

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 IN THE MATTER OF:) Docket Nos: 50-329-OL
4) 50-330-OL
5 CONSUMERS POWER COMPANY) 50-329-OM
6 (Midland Plant, Units 1 & 2)) 50-330-OM

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8 The deposition of EUGENE J. GALLAGHER
9 called by Consumers Power Company for examination,
10 taken pursuant to the Federal Rules of Civil
11 Procedure of the United States District Courts and
12 the United States of America Nuclear Regulatory
13 Commission pertaining to the taking of depositions,
14 taken before MELANIE JAKUSZEWSKI, a Notary Public
15 within and for the County of Cook, State of Illinois
16 and a Certified Shorthand Reporter of said state,
17 taken at Suite 4300, One First National Plaza,
18 Chicago, Illinois, on the 17th day of November, A.D.
19 1980, at 1:00 p.m.
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THIS DOCUMENT CONTAINS
POOR QUALITY PAGES

1 PRESENT:

2 MESSRS. ISHAM, LINCOLN & BEALE,
3 (One First National Plaza,
4 Chicago, Illinois 60603), by:
5 MR. RONALD G. ZAMARIN,
6 MR. ALAN S. FARNELL and
7 MS. JOANNE BLOOM,

8 -And-

9 MR. JAMES E. BRUNNER,
10 (1945 West Parnall Road,
11 Jackson, Michigan 49201),

12 appeared on behalf of Consumers
13 Power Company;

14 MR. BRADLEY JONES,
15 (United States Nuclear Regulatory Commission,
16 Washington, D.C. 20555),

17 appeared on behalf of the United States
18 Nuclear Regulatory Commission.

19 ALSO PRESENT:

20 MR. GILBERT S. KEELEY,
21 MR. BENJAMIN W. MARGUGLIO

22 REPORTED BY:

23 MELANIE JAKUSZEWSKI, C.S.R.
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I N D E X

WITNESS

DK CX RDX RCX

EUGENE J. GALLAGHER

By Mr. Samarin

4

E X H I B I T S

EXHIBIT NUMBER

MARKED FOR ID

No Exhibits Marked.

1 MR. ZAMARIN: Let the record show that this
2 is the deposition of Eugene J. Gallagher taken
3 pursuant to Notice and agreement of the parties,
4 and taken pursuant to the applicable provisions
5 and Federal Rules of Civil Procedure, and the
6 rules and regulations of the Nuclear Regulatory
7 Commission.

8 (WHEREUPON, the witness was
9 duly sworn.)

10 EUGENE J. GALLAGHER,
11 called as a witness herein by Consumers Power Company,
12 having been first duly sworn, was examined and
13 testified as follows:

14 DIRECT EXAMINATION

15 BY MR. ZAMARIN:

16 Q Would you state your full name, please.

17 A Eugene James Gallagher.

18 Q What is your business address?

19 A 799 Roosevelt Road, Glen Ellyn, Illinois,
20 United States Nuclear Regulatory Commission.

21 Q For how long has that been your business
22 address?

23 A Three years.

24 Q What is your residence address?

1 A 1417 Blackburn Street, Wheaton, Illinois
2 60137.

3 Q How long have you lived there?

4 A Three years.

5 Q How long have you been employed by the
6 NRC?

7 A Three years, December, '77.

8 Q And what was your employment prior to
9 coming to the U.S. NRC?

10 A I was with Ebasco Services, Incorporated,
11 New York City. E-b-a-s-c-o.

12 Q When you first went to the NRC in 1978,
13 what was your title or position?

14 A I was a civil engineering inspector,
15 the reactor inspector.

16 Q And what were the job responsibilities?

17 A To perform inspections at nuclear power
18 plants under construction and in operation with
19 respect to the civil engineering aspects.

20 Q And what types of inspections of civil
21 engineering aspects would you perform?

22 A We would inspect the procedures, the
23 work activities, implementation of the work
24 activities, and the review of quality records with

1 respect to reinforced concrete structures, foundations,
2 foundation materials, soils, and other related civil
3 engineering materials.

4 MR. ZAMARIN: Would you read that back, please.

5 (WHEREUPON, the record was read
6 by the reporter as requested.)

7 BY MR. ZAMARIN:

8 Q I notice you said "we." Who are you
9 referring to?

10 A Office of Inspection and Enforcement.

11 Q And would that description that you gave
12 us of the inspection activities in the civil area
13 also pertain to what Gene Gallacher did?

14 A Yes.

15 Q And what background or experience of this
16 type of inspection did you have prior to coming
17 to the NRC in 1978?

18 A I was a site civil resident engineer at
19 the Waterford 3 nuclear power station outside of
20 New Orleans, Louisiana. In that capacity I performed
21 design reviews and inspections of the civil
22 engineering aspects of that particular project.

23 Q Is that it?

24 A That is it.

1 Q When did you become site civil resident
2 engineer at the Waterford 3 project?

3 A I believe it was in May of 1976.

4 Q And until what date did you continue as
5 site civil resident engineer?

6 A Through November of 1978. Excuse me.
7 '77. I'm sorry.

8 Q What did you do from November of '77 until
9 you went to the NRC in 1978?

10 A I started work at the NRC December of '77.

11 Q I see. On the resume that you have
12 tendered today I notice for Ebasco this '73 to '73
13 you are just rounding that off because it is only
14 one month?

15 A Yes, I was.

16 Q I take it then that there was no gap in
17 work activity between your performance as site
18 civil resident engineer and going to the NRC?

19 A Other than relocating time.

20 Q What were your responsibilities as site
21 civil resident engineer for the Waterford 3?

22 A Provide a liaison between the civil
23 design group in New York City and the construction
24 activities at the site with regards to the design,

1 specifications, and changes to both of those.

2 Q Tell us what you mean by provided liaison.

3 A Providing a link between construction-
4 related problems and design-related problems to
5 effectively communicate those problems and to resolve
6 them as need be.

7 Q Okay. Really, what I am getting at is
8 you said liaison, and I understand what that means.

9 You are talking about resolving design
10 problems in the field or checking back with an
11 engineering department if, for example, a pipe was
12 supposed to come up through -- What I am getting at
13 is really just what did you do when you got up in
14 the morning and went out on the site? What kind of
15 things did you do?

16 A Resolved interferences, reviewed design
17 conditions to make sure that they were being
18 implemented during the construction, review
19 construction-related problems, provide technical
20 support to the construction activities, et cetera.

21 (WHEREUPON, discussion was had
22 off the record.)

23 BY MR. ZAMARIN:

24 Q Were your activities or responsibilities

1 as a site civil resident engineer in any way related
2 to quality assurance or quality control?

3 A I was not within the Quality Control or
4 Quality Assurance Department. I was design
5 representative.

6 Q Okay. Were the inspections that you
7 performed in any way related, however, to Quality
8 Assurance or Quality Control?

9 A Yes, in that I was performing an inspection
10 service to the design organization to ascertain
11 whether certain construction conditions were being
12 followed as per the design requirements in addition
13 to the Quality Control-Quality Assurance organizations
14 that were functioning on that particular site.

15 Q How did those inspection functions differ
16 from the functions that the QA-QC were performing
17 at that site?

18 A They were different only in the aspect
19 that they were not part of the actual quality control
20 program that was being implemented on that particular
21 site. As far as the parameters that we were checking,
22 they were somewhat redundant to quality control
23 inspections.

24 Q Did you have any responsibility for

1 inspection of soils or soils contractors at the
2 Waterford project?

3 A I was not directly related to that
4 particular work activity. There was another
5 geotechnical engineer who was my counterpart from
6 the design organization who was responsible for the
7 soils areas. However, I did assist him when he
8 needed assistance.

9 Q Okay. You said that you weren't directly
10 responsible for that, but that you assisted the
11 geotechnical counterpart. Is that what you referred
12 to as the other than direct responsibility, your
13 assistance to the geotech?

14 A Yes.

15 Q Describe for me the activities that you
16 performed in assisting that geotech design counter-
17 part?

18 A If he was not available on a particular
19 day, I would verify that the site testing laboratory
20 was performing the tests at the prescribed frequency;
21 that the material was being handled in accordance
22 with the specification requirements; that the
23 equipment being used was, in fact, the equipment
24 that was prescribed, and that the test results were

1 meeting specification requirements.

2 Q What type of project is Waterford 3?

3 A It is a nuclear power plant.

4 Q Was there any specification requirement
5 with regard to that plant for the presence of a
6 resident engineer of the geotechnical-type that you
7 described as your counterpart?

8 A I don't recall whether there was a specific
9 requirement. It was a matter of general practice
10 that the design engineering organization provided
11 that geotechnical engineer's services on a continuous
12 basis on the site during the earth work activities.

13 Q Okay. You are not aware or you don't
14 recall whether there was a specification requiring
15 that the activities that you have just described be
16 done by a geotechnical engineer as opposed to a civil
17 engineer?

18 A I don't recall whether there was a
19 specific requirement.

20 Q Who was the contractor for Waterford 3?

21 A I believe it was J. A. Jones Construction
22 Company.

23 Q And did they do the engineering and the
24 project construction?

1 A No. Ebasco Services provided the design
2 engineering and construction management and
3 J. A. Jones provided the construction forces.

4 Q Did you have occasion as site civil
5 resident engineer of Waterford 3 to review the
6 PSAR or the FSAR for the project, P-S-A-R, F-S-A-R?

7 A Yes, I did.

8 Q Okay, and with regard to what subject did
9 you review the FSAR and the PSAR?

10 A Licensee commitments regarding the civil
11 engineering aspects of that particular project; what
12 type of materials were to be used; the strengths of
13 certain materials; the reference to certain codes and
14 standards that were committed to in those particular
15 license commitments.

16 Q Did you also review design specifications
17 and field specifications?

18 A Yes, I did.

19 Q Did you compare those specifications to
20 statements of the FSAR and PSAR?

21 A As a matter of routine, we did.

22 Q When you say that, again you slipped in
23 "we." Who is we?

24 A The group of individuals -- engineers that

1 were providing this design liaison service.

2 Q Okay, and would you also participate in
3 that review and comparison of specifications?

4 A Yes, I did.

5 Q And did you ever find any inconsistencies
6 between any specification and a statement or
7 commitment in a PSAR or FSAR?

8 A I don't recall at this time.

9 Q Who is your immediate supervisor on the
10 Waterford 3 project?

11 A Eugene Brundage.

12 Q Would you spell Brundage for us?

13 A B-r-u-n-d-a-g-e.

14 Q And what was his title?

15 A He was the project design engineer.

16 Q Is he in New York City?

17 A No. He was on the site.

18 Q Is he still with Ebasco?

19 A I believe he is still with Ebasco. He is
20 not located on that particular site at this time.

21 Q Do you know where he is now?

22 A I believe he left a few weeks ago for
23 Saudi Arabia.

24 Q What did you do for Ebasco prior to May of

1 1976?

2 A I was a design engineer in the Civil
3 Engineering Department.

4 Q And when did you start working as a
5 design engineer in the Civil Engineering Department
6 at Ebasco?

7 A I believe it was May of 1973.

8 Q Was that immediately following the
9 commencement of employment with Ebasco?

10 A Yes, it was.

11 Q What types of things did you design between
12 1973 and May of 1976 at Ebasco?

13 A Reinforce concrete and steel structures,
14 circulating water systems, mostly structural
15 components of the power plant structures.

16 Q What percentage of your activity was with
17 regard to nuclear power plants, and this is while
18 you were in that design engineering section.

19 A Probably 95 percent of my time.

20 Q That was 95 percent of your time from 1973
21 through May of 1976 was nuclear power?

22 A That's correct.

23 Q How much, if any, of that was with regard
24 to soils?

1 A None of that time was with regard to
2 soils.

3 Q Was any of that time spent with regard to
4 mechanical systems?

5 A Only as they relate to providing support,
6 structural support to those systems.

7 Q Did any of that time relate to earth
8 embankments or dams or slopes?

9 A No, it didn't.

10 Q What did you do for Valley Forge Laboratory
11 from 1972 to 1973?

12 A I performed laboratory tests on concrete,
13 steel, and soils.

14 Q What kind of tests did you perform on the
15 soils?

16 A Performed standard proctor moisture
17 density tests, as well as field in place density
18 tests.

19 Q That is it?

20 A And other related soil mechanics tests to
21 identify soils properties.

22 Q And were those your duties immediately
23 upon employment at Valley Forge Laboratory?

24 A They were my duties after having a certain

1 amount of training in order to get the knowledge to
2 perform those particular tests.

3 Q And with regard to what type of projects
4 or matters of assignments were these tests upon which
5 you performed?

6 A I really wasn't aware of the particular
7 projects that I was working on, just providing a
8 service, testing service to identify the material
9 properties.

10 Q Okay. On the field in place density,
11 you would have some idea of what was going on,
12 wouldn't you?

13 A Yes.

14 Q Do you recall what types of construction
15 was this residence?

16 A They were commercial-type buildings,
17 shopping centers, general field subsurface investi-
18 gations.

19 Q And in your opinion, were you, in 1972,
20 when you started doing this work at Valley Forge
21 Laboratory, qualified to do that type of testing?

22 A I was trained in the mechanics of the
23 tests, yes.

24 Q What kind of training in the mechanics of

1 the test had you had that qualified you to do that
2 work?

3 A On-the-job training and some kind of tests,
4 becoming familiar with equipment.

5 Q Did you do it under someone's supervision
6 and watching someone?

7 A That's correct.

8 Q How far along were you in your formal
9 education when you first went to Valley Forge
10 Laboratory?

11 A I was a senior in college.

12 Q Was this part-time employment or full-time?

13 A It was full-time during the summer months,
14 and then part-time throughout the course of the
15 semesters.

16 Q And had you taken any courses at Villanova
17 which related to or qualified you for this lab test
18 work with regard to soils that you were performing
19 at Valley Forge?

20 A Yes. I had courses in soil mechanics,
21 laboratory techniques.

22 Q Would you describe all of the courses that
23 you had in soil mechanics, soils mechanic, laboratory
24 techniques, or which otherwise related to soils

1 engineering and geotechnical engineering at
2 Villanova.

3 A I have had courses in geology, foundation
4 engineering, fundamentals of soil mechanics, soils
5 laboratory.

6 Q Is that it?

7 A That is it.

8 Q How many courses did you have in foundation
9 engineering?

10 A One.

11 Q Is that one semester?

12 A One semester.

13 Q And how many courses did you have in
14 fundamental soil mechanics?

15 A One.

16 Q One semester?

17 A Yes.

18 Q And soils laboratory?

19 A One semester.

20 Q That will be a total of about eight semester
21 hours?

22 A Yes, approximately seven or eight.

23 Q Did you have any similar courses at
24 Polytechnic Institute of New York?

1 A No, I did not.

2 Q Are you familiar with Ralph Peck?

3 A Yes, I am.

4 Q Did you know of Dr. Peck while you were a
5 student at Villanova University?

6 A Would you explain what you mean by
7 "know of Dr. Peck"?

8 Q Had you heard of Dr. Peck while you were
9 a student at Villanova?

10 A Yes, I had.

11 Q And how was it that you came to hear of
12 Dr. Peck at that time?

13 A Only from reading his publications, text-
14 books.

15 Q What was your occasion for reading his
16 textbooks?

17 A As part of the course study with regards
18 to soil mechanics.

19 Q Did you use his text as a text in your
20 course on soil mechanics?

21 A It was not the fundamental text. It was
22 a supplement to our normal studies.

23 Q And did you use his text at all with regard
24 to your foundation engineering study?

1 A Yes, I did.

2 Q To your knowledge, is Ralph Peck a
3 generally recognized expert in the area of
4 foundation engineering and soils mechanics?

5 A I believe he is.

6 Q Are you aware of anyone who would disagree
7 with that?

8 A I am not aware of anybody, no.

9 Q What is the extent of your experience with
10 regard to inspection of dams?

11 A The NRC has authority over the construction
12 of uranium mill dams. The Office of Inspection and
13 Enforcement has provided inspection services to
14 verify that certain licensed conditions, specification
15 requirements have been met on those projects.

16 Q Have you had substantial experience with
17 regard to inspection of that type of dam?

18 A I have had experience, yes.

19 Q Could you describe that experience for us?

20 A I have reviewed the specifications and
21 compared those to the licensed conditions. I have
22 observed work activities to verify that those work
23 activities are in accordance with specification and
24 license condition requirements. I have reviewed

1 quality control tests with respect to those require-
2 ments, and I have developed reports on particular
3 projects that I have been associated with.

4 Q When you say you developed reports, are you
5 referring to inspection reports?

6 A Inspections reports, yes.

7 Q Have you ever had any experience with
8 borings and dams or on earth embankments?

9 A Yes, I have.

10 Q Would you describe each of those
11 experiences or that experience, as the case may be.

12 A Yes. I was the field inspector for borings
13 recently taken at the Commonwealth Edison's Dresden
14 cooling lake dike structures, as well as inspector
15 on borings taken at the LaCrosse Nuclear Power Station.

16 Q I don't want to cut you off, so I can't
17 tell when you are finished.

18 A I am finished.

19 Q Okay. Why were the borings taken at
20 Dresden?

21 A To determine whether there was seepage
22 from the cooling lake beneath the core of the dike.

23 Q And what was it that caused or initiated
24 or prompted either the licensee or the NRC to want to

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determine whether there was seepage?

A There was apparent seepage at a river bank which was in close proximity of the cooling water dike structure.

Q Can you tell me how that related to the potential or possibility of seepage under the cooling lake dike?

A Since the cooling lake was fairly close to that particular river bank, it was somewhat evident that there was seepage from the cooling dike, and we were attempting to verify whether that was, in fact, the case.

Q Were these borings initiated at the request of the NRC?

A I believe they were mutually agreed upon by the licensee, as well as the NRC.

Q And do you know if any consultants or experts were consulted either by the applicant or the licensee or the NRC with regard to the borings at Dresden?

A Yes, the licensee contracted Harza Engineering.

Q Can you spell Harza?

A H-a-r-z-a, to provide consulting services.

1 Q And did the NRC retain or seek assistance
2 from any consultant with regard to those borings or
3 the need for the borings?

4 A No, we did not.

5 Q Did anyone disagree with regard to Dresden
6 with the need or the advisability of doing the
7 borings?

8 A No.

9 Q Okay. If there had not existed the
10 evidence of seepage that you have described to us,
11 in your opinion would there have been any borings
12 taken at Dresden?

13 A In this particular case, no.

14 Q Could you describe the circumstances
15 surrounding the taking of borings at the LaCrosse
16 Nuclear Power Station?

17 A Yes, the NRC, during a systematic evaluation
18 review, felt that the foundation materials needed to
19 be better defined so that the staff could provide an
20 independent assessment of the liquifaction potential
21 of that site.

22 MR. ZAMARIN: Could you read that back, please.

23 (WHEREUPON, the record was read
24 by the reporter as requested.)

T2

1 BY MR. ZAMARIN:

2 Q Are you saying that they were looking for
3 sand?

4 A Loose sand in particular.

5 Q And was the liquifaction potential with
6 regard to the dike itself that the concern related to?

7 A It was not relative to a dike structure.
8 It was the foundation of the plant itself.

9 Q Maybe I misunderstood your answer.
10 Were borings taken at LaCrosse, however,
11 in the cooling pond dike?

12 A That was the Dresden cooling lake dike.

13 Q I see.

14 A These are two separate projects.

15 Q Okay. So then the only project with which
16 you have had any experience where borings were taken
17 on the dike or an earth embankment or a dam was at
18 Dresden?

19 A That's correct.

20 Q And then the only project with which you
21 have had experience where borings were taken for
22 some other investigative purpose besides Dresden
23 was at LaCrosse, which you have just explained to us?

24 A There are other sites, as well, yes.

1 Q Well, I am wondering why you mentioned
2 Dresden and LaCrosse both in response to one
3 question I gave you. What was the similarity?

4 A I understood the question to mean what
5 experience I had with respect to taking borings at
6 sites.

7 Q And so it is just with LaCrosse and Dresden
8 that you have had experience?

9 A I have had experience on other sites as
10 well, one in particular being the Bailey site.

11 Q All right. Can you describe the experience
12 that you had with regard to taking borings at Bailey?

13 A Just providing field observations as to the
14 type of material and the suitability of the material
15 with respect to the borings taken.

16 Q Why were those borings taken at Bailey?

17 A To determine the soil properties of that
18 particular site.

19 Q Was there some occasion or incident that
20 prompted then the initiation of these borings of
21 which you have done field observation at Bailey?

22 A Yes, the licensee had performed the
23 technique of placing piles called water jetting which
24 was believed to have disturbed some of the underlying

1 soil materials, and the borings were taken to
2 define the extent of that disturbance.

3 Q And were these borings initiated at the
4 request of the NRC or simply at the initiation of
5 the licensee?

6 A I am not certain who initiated the borings.

7 Q Do you know whether there was any dispute
8 as to whether borings should or needed to be done?

9 A Not that I am aware of.

10 Q Do you know what the borings showed, if
11 anything, with regard to whether there had been
12 disturbance of the material?

13 A Yes. They did indicate disturbance of the
14 sand materials.

15 Q Going back to the LaCrosse Nuclear Power
16 Station, what incident or occasion was it that led
17 to the taking of borings to determine the properties
18 of the foundation of the soils, the foundation
19 material?

20 A The staff was performing a systematic
21 evaluation review of that particular site, and since
22 LaCrosse is somewhat of an older site, I believe it
23 was built back in the fifties, the soil properties
24 were not defined enough for their review to proceed.

1 Q So was this a situation then where there
2 was an existing plant and the NRC simply wanted
3 some information about subsurface conditions?

4 A That's correct.

5 Q And are you aware of the reason why
6 liquifaction potential was suspected?

7 A Only because the plant is situated on the
8 bank of the Mississippi River where there are known
9 deposits of sand.

10 Q Was there any dispute or disagreement, to
11 your knowledge, with regard to whether the borings
12 should be taken or needed to be taken?

13 A No, I don't believe there was any dispute.

14 Q Do you know what the results of that
15 boring investigation was?

16 A I believe the results have been reported
17 to the NRC and are under review at this time.

18 Q In other words, do you know whether
19 loose pockets of sand such that liquifaction is a
20 potential problem were discovered?

21 A That particular item is being debated now
22 between the staff and the licensee as to whether the
23 material is liquifiable, potentially liquifiable.

24 Q You testified earlier that on the Waterford 3

1 project that you inspected or reviewed site testing
2 laboratory performance tests, is that right?

3 A That's correct.

4 Q And was your background and qualification
5 for that work based upon your experience at
6 Valley Forge Laboratory and the two soils courses in
7 soils laboratory that you have described to us?

8 A Yes, in addition to particular on-site
9 training.

10 Q Particular on-site training at Waterford?

11 A Yes.

12 Q What did that training consist of?

13 A Training by the resident geotechnical
14 engineer --

15 Q Was it formal -- Oh, I'm sorry.

16 A -- in the specification requirements and
17 the licensee commitments.

18 Q Was this a formal training program or are
19 you talking something that is sort of an apprenticeship
20 by learning, by seeing, and doing something along
21 with it?

22 A It was more informal.

23 Q Does that imply part of it was a formal
24 instruction?

1 A Part of it was instruction in a classroom
2 atmosphere, techniques and specifications requirements
3 were discussed.

4 Q And is there a name for the training that
5 you took?

6 A No, there is not.

7 Q Were there certain formal materials that
8 were used?

9 A No, there was not.

10 Q Is that a training that Ebasco provided
11 for all site civil resident engineers?

12 A No, it was not.

13 Q How was it that you came to have that kind
14 of training?

15 A Only because I was on that particular site
16 and there was a resident geotechnical engineer
17 available, and I was interested in gaining any
18 additional information that I might gain during that
19 experience.

20 Q I see. So even the formal training then
21 was not part of the formal training program that
22 Ebasco had, but it was really provided at your
23 request for information that you wanted?

24 A That's correct, my interest in that

1 particular area.

2 Q Were there any nonconformances written with
3 regard to the testing lab in the Waterford 3 project?

4 A I don't recall any particular ones.
5 However, I am sure that there were some particular
6 deviations from the specification requirements.

7 Q Why are you sure that there was some
8 deviations from the specification requirements?

9 A Only because I realize that there are
10 generally items that are not attained in every
11 particular case that have to be reported and
12 rectified and evaluated by the engineering disciplines.

13 Q Did you review the qualifications of the
14 personnel who were working in the testing lab at
15 Waterford 3?

16 A No, I was not the geotechnical engineer on
17 site. I was merely assisting him when he needed
18 assistance.

19 Q Do you know whether he reviewed the
20 qualifications of the testing personnel?

21 A I believe he did.

22 Q And do you know whether he ever found any
23 deficiencies in those qualifications?

24 A I don't know whether he did.

1 Q If he did, he wouldn't tell you about it.
2 I mean, I don't know whether you don't recall or
3 whether --

4 A I don't recall whether he did find any
5 deficiencies.

6 Q What is the extent of your experience
7 in soils investigations?

8 A What I have described earlier to you, the
9 participation in taking borings at a number of sites,
10 as well as the Midland soils investigation.

11 Q When you say your participation in taking
12 borings at a number of sites, you so far described
13 your experience at Dresden, LaCrosse, and Bailey.
14 Are there other sites at which you have had soils
15 investigation experience?

16 A There were two sites with regard to
17 uranium mill dams.

18 Q Do you remember the names of those?

19 A Luckymack outside of Casper, Wyoming, and
20 Sweetwater uranium project, also in Wyoming.

21 Q What is the nature of the soils investi-
22 gations that you did at Luckymack?

23 A These were routine inspections of work
24 activities to verify that their license conditions

1 and specification requirements were being implemented.

2 Q What did you do actually, physically do
3 in the course of your investigation at Luckymack?

4 A Reviewed site procedures, observed some of
5 the work activities, and reviewed the quality
6 records of those work activities.

7 Q From that review were you able to then
8 provide whatever inspection report was necessary for
9 the purposes of the NRC?

10 A That's correct.

11 Q What did you physically do with regard to
12 investigation of soils at Sweetwater uranium project?

13 A Same as the previously described.

14 Q And that was that you reviewed site
15 procedures and quality control records and there
16 was something else.

17 A And observed work activities.

18 Q And from observing the work activities and
19 reviewing the quality control records and reviewing
20 the site procedures, you were able to provide an
21 inspection report adequate for the purposes of the
22 NRC, is that right?

23 A That's correct.

24 Q When you state in your resume that your

1 experience included laboratory testing and
2 inspection of, among other things, soils,
3 is that referring to your work at Valley Forge
4 Laboratory?

5 A Yes, as well as my work as an NRC
6 inspector providing an inspection of laboratory
7 testing of those particular materials, concrete,
8 steel, and soils.

9 Q Okay. Just what did you do with regard to
10 inspecting laboratory procedures for soils, if
11 anything, at Dresden?

12 A I did not review any of the laboratory
13 procedures for Dresden.

14 Q Did you review any of the laboratory
15 procedures for LaCrosse Nuclear Power Station?

16 A No, I did not.

17 Q Did you review any of the laboratory
18 procedures for Bailey?

19 A They have not begun that part of the work
20 activity at Bailey as of yet.

21 Q Did you review any of the laboratory
22 procedures with regard to the investigation at
23 Luckymack?

24 A Yes, I did.

1 Q And with regard to what investigation,
2 what procedures, what tests did you provide
3 inspection at Luckymack?

4 A Tests that would define the material
5 properties that were being used, as well as the
6 field and laboratory standards that were being used
7 for that particular project.

8 Q When you say the field and laboratory
9 standards, how would you go about conducting an
10 inspection with regards to that; what physically did
11 you do?

12 A Reviewed the specification, as well as
13 observing the particular work activities, and
14 reviewing the results of those tests in the form of
15 quality control records.

16 Q And did part of that experience include
17 inspection of actual laboratory testing procedures?

18 A At the Luckymack facility, the laboratory
19 was not on site. However, they did have field
20 equipment that I did inspect and observe.

21 Q What type of field equipment did you
22 inspect?

23 A In-place density apparatus, all of the
24 tools and equipment that they would need in order to

1 perform that particular work activity.

2 Q With regard to the Sweetwater uranium
3 project, did you actually inspect any laboratory
4 testing procedures?

5 A No. They were completed at that point.

6 Q So was the extent of your experience in
7 inspection of laboratory testing procedures what you
8 have described with regard to Luckymack since you
9 have been with the NRC?

10 A No. There are a number of other projects
11 which I am associated with and as a matter of our
12 routine inspection I do review procedures, observe
13 work activities, and review the quality control
14 records at those facilities as well. All of those
15 being in the area of concrete, steel, and soils.

16 Q Okay. My question wasn't precise.

17 Besides what you have described with regard
18 to Luckymack, have you, for the NRC, provided any
19 laboratory testing procedures inspection with regard
20 to soils?

21 A Yes.

22 Q And would you identify the projects or the
23 assignments for which you have done that?

24 A I will attempt to do this by memory. These

1 are within the last three years. By name, the pro-
2 jects that I have performed inspection services are
3 the Perry Nuclear Power Plant, Braidwood, Byron and
4 LaSalle, Clinton, Bailey, Midland, Calloway,
5 Wolf Creek, and I am sure I have forgotten one or
6 two or three other plants that I have performed
7 inspections at within the last three years.

8 Q With regard to each of those plants that
9 you have just identified, did you provide inspection
10 of laboratory testing procedures with regard to soils?

11 A Yes. Certain projects I have provided more
12 inspection effort only because of the particular work
13 activities that were going on at the time of the
14 inspections.

15 Q What is the extent of your experience in
16 design and inspection of piping systems?

17 A I have provided design reviews for pipes
18 support systems, and the anchorage of those supports
19 to the structures, and while at the NRC, I have
20 provided the inspection function for particular
21 inspection and enforcement bulletins related to
22 pipe supports, piping systems.

23 Q Okay, and would this experience with
24 regard to design review and inspection of piping

1 systems all be from a structural engineering as
2 opposed to mechanical engineering standpoint?

3 A That's correct.

4 Q On your resume you state that you have had
5 experience as resident civil engineer on power plant
6 construction project, and I notice that is plural.
7 Does that refer solely to the Waterford 3, however?

8 A Yes, it does.

9 Q Would you describe your work experience
10 with regard to review of management controls for
11 construction projects?

12 A Yes. On each one of the projects that I
13 mentioned earlier, as an NRC inspector we review and
14 assess the management controls in implementing the
15 quality assurance program for those particular
16 sites.

17 Q What do you mean by "management controls"?

18 A The entire quality control and -- excuse me.
19 The entire quality assurance system that is being
20 used to implement the license requirements from the
21 procedures that are used to the manpower to the
22 management controls and techniques that are being
23 used to implement their quality assurance program.

24 Q Does that differ from a QA program review?

1 A Quality assurance program review is a
2 particular type of review. As an NRC inspector we
3 also review the management controls as a whole on
4 nuclear power plants, both from a design review to a
5 construction management review to a quality assurance
6 review.

7 MR. ZAMARIN: Could I have that back again?

8 (WHEREUPON, the record was read
9 by the reporter as requested.)

10 BY MR. ZAMARIN:

11 Q What formal training have you had with
12 regard to review of management controls?

13 A With the NRC we have a particular formal
14 training entitled Fundamentals of Inspection. Within
15 that training there are particular segments that
16 deal with the control of construction projects from
17 a management, as well as quality assurance standpoint.

18 Q Okay. That training on Fundamentals of
19 Inspection is a 40-hour program?

20 A It is a one-week course within the NRC.

21 Q And that includes instruction both on
22 quality assurance review and management controls,
23 is that correct?

24 A Yes.

1 Q And are there any printed materials or
2 references that are used or were used in the course
3 that you took on Fundamentals of Inspection?

4 A Yes, there was.

5 Q And can you identify those materials for
6 me?

7 A It is a volume entitled Fundamentals of
8 Inspection.

9 Q Is this a government publication?

10 A It is an NRC training aid.

11 Q Is this a document that is generally
12 available to the public, to your knowledge?

13 A I believe it is.

14 Q Is there any other publication rather than
15 Fundamentals of Inspection?

16 A No.

17 Q No. Were there any other materials that
18 you used in that Fundamentals of Inspection course?

19 A There were numerous speakers who provided
20 training to us that did not have formal literature
21 that was distributed.

22 Q How many of those speakers spoke on the
23 subject of management control?

24 A I don't recall.

1 Q Do you recall whether any of them did?

2 A I believe some of the speakers did when they
3 were relating to particular projects and experiences
4 that they had had on those projects.

5 Q You don't recall who any of those speakers
6 were, do you?

7 A No. It was with regards to operating
8 plants that had particular problems and through
9 their investigations of those plants, they were
10 relating to us their experiences and relating the
11 management controls that perhaps were in effect on
12 those particular projects.

13 Q To your knowledge, is there anywhere within
14 the NRC, or any branch or division thereof,
15 documentation kept with regard to the qualifications
16 of NRC personnel? I mean, qualifications. I mean,
17 educational background courses that they have taken.
18 Is there any description of criteria which qualifies
19 them for the job description?

20 A Yes. There is a criteria which qualifies
21 inspectors for particular positions, and I believe
22 that is in NRC regulations. I don't recall the
23 exact number, but there does exist the particular
24 regulation that specifies all of the criteria for

1 inspectors.

2 MR. ZAMARIN: Okay. Could you read that
3 question back.

4 (WHEREUPON, the record was read
5 by the reporter as requested.)

6 BY MR. ZAMARIN:

7 Q To your knowledge, is there any record
8 kept of individual inspectors' qualifications, and
9 whether they meet the required criteria or not?

10 A Yes, there is.

11 Q Where is that kept and how is it described?

12 A I believe that is kept in each individual
13 NRC office, as well as in NRC headquarters in
14 Bethesda, Maryland.

15 Q And in what form is it kept, part of a
16 personnel folder, or is there some other description
17 for this compilation of information?

18 A I believe they are in the form of personnel
19 files.

20 Q Are you aware of any other form in which
21 that information would be kept?

22 A No, I am not.

23 Q What is the extent of your experience
24 in development of regulatory guides?

1 A The Office of Inspection and Enforcement
2 provides comments to the Office of Standards and
3 Development as regulatory guides are being developed
4 or as they are being used within the industry.

5 Q And you provided input to some of those
6 comments?

7 A That's correct.

8 Q Have any of those regulatory guides dealt
9 with soils properties or soils engineering?

10 A No, they did not.

11 Q Have any of them dealt with pipe stress
12 analysis or pipe stress capability?

13 A No, they did not.

14 Q Have any of them dealt with dams, dikes,
15 or earth embankments?

16 A No, they have not.

17 Q Have any of them dealt with QA-QC generally?

18 A No, they have not.

19 Q Have any of them dealt with management
20 controls?

21 A No.

22 Q What are the qualification criteria for the
23 job you currently hold with the NRC?

24 A You have to be a degreed engineer in one

1 of the engineering disciplines, preferably higher
2 than undergraduate degrees; a number of years of
3 experience in either the design or construction of
4 nuclear power plants. That's about it.

5 Q What is the number of years of experience
6 that is preferred in the design or construction of
7 nuclear power plants?

8 A Although there are different levels of
9 engineers within the NRC, I believe a preferred
10 length of time is something on the order of five
11 years in the design and construction of nuclear
12 power plants.

13 Q And with respect to what job or title have
14 you just provided us with qualification criteria?

15 A This is a general reactor inspector's
16 position.

17 Q When you first went to work for the NRC
18 in, I guess it was, December of 1977, had you had
19 five years of experience in design or construction
20 of nuclear power plants?

21 A I believe I was just entering the fifth
22 year.

23 Q Is this preference with regard to the
24 number of years of experience, five years for design,

1 five years for construction, or five years for a
2 combination of those two?

3 A I believe they prefer a diversified
4 background in a combination of those.

5 Q You indicated before that there was
6 believed there was some NRC regulation which set out
7 qualification criteria for NRC personnel. Does that
8 contain, to your knowledge, what you have just
9 described to us, and that is the degree, preferably
10 advanced, and the five years' experience?

11 A Yes, I do.

T3 12 Q And, to your knowledge, is that someplace
13 within 10 CFR?

14 A No, it is within the NRC Rules and
15 Regulations.

16 Q As you sit here now, you can't recall
17 the specific citation?

18 A I believe the regulation is 02600 that
19 specifies all of the qualifications and criteria
20 for inspectors for the NRC.

21 Q Is your title today general reactor
22 inspector?

23 A No, I am a civil engineer.

24 Q And is that the only title that you have

1 within the NRC?

2 A That's correct.

3 Q Do the qualification criteria for a
4 civil engineer differ from those that you have
5 described with regard to a general reactor engineer?

6 A Only that they would require a degree or
7 advanced degree in that particular engineering
8 discipline.

9 Q What did you have to do to become a
10 Registered Professional Engineer in the State of
11 Illinois?

12 A It required to make an application and
13 provide a written examination on the fundamentals
14 and engineering problems.

15 Q Anything else?

16 A As well as a number of references of
17 people who have had familiarity with past work
18 experience.

19 Q What did you have to do to become a
20 Registered Professional Engineer in Florida?

21 A That registration was gained by reciprocity
22 after receiving Illinois' P.E. license.

23 Q What did you have to do to become a
24 Registered Professional Engineer in Louisiana?

1 A At that time application showing both
2 education and experience was all that was required
3 in the State of Louisiana.

4 Q When did you obtain registration in
5 Illinois?

6 A I believe it was in the middle of '79.

7 Q When did you obtain registration in
8 Louisiana?

9 A Sometime in 1978.

10 Q What was the reason for obtaining
11 registration in Louisiana in 1978?

12 A Because I was working on a particular
13 project in the State of Louisiana, and I felt that
14 it would be appropriate to be licensed by the local
15 jurisdiction.

16 Q Were you employed by Ebasco at that time?

17 A That's correct.

18 Q Do you know what ASQC is?

19 A Yes, I do.

20 Q Are you a member of ASQC?

21 A No, I am not.

22 Q Can you tell me what ASQC is?

23 A I believe it is the American Society of
24 Quality Control.

1 Q Are you a registered professional quality
2 engineer?

3 A No, I am not.

4 Q Is there such a thing?

5 A I believe there is in the State of
6 California.

7 Q Do you know what the qualifications for
8 registration as a professional engineer are?

9 A No, I don't.

10 Q Are you a certified quality engineer?

11 A No, I am not.

12 Q Have you taken any QA-QC courses?

13 A Yes, I have.

14 Q What courses?

15 A While at Ebasco Services there were formal
16 training courses in the area of quality assurance,
17 and while at the NRC there was a one-week course
18 given in August of '79 entitled Quality Assurance.

19 Q What did that NRC course in Quality
20 Assurance consist of?

21 A It consisted of indoctrination of the
22 requirements of 10 CFR 50, Appendix B, quality
23 assurance requirements for construction of nuclear
24 power plants, as well as an indoctrination to the

1 codes and standards related to the quality assurance
2 criteria.

3 Q What codes and standards related to
4 quality assurance criteria do you refer to?

5 A The ANSI requirements, A-N-S-I.

6 Q Do you hold ANSI N45.2.6 certification?

7 A ANSI N45.2.6?

8 Q Yes.

9 A Are the requirements for inspection and
10 testing personnel.

11 Q Yes.

12 A I believe -- I don't know that there is a
13 particular certification of those particular
14 individuals by ANSI. They are merely the require-
15 ments that are established and agreed upon by the
16 industry.

17 Q And do you meet those requirements?

18 A Yes, I do.

19 Q Can you tell me what they are?

20 A They require both education and experience
21 for particular work activities.

22 Q What experience is required, do you
23 recall?

24 A Certain number of years working in the

1 particular area of testing and inspection of concrete
2 or other materials.

3 Q And what experience do you have that
4 qualifies you with regard to that criteria?

5 A Both the experience of the NRC, as well as
6 prior experience as discussed earlier.

7 Q At Ebasco?

8 A That's right.

9 Q You said with regard to a certain material
10 you had to have this experience, and by that, I think
11 of metal, concrete, soil.

12 A That's correct.

13 Q With regard to which of those materials
14 do you have experience that satisfies the
15 ANSI 45.2.6 experience criteria?

16 A Working with both concrete, steel, and
17 soils materials as the engineer on particular
18 projects or the inspector with the NRC.

19 Q Did you have any formal materials for your
20 quality assurance course in August of 1978 with the
21 NRC?

22 A Could you repeat the question, please?

23 MR. ZAMARIN: Would you read it back, please?
24

1 (WHEREUPON, the record was read
2 by the reporter as requested.)

3 BY THE WITNESS:

4 A Yes. There were formal materials that
5 were used during the quality assurance course with
6 NRC.

7 BY MR. ZAMARIN:

8 Q What were they?

9 A It was a manual entitled Quality Assurance
10 developed by the NRC for training and indoctrination
11 of their inspectors.

12 Q Is this a document that you know is
13 generally available to the public?

14 A Yes, it is.

15 Q Were there any other formal materials
16 that you had for that course?

17 A No.

18 Q What was the content and extent of your
19 QA course at Ebasco?

20 A I don't recall the specific contents of it.
21 It was all related to the 10 CFR 50 requirements of
22 Appendix B and the method at which that particular
23 company implemented those requirements.

24 Q Was this a formal training?

1 A Yes, it was.

2 Q Of what duration?

3 A It was over a period of a number of weeks
4 on a routine and scheduled basis.

5 Q Can you give me an approximate hour total?

6 A I don't recall the precise number of hours.
7 It was probably equivalent to a number of weeks of
8 training.

9 Q When you say a number of weeks, you are
10 talking about 120 hours of training?

11 A Yes, perhaps.

12 Q When did you complete that training?

13 A I don't recall the exact time. It was
14 throughout employment.

15 Q Would that be contained in your personnel
16 files with the NRC?

17 A Probably not.

18 Q Would that have been identified on your
19 application for employment with the NRC?

20 A I don't believe I made specific reference
21 to that, just the familiarity of those particular
22 quality assurance requirements.

23 Q Do you know whether Ebasco has any records
24 of your QA training or QA formal courses taken there?

1 A Yes, I believe they would.

2 Q And where would those records be located?

3 A Probably within the personnel files of
4 the company.

5 Q New York City?

6 A That's correct.

7 Q When I asked you earlier whether you met
8 the criteria for ANSI 45.2.6, did you understand my
9 question to mean whether you had qualifications that
10 would satisfy those criteria if you had some desire
11 or need to satisfy them?

12 A That's correct. As an NCR inspector, we
13 do not need to specifically meet ANSI 45.2.6.
14 We have our own NCR rules and regulations which we
15 discussed earlier.

16 MR. ZAMARIN: Why don't we take about five
17 minutes.

18 (WHEREUPON, a recess was had.)

19 BY MR. ZAMARIN:

20 Q Would you define quality assurance?

21 A A simple definition would be all of those
22 systems or procedures that are used to ascertain that
23 work is being done in accordance with the particular
24 requirements.

1 Q You prefaced by saying that that was a
2 simple definition. Would that also be a generally
3 accepted definition in the quality assurance
4 engineering field?

5 A Yes.

6 Q What is quality control?

7 A Quality control, on the other hand, is that
8 system which provides for the measurement of the
9 requirements for the particular project.

10 Q Would you define process corrective action?

11 A Corrective action would be that which would
12 preclude a deviation or a nonconformance from occurring
13 in the future.

14 Q Would that also be a definition for process
15 corrective action?

16 A I am not quite sure what you mean by
17 "process corrective action."

18 Q Do you know what AQL refers to?

19 A I believe it is an acronym for acceptance
20 quality limit.

21 Q What is an acceptance quality limit?

22 A That limit which would be acceptable for a
23 particular product to meet the quality and functional
24 requirements for that particular item.

1 Q What is an AOQL?

2 A Would you repeat that?

3 Q AOQL.

4 A I'm not sure.

5 Q What is your definition of breakdown in
6 QA program?

7 A When a quality assurance program is not
8 functioning and not providing that assurance such
9 that the work cannot be verified to be in conformance
10 with the particular requirements.

11 Q In the context of QA-QC, what is an
12 inspection?

13 THE WITNESS: Would you repeat that, please?

14 (WHEREUPON, the record was read
15 by the reporter as requested.)

16 BY THE WITNESS:

17 A It is the act of verifying particular items,
18 requirements that are being implemented and achieved.

19 BY MR. ZAMARIN:

20 Q Do you know what the definition of
21 maintainability is in the QA-QC context?

22 A No, I don't.

23 Q Do you know what the definition of
24 reliability is in a QA-QC context?

1 A No, I don't.

2 Q Do you know what the definition of
3 cross checking is in a QA-QC context?

4 A Would you explain that further?

5 MR. ZAMARIN: Why don't you read it back?

6 All right.

7 First, would you read that back?

8 (WHEREUPON, the record was read
9 by the reporter as requested.)

10 BY MR. ZAMARIN:

11 Q I will withdraw that.

12 Do you know what the definition of
13 calibration is in a QA-QC context?

14 A Yes.

15 Q What is it?

16 A It is the means of verifying that a
17 particular item is within the specified limits of
18 its use.

19 Q Do you know what the definition of cross
20 checking is in a QA-QC context?

21 A I presume what you mean by "cross checking"
22 is the act of verifying what someone or something
23 has already done to verify whether it has been done
24 correctly or satisfactorily.

1 Q Is there any relationship in a QA-QC
2 context to your knowledge between the expression
3 "cross checking" and "calibration" other than in the
4 general sense you have just described?

5 A I don't believe so.

6 MR. ZAMARIN: I'm sorry. Can you read me back
7 about the last three questions and three answers.

8 (WHEREUPON, the record was read
9 by the reporter as requested.)

10 BY MR. ZAMARIN:

11 Q What is the definition of qualification in
12 a QA-QC context?

13 A It would be the suitability of the use of
14 a particular item or person for a specific function.

15 Q Or specific function?

16 A Function.

17 Q Can you give us a definition of the
18 term "characteristic" in a QA-QC context?

19 A Yes. It is a particular property or, if
20 you will, a characteristic of an item that one would
21 be seeking for its intended use or function.

22 Q What is the definition of "defective" in
23 a QA-QC context?

24 A When something is not suitable for its

1 intended use.

2 Q What is the definition of "defect" in a
3 QA-QC context?

4 A Same.

5 Q What is the definition of "repair" in a
6 QA-QC context?

7 A The act of correcting that defect or
8 defective part so as to make it suitable for use.

9 Q What is the definition of "rework" in a
10 QA-QC context?

11 A Similar to repair.

12 Q The same as repair in your opinion?

13 A Similar to it.

14 Q How does it differ?

15 A Reworking something not necessarily would
16 completely repair it to its intended use. It would
17 just be a modification of a particular item.

18 Q Do you have a definition for the term
19 "test" in a QA-QC context?

20 A It would be the verification of the
21 particular requirement being met or being suitable
22 for its intended use.

23 Q Do you have any journals or periodicals
24 or books to which you customarily refer or which you

1 customarily read in the area of quality assurance or
2 quality control engineering?

3 THE WITNESS: Would you repeat the question,
4 please?

5 (WHEREUPON, the record was read
6 by the reporter as requested.)

7 BY THE WITNESS:

8 A No, I don't.

9 BY MR. ZAMARIN:

10 Q Do you subscribe to any professional
11 periodicals or journals?

12 A Yes, I do.

13 Q To which?

14 A American Society of Civil Engineers,
15 American Concrete Institute. That's it.

16 Q Do you regularly read those publications?

17 A When time permits.

18 Q And do you consider them authoritative?

19 A Generally so.

20 Q Have you ever worked as a QA-QC professional
21 outside of the NRC?

22 A No, I have not.

23 Q What are the responsibilities of Region 3
24 of the NRC?

1 A Region 3 is one of the five regional
2 offices of the Office of Inspection and Enforcement
3 within the NRC. They are charged with providing
4 the inspection function within the NRC at
5 construction and operational nuclear power plants.

6 MR. ZAMARIN: Could you read that back, please?

7 (WHEREUPON, the record was read
8 by the reporter as requested.)

9 BY MR. ZAMARIN:

10 Q What do you mean when you refer to the
11 inspection function of the NRC?

12 A We provide the verification that licensees
13 are meeting their license conditions, their
14 commitments, the codes and standards and regulatory
15 requirements that they have committed to.

16 Q Could you describe the chain of command
17 within Region 3, and tell us where you fit within
18 that chain of command?

19 A Would you like that from the top down?

20 Q From the top.

21 A Okay. We have a director of the Region 3
22 office.

23 Q And as you describe the positions or
24 titles, would you also identify the individuals?

1 A It is Mr. James Keppler. K-e-p-p-l-e-r.
2 On the construction side of the house we have a
3 branch chief who is Mr. Gaston Fiorelli,
4 F-i-o-r-e-l-l-i. Below him we have a section chief
5 of the engineering support group which is
6 Mr. D. Hayes, H-a-y-e-s, and I fall within that
7 engineering support group as a civil engineer.

8 Q Are there other branches within Region 3
9 besides the construction branch?

10 A Yes. We have the operations branch, and
11 we have the materials branch, and safeguards branch,
12 and we have an administrative branch.

13 Q Are there other sections within the
14 construction branch besides the engineering support
15 group?

16 A Yes. There are two engineering support
17 groups, and there are two project sections.

18 Q Are the functions of the engineering
19 support groups, the two of them, the same?

20 A They are both the same. They have
21 different engineering disciplines within.

22 Q What are the engineering disciplines
23 within the group of which the section chief is
24 D. Hayes?

1 A Civil engineering and electrical engineering
2 at this time. We are currently going through a
3 regional reorganization which has not been defined
4 as of yet.

5 Q Who is the section chief of the other
6 engineering support group?

7 A Mr. Duane Danielson is the engineering
8 support section chief.

9 Q And what disciplines are included within
10 that group?

11 A Mechanical, welding, metallurgical
12 disciplines.

13 Q And you said there were two other groups,
14 I believe, or sections under construction. Those
15 were project sections. Who are the section chiefs
16 for the project sections?

17 A Mr. D. Knop, K-n-o-p, and Mr. Cordell
18 Williams.

19 Q What is the function of the project
20 section?

21 A Project section provides for a project
22 coordination function between the licensee and the
23 regional office, while the engineering support groups
24 provide the technical expertise to the inspection

1 function.

2 Q Is the actual hands-on inspection more
3 typically done by the project section as opposed
4 to the engineering support group or vice versa?

5 A It is not restricted to either group.
6 In general, the engineering support group performs
7 more of a hands-on inspection while the projects
8 group provides the coordination between the licensee
9 and regional office.

10 Q Tell me what you mean by "coordination
11 between the licensee and the regional office."

12 A There are many reporting requirements that
13 licensees have to abide by. They are designated a
14 project coordinator, if you will, to contact the
15 project section, sets up that line of communication
16 between the licensee and the region.

17 Q To which of those sections does the
18 resident inspector report?

19 A The project section.

20 Q Do I understand you correctly to say that
21 it is the engineering support group, however, that
22 does the primary hands-on type of inspection as
23 opposed to the project section, is that right?

24 A That's correct. However, it is not to say

1 that the projects' individuals do not do inspections.
2 They certainly do, and in their respective fields
3 of interest. Although they are designated as the
4 project coordinator, they are still engineers of a
5 particular discipline who are permitted to perform
6 inspections in those areas.

7 Q How do you go about providing verification
8 that a licensee meets conditions that are specified
9 by their license?

10 A First source of review would be the
11 PSAR requirements that have been committed to as part
12 of their license, proceeding with the particular
13 project specifications, onto the detailed work
14 procedures and seeing that those license commitments
15 have been correctly translated into the procedures
16 and work activities.

17 Q Is that about it?

18 A Yes.

19 Q Have you performed this function with
20 regard to Midland?

21 A Yes, I have.

22 Q Have you performed this function with
23 regard to any other nuclear project?

24 A Yes, I have.

1 Q Would that include each of them that you
2 listed earlier; that is, Perry, Braidwood, Byron,
3 LaSalle, Clinton, Bailey, Calloway, and Wolf Creek?

4 A That's correct.

5 Q Are there any others that come to mind now?

6 A I have performed inspection at a number
7 of the operating plants with regards to inspection
8 and enforcement bulletins.

9 Q On the operating plants do you do the same
10 type of a review, and that is, that you review the
11 PSAR requirements and the project specs and see that
12 they have been correctly translated into procedures
13 and work activities?

14 A That depends on the particular function of
15 the inspection.

16 Q Have you ever found in the course of any
17 of your reviews that PSAR requirements or project
18 specs or any other requirements have not been
19 correctly translated into procedures and work
20 activities?

21 A Yes.

22 Q With regard to what project or projects?

23 A I don't recall offhand exactly that
24 particular incident. However, there have been

1 previous cases where FSAR or PSAR requirements have
2 not been translated into the detailed work
3 procedures or specifications.

4 Q Is that a rare occurrence?

5 A I'm not certain as to how you would refer
6 to the word "rare" in your question.

7 Q You force me to ask you for numbers then.

8 How many times have you found either errors
9 or discrepancies or inconsistencies between PSAR,
10 PSAR requirements, design spec requirements, detail
11 work procedures, and work activities?

12 A I don't recall the exact number. There
13 have been prior cases where we have cited a licensee
14 for not correctly translating license commitments
15 into work procedures.

16 Q Would that be on more than two occasions?

17 A Perhaps.

18 Q More than 20 occasions?

19 A I don't believe so.

20 Q More than five?

21 A I don't recall the exact number.

22 Q You don't recall whether it is more or
23 less than five?

24 A No, I don't.

1 Q How does Region 3 interface with other
2 NRC branches and organizations, such as NRR, for
3 example?

4 A We directly communicate on an as-need basis.

5 Q In other words, there is no chain of
6 command to which you have to go in order to interface
7 with NRR?

8 A Generally we keep our counterparts in
9 IE headquarters informed of our communications
10 with other NRC offices, and at times request their
11 assistance at communicating whatever we need to know
12 in our office.

13 Q Is there some QA section or branch or
14 aspect of NRR?

15 A Yes, there is.

T4 Q And how does that differ, if at all, from
16 the QA function here in Region 3?

17 A They generally provide the initial review
18 of a licensee's program as presented in Chapter 17
19 of the PSAR-FSAR, comment on that from the aspect
20 of 10 CFR 50, Appendix B. The region likewise
21 performs a review of that program, as well as the
22 direct implementation of that program, and that is
23 where we differ, where we see the actual implementation
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report, on the correctness of that implementation.

MR. ZAMARIN: Could you read that answer back, please?

(WHEREUPON, the record was read by the reporter as requested.)

BY MR. ZAMARIN:

Q What is your understanding of the results of the NRR QA review of the Midland Chapter 17?

A I have not been informed of their -- of the results of their review.

Q You don't have any idea whatsoever what their review consists of?

A Their current one or their original?

Q Either.

A No, I did not get involved in the results of their particular review.

Q When you say "their current one or their original," what is the difference between the current one and the original, as far as procedure goes?

A As I understand it, there have been revisions to Consumers Power's quality assurance program over the years, and there are a number of outstanding questions relative to the quality

1 assurance program via the 50.54(f) questions that
2 are currently being reviewed.

3 Q Now, are the 50.54(f) questions with
4 regard to QA reviewed by NRR, the answers?

5 A They will be reviewed by both NRR, as well
6 as IE.

7 Q And is there any interfacing between NRR
8 and IE with regard to the review of the 50.54(f)
9 responses?

10 A Yes. We will report to them what our
11 findings are when we review the particular questions
12 regarding quality assurance, and they would inform
13 us of their findings of their review as well.

14 Q Has IE performed any review to date of the
15 responses to questions 1 and 23 of the 50.54(f)
16 questions?

17 A Not that I am aware of.

18 Q Has anyone at NRR, to your knowledge,
19 performed any review of the responses to questions
20 1 and 23 of the 50.54(f) questions?

21 A I believe they are currently being
22 reviewed by the quality assurance branch.

23 Q Who in the quality assurance branch of NRR
24 is conducting that review, to your knowledge?

1 A John Gilray, G-i-l-r-a-y.

2 Q And has anyone in I and E been assigned
3 to review the 50.54(f) responses to questions 1 and
4 23?

5 A I will be looking at question 23.

6 Q What about question No. 1?

7 A I don't believe that particular question
8 has been assigned to anybody as of yet.

9 Q Is there some reason why that one hasn't
10 been assigned to anyone yet?

11 A No, there is none.

12 Q And is there any particular reason why
13 you have not commenced review of your response to
14 question No. 23?

15 A Only time being very dear and a schedule
16 being very tight to provide that review.

17 Q By that I take it you just haven't had time
18 to do it yet?

19 A Exactly.

20 Q Do you recall when you were assigned the
21 review of the response to question No. 23?

22 A There was no formal response. It was
23 understood that question 23, which responds to many
24 of our findings in the investigation 73-20, that I

1 would follow up on those responses to our findings.

2 Q Whether it was informal or formal, do you
3 recall when that responsibility was delegated or
4 assigned to you?

5 A It was understood since the issuance of
6 our investigation report that I would follow up on
7 those particular items as a matter of routine.

8 Q Sometime in March of 1978, is that what
9 you are referring to?

10 A March of '78 was when our report --

11 Q I'm sorry. March of '79. March 22, 1979.

12 A Yes. March of '79 was when our investiga-
13 tion report was issued.

14 Q 23, however, has been submitted by the
15 licensee sometime after that. I don't recall exactly
16 when.

17 Q Do you recall generally when your response
18 to question 23 was submitted by Consumers?

19 A Probably July of '79. There has been some
20 eight revisions to this date.

21 Q Do you know what the revisions consist of?

22 A Not in particular.

23 Q How about in general?

24 A Yes, I have received those revisions and I

1 have incorporated them into my schedule for reviewing
2 those.

3 Q What I mean is can you tell us, as you sit
4 here now, what those revisions consist of?

5 A Many of the revisions dealt with changes
6 to the schedule of completing certain actions on the
7 part of the licensee; some of them regarding certain
8 programmatic changes regarding the generic applicability
9 of their response to question 23.

10 Q Do you recall what those programmatic
11 changes are?

12 A Not offhand.

13 Q Would you agree that the revisions that
14 have been submitted to responses to question 23 all
15 relate or refer -- consist of changes to either the
16 schedule of an action item or the label of action
17 item, but not to any change in the action item
18 itself?

19 A I haven't studied the revisions that
20 closely to comment on it. I have revision 8 in my
21 files here today. If you would like to look at them
22 in particular, we can.

23 Q I have seen them. I know what it says.
24 Really, what I am trying to do is find out what your

1 knowledge of what is contained in those revisions is,
2 what your impression is.

3 I think you have indicated that you haven't
4 reviewed them in sufficient detail to answer that
5 question, is that right?

6 A Right.

7 Q You indicated a moment earlier that you had
8 a schedule of review or schedule for review, is that
9 correct?

10 A Yes. Within the next month or so I am
11 at least planning to make an effort to review each
12 one of those items in question 23 and verify that the
13 discussed corrective action has been, in fact,
14 completed, and to evaluate whether that action is
15 sufficient to satisfy our inquiry.

16 Q And is the schedule of review that you
17 referred to some kind of a written document that you
18 have?

19 A No, it is not. As you are aware, I have
20 requested that the licensee's corrective action
21 packages be sent to the Midland site in order to
22 assist in that particular review on a number of
23 occasions over the last few months.

24 Q Did you ever tell anybody with regard to

1 those corrective action packages that the reason you
2 wanted them sent to the site was because going into
3 Bechtel at Ann Arbor required paperwork because
4 Bechtel was a vendor and that you wanted to avoid
5 that paperwork?

6 A There is a certain amount of protocol that
7 needs to be implemented in order to go into a vendor.
8 That in itself does not inhibit us to go there.

9 I have requested the information to be
10 brought to the Midland site only to aid in the review,
11 as well as the visual observation of certain
12 activities that were going on simultaneously with that
13 review; only as an aid in expediting the review,
14 rather than having to go to Ann Arbor where they are
15 now retained, to the site to verify certain actions
16 being done, and perhaps to a third office, the
17 Consumers Power Jackson office to verify certain
18 programmatic changes.

19 I was merely attempting to consolidate all
20 of that effort at one particular location, that being
21 the Midland site.

22 MR. ZAMARIN: Would you read the question back,
23 please?

24

1 (WHEREUPON, the record was read
2 by the reporter as requested.)

3 BY MR. ZAMARIN:

4 Q Would you answer that question?
5 Do you want to hear it again?
6 Could you read it back, please?

7 BY THE WITNESS:

8 A I believe I heard it. I believe I answered
9 that question.

10 MR. ZAMARIN: Listen to it carefully.

11 (WHEREUPON, the record was read
12 by the reporter as requested.)

13 BY THE WITNESS:

14 A Going to a particular vendor does not
15 require any formal paperwork. It merely requires
16 a telephone call to the Region 4 office of vendor
17 inspection. They generally are quite willing to
18 accommodate our interest in a particular vendor, and
19 perhaps will assist in our inspection.

20 There is no real difficulty in going into
21 any vendor, if the need arises.

22 BY MR. ZAMARIN:

23 Q Did you ever tell anyone --

24 A Not that I recall. -

1 Q Let me finish the question. You are
2 probably correct in anticipating, but we have got to
3 have it on the record.

4 Did you ever tell anybody that you wanted
5 the corrective action packages sent to the Midland
6 site because Bechtel is like going into Ann Arbor --
7 strike that.

8 Did you ever tell anyone that you wanted
9 the corrective action packages sent to the site
10 because going into Bechtel was like going into a
11 vendor, and you didn't want to have to go through
12 those formalities?

13 A I don't recall telling anybody that I did
14 not want to go through those formalities.

15 I do recall explaining that Bechtel is a
16 vendor and does require certain notification to our
17 office of vendor inspection in Region 4.

18 Q Do you recall having told that or communi-
19 cated that to someone with regard to your statement
20 of the reason why you wanted the corrective action
21 packages sent to the site?.

22 A Yes, I do.

23 Q And do you recall having related that as a
24 reason why you wanted the corrective action packages

1 sent to the site prior to providing any other reason
2 to anyone at Consumers as to why you wanted those
3 packages sent to the site?

4 A I believe I provided that reason, as well
5 as the other reasons that I explained earlier, as
6 being the reason that I would prefer to have all of the
7 packages consolidated at the Midland site so that I
8 could both review the paper, as well as observe
9 certain corrective actions in the work activity that
10 is currently going on at the site.

11 Q So your testimony is that you provided
12 those other reasons either at the same time or prior
13 to providing the reason related to Bechtel being like
14 a vendor?

15 A I believe it was during the same telephone
16 conversation.

17 Q And with whom was that telephone conversation
18 to which you just referred?

19 A Mr. Don Horn of Consumers Power Company.

20 Q Do you recall when about that was?

21 A I guess it was perhaps a month or two ago.
22 In addition to that, when I was on-site, I reiterated
23 that request to have the documents sent to the site.

24 Q Did you ever memorialize either that "

1 conversation or your later recollection of that
2 telephone conversation in any fashion?

3 A No, I didn't.

4 MR. ZAMARIN: Could you read back the last
5 two questions and two answers, please?

6 (WHEREUPON, the record was read
7 by the reporter as requested.)

8 BY MR. ZAMARIN:

9 Q What is your understanding of what the
10 substantial portion of the corrective action that is
11 documented in those corrective action packages
12 consists of?

13 A They consist of the licensee's particular
14 response to our findings and the investigation report
15 78-20, as well as the generic applicability of our
16 findings to Consumers program, and the specific
17 programmatic changes that were implemented as a result
18 of our findings.

19 Q Has any portion of that work corrective
20 action that was done been undertaken by Bechtel?

21 A I believe there are procedures and
22 specifications that require to be revised as a result
23 of those findings.

24 Q Is it your understanding that it was done by

1 Bechtel Engineering in Ann Arbor?

2 A Yes.

3 Q Is it your understanding that most of the
4 corrective action that is documented in those
5 packages was done by Bechtel Engineering at Ann Arbor?

6 A Yes.

7 Q With regard to the information contained
8 in the corrective action packages, I think you stated
9 or suggested a little while ago that there was certain
10 activities that you would be watching with respect to
11 the review of those packages.

12 What activities in particular are those to
13 which you refer?

14 A In particular, the placement of fill and
15 soil materials on the site, as well as the in-process
16 inspection, and perhaps testing of those materials.

17 Q Is placement of fill and soil materials
18 being done on the site now?

19 A I believe so.

20 Q Was it being done two months ago?

21 A Sporadically they are placing fill material.

22 Q Is it your statement or your position that
23 you can't review the corrective action packages in
24 Ann Arbor?

1 A No, it is not.

2 Q Is it your statement or position that you
3 cannot adequately review the corrective action
4 packages in Ann Arbor?

5 A No, it is not.

6 Q Is it your intention to review the
7 corrective action packages in Ann Arbor, if they are
8 not delivered to the site?

9 A Yes, it is.

10 Q And when do you anticipate conducting that
11 review, if they are not delivered to the site?

12 A It was intended to be done this week as a
13 matter of fact.

14 Q And they are not being done because you are
15 here?

16 A In addition to the depositions this week,
17 I have another pressing commitment to perform.

18 Q And do you have this review of the
19 corrective action packages in Ann Arbor in this
20 general schedule of your affairs and activities to
21 which you referred earlier?

22 A I would hope to be able to get to them
23 within the next month or so.

24 Q In your opinion, will having to review the

1 corrective action packages at Ann Arbor in any way
2 be a detriment to the effectiveness of our overall
3 activities with respect to the Midland project?

4 A No. I would like to explain that it is our
5 understanding that those corrective action packages
6 are permanent quality assurance records that are
7 generally stored at the facility, and this is the
8 reason that we would expect those records, packages
9 to be finally stored at the particular facility.

10 Q Okay. It is your understanding that these
11 are documents other than engineering and licensing
12 documents then which would customarily be stored at
13 Ann Arbor?

14 A Yes. They are quality assurance audits and
15 reviews of that corrective action that has been
16 implemented by the licensee's contractor. Audits
17 being a part of the permanent quality assurance
18 records, are generally stored at the facility.

19 Q Are you aware of any review, either within
20 NRR or I and E, of any responses by Consumers Power
21 Company to 50.54(f) questions, be it question 1 or
22 23 or any others?

23 A Yes, I am.

24 Q With respect to which questions are you

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aware of such review?

A The particular number, I am not familiar with. However, it is generally the case that NRR is reviewing, along with their contractors, many of the responses to the 50.54(f) responses.

As I mentioned earlier, the quality assurance branch is currently reviewing certain questions. I and E, Region 3 will be following up on certain of the responses.

Q You said that the NRR QA branch is currently reviewing certain questions.

Are you referring to questions in addition to 1 and 23?

A No, I am not.

Q You indicated that I and E, Region 3 will be following up on certain responses to 50.54(f) questions. To which responses do you refer?

A Mainly question 23.

Q And will that review be redundant of the review that NRR QA branch will do or is doing?

A More in parallel than redundant.

Q You are going to have to explain to me the difference between "in parallel" and "redundant."

A They will be doing a review to see that the

1 proposed revisions to their program, Consumers Power
2 program are consistent with the NRC requirements
3 for quality assurance programs.

4 I and E, on the other hand, will be looking
5 at the detailed revisions to certain technical
6 procedures or engineering procedures which have been
7 committed to in those responses.

8 Q Is it accurate to say then that the NRR
9 QA is more responsible for the overall QA program at
10 Midland than I and E, Region 3 is?

11 A I am not sure if it is correct to
12 characterize it "more responsible."

13 We function as an organization that have
14 communications on this particular matter and are
15 currently reviewing it in detail.

16 Q Okay. "Your organization," by that, I take
17 it, you refer to the NRC?

18 A That's correct.

19 Q But nonetheless you are in separate branches
20 of the NRC, and you have indicated, I believe, that
21 the NRR has more responsibility for revisions to
22 changes in the general QA program while I and E,
23 Region 3 would be looking at detailed revisions to
24 technical or engineering procedures, is that correct?

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A As well as the implementation of a revised program.

Q Okay. So is it accurate to say then that NRR QA is more responsible for the general or overall QA program than I and E, Region 3?

A Yes.

Q Is it your understanding that I and E, Region 3 has responsibility, however, for reviewing and passing on the adequacy of the overall QA program in redundancy to what the NRR QA is doing?

A Yes.

Q What if I and E, Region 3 disagrees with the conclusion of NRR QA comes up with regard to the adequacy of the overall QA program? Do you know how that is resolved?

A As in any other disagreement, we would discuss the details of that and attempt to understand each other's position, come to some resolution on the particular understanding of the program.

Q Do you know whether anyone at NRR QA has any opinion today with respect to the current QA program at Midland?

THE WITNESS: Could I have that read back?

MR. ZAMARIN: Sure.

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(WHEREUPON, the record was read
by the reporter as requested.)

BY THE WITNESS:

A I would think that they would have an
opinion. I don't know exactly their or any individual's
opinion of Consumers' quality assurance program.

Q Have you had any communication within the
last six months with anyone at NRR with regard to
Midland's quality assurance program?

A I have not.

Q Have you had any such communication indirect?

A No.

Q Do you know of anyone in I and E, Region 3
who has either direct or indirect communication with
anyone at NRR with respect to Midland QA in the last
six months?

A I don't know of anybody in particular.
Perhaps the project section chief has had some
communication with the quality assurance branch on
that subject. I am not certain of that, however.

Q Okay, and you are talking about Mr. Fiorelli
who may have had that contact perhaps?

A Perhaps.

Q And that contact would have been with

1 Mr. Gilray?

2 A Yes.

3 Q When did you first -- I'm sorry. Did you
4 want to talk?

5 When did you first become associated with
6 the Midland project?

7 A It was August of 1973, I believe.

8 Q And what was the occasion of your initial
9 association with the Midland project?

10 A Consumers Power reported a 50.55(a)
11 significant construction deficiency to the Region 3
12 office, which was referred to me at that time.

13 Q When you say it was referred to you, what
14 do you mean by that?

15 A The formal submittal by the licensee upon
16 receipt by the Region was then referred to me for my
17 follow up and review of that 50.55(a) item.

18 Q When you say referred to, was it assigned
19 to you, for example, by your section chief?

20 A That's correct.

21 Q And do you recall what, if any, instruction
22 or guidance you were given at that time with regard
23 to what your activities or responsibilities would or
24 should be? -

1 A There was no specific guidance. In general
 2 when we receive a significant construction deficiency,
 3 an inspector is assigned follow up responsibility,
 4 and either an inspection or review of the licensee's
 5 reporting requirements, as well as their addressing
 6 the technical problem, is made by the particular
 7 inspector.

8 MR. ZAMARIN: Could you read that back?
 9 (WHEREUPON, the record was read
 10 by the reporter as requested.)
 11 (WHEREUPON, a recess was had.)

12 BY MR. ZAMARIN:

13 Q A little bit earlier you referred to
 14 quality assurance programs and also to revisions to
 15 technical or engineering procedures.

16 Can you tell me what the difference between
 17 a quality assurance program and a technical or
 18 engineering procedure is?

19 A Well, the procedure is part of that -- the
 20 general program. What I referred to as quality
 21 assurance program, I refer to that program which was
 22 being implemented in accordance with 10 CFR 50,
 23 Appendix B procedures being a part of that general
 24 program.

1 Q Is it accurate to say then that the program
2 itself is made up of a group of procedures or a
3 collection of procedures?

4 A That's correct.

5 Q Did you have any involvement whatsoever with
6 the Midland project prior to the 50.55(e) report in
7 August of 1973?

8 A No, I did not.

9 Q What activities, if any, with regard to
10 Midland are conducted by the Washington I and E
11 headquarters office?

12 A There were none in particular that IE
13 headquarters in Washington were involved in on the
14 Midland project.

15 Q Are there now any? You said "were none."
16 Are there any now that headquarters are involved in?

17 A Only the following up of the December 6
18 order and the administering of that order.

19 Q What do you mean by administering and
20 follow up of that order?

21 A Being informed of the proceedings that
22 are associated with the order and I and E regional
23 office informing them of our continuous inspection
24 of that facility.

1 Q To your knowledge, what is the purpose of
2 I and E headquarters being informed of the proceedings?

3 A Well, within the IE organization there is
4 an enforcement group which needs to be informed of
5 any difficulties or problems at the Midland site on
6 a routine basis.

7 Q And is that enforcement group located in
8 IE headquarters in Washington?

9 A There is one in Washington.

10 Q And is it for the purpose of keeping that
11 enforcement group in Washington advised of what is
12 going on that IE headquarters in Washington are being
13 informed of the proceedings?

14 A That's correct.

15 Q How does the function of the enforcement
16 group in Washington differ from the enforcement
17 group in Region 3?

18 A Only that the headquarters group administers
19 policy to all of the five regions; Region 3 having
20 an enforcement coordinator who interfaces and
21 communicates with the general policymakers of NRC.

22 Q How many individuals are there in your
23 section of Region 3?

24 A In the construction branch?

1 Q Well, actually I am referring to your
2 section, being your engineering support group, and I
3 will go through all of those.

4 A I believe there is five currently in the
5 engineering support section that I am a part of.

6 Q And how many are there in the engineering
7 support section under the section leadership of
8 Duane Danielson?

9 A Likewise, five or six.

10 Q How long a period of time have there been
11 approximately five employees in your group?

12 A Since I have been there.

13 Q And would the same be true for the five
14 employees in Duane Danielson's group?

15 A Yes.

16 Q And are all the employees in your group
17 engineers?

18 A Yes.

19 Q To your knowledge, are all of the employees
20 in Duane Danielson's group engineers?

21 A Yes.

22 Q Do you know the total number of employees
23 in the project section?

24 A Between the two project sections there is

1 approximately ten or so people. In addition to those,
2 we have residents at each one of the sites on the
3 construction who also report to the respective
4 project sections.

5 Q Is there anyone, besides you, in the
6 construction group Region 3 currently assigned to
7 Midland?

8 A In the engineering support group or in the
9 construction branch?

10 Q In the construction branch.

11 A Yes. We have resident inspector Ron Cook,
12 and we have a project inspector, Mr. Ray Sutphin.

13 Q Would you spell Ray's last name?

14 A I believe it is S-u-p-t-h-i-n.

15 Q Any others?

16 A There are other inspectors who frequent
17 on a routine basis the Midland site in their
18 respective areas.

19 Q Are you referring to other inspectors
20 within the construction branch?

21 A Yes.

22 Q And are you referring to other inspectors
23 within the engineering support group?

24 A Yes.

1 Q And who are they currently?

2 A Excuse me.

3 Q Who are they currently?

4 A Mr. Naidu, N-a-i-d-u, goes into the
5 electrical area; Mr. Landsman, L-a-n-d-s-m-a-n, who
6 is also a civil engineer; Mr. Ward, W-a-r-d, inspects
7 in the area of nondestructive testing and examination.
8 That's about it.

9 Q What percentage of your time do you generally
10 spend on Midland?

11 A It is difficult to give a percentage of my
12 time. Since the Midland settlement matter has arose,
13 I have been spending more time as a matter of routine.
14 It is probably 10 percent.

15 Q And you say since the soil settlement has
16 arisen, it is more time, but I take it that your
17 involvement with Midland began with the soils
18 settlement problem, or are you referring to the matter
19 of the hearing?

20 A Yes.

21 Q As to the matter of the hearing. But with
22 regard to your normal activities, other than with
23 respect to the hearing, it has been about 10 percent?

24 A Approximately.

1 Q Do you know what percentage of Mr. Naidu's
2 time is spent on Midland?

3 A Approximately the same.

4 Q And would it also be about 10 percent of
5 Mr. Landsman's time that is spent on Midland?

6 A His has been less than that. It has been
7 on an infrequent inspection.

8 Q Would his responsibilities and activities
9 with regard to Midland be pretty much the same as
10 what you do?

11 A Yes.

12 Q And when you say it is less than 10 percent,
13 it would be about one or two percent of his time?

14 A It has been in that area.

15 Q Do you know what percentage of time
16 Mr. Ward spends with regard to Midland?

17 A Ten percent perhaps.

18 Q Have there been any changes in the
19 organization of Region 3 since you joined Region 3?

20 A No, there hasn't. As I mentioned earlier,
21 we are currently involved in a regional reorganization
22 which has not been defined as of yet.

23 Q You say it hasn't been defined. Has it been
24 proposed?

1 A Yes, I believe it has been proposed.

2 Q And can you tell me what that reorganization
3 will be like?

4 A Yes. It is broken into three divisions
5 that contain engineering support personnel, projects
6 personnel, and administrative personnel, rather than
7 the current organization of operations, construction,
8 fuel facilities and administration.

9 Q Are there any periodic audits or evaluation
10 of Region 3's work performed by NRC or anyone else?

11 A I believe government accounting office has
12 performed audits of our program and our activities.
13 I am not familiar with any of the details of their
14 findings.

15 Q Do you recall when the last such audit was?

16 A No, I don't.

17 Q Do you know whether the NRC performs any
18 assessments or audits or review of Region 3?

19 A I believe the NRC does perform an assessment
20 of their own program and may make revisions as they
21 see fit.

22 Q When you refer to assessments of their own
23 programs, you are referring to the functioning
24 Region 3?

1 A Yes, within the region there is a continuous
2 assessment of the effectiveness of implementing the
3 NRC program and revisions made accordingly.

4 Q Are these assessments reduced to written
5 printed form?

6 A I am not familiar with whether they are
7 documented in any particular form.

8 Q Are you familiar with the term "performance
9 assessment branch"?

10 A Performance appraisal branch perhaps.

11 Q Whatever.

12 A Yes.

13 Q What is the performance appraisal branch?

14 A The NRC Office of Inspection and Enforcement
15 has, I believe, effective this Monday or this past
16 Monday, reorganized one of the branches being the
17 performance and appraisal branch, and all of the
18 definitions of their functions have not been fully
19 defined to the region offices as of yet.

20 Q I see. So your understanding of the
21 performance appraisal branch is that it is something
22 which is not yet in operation?

23 A As I said, it was effective last Monday.
24 It has been set up to appraise the NRC's effectiveness

1 and performance, as well as performance of the
2 licensee's programs.

3 Q Was there any similar organization or
4 branch or section, to your knowledge, prior to the
5 effective date of the performance appraisal branch?

6 A I believe there were individuals within the
7 organization that provided this assessment in
8 headquarters.

9 Q Do you know whether any written reports
10 have been made of those assessments?

11 A I am not aware of.

12 Q Do you know the identify of any of those
13 individuals who would perform assessments with regard
14 to Region 3?

15 A No, I am not.

16 Q Are there any standard procedures within
17 Region 3 with regard to frequency of inspections
18 that are to be made of nuclear projects under
19 construction?

20 A Yes. There are guidelines that are set up
21 for the implementation of our inspection program,
22 in particular on each particular work activity, as it
23 begins, as it proceeds, and as it is completed, to
24 perform in routine inspection in those areas.

1 Q Are these guidelines published somewhere?

2 A Yes, they are within the NRC program
3 requirements.

4 Q They are in the NRC program requirements?

5 A Yes.

6 Q And where are the NRC program requirements
7 located? I mean, are they published in something in
8 the CFR or federal regulations?

9 A Each office within the NRC has their own
10 program requirements. We have a detailed inspection
11 program which outlines guidelines for our inspection
12 efforts and in each one of the engineering disciplines.
13 These are contained in the NRC program which each
14 regional office has.

15 Q Is that a document that is open to
16 public inspection?

17 A I believe it is.

18 Q What do the guidelines for Region 3 for the
19 type of inspection with regard to soils at Midland
20 prior to June of 1978 provide with respect to
21 frequency of inspections?

22 A Well, the frequency of the inspection is
23 very dependent on the amount of work that is being
24 done at a particular site. The guidelines that are

1 in our program requirements are such that specify
2 that an inspection should be performed at a certain
3 percent completion of that work activity, and then
4 followed up at another percent completion, and on and
5 on until the entire work activity is completed.

6 Q Are there any other inspections that are
7 done, for example, at routine day-to-day or week-to-
8 week inspections as opposed to these percent
9 completion inspections that you have just referred to?

10 A They can be done on a week-to-week basis,
11 as frequently as the inspector wishes.

12 Q But the guidelines all refer to, for
13 example, the Midland inspection of 75 percent
14 completion?

15 A That's correct.

16 Q Is it your understanding that prior to
17 June of 1978 the guidelines for inspection in
18 Region 3 with regard to Midland soils, for example,
19 would have simply provided for inspections at, for
20 example, 50 percent completion, 75 percent completion,
21 and so forth?

22 A Yes.

23 Q There was no requirement for frequency of
24 inspection other than at certain percent stages of

1 completion, is that right?

2 A That's correct.

3 Q Are there any guidelines for how the
4 inspections are to be performed?

5 A Yes. There are items that are documented
6 in our procedures that are required to be inspected
7 in the procedural area, in the observation of work
8 activities, and in the review of quality records.

9 Q Are you familiar with each of those
10 procedures?

11 A Yes, I am.

12 Q Has the procedural or guideline with
13 respect to frequency of inspections, as it applies
14 to Midland soils changed, to your knowledge, from
15 1974 to date?

16 A I am not familiar with the inspection
17 effort prior to August of '73.

18 Q Has it changed at all, to your knowledge,
19 during the period of August, 1978, to date?

20 A As of August of 1978, nearly all of the
21 soils work had been completed at the Midland site.
22 So there hasn't been a very routine inspection effort
23 at the Midland site. It has been augmented by the
24 fact that there is a significant settlement problem.

1 So we cannot refer to it as routine at the point.

2 Q What does it now become, if it is no longer
3 routine? What is it now?

4 By that, what I mean, is there some set
5 frequency or is there some set guideline as to how
6 the inspections should be performed that is somehow
7 different from the standard operating procedure?

8 A No. There is no particular guidelines at
9 this point since the work is completed. We are
10 merely attempting to follow up on the previous findings
11 of our investigation report, and their licensee's
12 responses to those findings.

13 Q Has there been any change, to your knowledge,
14 with regard to frequency of inspections or how
15 inspections ought to be performed with regard to the
16 Midland plant generally from 1974 through today's
17 date?

18 A No.

19 Q When you conduct an inspection, what do you
20 do with the information you obtain?

21 A We document it in a formal inspection
22 enforcement report, which is issued to the licensee
23 and to the public document rooms.

24 Q Do you have any knowledge of what soils

1 activities inspections had been conducted by Region 3
2 prior to August of 1978?

3 A No, I have not.

4 Q Is there someone within Region 3 who you
5 believe would have such knowledge?

6 A The individual who would best know perhaps
7 is no longer in Region 3, but he was the project
8 inspector for a good number of years, Mr. Tom Vandell.

9 Q How do you spell his last name, please?

10 A V-a-n-d-e-l-l, and perhaps he would be able
11 to discuss what the program was prior to August of '78.

12 Q Where is he assigned now?

13 A He is now the resident inspector at the
14 Wolf Creek plant in Kansas.

15 Q When you started your inspection sometime
16 following August of 1978, did you ask anyone for
17 information with regard to prior soils inspections?

18 A No, I didn't.

19 Q Did you consider that information important
20 at all to the work you had been doing?

21 A Not particularly.

22 Q What are the responsibilities of an NRC
23 resident inspector?

24 A The resident inspectors have their own

1 inspection program which has been developed. It has
2 a general overview of the licensee's activities and
3 many of the work activities that are going on at the
4 site. It provides an NRC contact to the licensee on
5 site; coordinates with the regional office by
6 informing the region of day-to-day items that are
7 currently on the site; work activities, that's it.

8 Q Does the resident inspector review non-
9 conformance reports?

10 A Throughout the course of his inspection,
11 I am sure he would have the occasion to review
12 certain nonconformance reports, yes.

13 Q Do his duties include inspection of the QA
14 area?

15 A Yes.

16 Q And his responsibilities overlap that of
17 you, for example?

18 A Yes.

19 Q Is there currently a resident inspector
20 at the Midland site?

21 A Yes, there is.

22 Q Do you know how long he has been there?
23 When I refer to "he," I just mean --

24 A Yes. Mr. Ron Cook has been the resident

1 inspector of the Midland site, I believe, since
2 June of '78.

3 Q Do you know if there was a resident
4 inspector on the site prior to the time?

5 A No.

6 Q No, you don't know, or no, there wasn't?

7 A No, there was not.

8 Q Did anybody inspect NCRs or review NCRs
9 prior to June of 1978 when Mr. Ron Cook became
10 resident inspector at the site?

11 A Yes. There were reviews of nonconformance
12 reports and certain work activity areas on a routine
13 basis.

14 Q By whom?

15 A By other NRC inspectors that have performed
16 inspections at the Midland site.

17 Q And when you say "routine basis," what type
18 of basis were you referring to?

19 A Our inspection program guidelines generally
20 inform us to review nonconformance reports for
21 adequate disposition, for the repetitiveness of the
22 particular nonconformance, and for the adequacy of
23 the technical basis for accepting it or rejecting it.

24 Q To your knowledge, prior to June of 1978

1 when Mr. Ron Cook became resident inspector, were
2 NCRs with regard to soils placement activities
3 routinely reviewed by someone from NRC?

4 A I am not aware if they had been.

5 Q You don't have any idea?

6 A I have not researched that aspect of our
7 past inspection program.

8 Q Do you know whether prior to June of 1973
9 anyone from the NRC did any inspection or review
10 in the QA area with regard to soils placement
11 activities?

12 A I suspect that there had been inspections
13 in that area. I am not aware of the findings or of
14 the depth at which those inspections were conducted.

15 Q Are those inspections that, in your opinion,
16 have been conducted in accordance with the guidelines
17 and procedures existing in Region 3?

18 A I am not certain whether they have been
19 since I haven't researched the previous inspection
20 reports in that work activity.

21 Q I didn't ask if you were certain. I
22 asked you in your opinion whether those inspections
23 would have been conducted in accordance with the
24 guidelines for inspection efforts existing in Region 3.

1 A I would presume that they ought to have been
2 conducted within the guidelines of the NRC inspection
3 program.

4 Q And those guidelines would have directed
5 such inspections at certain completion points, is
6 that right?

7 A Yes.

8 Q Are there any of those guidelines prior to
9 mid-term inspection?

10 A Yes.

11 Q All right. At what percent completion
12 would the inspection of soil placement activities
13 be undertaken?

14 A Generally at the 10 or 15 percent point
15 would there be an initial inspection so that the
16 inspector would be able to see certain work that has
17 been completed at that point and review the results
18 of that work.

19 Q At what percentage completion would the
20 guidelines call for the next inspection to take place?

21 A Generally speaking, the inspection program
22 outlines a 10 percent, 30 or 40 percent, 60 percent,
23 and then upon final completion as a minimum with
24 more frequent inspections performed on an as-need basis.

1 Q All right. With regard to soil placement
2 activities at Midland, what would a typical inspection,
3 say, at the 60 percent completion point consist of
4 by someone from Region 3?

5 A It would consist of reviewing any changes
6 to the specifications; whether those changes were
7 in accordance with the license commitments, standards,
8 and codes; reviewing and observing particular work
9 activities in progress to ascertain whether that work
10 is in accordance with the particular procedures and
11 specifications, and finally reviewing the quality
12 records that have been developed up to that point in
13 time.

14 Q Would the same type of activity be undertaken
15 at the 10 or 15 percent completion inspection?

16 A Yes.

17 Q And would those inspections also include a
18 review of, for example, field procedures and
19 specifications and FSAR requirements?

20 A Yes, generally so.

21 Q Are you aware of any reports of any
22 inspections prior to June of 1978 with regard to
23 soil placement activities at Midland from Region 3?

24 A As I mentioned earlier, I have not researched

1 any previous reports in that area.

2 Q I am simply asking whether you are aware,
3 not if you have researched any.

4 A No, I am not aware.

5 Q If there were any such reports, where would
6 you expect to find them?

7 A In the Midland files.

8 Q At Region 3?

9 A Yes.

10 Q To your knowledge, did Region 3 have the
11 authority to have a resident inspector at the Midland
12 site prior to June of 1978?

13 A I believe they did.

14 MR. JONES: Could I hear the question again?

15 (WHEREUPON, the record was read
16 by the reporter as requested.)

17 BY THE WITNESS:

18 A Yes, I believe they did have authority.
19 However, it was not exercised until the resident
20 inspection program was completed and implemented
21 during 1978.

22 BY MR. ZAMARIN:

23 Q Okay. You have said that it wasn't
24 implemented until the resident inspection program was

1 conceived and implemented in 1973. Was there any
2 other reason other than the fact that that program
3 hadn't been conceived, to your knowledge, that there
4 wasn't a resident inspector at the site prior to 1973?

5 THE WITNESS: Could I have that repeated, please?

6 (WHEREUPON, the record was read
7 by the reporter as requested.)

8 THE WITNESS: Would you like to rephrase that
9 question?

10 BY MR. ZAMARIN:

11 Q Can you answer it the way it is phrased?

12 A It is very difficult. I am not sure.

13 Q Okay. Is there any other reason, to your
14 knowledge, for there not being a resident inspector
15 on the site prior to 1973?

16 A No. The NRC did not have a resident
17 inspection concept at that time.

18 Q To your knowledge, did anyone in Region 3
19 review NCR identified as QF-199 dated November 4, 1977,
20 which dealt with the use of incorrect soil proctors?

21 A Yes, I reviewed that during the inspection
22 and investigations.

23 Q And when did you review that?

24 A It was during the course of investigation

1 report 78-20.

2 Q That would have been in or after December
3 of 1978?

4 A Between October of '78 and February of '79.

5 Q Do you know if anyone in Region 3 had ever
6 reviewed that NCR prior to your reviewing it?

7 A I am not aware that it had been reviewed
8 previously.

9 Q Is it your understanding that NCRs are
10 sent to the NRC for review quarterly, at least
11 quarterly?

12 A I believe nonconformance reports are sent
13 from the licensee to the Region 3 office as a result
14 of previous enforcement action at the Midland site.

15 Q 88106?

16 A I believe so.

17 Q And is it your understanding also that
18 the NCRs cited Appendix A of the December 6, 1979
19 order; that is, the QF-199 to which I refer, and
20 QF-29, 52, 68, 147, 74, and 172, had all been provided
21 to Region 3 pursuant to the 106?

22 A I am not certain of which nonconformance
23 reports in particular have been sent. I am just
24 aware that nonconformance reports in general are

1 submitted to the Region 3 office on a routine basis.

2 Q And do you know whether anybody in
3 Region 3 had done any kind of review of the NCRs
4 that are cited in Appendix A of the 1979 order?

5 A No, I am not aware of any review.

6 Q What is done with the NCR submitted to
7 Region 3, if anything?

8 A I am not certain as to how they are handled
9 once they are submitted to the NRC. I have not seen
10 them, nor have they been referred to me.

11 Q To your knowledge, are they handled at all
12 when they are submitted?

13 A I have no idea where they are, where they
14 have been stored, kept, reviewed, or otherwise
15 handled.

16 Q Who within the NRC would know, if anyone?

17 A Perhaps the project section chief for that
18 Midland project would be familiar with the receipt of
19 those and the storage of them and the handling of
20 those nonconformance reports.

21 Q You are referring to the project section
22 chief located where, in Region 3?

23 A Yes.

24 Q And with respect to Midland, that is whom?

1 A I have no reason.

2 Q Well, what is it about your review of those
3 that leads you to opine that someone else wouldn't
4 have recognized such a trend?

5 A If perhaps someone who is sensitive to
6 soils, earth work activities reviewing those non-
7 conformance reports, perhaps there would have been a
8 trend noticed and some action prescribed.

9 Q Okay. So do I understand you to be saying
10 that engineers reviewing those NCRs may or may not
11 have perceived a trend?

12 A As I mentioned earlier, I am not sure if
13 anyone had reviewed those.

14 Q I understand.

15 A I answered the question that if someone
16 had reviewed those, I believe that a trend would have
17 been observed.

18 Q Okay. Then perhaps I misunderstood one
19 of your answers.

20 So then it is your testimony that if, in
21 fact, someone at Region 3 had reviewed those NCRs
22 that a trend would have been apparent to them?

23 A Speculation on my part. However, I would
24 think that if someone was looking for repeated "

1 nonconformances in a particular area, those particular
2 nonconformance reports would have indicated that in
3 the soils area there were many repeated nonconformance
4 reports and tests.

5 Q In the normal course of business of
6 Region 3, is that type of a trend analysis done?

7 A No, it is not.

8 Q Has it ever been done?

9 A Not that I am aware of.

10 Q Does Region 3 do any type of a programmatic-
11 type audit?

12 A Yes. During the normal course of our
13 routine inspections we review nonconformance reports
14 to see if there is anything symptomatic about the
15 repetitiveness of particular deviations.

16 Q And how does that differ then from a trend
17 analysis?

18 A We don't provide a formal trending. We
19 provide more of a surveillance or overall inspection
20 of nonconformance reports reported by the licensee
21 either in the form of nonconformance logs, or in a
22 particular work activity requesting to see particular
23 or all over nonconformance reports in that area.

24 Q Was that done with regard to the soils at

1 Midland?

2 A When I performed my inspection and
3 investigation, I did perform them.

4 Q Were you the first one in Region 3 that
5 had ever done that with respect to the soils at
6 Midland, to your knowledge?

7 A I am not certain of that. I am not certain.

8 Q Do you have any knowledge whatsoever of
9 anyone else in Region 3 ever having conducted that
10 type of a programmatic-type test with regards to
11 the soils at Midland?

12 A I am not familiar whether someone has.
13 I have not inquired as to who performed inspection
14 in the soils areas.

15 Q Would that type of an inspection audit be
16 specified or called out in the guidelines for
17 inspector efforts of Region 3?

18 A In the inspection program there are
19 requirements for reviewing nonconformance reports as
20 a matter of routine, and to observe if there are
21 any repetitiveness to those nonconformances.

22 Q Do you know whether those requirements have
23 changed at all from 1974 through today's date?

24 A I believe that there have been a more

1 formalized inspection program since 1974.

2 Q And when did that occur?

3 A I am not certain as to the change in
4 inspection program. Prior to '78.

5 Q And did that change in any way the
6 requirement for this type of programmatic-type audit
7 or review of NCRs?

8 A I am not familiar with the previous
9 program. I am only familiar with the current
10 program, so I cannot answer that.

11 Q At least how far back do you know that the
12 current program existed?

13 A December of '77, when I first began.

14 MR. JONES: Is this a good point to break?

15 MR. SAMARIN: Yes.

16 (WHEREUPON, the deposition was
17 adjourned until 8:30 a.m.,
18 November 18, 1980.)

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1 STATE OF ILLINOIS)
2) SS:
3 COUNTY OF C O O K)

4 I, MELANIE JAKUSZEWSKI, a Notary Public
5 within and for the County of Cook, State of Illinois,
6 and a Certified Shorthand Reporter of said state,
7 do hereby certify:

8 That previous to the commencement of the
9 examination of the witness, EUGENE J. GALLAGHER, he
10 was first duly sworn to testify the whole truth
11 concerning the matters herein;

12 That the foregoing deposition transcript
13 was reported stenographically by me, was thereafter
14 reduced to typewriting under my personal direction,
15 and constitutes a true record of the testimony given
16 and the proceedings had;

17 That the said deposition was taken before
18 me at the time and place specified;

19 That the said deposition was adjourned
20 to 3:30 a.m., November 18, 1980;

21 That I am not a relative or employee or
22 attorney or counsel, nor a relative or employee
23 of such attorney or counsel for any of the parties
24 hereto; nor interested directly or indirectly in the
outcome of this action.

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IN WITNESS WHEREOF, I do hereunto set my
hand and affix my seal of office at Chicago, Illinois,
this _____ day of December, 1930.

Notary Public, Cook County, Illinois

My commission expires August 18, 1934.

C.S.R. Certificate No. 84-1733.