requirements. The SRIC would note that the alleger, during the interview, expressed a primary concern in this matter in regard to welds between square structural tube steel welded on a side to a plate where, because of the rounded corner of the tube, the welds become a flare-bevel type weld. The joint configuration is that of a "tee" joint rather than a butt joint. Any weld material more than that required to just fill the flare-bevel groove could be considered

reinforcement but would look much like a standard fillet weld. Such a weld reinforcement would generally be beneficial since the conceivably sharp right angle of the true "tee" joint would be avoided. The SRIC located the particular support identified by the alleger and examined both the structure itself and the quality documentation related to it. The support, identified as SW-1-173-720-S43A, was found to be a relatively large frame that acts as a support for three pipe runs that are ultimately attached to the frame. The design drawing coupled with CMC 56843 indicate that there are approximately 30 flare-bevel welds on the frame with 8 being of the type of most concern to the alleger. All eight exhibit some amount of weld reinforcement with four having a drawing requirement for up to a 5/16 fillet weld overlay which could be viewed as reinforcement. It would appear that the alleger's concerns are neither supported by code requirements nor by good engineering practices and, therefore, must be considered refuted.

e. The SRIC found an interoffice memorandum dated June 15, 1982, in the alleger's B&R training file. The subject of the memorandum was "Documentation of On-The-Job Training" and pertained directly to the alleger by name. The memorandum states that it is an attestment by a certified Level II inspector that the alleger had received 175 hours of on-the-job training in liquid penetrant examination. In someone else's handwriting, there is a note "1 month-April 1982 to May 1982". The SRIC interviewed the person who signed the certification as the Level II inspector. This person was also the alleger's supervisor at the time that the certificate was issued. The supervisor stated that he had been asked by B&R quality engineering to issue such a certificate and that he did so. In response to a question, the supervisor stated that there was no documentation to back-up the training other than that which was conducted in a classroom atmosphere. The supervisor stated that the alleger had been assigned to one or more of the people in the supervisor's group, who were Level II inspectors, for many weeks prior to his issuance of the certification and that he felt that the alleger must have had at least 175 hours of training in the process. The alleger has specifically stated that he did not receive any such amount of training. Under the circumstances, the allegation is considered substantiated.

In order to understand the consequences of this allegation, the SRIC reviewed the regulatory background and the B&R implementation thereof. The basic industry recommendation or policy on the certification of nondestructive examination personnel is contained in a document commonly referred to as SNT-TC-1A published by the American Society For Nondestructive Testing. ASME has adopted the document by reference in several sections

of the Boiler & Pressure Vessel Code including Section III. The NRC has also effectively adopted it by endorsement in Regulatory Guide 1.58. B&R has issued Procedure QI-QAP-2.1-1 to implement the requirements of SNT-TC-1A. The SRIC's review of this procedure indicates that it is commensurate with the requirements. For liquid penetrant inspection, the procedure requires that a person never previously certified in the process receive a total of 20 hours of specific training in the process and that he also be given 3 months of "Work Time Experience (WTE)" in the process to achieve Level II certification. The alleger was credited with 2 months of work time experience based on work time gained at another B&R project. A footnote in the procedure extracted from SNT-TC-1A, however, qualifies the WTE requirement by stating that credit for experience may be gained in two or more disciplines at the same time, and that only 25% of the total time need be gained in a specific discipline. SNT-TC-1A also states that 1 month is equivalent to 175 hours based on a standard 40-hour work week and allows computation on the basis of hours if the work week is other than 40 hours. Neither SNT-TC-1A or the B&R procedure require or recommend any other documentation of the WTE than a certification such as was issued but there is the strong implication for the need to have specific knowledge of such time. The supervisor admitted that he did not have specific knowledge of the alleger's WTE time nor was he aware of the footnote referred to above. He thought he was actually attesting to 175 hours of WTE in liquid penetrant inspection. Another element entering into this matter was that formal full certification of the alleger by the site NDE Level III making the alleger a Level II PT examiner was issued nearly 2 weeks prior to the supervisor's certification of WTE, yet the formal certificate states that one of the elements of the certification was WTE gained at CPSES. As mitigation, the alleger was given 24 hours of classroom training in liquid penetrant examination and successfully passed an examination on the process prior to his certification by the Level III person. The record also reflects that the alleger had been previously certified as a Level II liquid penetrant examiner by B&R at another project (STP) and, further, that he had been previously so certified by two employers other than B&R going back as far as 1974. The site Level III would have been perfectly correct if he had chosen to certify the alleger entirely on the basis of his past certifications and experience without either further training or examination at this project but apparently elected not to do so. The record shows at least two personal errors; one on the part of the alleger's supervisor for issuing a certification relative to the amount of WTE without certain knowledge, and another on the part of NDE Level III for issuing the formal certification of alleger as a Level II examiner without the

supervisor's certification of WTE in hand. It also appears that the supervisor was inadequately trained in his responsibilities under the program and procedure. Taken as a whole, it appears that the intent of Criterion II of Appendix B has been violated in the area of training and indoctrination as necessary to assure proficiency of personnel to perform activities affecting quality. Under the circumstances, it would also appear that the violation is of a relatively minor nature since it has not been shown that the alleger was less than competent to perform his tasks.

7. Investigation of Allegations Made by Bob Bronson

Mr. B. W. (Bob) Bronson made a limited appearance before the Atomic Safety and Licensing Board hearing in the matter of TUGCO (Comanche Peak Steam Electric Station, Units 1 and 2) on September 15, 1982. Mr. Bronson's statement begins on page 4845 of the hearing record and continues through page 4853. The SRIC has reviewed these pages and has extracted the following allegations therefrom. The SRIC finding immediately follows each allegation.

a. Page 4845, lines 24 and 25; page 4846, line 1: "There is widespread use of lesser qualified mechanical/welding inspectors in completions quality engineering. Example: Ted Neely."

Finding - The allegation is in the area of an opinion without any stated standards. The person named by the alleger was found to meet the qualification standards for his position. This was substantially the same allegation as b. in paragraph 6.

b. Page 4846, lines 2 through 14: "In reference to Oral Deposition of Gordon Purdy, 8/23/82, page 38, Line 10, '--that quite honestly, I told him that I was through putting trainees in the QC slots, that I was looking for totally and completely qualified personnel.' This is not true. For example: Cheryl Denman and Walter Trautschold--I hope that name is pronounced correctly--T-r-a-u-t-s-c-h-o-l-d--these two people are quality control OJT trainees and were at the plant the last time that I knew. Gordon Purdy has violated the statement he made in his deposition."

Finding - This allegation is substantially the same as allegation c. in paragraph 6 with the addition of the quote by Mr. Purdy. The SRIC has reviewed the training and certification records for the persons named by the alleger and has found them to meet applicable requirements. Mr. Purdy has stated to the SRIC that his quote was made in the context of direction or guidance to his subordinate supervisors regarding future hiring practices at about the first part of 1982 and was never intended to retroactively affect personnel already undergoing training or that it was intended to be an absolute order.

c. Page 4846, lines 15 through 18: "When I was working in the materials evaluation, materials verification group, I was expressly forbidden by my lead man to write NRC's (NCR's?) on any item other than the traveler piping directly inspected by me."

Finding - The SRIC has not been able to confirm that the statement attributed to the alleger's lead man was made or not since apparently no third party was involved. The lead man, in an interview with the SRIC, denied this allegation. This allegation can neither be substantiated nor refuted.

d. Page 4846, lines 19 through 23: "There are inspectors who are deficient on ASNI N45.2.6 requirements. They are missing their high school documentation and I have set there in the hanger group many times and heard these particular individuals discussing this lack of diploma."

Finding - This allegation is the same as allegation a. in paragraph 6, and the finding is the same, i.e., refuted.

e. Page 4846, lines 24 through 25; page 4847, lines 1, 2, and 3: "This mag particle certification carbon steel coupon has been used consistently, and so many times, that inspectors who have used it, know from memory the indications, shapes, lengths and locations and this particular coupon has been in use out there for two years."

Finding - This allegation is without regulatory merit since there are no requirements on how often test coupons must be changed. The SRIC would observe, however, that the only time an inspector uses the test coupon twice would be in the event of recertification which occurs only at 3-year intervals. For a person to remember the alleged level of detail appears remote in the judgement of the SRIC. Likewise, it appears remote that a certified inspector would be able to describe, in detail, the indications to a candidate for certification. The allegation is considered refuted.

f. Page 4847, lines 7 through 10: "Jeff McComas, Hanger Inspector, was permitted to take his certification examination with approximately two years interim between the specific-general tests and the practical."

Finding - The training and certification records pertaining to the person named by the alleger have been reviewed by the SRIC. The record shows that the person received some training in magnetic particle inspection as much as 2 years ago and also shows that the person was given additional training during June 1982, and was tested on all three parts of the examination series with the practice aspect being given on June 2, 1982, followed by the written tests on June 24, 1982. There are no regulatory requirements regarding the sequencing of the test. The allegation is considered refuted.

g. Page 4847, lines 11 through 17: "Pipe Hanger on Safeguard 1 - Auxiliary Building boundry line at elevation 825, approximately, has flare-bevel weldment between tube steel and one-inch base plate made without a procedure covering it, according to Billy Snellgrove--correction. According to Billy Snellgrove on Comanche Peak, butt weld procedures are applied to flare-bevel weld requirements."

Finding - This allegation is substantially the same as the allegation contained in d. of paragrpah 6, with the exception that Mr. Bronson's statement to the Board is somewhat more vague. The SRIC believes that the more definitive allegation in paragraph 6 is the primary concern to the alleger and that the finding relative to allegation d. remains valid.

h. Page 4848, lines 4 through 11: "I asked the question 'Why was Ted Neely certified as Level II inspector with MT and PT in period of less than six months?' Also, Ted Neely was given forty hours on-the-job training in MT in April or May by J. Patton in a three part memo. This could be verified by examination of the use of MT Yoke calibration cards or calibration record which would be available there on the QC calibration laboratory itself."

Finding - The SRIC reviewed current cards reflecting the issuance of MT yokes as suggested by the alleger. The cards for the germaine period were not reviewed since they had been placed in archive files. The SRIC judged the cards to be of little value in determining whether or not a particular person had received the necessary training since the on-the-job training can be many other things, such as reading, that are well short of actually using a tool or gauge. Further, the cards reflect only issuance of a yoke on a per day basis without any notation for how long it was used within the day. And yet further, it is probable that a certified inspector would draw the yoke rather than an as yet uncertified trainee, hence, no record of use by the trainee. As to why the named person had what was apparently accelerated training in MT and PT, the SRIC would observe that the number of certifications an inspector has, has a direct bearing on his pay grade. The regulations (SNT-TC-1A) permit simultaneous training in two or more discipline areas at the same time with it being possible to obtain the necessary work time experience in both of the above disciplines in as little as 4 months. The nature of this allegation is that it can neither be substantiated or refuted, but is considered to have little technical merit.

i. Page 4848, lines 12 through 17: "I have received 175 hours of OJT PT. This item was discussed with Mr. Taylor, the NRC resident inspector at Comanche Peak, in our meeting. This is a training documentation falsification. No such training time has been acknowledged, nor can it be proven. That is, who was the Level II who observed or signed for me?"

Finding - This allegation is the same as allegation e. in paragraph 6, with the findings also being the same.

j. Page 4849, lines 13 through 23: "A component modification card was authorization granted by weld engineering to cover deviations from traveler blueprint. A CMC was in or would be generated by welding engineering or hanger engineering in a high percentage of the packages inspected by me. Now, this CMC--that is the first time I have come across this particular type document. This is a deviation which can be granted by welding engineering or hanger engineering department, if I, as the inspector, came across a dimension or something which was different from the original blueprint."

Finding - This allegation regarding the use of CMC seems to reflect the opinion of the alleger, perhaps based on his past experience. The CMC must be considered as a field design change and, therefore, within the purview of Criterion III of Appendix B which requires only that such changes shall be subject to the same controls and reviews as the original design. The CMC may be issued after the change has occurred to document the as-built condition. The allegation is considered substantiated, but having no regulatory or technical merit.

k. Page 4849, lines 24 and 25; page 4850, lines 1 through 10: "Excessive grinding of welds by craft personnel prior to final inspection. Why is this being done out there? Very few weldments which I inspected were in the as-welded condition. What I mean in the as-welded condition, you see the weldment, the ripples in the weld surface itself, left there by the electrode during the welding process and there at Comanche Peak, I would estimate that seventy-five percent of the weldments which I looked at were all ground down like a machined surface. Also, why does the craft grind the toe of the weldment 360 degrees in some cases, causing an undercut condition or a near undercut condition?"

Finding - The grinding of weld surfaces is neither prohibited nor encouraged by the applicable codes and standards, but is sometines necessary if one of the forms of nondesrtictive examination is required. Relative to the grinding of the

toe of welds, it is probably being done to remove questionable undercut and is an acceptable way of doing so within the ASME code except when the material is reduced to less than allowable thickness. Based on the SRIC's experience at Comanche Peak, the craft have ground a substantial majority of the welds to make them easier to inspect and easier to apply protective coatings to. Again, this allegation is considered substantiated but without regulatory or technical merit.

l. Page 4850, lines 14 through 25; page 4851, lines 1 and 2: "During inspection of hangers in Auxiliary Feedwater Room 2, I was on a scaffold with a craft worker inspecting a reworked hanger. I had the required safety gear and was tied off to existing structure but craft was not tied off, primarily because he was missing a lanyard on his safety belt. When we climbed off the scaffold, I was asked why I did not use the ladder. The craftsman was visited by the safety man and was given no citation. February, 1982, Wayne Mansfield, inspector, was observed not tied off, in which case was given a safety violation citation from safety and this is in violation of OSHA regulations, which I understand are in effect out there."

Finding - This allegation regarding the use of personal safety equipment is not within the purview of NRC regulations.

m. Page 4851, lines 11 to 18: "Material verification. In the material verification group, I have probably come across fifteen to twenty hangers which lacked completely any material traceability. They had no heat numbers of any kind. I'd turn them in to the material verification group and told them I wouldn't sign them off, usually gave them to Danny Leigh. I don't know what happened to them. As far as I know, they were never corrected."

Finding - Regarding the lack of material traceability of hangers, the SRIC interviewed the one named person within the allegation. This person stated that he had never received any such reports from the alleger at any time. The purpose of the group the person interviewed supervised, and in which the alleger worked for a period of time, was to inspect and research, as necessary, where the documentation on a particular hanger was not completely clear prior to final code certification of the hanger. The proper course for the alleger to have followed when the inspection criteria was not satisfied was to prepare a nonconformance report (NCR) which he apparently did not do. This allegation can neither be substantiated nor refuted due to its vagueness.

n. Page 4851, lines 19 through 23: "Bill Snellgrove, my supervisor in the hanger group, told me to buy off Hilti bolts which had already been torqued and had torque seal applied by someone else when I came to make the final inspection. I followed his request."

Finding - The SRIC has accepted this allegation as true without further interview or investigation since the alleged statement is consistent with his observations of the installation and QC inspection process of hangers during the past several years. By way of explanation, the installation of the Hilti bolts into their holes is a very early event in the installation of a hanger since the bolts must be placed in holes that have been drilled without cutting the embedded reinforcing steel. This requirement frequently results in bolt patterns somewhat nonsymmetrical. Generally, after the bolt pattern is established, the pattern is measured and the baseplate drilled to fit. Very frequently, the baseplate will be then installed and the Hilti bolts tightened (torqued) to set the locking wedges. When this is the case, QC inspection is performed during the tightening process and the torque seal is applied. The QC inspection records for the support are also annotated that reflect that torquing has been accomplished and accepted. With the baseplate now in place, the installation of the remainder of the hanger would then take place and might extend over a period of several days, weeks, or even months. When the hanger is finally all complete, a final inspection would take place but without the necessity to reverify Hilti bolt tightening if the torque seal has not been disturbed, hence, the idea of the use of torque seal. The alleger did not state that the supervisor's instructions extended to the acceptance of obviously loose Hilti bolts or to those where the torque seal had been disturbed; he simply stated what is a normal installation process with accompanying inprocess inspections. The allegation is substantiated but has no "technical merit."

o. Page 4852, lines 19 through 25; page 4853, lines 1 through 7: "In a deposition of Gordon Purdy, he states: 'Reg. Guide 1.58 says the only acceptable alternative to a high school education is the General Education Development Equivalency.' In my conversation with Mr. Taylor, with the NRC, about this, Mr. Taylor indicated to me that as long as prior service has been acceptable to Brown and Root, the Grandfather Clause generally would allow people to work without a high school education or a GED, to work as QC inspectors. What is the Grandfather Clause? Where is it written up? I'd like to see it, but Mr. Taylor mentioned this to me."

Finding - The SRIC wishes to acknowledge that the statements attributed to him by the alleger regarding a "Grandfather Clause" were substantially as made by the SRIC. The phrase "Grandfather Clause" is frequently applied in situations where state or federal regulations regarding the certification or registration of individuals to perform certain functions are involved and these regulations are changed subsequent to a given individual's initial certification or registration. A typical situation is that of registration as a professional engineer. Some states have allowed persons meeting certain experience criteria to be registered when the regulation first becomes effective. Later, the state may require other factors, such as education, experience, and the passing of a written examination in order to become a professional engineer. The earlier registration on experience alone, however, is not voided and remains in force. In the specific case involved, Regulatory Guide 1.58, Revision 1, became effective on September 1, 1980, as NRC guidance. The licensee accepted commitment to Revision 1 of the Regulatory Guide in Amendment 15 of the FSAR on April 30, 1981. Prior to that date, the licensee was not committed to either the basic version of Regulatory Guide 1.58 or to Revision 1, although he had unofficially followed the basic version for several years. The basic version of Regulatory Guide 1.58 endorsed N45.2.6 with very few qualifications and did not state that a high school or equivalent education was necessary but rather only recommended it. Revision 1 of Regulatory Guide 1.58 revised the NRC position on education such as to essentially require that all candidates for certification as QC inspectors under N45.2.6 have a high school education or a GED certificate. The key word is candidate since that is defined as "a person who seeks office, honor, or title, etc." by the SRIC's dictionary. Thus, any licensee or licensee agent employee certified as a QC inspector under N45.2.6 prior to April 30, 1981, would be an incumbent rather than a candidate and could retain his certification without necessarily having either a high school education or a GED certification and, thus, was considered "Grandfathered." The SRIC has discussed this matter with senior personnel of the Quality Assurance Branch of the NRC Office of Nuclear Reactor Regulation who concurred that the SRIC's interpretation was correct.

8. Other Activities

During the inspection period the SRIC also assisted and/or participated in a number or routine and special inspections and investigations performed by Region IV inspectors and investigators. The SRIC also participated in the hearings before an Atomic Safety and Licensing Board on the matter of TUGCO's application for an operating license for Comanche Peak Steam Electric Station.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. One such unresolved item is discussed in paragraph 4. (8211-01)

10. Management Interviews

The SRIC met with one or more of the persons denoted in paragraph 1 on April 6, June 24, and July 1, 9, 15, and 19, 1982, to discuss inspection findings and the licensee's position on the findings and other matters.

NRC FORM 766
(11-81)
IE MC 0535

U.S. NUCLEAR REGULATORY COMMISSION

INSPECTOR'S REPORT
Office of Inspection and Enforcement

PRINCIPAL INSPECTOR (Name, last, first, and middle initial): R.G. Taylor
REVIEWER:

INSPECTORS: R.G. Taylor

LICENSEE/VENDOR	TRANSACTION TYPE	DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)	REPORT NO.	REPORT SEQ.	NEXT INSPEC. DATE MO.	NEXT INSPEC. DATE YR.
Texas Utilities Generating Co.	X I – INSERT	050004458211		A		
	M – MODIFY	050004468210		B		
	D – DELETE			C		
	R – REPLACE			D		

PERIOD OF INVESTIGATION/INSPECTION FROM MO.	DAY	YR.	TO MO.	DAY	YR.	INSPECTION PERFORMED BY	ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See IEMC 0530 "Manpower Reporting—Weekly Manpower Reporting," for code.) REGION	DIVISION	BRANCH
04	01	82	09	30	82	1 – REGIONAL OFFICE STAFF; X 2 – RESIDENT INSPECTOR; 3 – PERFORMANCE APPRAISAL TEAM; OTHER	4	C	H

REGIONAL ACTION (Check one box only)
- 1 – NRC FORM 591
- X 2 – REGIONAL OFFICE LETTER

TYPE OF ACTIVITY CONDUCTED (Check one box only)

X 02 – SAFETY	06 – MGMT. VISIT	10 – PLANT SEC.	14 – INQUIRY
03 – INCIDENT	07 – SPECIAL	11 – INVENT. VER.	15 – INVESTIGATION
04 – ENFORCEMENT	08 – VENDOR	12 – SHIPMENT/EXPORT	
05 – MGMT. AUDIT	09 – MAT. ACCT.	13 – IMPORT	

INSPECTION/INVESTIGATION FINDINGS (Check one box only)
- A: 1 – CLEAR
- X B: 2 – VIOLATION
- C: 3 – DEVIATION
- D: 4 – VIOLATION & DEVIATION

TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS A	B	C	D	ENFORCEMENT CONFERENCE HELD A	B	C	D	REPORT CONTAIN 2.790 INFORMATION A	B	C	D	LETTER OR REPORT TRANSMITTAL DATE: NRC FORM 591 OR REG. LETTER ISSUED MO.	DAY	YR.	REPORT SENT TO HQ. FOR ACTION MO.	DAY	YR.
02	00			00				00				DEC	13	1982			

(1 – YES)

MODULE INFORMATION

REC ORD TYPE	MODULE NUMBER INSP. NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL	SEQ.*	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	MODULE REQ. FOLLOWUP PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL
B	24805	3	B			A	2	0010	100	C				
						B								
						C								
						D								
B	24805	5	B			A	2	0010	100	C				
						B								
						C								
						D								
B	24905	3	B			A	2	0000	100	C				
						B								
						C								
						D								
B	24905	4	B			A	2	0000	030	C				
						B								
						C								
						D								

MODULE INFORMATION

REC ORD TYPE	MODULE NUMBER INSP. NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL	SEQ.*	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	MODULE REQ. FOLLOWUP PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL
B	24905	5	B			A	2	0010	100	C				
						B								
						C								
						D								
B	24905	6	B			A	2	0000	100	C				
						B								
						C								
						D								
B	25007	1	B			A	2	0000	100	C				
						B								
						C								
						D								
B	25007	3	B			A	2	0000	060	C				
						B								
						C								
						D								

* CIRCLE SEQUENCE IF VIOLATION OR DEVIATION

Continued to Entry 21

NRC FORM 766
(11-81)
IE MC 0535

U.S. NUCLEAR REGULATORY COMMISSION

INSPECTOR'S REPORT
Office of Inspection and Enforcement

PRINCIPAL INSPECTOR (Name, last, first, and middle initial)

REVIEWER

INSPECTORS R. TAYLOR

LICENSEE/VENDOR	TRANSACTION TYPE	DOCKET NO. (8 digits) OR LICENSE NO. (8 + PRODUCT) (13 digits)	REPORT NO.	REPORT SEQ.	NEXT INSPEC. DATE MO.	NEXT INSPEC. DATE YR.
TUGCO	I – INSERT	4 4 5	82 11	A		
	M – MODIFY	4 4 6	82 10	B		
	D – DELETE			C		
	R – REPLACE			D		

PERIOD OF INVESTIGATION/INSPECTION FROM MO.	DAY	YR.	TO MO.	DAY	YR.	INSPECTION PERFORMED BY	ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See IEMC 0530 "Manpower Reporting—Weekly Manpower Reporting," for codes) REGION	DIVISION	BRANCH
						1 – REGIONAL OFFICE STAFF 2 – RESIDENT INSPECTOR 3 – PERFORMANCE APPRAISAL TEAM OTHER			

REGIONAL ACTION (Check one box only)	TYPE OF ACTIVITY CONDUCTED (Check one box only)			
1 – NRC FORM 591	02 – SAFETY	06 – MGMT. VISIT	10 – PLANT SEC.	14 – INQUIRY
2 – REGIONAL OFFICE LETTER	03 – INCIDENT	07 – SPECIAL	11 – INVENT. VER.	15 – INVESTIGATION
	04 – ENFORCEMENT	08 – VENDOR	12 – SHIPMENT/EXPORT	
	05 – MGMT. AUDIT	09 – MAT. ACCT.	13 – IMPORT	

INSPECTION/INVESTIGATION FINDINGS (Check one box only) A	B	C	D	TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS A	B	C	D	ENFORCEMENT CONFERENCE HELD A	B	C	D	REPORT CONTAIN 2.790 INFORMATION A	B	C	D	LETTER OR REPORT TRANSMITTAL DATE: NRC FORM 591 OR REG. LETTER ISSUED MO.	DAY	YR.	REPORT SENT TO HQ. FOR ACTION MO.	DAY	YR.
1 – CLEAR																DEC	13	1982			
2 – VIOLATION																					
3 – DEVIATION																					
4 – VIOLATION & DEVIATION								1 – YES				1 – YES									

MODULE INFORMATION

REC. ORD. TYPE	MODULE NUMBER INSP. NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL	SEQ.*	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	MODULE REQ. FOLLOWUP PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL
B	92507418					A	2	0000	100	C				
						B								
						C								
						D								
B	02507518					A	2	000	100	C				
						B								
						C								
						D								
B	02507618					A	2	000	100	C				
						B								
						C								
						D								
B	02251018					A	2	000	100	C				
						B								
						C								
						D								

MODULE INFORMATION

REC. ORD. TYPE	MODULE NUMBER INSP. NUMBER	PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL	SEQ.*	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	MODULE REQ. FOLLOWUP PHASE	MANUAL CHAPTER	PROCEDURE NUMBER	LEVEL
B	02510518					A	2	0000	100	C				
						B								
						C								
						D								
B	02642518					A	2	000	000	C				
						B								
						C								
						D								
B	02642618					A	2	000	000	C				
						B								
						C								
						D								
B	02642718					A	2	000	000	C				
						B								
						C								
						D								

* CIRCLE SEQUENCE IF VIOLATION OR DEVIATION

NRC FORM 766 (11-81) IE MC 0535

U.S. NUCLEAR REGULATORY COMMISSION

INSPECTOR'S REPORT
Office of Inspection and Enforcement

PRINCIPAL INSPECTOR (Name, last, first, and middle initial)

REVIEWER

INSPECTORS R. TAYLOR

LICENSEE/VENDOR	TRANSACTION TYPE	DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)	REPORT NO.	SEQ.	NEXT INSPEC. DATE MO	YR.
TUGCO	I – INSERT	445	8211	A		
	M – MODIFY	446	8210	B		
	D – DELETE			C		
	R – REPLACE			D		

PERIOD OF INVESTIGATION/INSPECTION FROM MO. DAY YR	TO MO. DAY YR	INSPECTION PERFORMED BY	ORGANIZATION CODE OF REGION/HQ CONDUCTING ACTIVITY (See IEMC 0530 "Manpower Reporting—Weekly Manpower Reporting," for code) REGION / DIVISION / BRANCH
		1 – REGIONAL OFFICE STAFF; 2 – RESIDENT INSPECTOR; 3 – PERFORMANCE APPRAISAL TEAM; OTHER	

REGIONAL ACTION (Check one box only)
1 – NRC FORM 591
2 – REGIONAL OFFICE LETTER

TYPE OF ACTIVITY CONDUCTED (Check one box only)
02 – SAFETY; 03 – INCIDENT; 04 – ENFORCEMENT; 05 – MGMT. AUDIT; 06 – MGMT. VISIT; 07 – SPECIAL; 08 – VENDOR; 09 – MAT. ACCT.; 10 – PLANT SEC.; 11 – INVENT. VER.; 12 – SHIPMENT/EXPORT; 13 – IMPORT; 14 – INQUIRY; 15 – INVESTIGATION

INSPECTION/INVESTIGATION FINDINGS (Check one box only) A B C D
1 – CLEAR; 2 – VIOLATION; 3 – DEVIATION; 4 – VIOLATION & DEVIATION

TOTAL NUMBER OF VIOLATIONS AND DEVIATIONS A B C D

ENFORCEMENT CONFERENCE HELD A B C D 1 – YES

REPORT CONTAIN 2.790 INFORMATION A B C D 1 – YES

LETTER OR REPORT TRANSMITTAL DATE
NRC FORM 591 OR REG. LETTER ISSUED: MO. DAY YR. DEC 13 1982
REPORT SENT TO HQ. FOR ACTION: MO. DAY YR.

MODULE INFORMATION

REC. ORD TYPE	NUMBER	MODULE NUMBER INSP. (PHASE, MANUAL CHAPTER, PROCEDURE NUMBER, LEVEL)	SEQ *	PRIORITY	DIRECT INSPECTION EFFORT IN STAFF HOURS EXPENDED THIS INSPECTION	PERCENTAGE COMPLETED TO DATE	STATUS	MODULE REQ. FOLLOWUP
B	17	2 30703C		3	011			
B	18	99014	(A)		012			
B	19	2 92700B	A		001			
B	20	2 92702B	A		001			
B	21	2 94010	A		510			

* CIRCLE SEQUENCE OF VIOLATION OR DEVIATION

NRC FORM 766 A
(11-81)
IE MC 0536

INSPECTOR'S REPORT
(Continuation)
Office of Inspection and Enforcement

DOCKET NO. (5 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)	REPORT NO.	REPORT SEC.	MODULE NUMBER
0 5 0 0 0 4 4 5	8 2 1 1	A	0 1 9 0 1 4 -
		B	VIOLATION SEVERITY OR DEVIATION "D"
		C	1 2 3 [X] 5 6
		D	SITE RELATED [X] A C B D

VIOLATION OR DEVIATION (*Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 50 characters each.*)

Criterion X of Appendix B requires that inspections be performed of activities affecting quality. The Senior Resident Inspector-Construction determined through interviews with craft labor supervision and the Comanche Peak Project Civil/ Structural Engineer that no inspection involving the fabrication and installation of certain shims specified by Design Change Authorization 9872 , dated March 30, 1981 were performed. The shims specified by the Design Change Authorization form a portion of the seismic restraint system for the containment building polar crane.

NRC FORM 765 A
(11-81)
IE MC 0536

INSPECTOR'S REPORT
(Continuation)
Office of Inspection and Enforcement

DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)	REPORT NO.	REPORT SEQ.	MODULE NUMBER
0 5 0 0 0 4 4 5	8 2 1	1 A	0 9 9 0 1 4 -
		B	VIOLATION SEVERITY OR DEVIATION "D"
		C	1 2 3 4 5 X 6
		D	SITE RELATED X A C B D

VIOLATION OR DEVIATION (Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 50 characters each.)

Criterion II of Appendix B to 10 CFR 50 requires that personnel performing activities affecting quality be provided with indoctrination and training, as necessary, to assure suitable proficiency is achieved and maintained.

The Senior Resident Inspector, Construction, has determined through interviews with an alleger, the alleger's supervisor, the Brown & Root (B&R) site NDE Level III, and by a review of pertinent records that the alleger was certified by his supervisor to have had 175 hours or 1 month of work time experience (on-the-job training) for which there is only limited substantiation. The alleger has stated that he did not receive nearly 175 hours of on-the-job training at Comanche Peak in liquid penetrant inspection. The certificate, as worded, would have required the supervisor to have been in direct and immediate supervisory status over the alleger for substantially all of the time for 1 month. The supervisor has stated that this was not the case and that he does not know who was in direct and immediate supervision of the alleger during portions of his training. The formal certification of the alleger as a Level II liquid penetrant examiner by the site NDE Level III states that the 175 hours or 1 month of work time experience (on-the-job training) gained at Comanche Peak was one of the factors used by the Level III in his certification, yet the supervisor's certificate was not issued until nearly 2 weeks later. The other factors were that the alleger had taken the required classroom training and had successfully passed the examination which was coupled with the two additional months of credited work time experience gained on another B&R project.