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UNITED STATES
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

DOCKET NO:

INVESTIGATIVE INTERVIEW OF HENRY E. STONE

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EXHIBIT 72

WIRELESS COVERAGE

EXAMINATION

BY MR. WILLIAMSON:

Q For the record, it is now 9:05, April 1st, 1987. This is the interview of Henry E. Stone, who is employed by H. E. Stone, Incorporated. The location of this interview is Chattanooga, Tennessee.

Present at this interview are: Larry Robinson, Mark Reinhart, Lynn Williamson. As agreed, this is being transcribed by a court reporter.

The subject matter of this interview concerns your knowledge of or involvement in the March 20th, 1986 response from TVA to NRC regarding TVA's compliance with 10 CFR Appendix B at Watts Bar Nuclear Plant.

Mr. Stone, would you please stand and raise your right hand?

(Witness complies.)

Q Do you swear or affirm that the information you're about to give is the truth, the whole truth and nothing but the truth, so help you God?

A I do.

Q Mr. Stone, would you provide for us some information on your background, both work related in the nuclear industry and also your educational background?

A Okay. After serving in the United States

1 Army in World War II, I went and got a Bachelor of
2 Science degree in mechanical engineering at the
3 University of Buffalo.

4 I graduated or completed my work in late
5 1948, at which time I joined the General Electric Company
6 on the test program. I worked for awhile in Lynn,
7 Massachusetts, and then in Schenectady, New York.

8 In late 1950, I joined the North Atomic
9 Power Laboratory where I worked through 1973, the last
10 six years of which I was the general manager of the North
11 Atomic Power Laboratory which was engaged in the design
12 construction and operation of naval nuclear plants.

13 While working there, I obtained my Master's
14 degree going to night school at Union College in
15 engineering. I, also, became a professional engineer in
16 the State of New York, and later on when I moved to
17 California in California.

18 In 1974, I came to the General Electric
19 Commercial Nuclear Power Operation in San Jose,
20 California. And in, I think it was 1977 or 1978, I
21 became a vice-president of General Electric Company and
22 became in charge of most of the engineering aspects
23 connected with the domestic and international boiling
24 water reactor projects.

25 I retired from General Electric Company on

1 February 28th, 1987 after over 38 years of service. I
2 was elected a fellow of the American Association of
3 Mechanical Enigneers.

4 I am a member of the American Nuclear
5 Society. I was elected to the National Academy of
6 Enigneering a few years ago. I don't remember how many.

7 That's about it.

8 Q What is your current position? What are you
9 currently involved in, now?

10 A I am doing consulting work in enigneering
11 related and management related activities. I merely
12 connect it with the design and construction operation of
13 nuclear power plants, and I am working here part-time
14 under contract with TVA --

15 Q What is your capacity, currently, with TVA?

16 A -- which I have been doing for the last 15
17 months or so. My current capacity is threefold. I am an
18 advisor to Mr. Steven White on management and enigneering
19 problems, primarily related with Brown's Ferry and
20 Sequoyah.

21 Second, I am an advisor to the Chairman of
22 the Nuclear Safety Review Board at Sequoyah. His name is
23 William Hannum.

24 I am part-time on the task force that's
25 engaged in start-up activities for Brown's Ferry, which

1 is under the chairmanship of the site director at Brown's
2 Perry, whose name is Hugo, H-u-g-o, Pomrehn,
3 P-o-m-r-e-h-n, who's a Bechtel employee.

4 BY MR. ROBINSON:

5 Q When did you first come to TVA, Mr. Stone?

6 A January 13th, 1986.

7 Q At that time, what were your areas of
8 responsibility?

9 A At that time, I was a consultant to Mr.
10 Steven White.

11 Q Okay.

12 A There was no Sequoyah -- NSRS people was
13 not, yet, in existence.

14 MR. ROBINSON: Go ahead, Lynn.

15 BY MR. WILLIAMSON:

16 Q Mr. Stone, as mentioned earlier, we would
17 like to discuss with you your knowledge of or involvement
18 in the March 20th, 1986 response from TVA from Mr. White
19 to the NRC regarding TVA's compliance with Appendix 3 at
20 Watts Bar.

21 Are you familiar with the history behind
22 this letter that Mr. White provided to the NRC?

23 A Very vaguely. I know the letter existed. I
24 know a little bit about the implications of it, but
25 that's it.

1 Q . What was your involvement with the response
2 to NRC with regards to that letter?

3 A None.

4 Q Did you have an occasion to review any of
5 the drafts of the letter?

6 A Not of this letter, no.

7 Q Not of this letter. Any subsequent letters?

8 A Well, there was a letter in November of last
9 year, November or December, which was given to me.

10 Q Of '86?

11 A Of '86. It talked about similar subjects,
12 the same subject, which was given to me for review cold.
13 I made some, primarily, editorial comments and comments
14 to do with technical understanding.

15 Q With regards to the March 20th response, do
16 you recall reviewing that at any time or making any
17 comments, either written or verbal comments, regarding
18 that response?

19 A I did not, any of them.

20 Q Did you discuss the response with any other
21 members of Mr. White's staff?

22 A No, I did not.

23 BY MR. ROBINSON:

24 Q Mr. Stone, are you familiar with an effort
25 which was under the guidance of Mr. Larry Hace and Mr.

1 John Kirkebo in the January, February 1986 time frame
 2 called the "Systematic analysis of identified concerns at
 3 TVA" in which they analyzed a number of documents,
 4 various correspondence, inspection reports?

5 Are you familiar with that effort, at all?

6 A I was aware of the effort going on. And it
 7 was an effort that had to do with computerized, in very
 8 great detail for retrieval purposes and analysis
 9 purposes, all kinds of information, both technical and
 10 administrative. And that's about all I know.

11 Q Are you aware of what that analysis was
 12 utilized for?

13 A All I know is that they put it into a number
 14 of categories. And I believe, once, I was given a
 15 printout of the categories, but I never paid any more
 16 attention to it.

17 Q You don't know --

18 A I don't know what they did with it.

19 Q You don't know how Mr. White utilized that
 20 information?

21 A I have no idea.

22 Q Is your area -- does your area of expertise
 23 include the QA field, at all?

24 A Yes, I have been responsible for QA.
 25 Primarily, enigneering related QA, not so much

1 construction QA.

2 Q Okay. So, you're not intimately familiar
3 with the correlation of the various categories of that
4 document review?

5 A I'm not, no.

6 Q By way of background, in preparation for
7 this March 20th, 1986 certification by TVA regarding
8 compliance with Appendix B, there was a series of
9 technical reviews of issues that were brought up by TVA's
10 Nuclear Safety Review Staff in December of 1985.

11 Are you familiar, at all, with those issues?

12 A If you would mention a few, I can tell you
13 which ones I am familiar with.

14 Q The status of the welding program at Watts
15 Bar is indeterminate?

16 A I know there was talk about welding, yes.

17 Q Instrument line and cable inadequacies?

18 A Instrument and slope I knew was an issue,
19 but also at Brown's Ferry and Sequoyah.

20 Q Do you recall, at all, the itemization of
21 these Nuclear Safety Review Staff issues on one document?

22 A I don't.

23 Q Okay. Well, these issues were the crux of
24 TVA's response to the NRC as to whether or not they were
25 in compliance with Appendix B. And various TVA employees

1 were charged with investigating the Nuclear Safety Review
2 Staff perceptions at Watts Bar and providing this
3 documentation, and they did so.

4 And subsequent to that, a group of seven or
5 eight gentlemen from Stone & Webster were asked to verify
6 the accuracy of this data. This group was headed by a
7 gentleman by the name of Craig Lundin.

8 Do you know that name, at all?

9 A I have heard the name, yes, but I don't
10 think I would know the gentleman if I would see him.

11 O Are you familiar with the results of his
12 efforts as far as verifying the accuracy and adequacy of
13 these technical responses?

14 A I'm not.

15 O Okay.

16 A You should understand, I had -- the only
17 time I have ever been to Watts Bar, even to this date,
18 was when I gave a talk on Chernobyl, and I really had
19 nothing to do with Watts Bar.

20 MR. ROBINSON: Okay. Do you have any
21 questions, Mark?

22 BY MR. ROBINSON:

23 O Just to make sure of this. This effort that
24 Mr. Lundin did, you never saw it or got involved in
25 discussions or evaluating?

1 A . No.

2 Q Okay. Before January the 13th when you came
3 to TVA, there was --

4 A I came only part-time.

5 Q I understand.

6 A Okay.

7 Q There was an effort by Stone & Webster and
8 Beta and Mr. White who came in and did a management
9 assessment for TVA. They came and interviewed a bunch of
10 people and tried to evaluate what the status was.

11 Were you involved in that, at all?

12 A Only -- well, yes and no. I have to expand
13 on that.

14 We, in General Electric, of course, were
15 interested in the Brown's Ferry units, and we were very
16 disturbed that three Brown's Ferry units were shut down
17 for so long.

18 We had been making all kinds of attempts to
19 try to help TVA in any way to get well, and we found no
20 response. We tried to call Mr. Parris and others, and we
21 were always told "Don't call us. We will call you."

22 Then in, I believe it was in October of
23 1986, it may have been in early November, I got a call
24 from Mr. Wegner saying, "Are you aware that TVA is in
25 trouble?"

1 I said, "I am fully aware that TVA is in
2 trouble."

3 He said, "Why aren't you doing anything
4 about it?"

5 I said, "We have been trying to do something
6 about it."

7 He said, "Well, Congress and the NRC and
8 everybody is disturbed that nothing is being done about
9 it. Would you like to help to do something about it?"

10 I said, "I would be delighted to help you do
11 something about it."

12 So, he said, "Well, we, with Stone &
13 Webster, are trying to make a proposal to TVA, but we are
14 in need of some knowledge of nuclear steam supply. Would
15 General Electric be interested in participating in this?"

16 I said, "By all means, we would be."

17 He said, "Well, there is a review going on
18 or will be going on very shortly, about a two week or 10
19 day review of the TVA situation."

20 I said, "We have made such reviews. You
21 don't need to make such reviews. I can write the report
22 for you."

23 He said, "No, this review is going on. And
24 as soon as it's over with, we will let you know and we
25 will get your comments on it."

1 Well, about two weeks later we were invited
2 to a meeting in Boston where Mr. White, Mr. Wegner, Mr.
3 Mattson, Mr. Siskin, and there were two other gentlemen
4 from General Electric, Mr. Stapleton the George Roup, and
5 I went along.

6 They reviewed with us the findings of this,
7 which were -- which was of no surprise to us. In other
8 words, everything that was bad.

9 And I said, "There's only one request I
10 have. Since I am a personal -- since I have known the
11 chairman of TVA from a trip to Russia, which we took
12 together with 10 other utility executives about two years
13 before," and that's where I met Chili Dean, I said, "If
14 you involve General Electric," I said, you know, "Do it
15 all out in the open."

16 And Chili Dean usually comes to San Jose
17 once a year. He usually visits with me.

18 I said, "I don't want to be the one to come
19 in through the back door. I want it all out in the open.

20 So, if General Electric is willing to help
21 Stone & Webster as a sub contractor or as a partner, any
22 way you want to do it, but it's got to be out in the
23 open."

24 Well, that was my involvement in this two
25 week or 10 day review. I did not participate in it

1 except when Larry Nace made a report in Boston, and I
2 think that was in the middle of November.

3 Q Could you from whatever you remember tell us
4 what Mr. Nace presented, just a summary of the issues?

5 A The issues was a complete breakdown of
6 discipline and management, the same issues that are
7 covered in much more detail in Volume I of the Nuclear
8 Performance Plan.

9 I can't, you know, remember any particular
10 details. We only spent about an hour and two listening
11 to various findings, which were of no surprise to us.

12 Q I see. Did he mention the QA program?

13 A I'm sure QA was mentioned as an issue, but
14 nothing anymore so than some other issues.

15 Q So, basically, the issues that are now in
16 Volume I were what they covered?

17 A I would expect that. Of course, they are
18 much more detailed in Volume I, but the same kind of
19 things that -- in fact, there was a report issued, which
20 we never got a copy of, this good one that Steve White
21 did had some viewgraphs, at least. I know they had some
22 viewgraphs, but I never got a copy of it.

23 MR. RBINHART: Okay.

24 BY MR. WILLIAMSON:

25 Q You said there was no surprises, and that

1 when you were told they were going to do this review that
2 you indicated that you had conducted reviews.

3 A Well, we had studied our own, "In what way
4 can we help TVA?"

5 I'm talking about Brown's Ferry, and what's
6 wrong at Brown's Ferry is, to some extent, not unusual.
7 So, we tried to come up -- and, in fact, we made a
8 proposal to TVA, which was what we called "Shadow
9 management."

10 We wanted to put in 10 to 20 experienced
11 managers to help them manage their plant, which would
12 take care of engineering, construction, quality,
13 engineering assurance or whatever. We had even presented
14 the names of the people whom we would.

15 And then, when the Stone & Webster
16 connection came up, we made that available to Stone &
17 Webster and said, "Here's what we had done. That's one
18 way to do it, but here are some names whom we have at
19 General Electric."

20 Then, when Steven White got his contract, he
21 called me up and he said, "I would like General
22 Electric's help for one month to figure out what to do."

23 I said, "You have 10 names that we gave you
24 resumes from."

25 He said, "No. I want you for one month,"

1 and I am still here. So, that's how we started.

2 Q So, the review that General Electric had
3 done was from a management perspective more than from a
4 technical?

5 A Well, from services. See, we run the
6 service business, and we try to figure out how we could
7 help get the Brown's Ferry Plant started up. That was
8 our interest.

9 So, we had come up with proposing to send in
10 what we call "Shadow managers," and then we were willing
11 and ready to -- in fact, we said we would have two
12 phases.

13 The first phase would be to identify the
14 problems that needed to be done, and then try to fix the
15 problems. That would be the second phase. Then, of
16 course, that got expanded, then, when the Stone & Webster
17 thing came up.

18 We said, "All right. We can do that
19 together. There's a lot of architect engineering work
20 that needs to be done. We're willing to have you come in as
21 a sub to us. We're willing to be a sub to you. We're
22 willing to do it any old way TVA wants to do it."

23 Of course, that was also preceded, then, by
24 Steve White coming on board.

25 Q I know this might be calling for speculation

1 on your part, but do you have any idea why TVA was
2 resistant to the General Electric proposals that they
3 help them with the restart of Brown's Ferry?

4 A Well, our proposal was never made as a
5 formal proposal. We made a proposal to Mr. Parris, who
6 told us that he wanted to present it to the Board. As
7 best as I could find out, the Board never found out about
8 it.

9 Q Do you recall --

10 A Shortly thereafter, they brought in Mac at
11 Brown's Ferry.

12 Q Do you recall when you made that proposal?

13 A We worked with TVA in about, I would say,
14 between May and June of 1986.

15 Q '85?

16 A '86.

17 MR. ROBINSON: Mr. Parris wasn't here. He
18 left in --

19 A I'm sorry, '85, you're right, and I may have
20 made a mistake before when I said '86. The meeting, this
21 was '85, this November meeting. That was in '85, I'm
22 sorry. All of these Stone & Webster discussions were in
23 November of 1985, not '86.

24 Q Let me ask you --

25 BY MR. BEINHART:

1 Q Before you ask him, could he finish what he
2 was talking about when they brought Mac in. You said
3 that --

4 A Well, our proposal never became formal. We
5 were always told, "Don't make a formal proposal. I want
6 to play it over with the Board." As I said, we had a
7 hard time communicating that.

8 And then, the next thing we knew was that
9 Mac, M-a-c, from San Diego was hired and Bill Bipp was
10 brought in as a site director, and they pulled in a
11 number of people. And, I guess, that's how at that time
12 they wanted to handle the Brown's Ferry problem. That's
13 all we were interested in.

14 Q Because Brown's Ferry is a GE plant?

15 A Those are GE designs. And our whole
16 capacity factors were down about 8 or 10 percent because
17 those plants were down. Also, we were not selling any
18 fuel. So, we had a large interest in getting those
19 plants from a reputation and from a business report --

20 Q Okay.

21 A -- getting those plants started up.

22 BY MR. ROBINSON:

23 Q Was one of your suggestions when you made
24 the presentation to Mr. Parris was that Mr. Parris have a
25 "Shadow manager" from GE?

1 A . I don't believe so, but I'm not 100 percent
2 sure. I know we had identified the organization at the
3 time.

4 Well, the word "Shadow managers" was quaint
5 with us at the time. I don't even know if the contract
6 proposal said it, but we had identified knowledgeable
7 people who could help identify issues and then put
8 corrective action into place.

9 And if it turned out that, then, packages
10 would develop or a whole number of packages which in
11 total would get the plant well again, then, we would be
12 able to bring other resources to work.

13 Q Has either Mr. Wegner or Mr. White ever
14 asked your opinion as to whether or not TVA's QA program
15 is in compliance with Appendix B?

16 A No, sir.

17 Q From your experience at Brown's Ferry and
18 Sequoyah, do you have the basis to make a comment on the
19 program and the implementation of the corrective action
20 portion of the QA program?

21 A Since I have been on board?

22 Q Yes.

23 A I know we have made a very, very thorough
24 and disciplined approach. And in some cases we have to
25 step back and go forward, again, in putting the

1 engineering house, in particular, on a firm basis, on a
2 good discipline quality basis.

3 Q What was the status of the corrective action
4 system when you first looked into it at Brown's Ferry and
5 Sequoyah?

6 A In my opinion, one, if not the most
7 important critical problem, was that they had a lot of
8 issues identified. They had a lot of people that were
9 continuing to identify issues. They were making a lot of
10 promises on how to fix those issues, but the completion
11 was either late or not followed through.

12 That is my opinion as one of the big
13 problems. And we're still seeing a few problems of that
14 culture, and this has to be fixed.

15 Q In your opinion, as of March 20th 1986, was
16 TVA's overall QA program in compliance with Appendix B?

17 A I can't really comment on that, because I'm
18 not that familiar with it.

19 Q Okay.

20 **BY MR. WILLIAMSON:**

21 Q I have got one other question I'm not sure
22 we covered. You came on January 13th, 1986?

23 A That's the day Mr. White came aboard.

24 Q And you were in and out, I assume? You came
25 for a month, did you say?

1 A Well, I was supposed to be here for one
2 month, but not full-time. And then, it turned out that
3 this kept going on and on, and I would say I spent maybe
4 75 to 80 percent of my time here or at Brown's Ferry or
5 at Sequoyah.

6 Q Okay. And during that time period from
7 January and the succeeding months there, exactly what
8 were you doing?

9 A I was trying to identify corrective actions.
10 I helped write Volume I. I helped write Volume III,
11 which is the Brown's Ferry volume. I worked on position
12 descriptions.

13 I spent a lot of time on position
14 descriptions for, primarily, the top level people. I
15 reviewed documents as they came in. I helped interview
16 people. I helped hire people. I went on the task force
17 at Brown's Ferry.

18 **BY MR. ROBINSON:**

19 Q Is there anything that we haven't discussed
20 that you feel is pertinent to the area we're looking at
21 that you would like to comment on?

22 A Well, for whatever value you might find of
23 it, it is my opinion that every since I have been here,
24 there has been a very, very intense, probably a more
25 intense effort than I have ever seen anywhere in my 38

1 years of experience made at TVA to change the culture.
2 And a lot of the efforts is on quality assurance, both in
3 people, both in communications, in attitude procedures,
4 audits and reorganizations.

5 But I'm not qualified, you know, to say to
6 to the letter of the law whether this word was right or
7 this sentence was correct. But there has been an intense
8 effort for the intent of whatever Appendix 10 CFR
9 Appendix B requires, which is really an outcome from what
10 we invented in the Naval program before.

11 Q Were there any discussions that --

12 A One more thing. I forgot one thing.

13 In any quality assurance activity, it's been
14 my experience that the word "Independent" is very
15 important. And Mr. White has brought that attitude in,
16 independent audits, independent reviews, independent
17 looks at various things. He has certainly brought that
18 to bear here.

19 Now, go ahead.

20 Q Were you present at any discussions, if any,
21 concerning the possible result of TVA saying they were
22 not in compliance with Appendix B in that letter?

23 A I was not.

24 Q Were you present at any discussions where
25 the definition of the word "Pervasive" was discussed?

1 A I was aware of the word "Pervasive," and I
2 had to look it up or ask people what it meant.

3 Q Were there -- I mean, what was the nature of
4 the discussion, if any, after you looked it up?

5 A That was subsequent to March 20th.

6 Q This was not before March the 20th?

7 A That was subsequent.

8 Q Nothing before March 20th?

9 A No.

10 Q Well, that's primarily the area I am
11 concerned with.

12 A I know, now, what the difference is. I know
13 now what "Pervasive" means.

14 BY MR. WILLIAMSON:

15 Q What does "Pervasive" mean?

16 A If all aspects or if the majority of the
17 aspects of a program are in a certain state, that's
18 "Pervasive."

19 Q "Majority" meaning?

20 A Well, in my opinion, more than 75 percent,
21 probably. That's my judgment.

22 Q Mr. Stone, have I or any other NRC
23 representative here threatened you in any manner or
24 offered you any reward in return for this statement?

25 A No, sir.

1 Q . Have you given this statement freely and
2 voluntarily?

3 A Yes.

4 Q Is there any additional information you
5 would like to add to the record?

6 A No, sir.

7 MR. WILLIAMSON: We would like to thank you
8 for your time and your cooperation today. This interview
9 is concluded at 9:40 on April 1st, 1987.

10 END OF STATEMENT

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CERTIFICATE OF OFFICIAL REPORTER

This is to certify that the attached proceedings before the UNITED STATES NUCLEAR REGULATORY COMMISSION in the matter of:

NAME OF PROCEEDING: NRC Statement

AN INVESTIGATIVE INTERVIEW OF: HENRY E. STONE

DOCKET NO:

PLACE: Chattanooga TVA Complex
Lookout Place, Conference Room S-319
1101 Market Street
Chattanooga, Tennessee 37402

DATE: ~~MM~~April 1, 1987

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission.

(Signed) ~~Kimberly J. Nixon~~
(Typed) Kimberly J. Nixon

Official Reporter

Reporter's Affiliation

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