

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of:

TEXAS UTILITIES ELECTRIC
COMPANY, et al

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

Docket No. 50-445-2
50-446-2

Deposition of: Marvin L. Coats

Location: Glen Rose, Texas

Pages: 77,500-77,558

Date: Friday, August 3, 1984

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY & LICENSING BOARD

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

Glen Rcse Motor Inn
Glen Rose, Texas

August 3, 1984

Deposition of: MARVIN L. COATS

called for examination by counsel for the Applicants
taken before Margaret Schneider, Court Reporter,
beginning at 9:20 a.m., pursuant to agreement.

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1 APPEARANCES:

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<u>DEPONENT</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>REDIRECT</u>	<u>RECROSS</u>
Marvin L. Coats	77,503	77,505 77,556	77,557	-----

E X H I B I T S

<u>NUMBER</u>	<u>FOR IDENTIFICATION</u>
Coats Exhibit No. 1	77,505

P R O C E E D I N G S

9:20 a.m.

1
2
3 MR. HORIN: Let's go on the record.

4 My name is William Horin. I'm with the law
5 firm of Bishop, Liberman, Cook, Purcell & Reynolds. And
6 with me is Leonard Belter, also with the law firm of Bishop,
7 Liberman, Cook, Purcell & Reynolds.

8 We're here today to present the testimony
9 of Marvin L. Coats. Mr. Coats is the lead authorized nuclear
10 inspector at the Comanche Peak Steam Electric Station.

11 Why don't we go around the table and intro-
12 duce ourselves.

13 MR. BACHMANN: My name is Richard Bachmann.
14 I'm counsel for the NRC Staff.

15 MS. GARDE: My name is Billie Garde. I'm
16 a law clerk with Trial Lawyers for Public Justice that
17 represents Intervenor CASE in this matter.
18 Whereupon,

19 MARVIN L. COATS

20 the Deponent herein, having first been duly sworn, was
21 examined and testified on his oath as follows:

DIRECT EXAMINATION

22
23 BY MR. HORIN:

24 Q Now would you state your full name for the
25 record, please?

1 A. Marvin L. Coats.

2 Q. And what is your position?

3 A. Lead Authorized Nuclear Inspector at the
4 Comanche Peak Steam Electric Station.

5 Q. And by whom are you employed?

6 A. Hartford Steam Boiler Inspection and Insurance
7 Company.

8 Q. Now, Mr. Coats, do you have before you a
9 document labeled "Testimony of Marvin L. Coats Regarding
10 ANI Inspection of ASME Components and Systems"?

11 A. Yes, I do.

12 Q. And does that document have four attachments?

13 A. Yes, it does.

14 Q. Do you recognize this document?

15 A. Yes, I do.

16 Q. Was this document prepared by you and under
17 your direction?

18 A. Yes, it was.

19 Q. Do you have any additions or corrections you
20 would like to make?

21 A. On page five, answer nine, there's a typo-
22 graphical error in the last sentence -- no, next to the last
23 sentence where it says "mechanical and testing equipment,"
24 it should be "measuring and testing equipment."

25 MR. HORIN: I'd like to have the document

1 marked as Coats Exhibit 1.

2 (The document above referred
3 was marked Coats Deposition
4 Exhibit No. 1 for identifica-
5 tion, a copy of which is
6 attached hereto.)

7 BY MR. HORIN:

8 Q. Mr. Coats, as corrected, is this document
9 true and correct to the best of your knowledge and belief?

10 A. Yes, it is.

11 Q. Do you adopt it as your testimony in this
12 proceeding?

13 A. Yes, I do.

14 MR. HORIN: I move that it be admitted into
15 evidence.

16 MR. BACHMANN: I suggest that it be bound
17 into the record as if read.

18 MR. HORIN: Yes, we agree.

19 MS. GARDE: I have no objection.

20 MR. BACHMANN: No objection.

21 MR. HORIN: I pass the witness.

22 CROSS-EXAMINATION

23 BY MS. GARDE:

24 Q. Mr. Coats, as I said before my name is
25 Billie Garde, and I'm a law clerk with Trial Lawyers for

1 Public Justice, which is representing the Intervenor CASE
2 in this particular proceeding.

3 This proceeding or part of the proceeding is
4 about harassment and intimidation. And it's my understand-
5 ing that your testimony is being offered in the part of the
6 affirmative case of the Applicant.

7 MS. GARDE: Mr. Horin, correct me if I'm
8 wrong -- to demonstrate the overlapping check and balance
9 that ANI provides on the site. Is that a fair characteriza-
10 tion, Mr. Horin, of the purpose of this testimony?

11 MR. HORIN: It is to provide direct evidence
12 regarding the additional layers of inspections which are
13 applicable to structures, systems and components at Comanche
14 Peak. We're offering this as part of our affirmative
15 evidence in the harassment and intimidation portion of the
16 proceeding.

17 We are, however, limiting his testimony
18 strictly to the programatic aspects of his job function.

19 MS. GARDE: Uh-huh. Okay.

20 BY MS. GARDE:

21 Q I don't have very many questions for you,
22 Mr. Coats, but I do have a few. Do you have a copy of your
23 testimony in front of you?

24 A Yes, I do.

25 Q Now, in one of your early answers, and I can't

1 find it right now, there's a discussion about certification
2 by the State of Texas. Would you recall what question that
3 is in -- what answer?

4 A. It's regarding the qualifications and
5 endorsements necessary to perform my job, yes. That's
6 under question five/answer five, I believe, yes.

7 Q. Okay. Could you briefly describe for the
8 record the requirements of the State of Texas by procedure,
9 name or number? Is there a specific state code that you
10 have to follow?

11 A. There is the state boiler law.

12 Q. Okay. Do you know -- I'd say a cite to that.
13 If I wanted to go look that up, you know, what I would use
14 to go look that law up or that code up.

15 A. Yes, Inspector -- Chief Inspector Steve
16 Matthews in Austin, Texas administrates the State of Texas
17 implementation of the state boiler law, of which nuclear
18 boilers are a part.

19 Q. Now under this state code, does the State of
20 Texas conduct its own inspections of your work?

21 A. They'd have that right at all times, yes.

22 Q. Have they ever exercised that right as long
23 as you've been on Comanche Peak?

24 A. Not since I've been on Comanche Peak, no.

25 Q. Do you have any knowledge of whether the

1 State of Texas has ever exercised their right to perform
2 an inspection according to the state boiler code?

3 MR. HORIN: Objection.

4 A. Yes.

5 MR. HORIN: I think that asks for informa-
6 tion that would be beyond the knowledge of this witness.

7 A. It's true in the form of an ASME survey, in
8 which the certificate holder must undergo every three years.

9 Q. Uh-huh.

10 A. The Chief Inspector of the state is, in fact,
11 a participant on that survey.

12 Q. Okay.

13 A. And has participated three times on that site.

14 Q. And do you know that from your personal
15 knowledge or from review of documentation?

16 A. It's my job to assure they have a certifi-
17 cate of authorization, and he would be a member of that by
18 law.

19 Q. Okay.

20 MS. GARDE: Do you want to supplement an
21 objection or comment?

22 MR. HORIN: No, I pass further objection.

23 BY MS. GARDE:

24 Q. And this ASME survey takes place every three
25 years?

1 A. Yes.

2 Q. Does ANI have a representative on that?

3 A. Myself and my supervisor in Houston.

4 Q. Now, when was the last ASME survey in which
5 you participated?

6 A. I have not participated in a survey at
7 Comanche Peak.

8 Q. When is the next one scheduled?

9 A. October of this year.

10 Q. In the course of your business, do you have
11 to send any type of documentation to the State of Texas?

12 A. No, I don't.

13 Q. Have you read the state boiler code?

14 A. Yes, I have.

15 Q. And is it your understanding from reading
16 the state boiler code and being familiar with the code that
17 the State Boiler Inspector, Mr. Matthews, is responsible
18 for the reactor?

19 MR. HORIN: Objection. I believe that calls
20 for a legal conclusion by the witness. You're asking for
21 his interpretation of a state code.

22 MR. BACHMANN: I also think the question is
23 somewhat ambiguous.

24 MS. GARDE: Okay. I will try to rephrase
25 my question to deal with both of your concerns.

1 BY MS. GARDE:

2 Q Mr. Coats, do you feel that Mr. Matthews is
3 one of the persons that you are responsible to in your job?

4 A Yes, I am. I am responsible because he
5 issues the commission that I carry on my person at all
6 times, yes. He issues a state commission to me, yes.

7 Q And is it your understanding that when
8 Comanche Peak is ready to be -- I'm going to use the phrase
9 "turned on," and I'm referring to going above five percent
10 power.

11 A Uh-huh.

12 Q Is it your understanding that Mr. Matthews
13 has to approve the boiler at that point?

14 MR. HORIN: Same objection.

15 A Not -- not necessarily approved.

16 MR. HORIN: When I make an objection, hold
17 off.

18 THE WITNESS: Okay.

19 MR. HORIN: Same objection.

20 MS. GARDE: I want to know his understanding.
21 I don't want to have him draw legal conclusions or to go
22 out of his area of expertise. I want to understand what
23 his understanding is. And I don't have very many more
24 questions along this line, but I have a few more questions.

25 MR. HORIN: And I'd also interpose an

1 objection in that I think we're going beyond the scope of
2 his direct in asking the role of Mr. Matthews and the
3 certification of the plant itself, as opposed to the
4 certification of the ANI itself.

5 MS. GARDE: Well, let me respond to your
6 objection by saying that at least in one place in my notes
7 -- I can't find it right now -- refer to at least one other
8 place in which there's reference to the State of Texas.
9 And being that the State of Texas was mentioned in his
10 testimony, I want to have a fuller understanding than is
11 developed in this written prepared testimony of what the
12 interaction is between ANI and the State of Texas since he
13 has testified that t' State of Texas has authority, and
14 I'm rephrasing his testimony.

15 It has authority over the boiler at the
16 plant. I think that that is a fair line of questioning.
17 However, Mr. Horin, I don't have very many more questions
18 in that area. And I would like to establish for the record
19 what that interaction is at the point that the plant is
20 turned on.

21 MR. HORIN: Okay. I believe Mr. Coats has
22 testified to the role of the state with respect to the
23 certification of the ANI.

24 MS. GARDE: Yes.

25 MR. HORIN: And to the extent the questions

1 that you ask are relevant to that, I would have no objec-
2 tion. But I believe the question that you just asked goes
3 to the state's role with respect to the ultimate certifica-
4 tion or approval of the actual equipment at Comanche Peak.

5 MS. GARDE: Well, you've offered this
6 testimony for the purpose of the additional layers of inspec-
7 tion which ANI is involved in.

8 If ANI is conducting these additional layers
9 of inspection to certain standards which include the State
10 of Texas' standards, then I think it's a fair line of
11 inquiry to find what is the methodology and requirements
12 by which he operates.

13 Certainly it would be a fair line of inquiry
14 the QC inspector was on to probe into what procedures and
15 requirements he was following.

16 I don't want to belabor this point onto the
17 point that we spend more time arguing about it than we do
18 with the questions. I think your objection is noted, and
19 I'd like to just have my --

20 MR. BACHMANN: Could the question possibly
21 be phrased to the extent that is in Mr. Coats' direct
22 personal knowledge --

23 MS. GARDE: Well, I --

24 MR. BACHMANN: -- of what further involvement
25 the State of Texas would have in this area?

1 MS. GARDE: Yes, okay.

2 MR. HORIN: One other thing before we move
3 on, I'm going to go ahead and let Mr. Coats answer the
4 question. We've noted our objections.

5 MS. GARDE: Okay.

6 MR. HORIN: But I think you just mentioned --
7 you stated in your response to my objection that he performs
8 inspections pursuant to --

9 MS. GARDE: A number --

10 MR. HORIN: -- to guidelines from the State
11 of Texas. And I don't think we've established that he uses
12 guidelines from the State of Texas in performing any of his
13 inspections.

14 BY MS. GARDE:

15 Q Okay. I don't want to misstate your testi-
16 mony, Mr. Coats. You said that there's a state boiler code.
17 My understanding is that the state boiler code sets certain
18 requirements, is that accurate?

19 A Yes.

20 Q And that you, as the lead ANI at this plant,
21 must insure that those requirements are met --

22 A That's true.

23 Q -- is that true? Now, in the performance of
24 your job, is there a separate set of criteria for the State
25 Boiler Inspector, Mr. Matthews, that must be met prior to

1 fuel load?

2 A Yes.

3 Q Is there a separate set of criteria that must
4 be met prior to going above five percent power?

5 A I'm not certain. A certificate will be
6 issued by the state.

7 Q And that's at the point that it's ready for
8 fuel load?

9 A That's when Mr. Matthews has all the objec-
10 tive evidence of the appropriate date of reports being
11 executed.

12 Q Uh-huh, uh-huh.

13 A And he will assign a certificate to the
14 utility.

15 Q Okay. And that will happen -- okay. I
16 want to understand how that happens.

17 You testified that you don't send him copies
18 of anything at this point. He does have access, however,
19 according to your testimony.

20 He could walk in the plant, for example,
21 tomorrow if he wanted to look at anything he wanted to --

22 A Exactly.

23 Q -- dealing with the boiler.

24 A That's right.

25 Q Okay. Would you explain to me how Mr.

1 Matthews, to the best of your understanding, is going to
2 accomplish the task? Do you have personal knowledge of how
3 Mr. Matthews is going to accomplish the task of certifying
4 this boiler?

5 A. I feel I do, yes.

6 Q. Okay. Can you briefly state that. And I'm
7 not interested in pursuing that much beyond this point, but
8 I want to briefly understand that particular part of your
9 knowledge.

10 MR. HORIN: I'd like to make sure that Mr.
11 Coats understands that she's only asking for what you are
12 personally aware of. And the question actually goes to
13 the performance of Mr. Matthews job. And to the extent you
14 have no personal knowledge, she's not asking for anything
15 beyond that.

16 MS. GARDE: Yes, you're right. Thank you.

17 A. Upon completion of the N-5 data reports and
18 the owner's N-3 data report --

19 Q. Uh-huh.

20 A. -- it's the owner's responsibility to file
21 those documents with Mr. Matthews' office. It's my under-
22 standing that Mr. Matthews personally or through a qualified
23 inspector --

24 Q. Uh-huh.

25 A. -- under his direction --

1 Q Uh-huh.

2 A -- will, in fact, observe the nuclear boiler
3 and recommend or not recommend issuance of a certificate.

4 Q Now, again --

5 MS. GARDE: And this is the last question,
6 Mr. Horin, in this area.

7 Q From your personal knowledge, is it a require-
8 ment for this plant to have the recommendations by Mr.
9 Matthews in order to operate in this state?

10 A I'm sorry. I didn't follow the whole thing.

11 Q Is it your personal understanding, and if
12 you don't know the answer to this question, I don't want you
13 to speculate beyond your personal knowledge.

14 Is it your understanding that in order for
15 this plant to operate that Mr. Matthews must make a recom-
16 mendation that it is acceptable according to whatever
17 criteria it is that he uses?

18 A That's my belief, yes.

19 MR. HORIN: I'll note for the record that
20 that question really asks for a legal conclusion.

21 MS. GARDE: I asked for his personal under-
22 standing of those requirements. I understand that he
23 can't make a legal conclusion, nor can he know Mr. Matthews'
24 job.

25 //

1 BY MS. GARDE:

2 Q I believe your testimony says that there
3 are nine ANI inspectors on the site.

4 A That's correct.

5 Q Did you personally review their qualifica-
6 tions and certifications before they were hired?

7 A No, ma'am.

8 Q Who performed that task?

9 A The chief inspector of the appropriate branch
10 office of our company.

11 Q And when you say "appropriate branch
12 office," are you referring to the appropriate discipline --
13 welding, mechanical?

14 A No.

15 Q Okay. What do you mean by "appropriate branch
16 office"?

17 A We have various branch offices around the
18 country who supervise numbers of inspectors.

19 Q Uh-huh.

20 A Our particular administrative branch is
21 in Houston, Texas.

22 Q So you had nothing to do with the hiring or
23 the review of the qualifications.

24 A No.

25 MR. HORIN: Just for the record, that was

1 asked -- that was posed in the negative, and he responded
2 with a negative. Perhaps you could restate the full
3 sentence.

4 MS. GARDE: You're right. I think we both
5 understood each other but the record might be unclear.

6 BY MS. GARDE:

7 Q Do you have anything to do with the hiring
8 of ANI inspectors on this site?

9 A No, I do not.

10 Q Do you have anything to do with the review
11 of their work, like an annual performance report?

12 A It's my responsibility to assure they perform
13 their job, and that is to assure compliance with ASME code.

14 Q Okay. That wasn't directly responsive to
15 my question. What I'm interested in is finding out if you
16 fill out performance reports in -- and I use that in kind
17 of a generic, general term. Most people have some type of
18 annual or semi-annual performance report.

19 Do you fill those out for the inspectors
20 that work for you?

21 A I do not.

22 Q Are such forms filled out by your supervisor?

23 A Yes, they are.

24 Q For all the inspectors on this site?

25 A All the inspectors.

1 MR. HORIN: I'm going to object to continuing
2 on this line as being beyond the scope of the direct.
3 You're getting into the personnel evaluations of individual
4 ANI's. We're presenting his testimony with respect to the
5 program which the ANI performs -- under which the ANI
6 performs inspections.

7 I believe that Mr. Coats has testified he
8 has not personally performed those evaluations. And further
9 questioning would be beyond the scope of his personal
10 knowledge and I feel irrelevant to his testimony.

11 MS. GARDE: Well, I do think it's an import-
12 ant part of the program to determine who reviews certifi-
13 cations and who reviews qualifications and who makes sure
14 that the ANI inspectors that are accomplishing this parti-
15 cular program are qualified to do that.

16 That's a very integral part of any credible
17 inspection program and certainly certification and training
18 are a big part of something that has to be reviewed.

19 He's testified, as you've noted, that he is
20 not responsible for the annual performance ratings or
21 review of the qualifications or the certifications.

22 BY MS. GARDE:

23 Q. Is that an accurate characterization of your
24 testimony?

25 A. Yes.

1 Q Would it be fair then to characterize you
2 as their supervisor?

3 A No.

4 Q Then would you explain for me briefly the
5 organizational setup of ANI on this site? I'm a little
6 confused because it was my understanding that you were the
7 lead ANI inspector.

8 In my understanding the term "lead," at least
9 as we've come to know it during the last month in Glen
10 Rose, is somewhat of a supervisory position. And your
11 testimony indicates that that is not the case according to
12 my understanding. Could you explain it to me?

13 A It is my responsibility to give technical
14 direction to the other inspectors --

15 Q Uh-huh.

16 A -- based on my experience and background
17 and to interface as the collective voice with the QA
18 manager of the contractor.

19 Q And that would be Mr. Tolson?

20 A No.

21 Q I mean Mr. Vega?

22 A Mr. Purdy.

23 Q Okay. Do correct me if the scenario is
24 wrong. One of the other inspectors finds a problem. He
25 brings it to your -- is it true that he brings it to your

1 attention then?

2 A. He may reject on the spot and then inform me.

3 Q. He has the authority to reject on the spot.

4 A. Absolutely.

5 Q. Is there a requirement for him to notify you
6 of a discrepancy that he's found?

7 A. Yes.

8 Q. Is it a requirement of your job to then
9 notify Mr. Purdy of a discrepancy?

10 A. Mr. Purdy is generally aware of it by that
11 time, but I would bring it to his attention, yes.

12 Q. And that is using the SIS reports?

13 A. It may be verbal. If it, in fact, is a
14 discrepancy of a nature that we feel inconsistent with
15 their compliance --

16 Q. Uh-huh.

17 A. -- yes, it would be documented.

18 Q. Now, let me phrase this as a hypothetical
19 question because I'm still a little confused about the
20 interaction that you had with the other inspectors, ANI
21 inspectors.

22 MS. GARDE: Mr. Horin, if you'll bear with
23 me, I'll try to make this a hypothetical question.

24 BY MS. GARDE:

25 Q. If you had an inspector working under you or

1 with you -- with you would be a better term -- and you
2 didn't believe that he was competent to perform his job
3 for one reason or another, what action would you take --
4 could you take? Let me change that.

5 A. I have almost daily conversation with my
6 supervisor in Houston, and this would be included in the
7 scope of those conversations without a doubt.

8 Q. But it's your supervisor in Houston that
9 makes personnel decisions.

10 A. It would be the -- he is the technical
11 supervisor. And we have an administrative supervisor, and
12 it would be their collective decision, yes.

13 Q. Okay. Now in response to question number
14 six, which is: "Please describe the independence of the
15 ANI's." It indicates that ANI's are not subject to the
16 pressure of cost or schedule and perform a true third-party
17 review of construction quality.

18 When you say -- use the term "a true third-
19 party review," would you please explain to me what that
20 means?

21 And the reason I'm asking that is because
22 in NRC jargon, "third-party review" has some real specific
23 elements.

24 A. Uh-huh.

25 Q. I want to know what your understanding of

1 a "true third-party review" is, because otherwise I'm
2 going to think about it as if you're telling me that falls
3 within the NRC's elements of a third-party review.

4 A. "Third party" means that I am performing an
5 inspection to the requirements of a code, and I'm not
6 responsible to either the contractor nor the owner. I am
7 the third-party layer in between those two organizations.

8 Q. And this code is the boiler code?

9 A. The ASME boiler and pressure vessel code.

10 Q. And is there any particular reason that the
11 word "true" is in there -- "a true third-party review"?

12 A. To my knowledge, ASME is essentially the
13 only code that mandates a third-party inspection to verify
14 the acceptability to the code.

15 Q. Now, let me go to your resume for a minute.
16 Would you please turn to that? It's Attachment 1.

17 A. Uh-huh.

18 MR. BACHMANN: Promise you're not going to
19 ask about things you did at Travis.

20 MS. GARDE: I hope Mr. Coats doesn't know
21 what I did at Travis.

22 BY MS. GARDE:

23 Q. Your resume indicates that you've worked
24 for Hartford Steam Boiler Insurance and Inspection Company
25 since May of '81 to the present time. Has all of that time

1 for Hartford been spent at this plant?

2 A. No, it has not.

3 Q. Has it been spent at other nuclear plants?

4 A. Yes.

5 Q. Could you tell me what other facilities
6 those were?

7 A. I have performed inspections on the Washington
8 nuclear power units.

9 Q. Which one?

10 A. 1 and 2, predominately Unit 2.

11 Q. 2 is the one they're finishing, isn't it?

12 A. That's my understanding, that it's about
13 ready to go commercial operation.

14 Q. Were you assigned there as a resident ANI
15 inspector, much as you are here?

16 A. Yes.

17 Q. And approximately when were you there?

18 A. June of 1981 through the end of July 1982.

19 Q. And in July 1982, where did you go?

20 A. Comanche Peak.

21 Q. You came here to Comanche Peak. And since
22 you've been -- okay -- strike that.

23 Prior to your assignment to the WPPSS project,
24 did you work at any other nuclear facilities?

25 A. Yes.

1 Q. And where was that?

2 A. I was performing Section 11 ASME inspections --

3 Q. Uh-huh

4 A. -- in the Department of Energy nuclear plants
5 in Hanford, Washington.

6 Q. And is that indicated on your resume from
7 the January '81 to May '81 timeperiod for the J.A. Jones
8 Construction Service Company?

9 A. No.

10 Q. Okay. When was that?

11 A. I had broken service with Hartford. That
12 was my first employment period with Hartford.

13 Q. Okay. So, that was for a relatively short
14 timeperiod?

15 A. That was from approximately July through
16 the end of December 1981.

17 Q. Okay. Now were you doing both jobs, the
18 WPPSS job and the DOE job at the same time?

19 A. No.

20 Q. Okay. Well, I think there's some kind of
21 screwup on the dates here.

22 MR. BACHMANN: A point of clarification, Mr.
23 Coats.

24 THE WITNESS: I'm sorry. That was 1980,
25 through December 1980 rather than '81.

1 BY MS. GARDE:

2 Q Okay. Let's go over this again, okay?
3 Because you're -- what I want to know is where you worked,
4 and you've got here the companies that you worked for. So,
5 and only on nuclear facilities. So let me try to make
6 this clearer and --

7 A Okay.

8 Q -- get this out of the way. Okay.

9 What's the first nuclear power facility that
10 you had anything to do with?

11 A U.S. Navy, the second page of the resume.

12 Q Oh, I don't want to go all the way back to
13 the U.S. Navy. Have you always worked on commercial nuclear
14 reactors except for the DOE reactors?

15 A I'm not sure I understand.

16 Q Okay. Let me rephrase the question. How
17 many different nuclear facilities have you had experience
18 on? And take a minute to think about that.

19 A Four basic types.

20 Q When you say "basic types," are you talking
21 about basic types of reactors?

22 A That's correct.

23 Q Like oil and water reactor, pressure -- okay.

24 A (Whereupon, the witness nodded his head
25 affirmatively.)

1 Q What are the names of the facilities that
2 you've worked at?

3 A U.S. Naval nuclear facilities, pressurized
4 water plants.

5 Q Okay.

6 A Department of Energy liquid sodium reactor,
7 fast flux test facility. Department of Energy N-reactor.

8 Q Okay.

9 A And utility pressurized water reactors and
10 boiling water reactors.

11 Q And in the utility reactors, it's WPPSS and
12 Comanche Peak?

13 A Right.

14 Q Now, you've indicated that there's nine
15 inspectors plus yourself, ten ANI personnel.

16 A No, nine total.

17 Q Oh, nine including you?

18 A Exactly.

19 Q All right. Is that a -- if you can answer
20 this question, is that an average-sized contingency for a
21 nuclear plant, if you know?

22 A It depends on the stage of completion.

23 Q Okay.

24 MR. BACHMANN: Ms. Garde, did you mean to
25 use the word "contingent"?

1 MS. GARDE: Yes. Thank you.

2 BY MS. GARDE:

3 Q When you say "depends on the stage of
4 completion," would you please expand a little bit on your
5 answer by explaining how many ANI inspectors are average
6 at what stages of completion?

7 A Initially, there's generally one full-time
8 inspector --

9 Q Uh-huh.

10 A -- fabrication of parts, et cetera.

11 Q Okay.

12 A In the case of Comanche Peak --

13 Q Uh-huh.

14 A -- that quickly went to the neighborhood of
15 three to four inspectors.

16 Q Uh-huh.

17 A And remained basically at that level until
18 early 1982. We had 13 about six months ago.

19 MR. HORIN: May we go off the record for a
20 little bit?

21 MS. GARDE: Uh-huh, sure.

22 (Discussion off the record.)

23 MS. GARDE: Back on the record.

24 MR. HORIN: Back on the record.

25 //

1 BY MS. GARDE:

2 Q All right. I believe that we left off at a
3 point where you said there were 13 ANI's about six months
4 ago, and you currently have a contingent of nine.

5 Do you have personal knowledge of -- strike
6 that.

7 MS. GARDE: Counsel, what I would like the
8 witness to do, if you don't find this objectionable, and
9 maybe even if you do find it objectionable, is to compare
10 the number of ANI's at this plant to other plants if he
11 can, if he has knowledge of that.

12 MR. BACHMANN: I'd like to know the purpose
13 of asking that question.

14 MR. HORIN: I'd also object to anything
15 beyond WFP 2.

16 MS. GARDE: WMP 2.

17 MR. HORIN: His knowledge with respect to
18 the number of ANI's at plants other than Comanche Peak,
19 the WMP 2 as to which he's worked.

20 MS. GARDE: Uh-huh, uh-huh. And you want
21 to know the purpose of my question?

22 MR. BACHMANN: Yeah, and relevance.

23 MS. GARDE: Okay. Let me respond first to
24 that. Mr. Coats is testifying about the layers -- the
25 extra layer of inspection, additional layer of inspection

1 provided by the ANI. And throughout his testimony refers
2 to the various functions that ANI's perform, and I think
3 it's mentioned a number of times that they review two to
4 five percent of completed equipment.

5 THE WITNESS: Can I clarify?

6 MS. GARDE: Yes, but let me finish repending
7 to Mr. Bachmann's concern.

8 If this plant has an exceptionally large
9 number of ANI inspectors, that is that they're putting --
10 that the boiler company is putting on extra personnel on
11 this particular plant to guarantee that this added layer of
12 inspection produces a higher level of confidence and this
13 knowledge -- this witness has knowledge about that, I think
14 it's a fair line of questioning to probe what his knowledge
15 is about that and why there is more inspectors, if there,
16 in fact, are more inspectors at this plant than at other
17 plants.

18 MR. BACHMANN: With your permission, may I
19 ask one or two clarifying questions that may answer your
20 question?

21 MS. GARDE: Fine.

22 VOIR DIRE EXAMINATION

23 BY MR. BACHMANN:

24 Q Mr. Coats, who determines the number of
25 ANIs at a given site to the best of your knowledge?

1 A. That would be the contractor who's performing
2 the work based on the volume of work he may be performing
3 at any given time.

4 MS. GARDE: By "contractor," you mean Brown &
5 Root?

6 THE WITNESS: That's correct.

7 BY MR. BACHMANN:

8 Q. Do I understand the contractor requests a
9 given number of ANI's?

10 A. That's correct.

11 Q. Do you have any personal knowledge at
12 Comanche -- and I'm speaking about Comanche Peak -- as to
13 why Brown & Root would requested the number of ANI's that
14 are currently on site?

15 A. Yes.

16 Q. Now, do you have personal knowledge of this?

17 A. Yes.

18 Q. Would you please tell me what it is?

19 A. Certainly. We have hundreds of thousands
20 of documents to final review for acceptability and if they
21 want timely completion, then we have to have sufficient
22 personnel to go through that review. That was the reason
23 for the buildup ultimately to a total of 13.

24 We're on the downward spiral now. We'll
25 wind up with a total of six within probably two months.

1 Q So, the number of inspectors requested by
2 the contractor is primarily determined by the contractor's
3 estimation of how many it will take to complete the document
4 review?

5 A That's correct.

6 END OF VOIR DIRE EXAMINATION

7 MR. BACHMANN: That's the only questions I
8 have. Does that answer your --

9 MS. GARDE: It does somewhat. It only leaves
10 me one other question.

11 BY MS. GARDE:

12 Q And that is, how many ANI inspectors were
13 there at WPPSS?

14 A Again, varied.

15 Q It fluctuates during the construction?

16 A At the time I left, they were nearing the
17 stage of the N-5 process and were building up with addi-
18 tional inspectors at that time --

19 Q Uh-huh.

20 A -- for that purpose.

21 Q Now the answer to your -- to the question
22 six in your pretrial testimony said that you're not subject
23 to the pressure of cost or schedule.

24 You just testified that it's the contractor
25 that determines the number of inspectors based on their

1 interest in a timely completion of a project. How do you
2 know what a timely completion of a project is without any
3 pressure, cost or schedule?

4 MR. BACHMANN: I object to that question.
5 It's compound and it's ambiguous.

6 MS. GARDE: Okay. It's a confusing question.
7 I'll try to rephrase it.

8 BY MS. GARDE:

9 Q Okay. I think that there's some inconsisten-
10 cies in my own mind --

11 A Uh-huh.

12 Q -- about the answer to question six and what
13 you just talked about, timely completion. Could you clarify
14 that, please?

15 A Yes.

16 MR. HORIN: Objection. He has no idea what
17 the inconsistencies might be in your mind. I'm sure if we
18 just ask one simple question at a time, I'm sure he'll be
19 able to respond. He'd have to speculate as to what --

20 MS. GARDE: What's in my mind.

21 MR. HORIN: -- inconsistencies you see.

22 MS. GARDE: Okay.

23 BY MS. GARDE:

24 Q We've been talking about question six. In
25 question six, there's the statement that "ANI's are not

1 subject to the pressure of cost or schedule."

2 Why are you not subject to the pressure of
3 cost or schedule?

4 A. I can do so much work within a standard work
5 day. If Brown & Root wants to accommodate my ability to
6 support them on X amount of work and they can do that, that
7 shouldn't be a problem. I am -- I wind up being an albatross,
8 so to speak.

9 If they try to exceed the work level that
10 I can support alone, in which case they would have to get
11 additional help in order to support that additional workload.

12 Q. And when you say "they would have to get
13 additional help," are you referring to Brown & Root?

14 A. No, additional ANI support.

15 Q. And who would get the additional ANI support?

16 A. They would request an additional inspector
17 or two or three from our --

18 Q. Uh-huh.

19 A. -- branch office in Houston, Texas --

20 Q. Uh-huh.

21 A. -- who would supply the additional inspectors
22 contractually.

23 Q. And that would be based on Brown & Root's
24 desire to reach a certain schedule -- meet a certain
25 schedule.

1 MR. HORIN: Objection. That calls for him
2 to speculate as to what might be in Brown & Root's mind.

3 MS. GARDE: Well, he's testified that if
4 Brown & Root wants --

5 MR. BACHMANN: I think the question has been
6 asked and answered.

7 MS. GARDE: All right. But that --

8 MR. BACHMANN: He's testified that they
9 request a number of inspectors to reach a timely completion
10 date.

11 MS. GARDE: Right. I think there is some
12 inconsistency here, and I want to continue to probe. And
13 I want to go forward.

14 MR. BACHMANN: Why don't you just state what
15 inconsistency you're seeing?

16 MS. GARDE: Well, Mr. Horin wanted me to ask
17 questions, so I'm trying to ask questions.

18 MR. BACHMANN: Why don't you just state the
19 inconsistency.

20 MS. GARDE: The inconsistency in my mind?

21 MR. BACHMANN: What do you see that's
22 inconsistent in his testimony and the answer to six?

23 MS. GARDE: His answer to six says that
24 ANI's are not subject to the pressure of cost or scheduling.
25 He has also just stated that if Brown & Root wants to meet

1 a timely completion of a certain project or this project
2 that they have to request enough people for him to do that
3 job in that scheduled amount of time.

4 MR. BACHMANN: Yes.

5 MS. GARDE: Okay. Now, I think that there's
6 an inconsistency between Brown & Root deciding about the
7 timely completion of a project, their project, and ANI's
8 performance of their duties. And I want to understand to
9 the best of this witness's knowledge of the interaction
10 between Brown & Root's deciding a schedule time and ANI
11 having 13 inspectors to meet a certain time line.

12 MR. HORIN: I think the witness has testified
13 that his people perform a certain amount of work in a normal
14 workday and that the number of ANI's that are provided
15 are provided under recommendation by Brown & Root to assure
16 that they have adequate support for the level of work
17 activity at the plant.

18 He's stated that --

19 MS. GARDE: Well, he didn't state "recommen-
20 dation." He said "request," and it's in the request verb
21 that he used that I find the inconsistency. And I don't
22 think this is necessarily a serious inconsistency, I just
23 want to understand how this man does his job. And if
24 Brown & Root has the option of coming in to Mr. Coats and
25 saying, "I want something done at a certain time," and Mr.

1 Coats responds, "I can't do it by that time. I have to have
2 other ANI inspectors."

3 And so Brown & Root calls for other ANI
4 inspectors. That's fine. I just want to understand if
5 that's the series of events.

6 VOIR DIRE EXAMINATION

7 BY MR. BACHMANN:

8 Q Mr. Coats, does Brown & Root ever request --
9 do they tell you that they need work done by a certain time?

10 A No, sir.

11 END OF VOIR DIRE EXAMINATION

12 VOIR DIRE EXAMINATION

13 BY MR. HORIN:

14 Q Mr. Coats, if you felt that you were in need
15 of an additional inspector, could you pursue that on your
16 own?

17 A Yes, I would. I would not alter the number
18 of hold points I placed, the number of inspections I
19 performed to accommodate their schedule. Consequently,
20 they would suffer -- they would suffer schedule wise in the
21 end result.

22 END OF VOIR DIRE EXAMINATION

23 CROSS-EXAMINATION (Continuing)

24 BY MS. GARDE:

25 Q And so, it's your testimony that you're on a

1 certain path. And as the documentation that you've got to
2 review piles up, depending on how fast the project is
3 operating, you're working at the same level.

4 A. (Whereupon, the witness nodded his head
5 affirmatively.)

6 Q. And if --

7 MR. BACHMANN: Let the record reflect the
8 witness is agreeing to the statements so far.

9 BY MS. GARDE:

10 Q. Okay. And if at some point Brown & Root
11 determines, either because of something you say or because
12 they come in and look at your workload, that you're not
13 going to get done by the time they're done, then they have
14 the opportunity to request additional people?

15 A. It's their right to have the number of
16 inspectors that will support their activities.

17 Q. Okay. If it's their right to have the
18 number of inspectors that support their particular activity,
19 who do they exercise that right with? Who does Brown & Root
20 tell, if you know, that they believe or think they need
21 additional ANI inspectors in order to support their activity?

22 A. My chief inspector in Houston. He provides
23 the manpower.

24 Q. Okay. And does your chief inspector in
25 Houston consult you on your workload in making those

1 decisions?

2 A. I'm a part of the process, yes.

3 Q. Okay. It's that process that I want to
4 understand.

5 A. Uh-huh.

6 Q. Okay. Now, I think for the sake of making
7 this a little bit more concrete, let's talk about when there
8 was 13 inspectors, which was not long ago.

9 A. We had 13 inspectors for approximately six
10 months, up until about three or four months ago.

11 Q. Okay. Now, do you have any personal knowledge
12 of who made the decision to go to 13 inspectors?

13 A. As a result of discussion between myself and
14 Mr. Purdy, and he relies on my judgment to some degree.

15 Q. Uh-huh. And when you say your judgment,
16 you're talking about your judgment of the work load.

17 A. I can look at the projected work load and
18 be helpful in --

19 Q. Uh-huh.

20 A. -- determining how many people we need as
21 the inspection agency.

22 Q. Uh-huh. And that's based on your experience
23 as an ANI inspector, knowing how much people can do within
24 a certain day and the type of work that's been done at the
25 time.

1 A. Yes.

2 Q. Now, when the decision was made to go to 13
3 inspectors, were there discussions first between you and Mr.
4 Purdy?

5 A. Yes, and my supervisor.

6 Q. And what's your supervisor's name?

7 A. Bill Tillman.

8 Q. Okay. Did Mr. Tillman come to the site?

9 A. That's correct.

10 Q. So there was -- well, I'll rephrase that.
11 Was there a meeting between the three of you?

12 A. Yes, as oftentimes happens.

13 Q. And during that meeting, what did Mr. Purdy
14 say?

15 MR. BACHMANN: Objection. Hearsay.

16 MS. GARDE: Well, he was present at the
17 meeting.

18 MR. BACHMANN: Yes, but you're going to the
19 truth of the matter asserted here.

20 MS. GARDE: I'm not going to the truth of
21 the matter.

22 MR. BACHMANN: Yes, you are because there's
23 no way you can say that you're doing it just because you
24 want to know what the state of mind or something.

25 MS. GARDE: I want to know what this witness

1 personally knows, which he's testified about, about not being
2 subject to the pressure of cost and schedule.

3 MR. BACHMANN: Tell me the purpose you want
4 to use Mr. Purdy's statement, and I'll tell you if it's in
5 the hearsay exceptions.

6 MS. GARDE: I want to use Mr. Purdy's state-
7 ment from Mr. Coats to the best of his recollection of what
8 Mr. Purdy said, to determine whether or not this witness
9 felt there was pressure by Brown & Root or Mr. Purdy to
10 bring on more people.

11 MR. BACHMANN: You know, I object to this
12 whole line of questioning. The witness has already stated
13 that it is the absolute right of the contractor to request
14 as many inspectors as they -- as they think they need. And
15 that's his testimony.

16 Now, I don't see how you can possibly link
17 up or find a nexus with putting pressure -- for a person
18 applying pressure in order to exercise a right the witness
19 has testified this person has.

20 MR. HORIN: And you also stated that the
21 pressure you were seeking to inquire into was the pressure
22 to obtain additional people, which is certainly irrelevant
23 to the question of whether there is pressure to meet a
24 certain schedule with the people that you have.

25 MS. GARDE: Well -- all right. Gentlemen,

1 I'm attempting to move this along. And I -- it did not --

2 MR. BACHMANN: And we're attempting to keep
3 the record clear and --

4 MS. GARDE: That's fine.

5 MR. BACHMANN: -- have good evidence in the
6 record.

7 MS. GARDE: That certainly is your right.

8 MR. BACHMANN: You're asking for hearsay
9 questions --

10 MS. GARDE: Mr. Bachmann, we've gone into
11 the hearsay exemptions in this case that you know, I know,
12 we all know the hearsay rules are relaxed. We have all
13 probed into meetings that have been attended by witnesses
14 that we have all questioned and put up.

15 Now I did not write questions because I
16 did not know I was going to get these answers in this area,
17 and I'm doing the best I can to formulate the questions as
18 I go along.

19 I don't feel that this is an inappropriate
20 line of questioning. I don't think the witness has contra-
21 dicted himself. I'm not doing this for credibility of the
22 witness.

23 MR. BACHMANN: All right. Your objection
24 has been noted for the record. Your explanation has been
25 noted for the record. I don't think we need any further

1 explanations.

2 MS. GARDE: Mr. Horin?

3 MR. HORIN: I'm not going to impose a further
4 objection because it's my understanding that you intend to
5 ask Mr. Coats only as to what his recollection was of a
6 statement and not as to whether or not that statement
7 might --

8 MS. GARDE: Prove anything.

9 MR. HORIN: -- be true in and of itself.

10 MS. GARDE: Okay.

11 BY MS. GARDE:

12 Q. Mr. Coats, there's nothing tricky about my
13 questions, as lawyers have these little arguments. I am
14 not trying to trip you up or trap you in any way.

15 Okay. I want to understand the process by
16 which the number of ANI inspectors fluctuates from a large
17 number to a small number and satisfy in the record and in
18 my own mind that that fluctuation doesn't result from
19 pressure.

20 And I'd like you to explain this meeting,
21 and I choose this meeting regarding the increase to 13
22 inspectors so that we can have a concrete thing to talk
23 about here, as opposed to talking about something in --
24 floating around in the sky not very defined.

25 And if we go back to the question before the

1 objections were raised, the meeting that you have mentioned
2 between yourself, Mr. Purdy and Mr. Tillman -- okay.

3 Could you please, to the best of your recollection, recall
4 what was said during that meeting by Mr. Purdy?

5 A. I don't have a true recollection.

6 Q. Okay. Do you have a perception of the
7 meeting of what Mr. Purdy was attempting to say? What is
8 your perception of what Mr. Purdy was saying?

9 MR. HORIN: I object. That's the same ques-
10 tion you just asked. He said he has no -- he doesn't have
11 a true recollection of what was --

12 MS. GARDE: Of what Mr. Purdy said. I think
13 it's another question about a perception of a meeting, a
14 perception of what -- Mr. Purdy could have come in and
15 pounded on the table. Mr. Purdy could have come in and had
16 a perfectly businesslike discussion. Mr. Purdy could have
17 come in and cried.

18 I just want to know what his perception of
19 what Mr. Purdy had to say to Mr. Tillman was at that
20 meeting.

21 MR. HORIN: And you're seeking to determine
22 whether or not it was a normal managerial meeting --

23 MS. GARDE: Yes.

24 MR. HORIN: -- as opposed to something in
25 which someone was pressuring somebody to do something or

1 that sort of activity.

2 MS. GARDE: Yeah.

3 MR. HORIN: If you could rephrase the ques-
4 tion just briefly for Mr. Coats.

5 BY MS. GARDE:

6 Q Mr. Coats, did you understand my question?

7 A Let me say this. Mr. Purdy realizes that
8 he must put through us for our final review at our own
9 pace --

10 Q Uh-huh.

11 A -- one hundred percent of all the ASME
12 documentation supporting his work.

13 Q Yes.

14 A And he would consult with us in order to
15 attempt to project, within a specific time frame, the amount
16 of inspectors that could adequately support that work load
17 within that time frame, based on our previous experience.

18 Q Okay. Now that's your testimony about Mr.
19 Purdy's understanding of his job. Let me ask one more
20 question about this meeting and let's go on to something
21 else and get out of here.

22 Do you have any perception of that meeting
23 and Mr. Purdy's attitude during that meeting in the discus-
24 sion about increasing the number of ANI inspectors?

25 A Sure. It's like all meetings.

1 Q Normal business meetings?

2 A These business meetings are among profession-
3 als.

4 Q Fine. That's all I wanted.

5 All right. On page four of your testimony,
6 question nine, "Please describe the ANI's in-process
7 inspection of mechanical processes."

8 In your answer, you discuss in-process
9 reviews, which I think you also discussed in another ques-
10 tion previous to that. And you make the statement,
11 "Construction QC inspections are observed..."

12 Now when you say "are observed," do you mean
13 by your testimony they're actually, physically observed?

14 A Yes.

15 Q Now the next sentence in that says, "That
16 ANI also monitors the use of measuring and testing equipment
17 to assure proper calibration and application of the
18 equipment."

19 What is your description of what you do when
20 you monitor something?

21 A To assure proper implementation of that
22 portion of the quality program.

23 Q Okay. I understand the purpose for the
24 monitoring, but I want to know what's the methodology you
25 use to monitor. You said that in the -- when you use the

1 term "observed," --

2 A. Uh-huh.

3 Q. -- it means your inspectors actually went
4 out and physically, visually observed.

5 A. (Whereupon, the witness nodded his head
6 affirmatively.)

7 Q. Okay. What do you do when you monitor
8 something?

9 A. In the area of measuring and test equipment,
10 we verifying in the field at the time of the inspection
11 that the item has current calibration and is adequate and
12 proper for the application -- such as a torque wrench.

13 Q. And you don't indicate in here, in this
14 particular answer, the percentage of the testing and
15 measuring equipment that you monitor. What percentage do
16 you monitor?

17 A. It generally falls in a range of the rest.
18 All in process, we consider these in-process inspections
19 and/or witnessing of inspections.

20 Q. Uh-huh.

21 A. And as I previously stated, that virtually in
22 all phases of the program, it generally falls in a range
23 of, say, two to five percent --

24 Q. Uh-huh.

25 A. -- of all total inspections performed.

1 Q So some measuring and testing equipment
2 could never fall into an ANI monitor.

3 A Potentially.

4 Q Now, is there a requirement on the site, to
5 the best of your knowledge, that when a piece of measuring
6 and testing equipment is not properly calibrated, a discovery
7 is made that it is not properly calibrated, are you informed
8 of that?

9 MR. HORIN: Objection. You're seeking an
10 answer to a matter which is beyond the scope of the ANI
11 activities. If you wish to phrase that question solely
12 with respect to the requirements and procedures to which
13 the ANI works, that's fine. But to ask him --

14 MS. GARDE: Okay. I understand your objec-
15 tion. I'll rephrase the question.

16 BY MS. GARDE:

17 Q Is there a procedure, an ANI procedure,
18 which requires ANI to be notified when a piece of measuring
19 or testing equipment has been discovered to be not
20 calibrated, is that within the ANI procedure requirements?

21 A We have the ability to require anything and
22 everything to assure ourselves they're in compliance. We
23 monitor that particular procedure, its implementation, and
24 the documentation that is generated.

25 In this case, a document is generated and

1 a total and thorough research of the application of that
2 item back to its prior calibration date is performed, and
3 all of those inspections are redone with new equipment.

4 Q Okay. I didn't understand the first part of
5 your answer, Mr. Coats, when you said "We have the ability
6 to require."

7 A I don't feel it necessary to be informed each
8 time that, say, a torque wrench was noted to be out of
9 calibration.

10 Q Uh-huh. And that isn't in a procedure.

11 MR. HORIN: What is not in a procedure?

12 MS. GARDE: That a torque wrench, every
13 torque wrench that's found out of calibration has to be
14 reported to ANI.

15 BY MS. GARDE:

16 Q That's not in a procedure.

17 A No. We monitor their documentation they
18 generate within their program.

19 Q Do you monitor all documentation?

20 A Yes.

21 Q In the monitoring of the documentation,
22 if you -- hypothetically -- if you discovered an NCR or
23 an IR -- I guess an NRC that had been written up on a gauge
24 that had never been calibrated, would that cause you
25 concern? Would you take any action?

1 Let me strike that first question and say
2 would you take any action?

3 MR. HORIN: I'll object because you're not
4 specifying what type of gauge, what type of instrument.

5 MS. GARDE: Okay. Let me do a hypothetical.

6 BY MS. GARDE:

7 Q. If you, in the monitoring of your -- of the
8 documentation, discovered an NCR or a series of NCR's --

9 A. I wouldn't monitor that. I get all NCR's.

10 Q. Okay. You get all NCR's.

11 A. For concurrence.

12 Q. All right. Okay. That's in the procedures.

13 A. Yes.

14 MR. HORIN: One clarification. You receive
15 all NCR's written with respect to activities within the
16 scope of the ASME program, or do you receive all NCR's?

17 THE WITNESS: All ASME NCR's must go through
18 the ANI for concurrence with the disposition prior to
19 implementing that disposition.

20 And, again, following the completion of the
21 disposition, we concur with the closing of that Non-
22 Conformance Report.

23 BY MS. GARDE:

24 Q. Okay. So, let me do this hypothetical. If
25 you received copies of a series of NCR's written against

1 a gauge in electrical work, is that ASME?

2 A. I would never see it.

3 Q. Is that non-ASME?

4 A. That's non-ASME.

5 Q. So all electrical work is non-ASME.

6 A. No electrical work is ASME.

7 Q. Okay. And so no electrical NCR's would come
8 to you.

9 A. That's correct.

10 Q. Okay. I want to use another hypothetical --
11 welding. What kind of gauges would you use in welding
12 work?

13 A. ASME welding, there's obviously numerous
14 types of joint configurations, requirements.

15 Q. Filler welds required.

16 A. There's fitup gauges.

17 Q. Yeah, let's -- okay. I just want to under-
18 stand the process of your procedures, okay? If you got
19 an NCR that came through on a fitup gauge, not be calibrated,
20 is that a correct term, not being measured correctly?

21 A. Could be, yes.

22 Q. Okay. Do you then require action beyond
23 that particular -- strike that.

24 Does your procedure require you to look
25 beyond that particular NCR?

1 A. Let me clarify. I don't have a procedure.
2 I have the ability, one hundred percent, to interpret the
3 requirements of a volume of books. My hands are about two
4 feet apart.

5 And I interpret and I request any and every-
6 thing that I desire to assure compliance. And I will not
7 be satisfied with the addressing of a simple fix on an
8 item. I would assure corrective action had been taken and
9 implemented to go back and identify any previous inspections
10 performed with that item, and some alternative additional
11 quality requirements would have to be imposed and verified
12 before it would be acceptable to me.

13 Q Okay. And you don't do that, perform that
14 task, according to a procedure.

15 A. No.

16 Q Okay.

17 A. It's totally subjective on my part.

18 Q You've answered about 20 of my questions.

19 All right. On page seven of your testimony,
20 question twelve, the statement is made that, "The ANI also
21 reviews the qualifications of all welders and all QC
22 inspectors, and monitors other facets of the construction
23 quality assurance program such as design control and
24 procurement."

25 Now I want you to explain to me what the

1 term "reviews" mean. What do you do when you review?

2 A. I am presented with a document listing the
3 objective qualification of that individual.

4 Q. Uh-huh.

5 A. And I compare it to known standards and
6 determine whether it's acceptable. I have the ability to
7 accept or reject.

8 Q. Is this a paperwork review?

9 A. Yes, it can be. I can walk right in the test
10 booth, put on a hood and watch the welder weld. I can
11 monitor -- I can actually witness an inspector being
12 certified for dye penetrant examination. I can witness
13 that certification, that hands-on certification.

14 Q. Uh-huh.

15 A. And we have often done so.

16 Q. Okay. This statement here, though, does not
17 imply that you verify all the qualifications listed of all
18 the welders.

19 A. I do verify them.

20 Q. All of them?

21 A. All of them, all ASME qualified welders.

22 MR. HORIN: I think there's a miscommunica-
23 tion here. I'm not sure if the question -- I don't under-
24 stand the question. Maybe Mr. Coats does.

25 Were you asking whether he goes back and

1 researches, whether the requirement or the qualifications
2 stated for each individual are true or whether --

3 MS. GARDE: Yes. That's what I'm asking,
4 Bill.

5 A. Let me clarify. A welder is not put to work
6 in the field until I am presented his certification docu-
7 ment based on the objective qualification of that individual
8 in a test booth.

9 Q. Right. I understand that. Okay.

10 MR. HORIN: Her question was something
11 different.

12 BY MS. GARDE:

13 Q. You don't actually watch him do the test.

14 A. No.

15 Q. You don't give the test.

16 A. I do not give the test.

17 Q. You don't, in your review, go back and call
18 up his former employers.

19 A. No.

20 Q. Or verify his educational background.

21 A. In the case of a welder, it wouldn't be
22 appropriate. In the case of a quality control inspector,
23 it would be appropriate.

24 MS. GARDE: Okay. Let's take a small break.
25 I only have two more questions.

1 (Whereupon, a short break was taken.)

2 MS. GARDE: On the record.

3 BY MS. GARDE:

4 Q In the last part of question twelve, you
5 state that, "ASME QA program is subject to audit by the
6 ANIS." Are you the ANIS?

7 A Mr. Bill Tillman is the ANIS.

8 Q And how often does he perform those audits?

9 A That particular audit is on a semi-annual
10 basis, as required by the document affixed to ANSI N626.

11 Q Then question thirteen, you describe an SIS
12 report, and there's one attached to that. Would you please
13 briefly describe the -- let's turn to the SIS report. Let
14 me restate my question.

15 The last block on this document, Attachment
16 3, says "Remonitoring Results." Would you please explain
17 briefly for me what it means when you say, "I the under-
18 signed have remonitored the above unsatisfactory condition."
19 What does "remonitoring mean?"

20 A It can mean either that the response, written
21 resonse to this finding is acceptable as ready, or we may
22 go out and look at the item.

23 Q Uh-huh.

24 A If it were a particular item that was in
25 question, I'd look at it again.

1 Q And the decision on what it, what "remonitoring"
2 is, is also subjective?

3 A Yes. I wrote it up, and I have the ability
4 to close it based on their ability to prove to me that the
5 problem has been resolved.

6 Q Okay. And that applies to each of the
7 inspectors out there?

8 A Absolutely.

9 MS. GARDE: No further questions.

10 MR. HORIN: Mr. Bachmann?

11 MR. BACHMANN: I have one brief question just
12 to clarify the record. And if it was in the direct testi-
13 mony, please point it out to me.

14 CROSS-EXAMINATION

15 BY MR. BACHMANN:

16 Q The result, final result or bottom line of
17 the program involving yourself and the other ANI's and the
18 ANI supervisor is that ultimately the Comanche Peak would
19 then, is this correct, be certified as conforming to the
20 ASME code? Is the --

21 A We sign -- we sign an individual N-5
22 document ultimately for each system, each ASME designated
23 system, of which there are 25 in Unit 1. When those 25
24 ASME N-5 data reports are signed by the constructor and
25 ourselves, the testing that to the best of our belief the

1 requirements of the ASME code have been fully complied with,
2 that is the end of any particular involvement from the
3 Section 3 construction code.

4 MR. BACHMANN: I have no further questions.

5 MR. HORIN: I just have a couple of questions
6 on redirect.

7 REDIRECT EXAMINATION

8 BY MR. HORIN:

9 Q Mr. Coats, does Brown & Root have a contrac-
10 tual rate to request any number of inspectors be placed on
11 site?

12 A Yes, they do.

13 Q Do your inspectors and yourself work at your
14 own work pace, established by yourselves?

15 A That's correct, we do.

16 Q Has anyone ever requested that you or your
17 inspectors increase your pace of work?

18 A No, not the pace of work which we work. If
19 an inspection has been overlooked by us, we may be
20 re-requested and informed that an inspection hasn't been
21 inspected by the ANI's, it is our requirement.

22 Q But that is not --

23 A The pace of the work itself is not in
24 question.

25 Q To the extent you're familiar with it, could

1 you describe -- would you describe the evaluation process
2 for ANI inspectors?

3 A Yes. Each of us are evaluated on an annual
4 basis and ongoing within that annual time frame by the
5 supervisor, Mr. Tillman. He also solicits input from myself.
6 We're based on specific objective and subjective criteria
7 within a framework of our duties as listed within ANSI
8 N626 and the requirements of ASME 3.

9 And he, objectively, determines the level
10 of competency of the jobs that we perform and documents
11 that are an annual appraisal, and again also within various
12 time frames within that period of one year.

13 MR. HORIN: No further questions.

14 MS. GARDE: No further questions.

15 MR. BACHMANN: No further questions. Thank
16 you, Mr. Coats.

17 MR. HORIN: Thank you, Mr. Coats.

18 (Whereupon, at 11:00 a.m. the deposition
19 was concluded.)
20
21
22
23
24
25

Marvin L. Coats, Deponent

CERTIFICATE OF PROCEEDINGS

1 This is to certify that the attached proceedings before the
2 NRC COMMISSION

3 In the matter of: TEXAS UTILITIES ELECTRIC COMPANY, et al
4 (Deponent: Marvin L. Coats)

5 Date of Proceeding: August 3, 1984

6 Place of Proceeding: Glen Rose, Texas

7 were held as herein appears, and that this is the original
8 transcript for the file of the Commission.

9 Margaret K. Schneider

10 Official Reporter - Typed

11
12 *Margaret K. Schneider*
13 Official Reporter - Signature

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

TESTIMONY OF MARVIN L. COATS
REGARDING ANI INSPECTION OF
ASME COMPONENTS AND SYSTEMS

- Q1. Please state your full name, residence, job title, and educational and professional qualifications.
- A1. My name is Marvin L. Coats. I reside in Stephenville, Texas. I am employed by the Hartford Steam Boiler Inspection and Insurance Company as the Lead Authorized Nuclear Inspector (ANI) at Comanche Peak Steam Electric Station. My educational and professional qualifications are attached to this testimony as Attachment 1.
- Q2. Please describe your technical duties as Lead ANI.
- A2. I am responsible for providing onsite technical guidance for eight other ANI's on site. Collectively, onsite ANI's oversee the fabrication and installation of all ASME components and systems at Comanche Peak. This includes mechanical components, piping, and pipe supports. Onsite ANI's also independently oversee the ASME Construction QA Organization and the QA process.



Q3. What is the purpose of your testimony?

A3. The purpose of my testimony is to describe how the Authorized Nuclear Inspection Agency (ANIA), through onsite ANI's, provides an independent layer of inspection and verification for ASME components and systems. As described below, the ANIA, through onsite ANI's, reviews construction and the QA process to assure that Code requirements are fulfilled. This review exists over and above activities performed by the Brown & Root Construction QA Organization.

Q4. What is the ANIA?

A4. The ASME Boiler and Pressure Vessel Code requires that during construction, third-party independent inspection and verification be provided to certify that all ASME Class 1, Class 2, and Class 3 equipment meets the Code requirements. This function is served by the Authorized Nuclear Inspection Agency, or ANIA.

The ANIA at Comanche Peak Station is provided by the Hartford Steam Boiler Inspection and Insurance Company. At Comanche Peak the agency is currently comprised of nine ANI's on site and a technical supervisor (ANIS) in Houston.

Q5. What requirements must an inspector meet to become qualified as an ANI?

A5. An ANI is an authorized nuclear inspector qualified and certified by the National Board of Boiler and Pressure Vessel Inspectors. This Board is made up of chief

inspectors from each state. Each ANI must pass a national certification exam, have three years experience in the operation or construction of pressure vessels, and have an additional year of experience in the inspection of ASME Code vessels. In the case of Comanche Peak Station, the ANI's are also certified by the State of Texas.

Further details regarding the qualifications, duties and responsibilities of the ANIA and the ANI's are provided by ASME standard ANSI N626.0-1974, which is included as Attachment 2 to this testimony.

- Q6. Please describe the independence of the ANI's.
- A6. The onsite ANI's are independent of the contractor. Therefore, the ANI's are not subject to the pressure of cost or schedule and perform a true third-party review of construction quality.
- Q7. Please describe the ANI's in-process inspection of ASME welding processes.
- A7. For ASME welds, the Construction QA Manager must first submit to the ANI all welding process control documents. Based upon a review of these documents, the ANI selects a sample of construction hold points for ANI inspection. Any ASME Code-required inspection attribute may be chosen for ANI verification. Therefore, hold points may include fit-up, cleanliness, preheat, and final visual and non-destructive examination.

At the established hold points an ANI will observe the weld, and the QC examination or inspection of that weld, to assure that the weld and the QC inspection comply with ASME criteria. For example, at a hold point, an ANI may observe and measure pipe fit-up. If a hold point includes a non-destructive examination, the ANI will observe the QC examiners as they carry out the penetrant testing, magnetic particle testing, or radiographic testing to assure that it is properly executed and to verify the results.

In total, the ANI will independently verify approximately 2%-5% of all ASME construction QC inspections. This provides added assurance that the Brown & Root QA program is properly implemented.

- Q8. Does the ANI perform any other verification with respect to the in-process inspection of welds?
- A8. Yes. Construction QA performs a radiographic test of the completed weld for all ASME Class 1 and Class 2 piping butt welds. The ANI at Comanche Peak Station reviews 100% of the radiographs of welds to verify that Code requirements are met. The radiographs will reveal most fit-up errors and internal defects.
- Q9. Please describe an ANI's in-process inspection of mechanical processes.

A9. In a manner similar to the in-process review of welds, the ANI establishes construction hold points for in-process review of mechanical processes such as the fabrication of mechanical joints. At these hold points, Construction QC inspections are observed to assure that the inspection process is being implemented. The ANI also monitors the use of mechanical and testing equipment to assure proper calibration and application of the equipment.

Q10. What overview does the ANI provide for ASME components and systems post-installation?

A10. For completed installations such as piping and supports, the ANI will visually observe almost all equipment in system walkdowns. These walkdowns are performed to verify that the constructed configuration matches the construction drawings.

Also, for completed equipment such as pipe supports, the ANI witnesses final QC inspections. This surveillance is conducted on a random basis and includes approximately 2-5% of completed equipment.

Third, for all ASME piping, the ANI acts as an independent witness of all post-installation pressure tests. These tests are required by the ASME Code and occur only after all the prerequisite welding, fitting, inspection, and documentation work is complete. In these pressure tests,

the ASME pipes are pressurized to one and one-quarter times the design pressure. All welds are inspected by both Construction QC and an ANI during pressurization.

Q11. Please describe how the ANI reviews ASME Code-related documentation.

A11. The ANI reviews 100% of ASME Code-related documentation. This function is over and above the functions discussed above which involve observation of in-process and post-installation Construction QC activities. This ANI review of documentation is conducted throughout the QA documentation process.

The ASME Code requires that after construction of each ASME component or system, the contractor file with the State and with the NRC an N-5 data report which certifies that ASME components, supports, and appurtenances, as installed, comply with the Code. The ANI must ultimately sign this N-5 data report. Before signing the certification, however, the ANI will review all of the contractor's Code-related documentation and must concur with any disposition of nonconformances.

Q12. What other reviews of ASME construction QC activities does the ANI perform?

A12. In essence, the ANI monitors the entire ASME QA program and organization. In addition to the activities described above, the ANI reviews all nondestructive examination

procedures used by the construction quality assurance program. The ANI also reviews the qualifications of all welders and all QC inspectors, and monitors other facets of the construction quality assurance program such as design control and procurement. Finally, the entire ASME QA program is subject to audit by the ANIS (authorized nuclear inspection supervisor). Such audits verify the implementation of the contractor's ASME QA Manual.

Q13. Does the ANI document nonconformances or deficiencies?

A13. Yes. The ANI does document all significant deficiencies or nonconformances. The document is sent to the ASME Construction QA manager for disposition. These reports can relate to construction matters, the QA inspection process, or to QA documentation deficiencies.

The most serious nonconformances observed by an ANI would be reported using a QA Monitoring Record. This type of report is analagous to a QC nonconformance report (NCR). For illustration purposes, a form for this type of report is included with this testimony as Attachment 3. The ANI also utilizes a sub-tier report for less substantial deficiencies. This is the SIS Report. A form for this type of report is also included with this testimony as Attachment 4.

It is important to note that deficiencies and nonconformances reported by the ANI to ASME construction QA are part of the independent review process. They are not of themselves indicative of a QA program breakdown. All such ANI reports must be responded to by the ASME Construction QA Manager and, if finally determined to be necessary by the ANI, corrective action must be taken. ANI will not sign off on the final N-5 data report unless outstanding matters have been resolved. The exchange of reports between ANI and ASME QA is therefore an essential aspect of proper ANI overview of the QA program for ASME components and systems.

Q14. What is your conclusion with respect to the ANI program at Comanche Peak?

A14. It is my conclusion that the ANI at Comanche Peak Station has, as intended by the ASME Code, provided an effective, independent review of the construction and the QA program for ASME components and systems. The ANI has independently observed and inspected ASME inspection attributes as provided for by the ASME Code. In addition, the ANI has monitored the overall function of the ASME construction QA program and will certify that all ASME components and systems meet ASME Code requirements. This process provides additional assurance of construction quality at Comanche Peak.

Q15. Does this conclude your testimony?

A15. Yes.

MARVIN L. COATS

P. O. Box 502
Stephenville, Texas 76401

Telephone: (817) 965-2757

5/81 - Present

BOILER AND PRESSURE VESSEL INSPECTOR

Hartford Steam Boiler Insurance and Inspection Company
Hartford, Connecticut

1/81 - 5/81

MECHANICAL ENGINEER

J.A. Jones Construction Services Company
801 First Street
Richland, WA. 99352

Perform all duties required as ASME CODE ENGINEER. These include engineering planning, shop and field engineering, Code interpretation, interface responsibilities with quality assurance and customer, material take-off, final work approval and document review, procedural writing, preparation and signing of data reports, identifying quality control requirements, and designated company representative for contact with the ASME, National Board, and Authorized Inspection Agency. J.A. Jones Construction Services Company holds the N, NA, NPT, U, and PP Certificates.

12/79 - 1/81

BOILER AND PRESSURE VESSEL INSPECTOR

Hartford Steam Boiler Insurance and Inspection
Hartford, Connecticut

8/79 - 11/79

DESIGNER, HVAC AND ELECTRICAL SYSTEMS

Wallis & Associates, Consulting Engineers
San Antonio, Texas

Responsible for design of HVAC and Electrical Systems. Work required interpretation of the National Fire Protection Codes.

8/71 - 8/79

FIREFIGHTER/FIRE INSPECTOR

United States Army
Fort Sam Houston, Texas

2/71 - 8/71

BOILER OPERATOR

United States Air Force
Travis Air Force Base, California

Employed by the Air Force to routinely fire, operate, and perform maintenance on low and high pressure boilers.

MARVIN L. COATS
Page Two

8/62 - 9/70
Active Duty
United States Navy

REACTOR MECHANICAL OPERATOR (E-6)

Employed by the Navy to serve as OPERATOR, INSTRUCTOR, and PLANT ENGINEER in steam propulsion plants, both conventional and nuclear. Extensive supervisory experience in operations, maintenance, and inspection of nuclear reactor plants, heat exchangers, turbines, pumps, and all other equipment associated with a nuclear-powered propulsion plant. Served two years as an instructor of mechanical theory and system hydraulics at a nuclear training site. Supervisor of nuclear support facility on a nuclear destroyer tender including non destructive test and weld inspection lab. Developed procedures for liquid and solid radioactive waste treatment and disposition. Responsible for training and certification of facility labor force and NDT technicians.

EDUCATION

ASME Section III Piping Design and Fabrication Seminar - Tech. Seminars, Inc. - Idaho Falls, Idaho - 1981.

Certification Courses, Boiler and Pressure Vessel Inspector, Hartford, Steam Boiler - Hartford, Connecticut - 1980-1984.

Accounting and Economics (54 Semester Hours) - San Antonio College, San Antonio, Texas - 1975.

Engineering Courses - United States Navy 1962-1970.

Courses Included: Steam propulsion plants, air conditioning and refrigeration, nuclear reactor operations, engineering laboratory control and analysis. Course topics included: Nuclear physics, thermo-dynamics, hydraulics, fluid flow, mechanical theory, reactor technology, integral and differential calculus and radiological controls.

PROFESSIONAL ORGANIZATIONS

American Institute of Plant Engineers.

American Society for Quality Control.

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Qualifications and Duties for Authorized Nuclear Inspection

ANSI N626.0 - 1974

(SECOND PRINTING WITH EDITORIAL REVISIONS)

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FOREWORD

At the March 29, 1973 meeting of the Policy Board, Codes and Standards, a Special Committee of the Policy Board, Codes and Standards was established to develop a standard whose Scope would include the duties and qualifications of the Authorized Inspection Agency; the supervisory personnel of the Authorized Inspection Agency; and the Authorized Nuclear Inspectors. To facilitate this action, two Task Groups were appointed by the Special Committee:

- (a) National Board of Boiler and Pressure Vessel Inspectors.
- (b) Boiler and Pressure Vessel Insurance Authorized Inspection Agencies.

The National Board of Boiler and Pressure Vessel Inspectors' Task Group was made up of representatives from various States that had adopted the ASME Boiler and Pressure Vessel Code; and the members of the Inspection Agency Task Group represented the Insurance Authorized Inspection Agencies.

These two Task Groups developed independent drafts which, at a joint meeting, were integrated into a proposed standard which, was reviewed and accepted by the Special Committee.

The Policy Board, Codes and Standards at its meeting of September 27, 1973 designated the Special Committee as a Safety Code Committee and approved procedures for the Committee activities.

The Special Committee of the Policy Board, Codes and Standards and the subsequent Safety Code Committee was made up of individuals associated with:

- Nuclear Component Manufacturers
- Engineering Organizations
- Utilities
- State Regulatory Agencies
- Federal Regulatory Agency (NRC)
- Authorized Inspection Agencies
- National Board of Boiler and Pressure Vessel Inspectors
- ASME Boiler and Pressure Vessel Code

The Procedures have been accepted by the American National Standards Institute as meeting the criteria of consensus procedures for American National Standards.

This Standard was approved by the American National Standards Institute on April 1, 1974.

SCOPE

This Standard includes the requirements for the Qualifications and Duties of the Authorized Inspection Agency, its Supervisors, and the Authorized Nuclear Inspector, as covered in the ASME Boiler and Pressure Vessel Code, Section III, Division 1, Nuclear Power Plant Components. At present, this scope does not include the Duties of the Authorized Nuclear Inspector with respect to the Owner and the Engineering Organization, in Section III, Division 1, or of the Authorized Nuclear Inspector for Section XI, Inservice Inspection or for Concrete Vessels covered by Section III, Division 2, or of the Specialized Professional Engineers.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS
Safety Code Committee On
Qualifications of Nuclear Inspectors and
Specialized Professional Engineers

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QUALIFICATIONS AND DUTIES FOR AUTHORIZED NUCLEAR INSPECTION

1 THE AUTHORIZED INSPECTION AGENCY

1.1 Qualifications

An Authorized Inspection Agency shall meet the criteria defined for such agencies in Section III, Division 1, of the ASME Code¹, and the National Board² By-Laws. The agency may be a State or Municipality of the United States, a Province of Canada, or an insurance company. An insurance company, which intends to provide authorized ASME Code inspection service in or for the various States of the United States, shall:

1.1.1 Be licensed or registered by the State Insurance Commission or other state agency that has the responsibility of regulating insurance companies writing boiler and pressure vessel insurance, and

1.1.2 Receive authorization to provide this inspection service from the jurisdictional authority which has the responsibility of administering the boiler and pressure vessel laws in the States of the United States, in which the insurance company is licensed or registered.

1.2 Duties

An Authorized Inspection Agency shall:

1.2.1 Participate in the ASME survey of any organization for which they provide Authorized Nuclear Inspection.

1.2.2 Maintain qualified supervisors and alternates to monitor nuclear shops with which inspection agreements have been made.

1.2.3 Give written notice to all Authorized Nuclear Inspectors of the name, office and home addresses, and phone numbers of the respective supervisors and alternates.

1.2.4 Assure proper execution of responsibilities. In particular, the Agency shall:

- (1) Give written instructions to all Authorized Nuclear Inspectors requiring them to im-

mediately contact their supervisor through the swiftest, most positive, available method whenever the inspector is unable to readily resolve any question concerning Code compliance, manufacturing procedure or Quality Assurance provision or implementation.

- (2) Include instructions, as a reminder to the Authorized Nuclear Inspector, that he has the authority to refuse to sign any data reports involving non-conformance with the Code.

1.2.5 Have personnel conversant with the Code responsible for keeping all appropriate personnel informed.

1.2.6 Submit to the National Board an application for a special endorsement for the Authorized Nuclear Inspector applicant certifying that he has the required experience and training, and that qualified supervision will be provided to assure that the Authorized Nuclear Inspector satisfactorily fulfills his functions.

1.2.7 Submit to the National Board an application for a special endorsement for the Authorized Nuclear Inspector Supervisor applicant certifying that the Supervisor has the required experience and training.

1.2.8 Establish a policy to assure adequate levels of inspection activity.

2 THE AUTHORIZED NUCLEAR INSPECTOR SUPERVISOR

2.1 Qualifications

The Supervisor shall be selected and designated as such by his employer. He shall have qualified as an Authorized Nuclear Inspector and shall have the following additional qualifications.

2.1.1 He shall have passed an examination developed, promulgated and administered by the National Board. Such examinations shall encompass sufficient means of determination of the candidate's ability to ascertain the validity and quality of the nondestructive examination and other quality assurance requirements of Section III, Division 1 of the ASME Code.

¹ ASME Code refers to: Section III, Division 1, with Addenda, and Code Cases.

² National Board refers to: The National Board of Boiler and Pressure Vessel Inspectors.

2.1.2 He shall have knowledge of the basic fundamentals of health physics, insofar as permissible exposure to radiation is concerned, and shall have the ability and means to properly administer affected personnel schedules so as to maintain individual radiation exposure within permissible limits.

2.1.3 To be considered for certification a candidate shall satisfy one of the following requirements.

(1) Graduate of a four-year accredited engineering or science college or university, plus five years of experience in quality assurance, including testing or inspection (or both) of equivalent manufacturing, construction or installation activities. At least two years of this experience should be associated with nuclear facilities; or if not, the individual shall have training sufficient to acquaint him thoroughly with the safety aspects of a nuclear facility.

or

(2) High school graduate, plus ten years of experience in general quality assurance or engineering of equivalent manufacturing, construction or installation activities. Five years of this experience is required in quality assurance, including testing or inspection (or both) of equivalent construction and installation activities. At least two years of this experience should be associated with nuclear facilities; or if not, the individual shall have training sufficient to acquaint him thoroughly with the safety aspects of a nuclear facility.

or

(3) At least five years ASME Boiler and Pressure Vessel Code related work which includes inspection under the provisions of ASME Code Sections I, III or VIII, supervision of such work prior to the establishment of these qualifications, administration of shop inspection service under the referenced Sections, or experience in applicable Code-related manufacturing or construction activities.

2.1.4 He shall have knowledge of ASME nuclear survey procedures which shall include service with at least three nuclear survey teams as a member or as an observer.

2.1.5 He shall have experience assisting in the preparation of applicants for ASME Nuclear Authorization including reviews of Quality Assurance and Quality Control Systems.

2.1.6 He shall have knowledge of the requirements of applicable ASME Code Sections.

2.2 Duties

The Authorized Nuclear Inspector Supervisor shall:

2.2.1 Maintain a record of nuclear shops, field sites and generating stations assigned to him by his inspection agency for supervision. He shall record the dates and findings of his visits to such locations when related to nuclear supervisory duties.

2.2.2 Maintain a record of those Authorized Nuclear Inspectors assigned to him and a description of their assignments.

2.2.3 ~~Audit~~ all nuclear shops, field sites and inspector's performance at least ~~twice a year~~ to assure Code compliance and adherence to the Quality Assurance Manual. At the time of this Audit, the Supervisor shall be accompanied by the Authorized Nuclear Inspector, and the manufacturer's or installer's personnel having the responsibilities for Code compliance and Quality Assurance. The audit shall include but not be limited to, a check of the following items:

- (1) The Authorized Nuclear Inspector's records or diary of inspection phases performed on identified items, with dates noted.
- (2) The production schedule affecting items in the construction phase, including a review of the method of selecting inspection hold points and implementing such inspections.
- (3) Material identification, storage and control procedures. Particular attention shall be paid to welding materials.
- (4) Welding procedures, welder's and welding operator's qualifications to determine current applicability and validity.
- (5) Welder's identification and work logs to determine that qualification has not expired.
- (6) Nondestructive examination procedures and operator qualifications.
- (7) Manufacturer's or installer's record-keeping procedure to assure unquestioned and complete traceability of any phase of work or non-destructive examination results.
- (8) Travelers or process sheets accompanying items in the construction or installation phase to assure that these accurately represent and properly attest to the work, examinations, tests and inspections performed.
- (9) A sample check of one item under construction or installation to assure implementation of the Quality Assurance Program.

- (10) A review of the system for calibration of gages and other measurement equipment used for testing and nondestructive examinations and adequacy of record keeping procedure.
- (11) A review of the physical facilities of the manufacturer or installer to determine continued adequacy for class and type of work, testing and examinations performed.
- (12) A review to assure that all non-conforming items disclosed during this audit or prior audits have been brought into accordance with applicable Code Sections.

2.2.4 Assist in maintaining the competency of the Authorized Nuclear Inspector to an acceptable level through periodic arrangement of panel discussions of work-related topics; written communications of unique problems and their solution; informal question and answer discussion sessions, and whatever other means he may deem helpful in keeping the inspector fully conversant with his assigned duties.

2.2.5 Either establish or have available to him, a system to record and limit his radiation exposure and that of the inspectors assigned to him. This system will be under the regulation of his employer who shall maintain an acceptable system of control.

2.2.6 Assure that the Authorized Nuclear Inspector meets the physical and technical requirements for the performance of his duties.

2.2.7 Investigate any allegations involving inexperience or lack of proper qualification on the part of the Authorized Nuclear Inspector. The Supervisor shall be responsible for the technical performance of the Authorized Nuclear Inspectors assigned to him and report in writing to his management any non-conforming activities that he observes on the part of the Inspector, the manufacturer, the installer or other parties involved in ASME-related requirements.

3 THE INSPECTION SPECIALIST

The Authorized Nuclear Inspector who has been deemed qualified may be designated by his employer as an Inspection Specialist. His duties are as defined in the Code. The Authorized Nuclear Inspector Supervisor may also be designated as an Inspection Specialist.

4 THE AUTHORIZED NUCLEAR INSPECTOR

4.1 Qualifications

All inspectors shall comply with the National

Board By-Laws, Article III and IV, and hold a valid State Certificate of Competency (where required) and a valid National Board Commission. An applicant for designation as an Authorized Nuclear Inspector shall be at least ~~25 years of age~~ and shall have education and experience equal to that defined by 4.1.1 or by 4.1.2 and shall have the characteristics defined by 4.1.3 through 4.1.10.

4.1.1 A degree in engineering or science from an accredited institution, plus two years of experience in design, construction, operation or inspection of high pressure boilers, pressure vessels, or associated pressure components.

4.1.2 The equivalent of a high school education, plus 4 years of experience:

- (1) in high pressure boilers, pressure vessels or associated pressure components, construction or repair,
or
- (2) as an operating engineer in charge of high pressure boiler or nuclear power plant operation,
or
- (3) as an inspector of high pressure boilers, pressure vessels or associated pressure components.

4.1.3 A minimum of one year of diversified shop inspection experience in the construction of Section I and/or Section VIII, pressure vessels, or, one year of diversified experience as an inspector trainee of nuclear items under the direct supervision of an Authorized Nuclear Inspector.

4.1.4 Demonstrated ability to perform shop and field (on-site) inspections to the satisfaction of the Authorized Inspection Agency employing him.

4.1.5 Satisfactory degree of expertise, experience and background for the inspection of nuclear items according to the complexity of the assignment.

4.1.6 Knowledge of applicable Sections of the ASME Codes and Code Cases

4.1.7 Knowledge of Quality Assurance Manuals, Quality Control Programs and shop and field procedures.

4.1.8 Knowledge and ability to evaluate and monitor shop and field procedures.

4.1.9 Knowledge of the requirements for maintenance and retention of in-transit and permanent records.

4.1.10 Passing grade on an examination, acceptable to ASME in the methods of welding, non-destructive examination and for Authorized Nuclear Inspectors, given by the National Board, covering knowledge of and familiarity with the ASME Code.

4.2 Duties

The Inspector's duties are covered in the ASME Code and include but are not limited to, the following:

4.2.1 He shall verify that the manufacturer or installer has the required Certificate of Authorization to construct the class and size of items contracted for. It is necessary to check the Certificate to make certain it has not expired and to determine the scope of construction permitted under the terms of the Certificate.

Note:

THE FACT THAT THE MANUFACTURER OR INSTALLER HAS THE REQUIRED CODE SYMBOL STAMP IS NOT SUFFICIENT EVIDENCE TO ASSUME HE HAS A VALID CERTIFICATE OF AUTHORIZATION.

4.2.2 He shall monitor the Quality Assurance Program and verify conformity.

4.2.3 He shall verify that the manufacturer or installer has the necessary and up-to-date Code book, addenda and Code Cases.

4.2.4 He shall verify that the Design Specification and Stress Report, where required, are available, properly certified by Registered Professional Engineers in accordance with ASME Code requirements, and are on file.

4.2.5 He shall verify that all material complies with the applicable ASME Code requirements.

4.2.6 When it is necessary to cut the material into two or more parts, he shall verify that the manufacturer's or installer's controls are such that responsible personnel have transferred the identification prior to cutting, in order to maintain traceability of the material.

4.2.7 He shall verify that the manufacturer's or installer's personnel are examining all cut edges as required by the ASME Code.

4.2.8 He shall verify that all welding procedures conform to ASME Code Sections III and IX.

4.2.9 He shall verify that all welders and welding operators are properly qualified and that their qualification authorizes them to use the required procedures.

4.2.10 During construction, he shall verify that the welding controls permit only qualified welding procedure and qualified welders and operators.

4.2.11 If welded repairs are found to be necessary during construction, he shall verify that only properly qualified procedures, welders and operators are used.

4.2.12 He shall verify that all required heat treatments have been performed and are properly documented.

4.2.13 He shall verify that required nondestructive examinations and tests have been made by qualified operators and that the results are properly documented and meet Code requirements. Nondestructive examination procedures and acceptance standards shall be in accordance with the ASME Code.

4.2.14 He shall perform the required inspections prior to closure for test. He shall also witness hydrostatic or pneumatic tests.

4.2.15 He shall verify in all cases that the responsible representative of the manufacturer or installer has signed the Manufacturer's Data Report and verified it as correct before he signs it.

4.2.16 Prior to stamping he shall verify to the best of his knowledge and belief, that the item is in compliance with the ASME Code. He shall also verify that the nameplate stamping is correct and that the nameplate has been properly attached.

4.2.17 He shall also inspect where applicable, items that are reported on Manufacturer's Data Reports and those that are produced by methods other than welding.

4.2.18 He shall keep a bound (not loose leaf) record or diary of his activities and inspections made, detailing corrections and any other pertinent data that will be useful to him, his alternate, and his employer.



SIS RECORD FOR MONITORING Q.A./Q.C. PROGRAMS

THE HARTFORD STEAM BOILER INSPECTION and INSURANCE COMPANY
HARTFORD, CONNECTICUT 06102

CUSTOMER IDENTIFICATION	TO (Name and Title)		DATE	SHEET	OF
	CUSTOMER'S COMPANY NAME	INSP. BRANCH	INSP. REGION OR FOREIGN COUNTRY	(REGIONAL USE ONLY) <input type="checkbox"/> Follow-Up Required <input type="checkbox"/> Closed	
	INSPECTION LOCATION		<input type="checkbox"/> Shop <input type="checkbox"/> Field Assembly	<input type="checkbox"/> Repair/Alteration	<input type="checkbox"/> Inservice

I, the undersigned, have monitored your QA/QC manual on: _____ **and find the following sections:** _____
(Date)

(Give Numbers and Titles)

Satisfactory:

(Identify QA/QC manual section [No. and Title] OR identify the specific nonconformance as applicable)

Unsatisfactory:

OVER

CUSTOMER: Please describe the resolution of these items in the "CUSTOMER'S RESOLUTION" section below, and give date for completion of corrective action, so that items may be remonitored by: _____
(Date)

Please keep the Original of this form for your records and return a copy to inspector named below.

DISTRIBUTION <input type="checkbox"/> Reg. Mgr. / <input type="checkbox"/> SIS Foreign Representative	<input type="checkbox"/> Insp. File	DATE SIGNED	SIGNED (HSB Inspector)
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RESOLUTION OF THOSE ITEMS DESCRIBED ABOVE AS BEING UNSATISFACTORY (Continue on Reverse Side if Necessary)

OVER

DATE CORRECTIVE ACTION WILL BE COMPLETED	DATE SIGNED	SIGNED (Customer's Representative)
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I, the undersigned, have remonitored the above unsatisfactory conditions on: _____ **and found them:** Satisfactory Unsatisfactory (Explain below) _____
(Date)

REMONITORING RESULTS

DISTRIBUTION <input type="checkbox"/> Reg. Mgr. / <input type="checkbox"/> SIS Foreign Representative	<input type="checkbox"/> Insp. File	DATE SIGNED	SIGNED (HSB Inspector)
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