

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

IN RE:)

DUKE POWER COMPANY, et al.)
(Catawba Nuclear Station,)
Units 1 and 2)

Docket Numbers
50-413
50-414

May 12, 1983
3:30 P.M.

DEPOSITION OF:

CLYDE WILLIAM GRAVES

8310240017 830810
PDR FOIA
AHLERS83-434 PDR

A7
Evelyn Berger Associates

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APPEARANCES:

ROBERT GUILD, ESQUIRE
Charleston, South Carolina

Counsel on Behalf of Intervenor Palmetto Alliance,
Incorporated

DEBEVOISE & LIBERMAN, ESQUIRES
Washington, D.C.

BY: J. Michael McGarry, III, Esquire
and Anne W. Cottingham

Albert V. Carr, Jr., Esquire
Ronald L. Gibson, Esquire
Charlotte, North Carolina

Counsel on Behalf of Applicant Duke Power Company

ALSO PRESENT:

Roger W. Ouellette
Duke Power Company

Michael F. Lowe
Palmetto Alliance, Incorporated

Lee Ann Kornegay
Electronic Recorder
Palmetto Alliance; Incorporated

I N D E X

<u>Witness</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Clyde William Graves	3	-----	-----	-----

1 The Deposition of Clyde William Graves is taken at the
2 offices of Duke Power Company, Charlotte, North Carolina, on
3 this the 12th day of May, 1983, in the presence of Robert Guild,
4 Counsel on Behalf of Palmetto Alliance, Incorporated; and J.
5 Michael McGarry, III, Anne W. Cottingham, Albert V. Carr, Jr.,
6 and Ronald L. Gibson, Counsel on Behalf of Duke Power Company.

7 It is agreed that Lynn B. Gilliam, Notary Public in
8 and for the State of North Carolina, may take said deposition
9 in machine shorthand and transcribe the same to typewriting.

10 MR. McGARRY: I would like this transcript to reflect
11 that the Stipulation referred to in the Deposition of Mary Birch
12 controls with respect to the taking of the Deposition of Mr. Graves.

13 Applicant's comments concerning Notice and accommodations
14 to Palmetto Alliance as contained in Mary Birch's Deposition are
15 applicable to this Deposition.

16 Lastly, comments concerning documents in Mary Birch's
17 Deposition should be amended to reflect that in this Deposition
18 a copy of the FSAR has been made available in this room; and we
19 have discussed other documents Mr. Guild wishes to have, and we
20 are trying to accommodate that request.

21

22 CLYDE WILLIAM GRAVES,
23 having been first duly sworn to tell the truth, was examined
24 and testified as follows:
25

1 DIRECT EXAMINATION

2 BY MR. GUILD:

3 Q Mr. Graves, my name is Bob Guild. I am Counsel for
4 Palmetto Alliance as an Intervenor. I understand you have been
5 identified as the person knowledgeable to respond to questioning
6 concerning the question of qualifications at the station. Do
7 you understand that?

8 A Sure do.

9 Q Please, I would like to be informal, but you need to
10 state yes or no for an answer so that the court reporter can
11 pick you up.

12 I will ask you a series of questions, and these ques-
13 tions are for purposes of my client's gathering information in
14 support of our Contention.

15 If you do not understand a question I ask or are not
16 clear in the use of terms or the way I phrase it, please stop
17 me and ask and we will see if we can clarify. Otherwise, I will
18 assume that you understand the question and that your answer
19 reflects that understanding.

20 I will show you a copy of the Company's response to
21 one of our sets of interrogatories on this subject (indicating).
22 Can you identify that document?

23 MR. McGARRY: Read the title into the Record.

24 THE WITNESS: "Responses to Palmetto Alliances'
25 Interrogatories and Request to Produce."

1 BY MR. GUILD:

2 Q Mr. Graves, you participated in producing the infor-
3 mation for the answers on Contention 8. Let me show you in the
4 back, I think the document attached to this response includes
5 your Affidavit. Is that your signature (indicating)?

6 A Yes.

7 Q And you did assist in preparing information to respond
8 to these interrogatories?

9 A Yes.

10 Q Now, the Contention that is the subject of these ques-
11 tions has been admitted by the Atomic Safety and Licensing Board
12 and numbered Contention 8. Let me show you Page Five of that
13 document (indicating) and read that to yourself, if you would,
14 Mr. Graves, at this time.

15 A Okay, just the first part?

16 Q Yes, sir; that is it. Have you seen that Contention
17 before?

18 A Yes, I have.

19 Q If you would, I want to ask you to identify your pre-
20 sent position with the Company and briefly describe your work
21 history with them and relevant history before that, including
22 any professional training or academic training that you have.

23 A I am the Superintendant of Operations at Catawba
24 Nuclear Station. Previous work history is I have been with
25 Duke Power Company 18 years the 24th of this month.

1 I've got -- during the time I spent with Duke Power
2 Company, I spent four years at Plant Allen -- I transferred from
3 Allen to Oconee Nuclear Station and participated in the start-
4 up of Units One and Two and functional testing on Unit Three.

5 In 1974 I transferred to McGuire and participated in
6 preoperational testing there until 1978. At that time I was
7 promoted to Superintendant of Operations at Catawba Nuclear
8 Station.

9 I have been at Catawba for approximately five and a-
10 half years. During my assignment at Catawba I spent one year
11 at the Institute of Nuclear Power Operations; and initially help-
12 ing the Evaluation and Assistance Division get orders and begin
13 the evaluation of nuclear power plants across the country.

14 I spent approximately two weeks in March, April, 1979,
15 in the recovery of the accident at Three Mile Island.

16 I have also had some temporary assignments to the Gen-
17 eral Office working in the Project and Licensing Division under
18 Mac Getty, who reported to the Project and Licensing Engineer
19 up there.

20 Q Before you joined Duke Power Company?

21 A I was in the United States Navy for four years.

22 Q Did you have work experience with the Navy relevant
23 to your job now?

24 A It was relevant; it wasn't nuclear experience, but it
25 was relevant power plant experience.

1 Q What sort was that, Mr. Graves?

2 A Machinist Mate type work, boiler type work on the
3 USS Independence, an attack air craft carrier.

4 Q That was a steam power plant?

5 A Yes, sir.

6 Q All right, sir; what was the year that you spent with
7 IMPO, Mr. Graves?

8 A Nineteen eighty.

9 Q Where were you working?

10 A In Atlanta, that was the home base.

11 Q Mr. Graves, if you would, give me an overview of the
12 present training program for control room personnel at the
13 Catawba Nuclear Station that essentially takes people to the
14 point where they come to the company and provides them with what
15 you believe to be training experience, instruction sufficient
16 to perform control room responsibilities under actual operating
17 conditions.

18 A That is quite an extensive program. Basically they
19 participate in basic and advanced training; and that program
20 is described in detail in the FSAR.

21 Q If you would make a reference to that and if in the
22 future, if there are answers to questions that are covered
23 adequately by reference to a document, that would save us alot
24 of time.

25 The entire document sits right behind you. Let's see

1 if we can pull out that section. Mr. Graves, if you would give
2 me the reference to the appropriate page number and FSAR --

3 A The training program is described in Section 13.2 of
4 the FSAR and begins on Page 1.3.2 - 1. And in the FSAR is also
5 contained the experience levels of a number of key Catawba Station
6 personnel.

7 Q Can you direct my attention to the portion of that
8 document where that information is contained?

9 A Sure, it is Section 13 "Conduct of Operations".

10 Q Mr. Graves, what is the latest revision, the most
11 current revision, to that document that contains the most updated
12 information concerning qualifications of Catawba Station people?

13 A I assume this manual (indicating) is updated; but let's
14 take a quick look. It is Revision Seven.

15 Q Is there a date for that revision that appears on
16 those pages, or is available?

17 A I don't really know.

18 Q Mr. Graves, what is your understanding of the term
19 "Hands-On Operating Experience"?

20 A I believe it is described in the interrogatories. As
21 a matter of fact, I don't think we described it. I think that
22 Bob did.

23 MR. GUILD: Yeah, I certainly have; and it is a
24 term that we have employed in our contention, Mr. Graves.

25 BY MR. GUILD:

1 Q But what I'm interested in is if you have an under-
2 standing of that term and what it is.

3 A My general understanding of the term "Hands-On Operating
4 Experience" is that the way you put it --

5 Q Yes?

6 A ---is supplied by the training that we go through to
7 become Reactor Operators and Senior Reactor Operators.

8 Q What is your personal level of experience in the oper-
9 ation of a nuclear station?

10 A As a matter of fact, I've explained that earlier when
11 you asked me about the background that I had at Oconee.

12 Q There are persons who have served at nuclear stations
13 who, you would agree, would you not, whose experience is not
14 characterized as Hands-On Operating Experience ?

15 A Certainly engineers, I imagine.

16 Q Those that work in the front office of the plant and
17 not obtaining relevant experience in the actual operation of
18 the facilities, wouldn't you agree?

19 A Oh, yes.

20 Q Let's use your work history as an example. In your
21 judgement, what of your work experience represents "Hands-On
22 Operating Experience at a nuclear power plant?

23 A What experience do I have that represents Hands-On
24 Operating Experience?

25 Q Yes.

1 A I can tell you the positions that I've held that would,
2 I think, that would supply Hands-On Operating Experience.

3 Q Yes, that is what I would like, please.

4 A Nuclear Equipment Operator, I've held that position.
5 It wasn't called that at that time, Utilities Operator.

6 Q What does a Nuclear Equipment Operator do?

7 A Operates the equipment in the plant.

8 Q Outside the Control Room?

9 A Outside the Control Room.

10 Q And you characterize that as Hands-On Operating Exper-
11 ience?

12 A That's right.

13 Q Other positions?

14 A Assistant Control Room Operator.

15 Q And what are the duties of an Assistant Control Room
16 Operator?

17 A Actually operating the Control Room.

18 Q In the nuclear power plant?

19 A That's right.

20 Q And what capacity; Is he an assistant as opposed to
21 an actual Control Room Operator?

22 A He takes directions from the Control Room Operator.
23 He holds a license and actually manipulates the controls.

24 Q All right, other jobs?

25 A Control Room Operator.

1 Q What are the duties of a Control Room Operator?

2 A He directs the operations and assists the Assistant
3 Control Room Operator in the operation of the plant from the
4 Control Room.

5 Q Does he actually manipulate the controls?

6 A Yes, he does.

7 Q Other positions?

8 A Assistant Shift Supervisor.

9 Q Yes, what are the duties of that job?

10 A He directs the Control Room Operators and the Nuclear
11 Equipment Operators out in the plant as well.

12 Q The Shift Supervisor, what are his duties?

13 A His duty is to direct the Assistant Shift Supervisor
14 on his unit and also to direct the Control Room Operators when
15 the Assistant Shift Supervisor is not present.

16 Q Does the Shift Supervisor manipulate the controls?

17 A He directs the manipulation of the controls.

18 Q I may have asked you this, but what would your answer
19 be to that question for the Assistant Shift Supervisor?

20 A He directs the manipulations of the controls.

21 Q He does not, himself, manipulate?

22 A He does not normally.

23 Q Again, the Assistant Shift Supervisor, is he licensed
24 to manipulate the controls?

25 A Yes.

1 Q And the Shift Supervisor as well is licensed to operate
2 and manipulate the controls?

3 A Yes.

4 Q Any other jobs; I'm talking about your experience now?

5 A I've had other jobs, but it wouldn't be related to
6 Hands-On Experience, more management.

7 Q So is that the last position that represents Hands-On
8 Experience?

9 A Yes.

10 Q All right, sir. As you define Hands-On Experience, or
11 as we have discussed Hands-On Experience, help me understand
12 what the actual, your personal actual experience of that sort,
13 has been in terms of time.

14 Go back through this list and give me the time, say
15 time in these positions that you have held that we could count
16 as Hands-On Experience. Nuclear Equipment Operator, how long
17 did you perform that work?

18 A I don't really understand. Would you repeat your
19 question again?

20 Q Sure; you've related these as work that you have
21 performed that represents Hands-On Operating Experience. I'm
22 trying to understand how much time you held in each of these
23 positions to get a feel for a measure of your experience of
24 that sort in time; and in that light, how much time as a Nuclear
25 Equipment Operator?

1 A If it is in writing here that will help (indicating).

2 MR. McGARRY: It is all in writing on table
3 13.1.3-1 on Page Sixteen.

4 BY MR. GUILD:

5 Q Now I am looking at that table. Counsel helped me
6 with the first position that is shown under experience, two
7 years; Utilities Operator: Is that the Nuclear Equipment Opera-
8 tor position that you had reference to?

9 A Yes.

10 Q That is what it was called at that time?

11 A Yes.

12 Q So just two years in that position; and Assistant
13 Control Room Operator, how much time?

14 A One year.

15 Q Control Room Operator?

16 A One and one-half years.

17 Q Assistant Shift Supervisor?

18 A One and one-half years.

19 Q And the Shift Supervisor?

20 A Two and a-half years.

21 Q That adds up to eight and a-half years all total.

22 Would you agree that the first two years as a Nuclear Equipment
23 Operator, your experience was not in the manipulation of the
24 controls of the reactor, itself?

25 A It is true.

1 Q That is true; Mr. Graves, have you participated in
2 any company efforts or industry efforts to change or produce new
3 standards for the experience and qualifications of nuclear power
4 plant Reactor Operators?

5 A Not to my knowledge.

6 Q You did not serve on any industry committees or task
7 forces that are working on --

8 A Not in the training area.

9 Q How about in the operations area?

10 A No, I participate in some seminars at IMPO meetings,
11 but that is it.

12 Q Are you familiar with the position of the company in
13 recommending standards for training and qualifications of reactor
14 operators?

15 A I'm familiar with ASMI Standards.

16 Q Are you familiar with the American National Standards
17 promulgated by the American National Standards Institute for
18 experience qualifications and training of personnel for nuclear
19 power plants?

20 A Yes.

21 Q ANSI eighty-one?

22 A Yes.

23 Q I am trying to refer to a section of the ANSI Standard
24 here; Page 15 of my copy of the 1981 ANSI Standard under the por-
25 tion, Section 5.5.1.2.1, are listed a number of control manipula-

1 tion functions that come under the heading of "On-the-Job Train-
2 ing".

3 Have you seen that section?

4 A Yes, I have.

5 Q In your opinion, Mr. Graves, do those enumerated
6 functions represent the significant operating responsibilities
7 which are reflected under the term "control manipulations rel-
8 ative to the operation of a nuclear power plant"?

9 A I don't really understand the question. Can you repeat
10 that?

11 Q The list of functions that you see listed there, are
12 those in your opinion a complete and accurate representation of
13 the important functions performed by Control Room Operators at
14 a nuclear power plant?

15 A Okay, Bob, let me say first of all, do you understand
16 that the NRC has not adopted this NC Standard?

17 Q Yes.

18 A And this is On-the-Job Training and most all of this
19 would be performed on a simulated -- not in a plant -- and I
20 understood your question to be in a plant?

21 Q Yes, What I want to understand, Mr. Graves, is your
22 opinion about that list as a complete and accurate representation
23 of the significant functions that a Control Room Operator must
24 perform competently in a nuclear power plant.

25 A I can say this: Our training covers the items that

1 are listed here.

2 Q I am not trying to trick you; I am trying to under-
3 stand.

4 A I understand, I just wanted to understand your ques-
5 tion.

6 Q Back to my question, are there any significant res-
7 sponsibilities that are not included in this list that you think
8 are significant to safe operations of a plant?

9 A No, I think that is a comprehensive list.

10 Q Are there any items on that list in the NC Standard
11 that, in your judgement, are not significant to the safe opera-
12 tion of a plant?

13 A That is a hard question. Some of them are less sig-
14 nificant than others.

15 Q Well, significance I want to understand in the sense
16 of them being skills that you believe it is important for some-
17 one to have in order to perform their function competently in
18 the operation of a nuclear power plant.

19 So take a moment and look at the list, and if there
20 are any items on there that you do not believe fit that descrip-
21 tion, I would be interested in your opinion as to their identity.

22 A They are all good items to train.

23 Q In your opinion should persons who are responsible
24 for manipulating the controls at Catawba Station all have ex-
25 perience in the functions that are set forth in that Standard?

1 A Yes.

2 Q And speaking of this list of 27 items --

3 A Yes.

4 Q You said a moment ago, Mr. Graves, that these items,
5 or many of these items, that experience in those items is provided
6 through work on simulators.

7 A (The witness nodded his head affirmatively.) Yes;
8 that is true.

9 Q Is that part of Duke's training program, to provide
10 experience in those skills on simulators, on a simulator?

11 A On simulators or previous operating experience.

12 Q What I want to understand is your opinion about the
13 relationship between simulator experience and actual operating
14 experience, Mr. Graves. Do you believe they are equivalent?

15 A Yes.

16 Q All right, sir; what simulator is employed for providing
17 this experience for Catawba operating room personnel, or McGuire
18 simulator at the McGuire site? I was trying to understand the
19 company's position in some correspondence which I don't have in
20 front of me with the NRC. Does the Commission recognize testing,
21 training and experience on McGuire simulators as equivalent to
22 such testing, training and experience at the actual Catawba
23 Control Room?

24 A As far as I know, yes. Can I say something additional
25 on that?

1 Q Certainly.

2 A The cold certification training, the program has been
3 approved for both Catawba and McGuire on the McGuire simulators;
4 that is what I was referring to.

5 Q When was that approval made, Mr. Graves; Do you recall?

6 A I don't really recall.

7 Q Recently?

8 A The initial program was approved I think in 1977.

9 Q I really am not clear about this, and maybe you can
10 help me understand it. Is there a recent decision or request
11 to the NRC for some reliance on the McGuire simulator for test-
12 ing purposes for Catawba operators?

13 Do you have any idea what I'm referring to?

14 A I don't understand your question.

15 Q All right, are there some pending positions by Duke
16 seeking approval by the NRC for use of the McGuire simulator
17 to test Catawba operators?

18 A Yes -- I really don't know what you are referring to.
19 Could you be more specific and maybe I could answer your ques-
20 tion.

21 Q Okay, lets' see if I can find the reference. I have a
22 piece of correspondence, Mr. Graves, that is dated January 31,
23 1983 (indicating) from Mr. Tucker of Duke to Mr. Denton of the
24 NRC; and it references a cold license certification program,
25 and let me ask if you have seen that before?

1 A Yes, I have.

2 Q I think what I had reference to was on the paragraph,
3 this is an attachment to that letter under the heading "Training
4 for Mitigating Core Damage".

5 Under the background section it says at the bottom,
6 "As early as 1978 Catawba Nuclear Station requested a waiver of
7 simulator examination on the McGuire simulator as part of the
8 licensing process."

9 A Yes.

10 Q Can you explain that to me?

11 A It was in reference to actual licensing on the McGuire
12 simulator. Request was made to actually license on the Catawba
13 Station rather than the McGuire simulator.

14 Q What happened with that request?

15 A It was approved as far as I know.

16 Q Help me understand what that means, persons who would
17 be licensed to operate the Catawba facility would be tested on
18 the basis of operation of the McGuire simulator; is that correct?

19 A This asked not to be licensed on the basis of testing
20 on the McGuire simulator.

21 Q But instead on the actual Catawba --

22 A Actual Catawba Plant.

23 Q Why would the NRC have asked you to test Catawba op-
24 erators on the McGuire simulator?

25 A The thinking was that the McGuire simulator was

1 identical to the Catawba Plant, and there was actually some
2 differences. Rather than learn both the McGuire Plant and the
3 Catawba Plant, we thought it would be advantageous and have better,
4 more applicable training, to train more on Catawba than actually
5 train the Catawba personnel on learning how to operate the
6 simulator with these differences.

7 Q The last page of the correspondence, Mr. Graves,
8 reflects the following observations: "Some simulator training
9 allowing candidates to make reactivity changes, observe, analyze,
10 and take corrective action on selected malfunctions.

11 "Control board and procedural differences will not
12 allow actual implementation of Catawba Nuclear Station procedures
13 on the McGuire simulator, but transient responses will be the
14 simulator at Catawba."

15 What are the Catawba Nuclear Station's procedures
16 that can't be actually implemented on the simulator?

17 A One that comes to mind --

18 Q The important ones?

19 A One that comes to mind is the turbine radiator start-
20 up.

21 Q Can't that be simulated effectively?

22 A Different manufacturer.

23 Q What are the differences?

24 A One, McGuire is Westinghouse manufactured and Catawba
25 is General Electric.

1 Q I want to direct your attention to Page 29 of the
2 follow-up responses to follow-up interrogatories that ask
3 about the differences between the Catawba and McGuire simulator,
4 Catawba Plant and McGuire simulator; does it not?

5 A Right.

6 Q Do you agree those represent the significant differences
7 between the two?

8 A I would say yes.

9 Q Describe for me generally, Mr. Graves, the testing
10 procedure, as the word is employed, by Duke for persons who
11 ultimately will be licensed to operate the Catawba Control Room.

12 A Do you want me to tell you how the people are tested?

13 Q Yes, sir.

14 A During the program they are tested. As a matter
15 of fact, I think it is in the NSAR here that describes the test-
16 ing program.

17 Q Please refer to it if there is a section.

18 A If I can find it, I can't see a section here that re-
19 fers directly to it; but there are weekly tests given, quizzes
20 in-between.

21 Q Run me through the testing procedure that leads up to
22 someone being licensed to perform Control Room Operator functions,
23 Mr. Graves.

24 A Like I mentioned, at the end of each week there is
25 an examination given that covers the material for the entire

1 week. Each day there is a quiz given after the presentations
2 are made.

3 At the end of the entire training program there is
4 an overall evaluation made from an outside vendor or either
5 training personnel from another utility to evaluate the know-
6 ledge level of the personnel.

7 Q Who are the "outside vendors" that you are referring
8 to?

9 A It can be the Carolina Power and Light or it could be
10 another vendor.

11 Q Another utility operator, is that what you are referring
12 to?

13 A Training personnel from other companies.

14 Q Not a contracted man that comes in to do this?

15 A My experience is it has been people from other utilities.

16 Q These are sort of course work quizzes; The term "quiz,"
17 was used in response to some answers to interrogatories; things
18 that an instructor would give in the normal course of presenting
19 instruction to candidates for operator licenses; is that right?

20 A Like I mentioned, the quizzes are given on a daily basis,
21 and the examinations are given at the end of the week or once a
22 week.

23 Q What kind of other testing is given to candidates for
24 Control Room positions?

25 A I believe it is described here in the selection process

1 in one of our interrogatories.

2 Q If you would like to refer to it, that is fine; other-
3 wise to the best of your recollection.

4 A Here it is, Page 31 on "description," it has the test
5 that is given.

6 Q These are the pre-employment tests that are referred
7 to here?

8 A Right.

9 Q And there is a psychological test that is given?

10 A Right. I might mention, too, there are oral examina-
11 tions given periodically during the program as well.

12 MR. CARR: Excuse me, Counsel; I might show the
13 witness a couple further answers to interrogatories.

14 MR. GUILD: Sure, if it would be helpful.

15

16 BY MR. GUILD:

17 Q How about if you would identify those other answers
18 that might help us?

19 A Interrogatory Number 34 on Page 24.

20 MR. CARR: That is in response of September 22.

21 MR. GUILD: Is there anything else?

22 THE WITNESS: There is some more information on
23 Interrogatory 35, Page 53.

24 MR. CARR: And that is the response of February

25 28 of 1983.

1 MR. CARR: That is in response of September 22.

2 MR. GUILD: Is there anything else?

3 THE WITNESS: There is some more information on
4 Interrogatory 35, Page 53.

5 MR. CARR: And that is the response of February
6 28 of 1983.

7

8 BY MR. GUILD:

9 Q Is there a test that is administered controlling per-
10 sonnel by the Nuclear Regulatory Commission?

11 A Yes, there is.

12 Q What does that test consist of?

13 A Of course, it has not been administered for the Cat-
14 awba personnel yet.

15 [Thereupon, an unidentified person entered the Deposi-
16 tion Room and the following proceedings took place:]

17 MR. McGARRY: Can we put on the Record who is in
18 attendance?

19 MR. GUILD: Yes.

20 MR. McGARRY: I think we reflected at the begin-
21 ning the people in attendance at this meeting with
22 the people in attendance in previous Depositions with
23 two exceptions.

24 MR. GUILD: One is Jesse Riley and Betsy Leviticus.

25 MR. McGARRY: That is fine.

1 BY MR. GUILD:

2 Q Now then, the NRC's Tests --

3 A It is a comprehensive examination that covers several
4 areas: Maintenance, Operation Systems, Reactor Theory, Thermo-
5 dynamics, Instrumentation, Fuel Handling, and several other
6 areas that I can't really recall right now.

7 Q And this examination is given to qualified people to
8 perform what functions, Mr. Graves?

9 A To be Reactor Operators or Senior Reactor Operators.

10 Q Same test for both?

11 A No, the test is different.

12 Q When would this test be administered or these tests
13 be administered for Catawba personnel?

14 A Shortly before fuel loading.

15 Q When is the testing planned?

16 A The testing is planned for March of next year.

17 Q 1984?

18 A Yes, sir.

19 Q Are there other tests for Catawba, other examinations
20 for Catawba operating personnel that are administered?

21 A Not that I can recall other than those that I've al-
22 ready pointed out.

23 Q All right, the NRC administers one test that is the
24 examination that you have referred to that would take place in
25 March of 1984, one for each Reactor Operator and Senior Reactor

1 Operator?

2 A One written test for Senior Reactor Operator and Re-
3 actor Operator, and a written test and oral examination.

4 Q Describe the oral examination, if you would, Mr. Graves.

5 A The oral examination can take place, it is either four
6 to six hours long; and it is basically a sit-down session asking
7 questions about the plant operation, emergency procedures, acci-
8 dent analysis questions.

9 Then it is a walk-thru the station continuing to ask
10 oral questions. And part of that time is spent in the Control
11 Room on the Control Room panels quizzing the operators to find
12 out their understanding of the plant.

13 Q Who would administer that oral exam?

14 A The NRC.

15 Q Do you know who from the NRC?

16 A No, I don't.

17 Q Can you describe generally the positions of the people
18 who would administer those exams?

19 A They are from the NRC; I don't, I'm not familiar with
20 individuals that are giving them or their background.

21 Q Or their specific titles or areas?

22 A No; as a matter of fact, they reorganized that parti-
23 cular section in NRC, and it is a little confusing at this time
24 as to what their titles are and what they are called.

25 Q How many persons do you anticipate taking the NRC's

1 written and oral examinations, either as Reactor Operators or
2 Senior Reactor Operators for Catawba?

3 A Actually around 50 to 55.

4 Q Total?

5 A Total.

6 Q How many of those would be taking the SRO and how
7 many the RO tests?

8 A I don't really recall, probably about half.

9 Q Half of each?

10 A That is a ballpark number.

11 Q Those who take the Senior Reactor Operator exam, they
12 will hold a license as Reactor Operator?

13 A Some will have held licenses as Reactor Operators,
14 and some will not have held licenses as Reactor Operators.

15 Q From the half that would be taking the SRO, can you
16 give me an approximation how many of those half SRO candidates
17 would have RO licenses?

18 A Gee whiz, roughly half.

19 Q And those have held SRO licenses previously?

20 A Those have held RO licenses previously.

21 Q Those have held SRO licenses previously?

22 A RO licenses previously.

23 Q I am confused; of the 50, half of those will be taking
24 the SRO exam?

25 A Right.

1 Q And half of those, say ten or 15, would hold an SRO
2 license?

3 A Or RO license.

4 Q But not at Catawba?

5 A Not at Catawba.

6 Q I understand you will use you, yourself, as an example?

7 A For example, I have been previously licensed as an
8 SRO at Oconee.

9 Q And you will take the SRO license at Catawba?

10 A I intend to.

11 Q Of the half who will be taking the SRO licenses, how
12 many of those already hold SRO licenses at another facility?

13 A Repeat that again, I'm sorry.

14 Q Okay, you have about 20 to 25 people, approximately,
15 who will be taking the Senior Reactor Operator Exam in March '84?

16 A Right.

17 Q Some of those have previous licenses?

18 A Right.

19 Q How many of those do you figure will have already been
20 licensed elsewhere as Senior Reactor Operators?

21 A Roughly half.

22 Q About 15?

23 A Possibly.

24 Q Ten, 15, something like that?

25 A I don't have the exact figures in front of me.

1 Q Will any of the candidates for Reactor Operator licenses
2 already hold Reactor Operator licenses for other facilities?

3 A No.

4 Q Let me see if I follow this now: Will any of the can-
5 didates for Senior Reactor Operators at Catawba hold a license as
6 a Reactor Operator at another facility?

7 A A few.

8 Q Can you give me an estimate of how many that would be?

9 A I recall two.

10 Q Do you agree that a person can hold Reactor Operator,
11 Senior Reactor Operator licenses without having significant
12 actual operating experience at a large pressurized water reactor?

13 A I really don't know what you mean by "significant."

14 Q You interpret the term as in your judgement it should
15 be interpreted, Mr. Graves; significance in performing the func-
16 tion of running a nuclear reactor.

17 A And your question again?

18 Q The question is, let me reconstruct it: Persons can
19 be licensed and can hold a license as a Reactor Operator or
20 Senior Reactor Operator without having had significant actual
21 hands-on operating experience?

22 A Our training program provides adequate experience for
23 an individual to hold an RO or Senior Reactor Operators license.

24 Q I am asking the converse of that; lay aside Duke's
25 program. Would you agree one could get a license as a Reactor

1 Operator or Senior Reactor Operator without having a previous
2 license?

3 MR. McGARRY: I believe the question has been
4 asked and answered; and he said that Duke Power pro-
5 vides the actual training for one to sit before an RO
6 or SRO.

7 MR. GUILD: I appreciate Counsel's view, but I
8 would like the question answered.

9 THE WITNESS: I would have to see what training
10 the individual had gone through before I could say
11 that he had significant operating experience or he did
12 not have significant operating experience.

13 You would have to give me a specific example and
14 I could tell you yes, he has the operating experience;
15 or no, he doesn't.

16
17 BY MR. GUILD:

18 Q That is the point of the question: Just having a
19 ticket to run a plant does not mean you actually have that ex-
20 perience?

21 A That is a fair statement, and I would like to say that
22 our training programs are really designed for the individual to
23 thoroughly understand and operate the plant and actually the
24 licensing is a subset of an overall training program.

25 Q Wouldn't you agree just being licensed doesn't

1 guarantee the adequate training or experience to operate a plant?

2 A I can't say that because I've never been involved in
3 any other utility training programs. I have only been exposed
4 to Duke Programs, so I can't answer in relationship to Duke's
5 programs.

6 They are given the adequate experience to operate the
7 station.

8 Q Lay aside the specifics of Catawba or Duke. It is true,
9 is it not, Mr. Graves, that someone can be licensed as a Senior
10 Reactor Operator and work in the front office and push paper?

11 A That is true.

12 Q It is true someone can hold a Reactor Operators License
13 for a period of time, perhaps years, and work in the front office
14 and push paper?

15 A In order to hold that operators license he has to go
16 through a periodic qualification program to prove his competence
17 to operate the controls.

18 Q Is that requalification program in your judgement either
19 a substitute for or equivalent to actual control room experience?

20 A I think the program is vamped, is designed such that
21 the individual can maintain his qualifications.

22 Q Are there minimum levels of actual hands-on operating
23 experience that Duke Power requires of its Control Room operating
24 personnel; and if so, would you tell me what they are?

25 A They are minimum training requirements one has to meet

1 in order to stand for a license; and within that encompasses
2 the minimum hands-on experience that you have referred to.

3 Q Back out of all of that training, Mr. Graves; the
4 specific portions of that qualification which is hands-on operat-
5 ing experience, what is the minimum hands-on operating experience
6 that would be required of Catawba Control Room personnel?

7 A It is the experience that is really defined in the
8 training programs.

9 Q Help me find that, I want to focus on that one aspect
10 of it, if I can.

11 MR. McGARRY: I would like the Record to reflect
12 perhaps a potential miscommunication in the use of the
13 term "Hands-On Operating Experience."

14 As I understand your use of it, you mean physically
15 working the controls, and I've heard Mr. Graves say on
16 at least two occasions it is comprised of the training
17 program of Duke Power Company.

18 MR. GUILD: Mr. Graves, I appreciate your Counsel
19 try to clarify that. I think I understood your answers
20 as you gave them.

21
22 BY MR. GUILD:

23 Q Is there any minimum actual hands-on operating experi-
24 ence required of Catawba Control Room personnel?

25 A The entire field, like I stated earlier, the require-

1 ments that are set forth in the training program, an individual
2 has to pass the training program before he can stand for a lic-
3 ense; and that is all designed within our qualifications, opera-
4 tive qualifications and training programs.

5 Q Is there a requirement for a minimum amount of time
6 actually operating a large pressurized water reactor in order to
7 be licensed and qualified by Duke to operate the Catawba reactor?

8 A Let me understand your question: You said is there a
9 minimum amount of time required to operate an actual pressurized
10 water reactor in order to get a license at Catawba?

11 Q Yes.

12 A No, I don't know of any minimum amount of time.

13 Q Is there any minimum hands-on operating experience to
14 be required by Duke before one can hold the position of Senior
15 Operator at Catawba?

16 A That is encompassed in our training program, and when
17 the individual successfully completes our training program he
18 stands for a license with the NRC.

19 Q What is that minimum operating experience required of
20 Senior Reactor Operators at Catawba?

21 A It is defined in the FSAR in 13.2.

22 Q I am looking for a number, and if a number exists, Mr.
23 Graves --

24 MR. McGARRY: I would like the Record to reflect
25 we continue to be confused in this area. Mr. Guild,

1 You are looking for a specific period of time where
2 people are moving valves and turning knobs by your use
3 of "Hands-On Operating Experience."

4 About four times Mr. Graves has answered questions
5 concerning Hands-On Operating Experience in the sense
6 of the complete training program; and if this will
7 continue, I will direct the witness not to answer
8 these questions any further.

9 MR. GUILD: Are you doing that now?

10 MR. McGARRY: I am not doing it at this particular
11 time.

12 THE WITNESS: It is in Section 13.2 under para-
13 graph 13.2.2.2.2, "Formal Job Training."

14
15 BY MR. GUILD:

16 Q And how much experience is set forth there?

17 A The training program defined here is from 16 to 18
18 weeks.

19 Q That is training?

20 A That's right.

21 Q I'm asking about actual manipulations of controls in
22 the power plant, actual operating experience.

23 A FSAR does not give a number on simulator training.

24 Q I'm sorry, does not give a number"?

25 A What was your question again: I'm sorry?

1 Q Actual operating experience, is there a standard estab-
2 lished that you were looking for in the FSAR, actual operating
3 experience.

4 A I was looking under simulator portion of the training
5 program.

6 Q Not a simulator, actual experience?

7 A This section defines the experience level of Reactor
8 Operators and Shift Supervisors. It states that experience
9 levels are required in that particular section.

10 Q I think it is 13.1. Let me direct your attention to
11 an Answer to Interrogatories. Mr. Graves, I have Interrogatory
12 three in a response by the company of September 22nd.

13 It refers to FSAR Section 13.2. Is that what you hap-
14 pened to find there?

15 A Yeah, I have the experience levels as stated in 13.1.

16 Q You try what you have there and we will see if it jives.

17 A All right, let me look over this a second. It is under
18 13.1.3, "Qualifications of Station Personnel."

19 Q Yes.

20 Those qualifications are in accordance with Section
21 Four of ANSI 18.1, 1971, "Selection and Training of Nuclear
22 Power Plant Personnel." And under 13.1.1.3.1, "Minimum Qualifica-
23 tion Requirements," that speaks about operators.

24 Would you like for me to read that?

25 Q If you would refer to that ANSI, if there is something

1 in there that sets a minimum hands-on operating experience re-
2 quirement for qualifications of operators at Catawba, that is
3 the information I'm looking for.

4 A This speaks to experience.

5 Q Does it define in any part of that experience a require-
6 ment for actual hands-on operating experience?

7 A It does not speak to actual hands-on operating experi-
8 ence.

9 Q How about other personnel?

10 A The Shift Supervisor and Assistant Shift Supervisor,
11 his experience and qualifications.

12 Q Moving up the chain of command, the next above him
13 would be the Assistant Shift Supervisor?

14 A Yes.

15 Q What is the actual hands-on experience for an Assistant
16 Shift Supervisor?

17 A The Assistant Shift Supervisor, a year and a-half to
18 meet the same experience.

19 Q That is --

20 A "An Operating Engineer shall have a minimum of a high
21 school diploma, or equivalent, and four years of responsible
22 nuclear or fossile station experience, of which a minimum of
23 one year shall be nuclear station experience."

24 "A maximum of two years of the remaining three years
25 of experience may be fulfilled by academic or related technical

1 training on a one for one, time basis."

2 "An Operating Engineer shall hold a Senior Reactor
3 Operator License."

4 Q Let me see if we agree. On Answer Three, Answer to
5 Interrogatory Three, do you have that in front of you? That
6 is available to you, Mr. Graves?

7 A (The witness nodded his head affirmatively.)

8 Q Would you state yes or no; is that available to you?

9 A Yes, it is.

10 Q There, I'm looking at Page 14; I'm looking at the
11 sentence that says, "In order to sit for the examination to be
12 licensed by the NRC as a Reactor Operator in the Catawba Control
13 Room, an individual must have at least two years of nuclear or
14 fossile station experience, of which a minimum of one year shall
15 be nuclear station experience."

16 "In order to sit for the examination to be licensed by
17 the NRC as Senior Reactor Operator, an individual must have
18 four years of responsible power plant experience, of which no
19 more than two years will be academic or related technical train-
20 ing."

21 "Two years will be nuclear power plant experience, of
22 which at least six months will be at Catawba." Is that accurate?
23 Now which is the accurate statement for the experience require-
24 ments?

25 A The FSAR conflicts on that point.

1 Q Which is accurate? Which is accurate in Section 13.1?

2 A (Indicating) That is inaccurate.

3 Q That is inaccurate?

4 A It should be corrected to read one year.

5 Q One year; now for the Record, that is Answer to Inter-
6 rogatory Number Three of Applicant's Response to the second set
7 of Interrogatories and Request to Produce dated September 22,
8 1982.

9 Now define, if you will, Mr. Graves, the one year nuc-
10 lear power plant experience which is required under the provision.

11 A That is defined in ANSI 18.1.

12 Q Yes, do you have that in front of you or available to
13 you?

14 A No.

15 Q Can you tell me what your understanding of the defini-
16 tion of that term is?

17 A As I recall, nuclear operator experience is that ex-
18 perience, is that gained in the construction, design, pre-opera-
19 tional testing and start-up of a nuclear power plant.

20 Q Is that nuclear power plant experience then required to
21 be actual hands-on operating experience of a nuclear power plant?

22 A The way that the Standard reads, it could be some of
23 either.

24 Q Well, the way the standard reads it could be billing
25 forms on the job site, couldn't it?

1 A It is not interpreted that way.

2 Q But it could be, isn't that so?

3 A It could be hypothetically.

4 Q Does Duke define that term in a fashion that would
5 exclude non-hands-on operating experience from that requirement?

6 A Our training programs are designed to provide adequate
7 experience to maintain Reactor Operator and Senior Reactor Op-
8 erators license that really excludes -- but it provides for the
9 experienced and non-experienced operators.

10 Q I understand your opinion, Mr. Graves, but what I'm
11 trying to focus on is the narrow question of how Duke interprets
12 the experience of one year in order to stand for an SRO exam
13 or to be licensed as a Shift Supervisor or Assistant Shift
14 Supervisor or an Engineer.

15 And I'm not clear what kind of nuclear power plant
16 experience do you mean by that term?

17 A Let me answer it this way: It is not Duke Policy
18 to bring in an individual from the outside as a Shift Super-
19 visor. All our people are brought in as learners and go through
20 the programs that are designed to bring them up to the level of
21 Reactor Operator or Senior Reactor Operator.

22 They come in as learners and advance to Nuclear Equip-
23 ment Operators and through the line to Shift Operator and so
24 forth, Assistant Shift Supervisor.

25 Q Yes, sir.

1 A So that provides them with the adequate experience and
2 training in order to function in general.

3 Q Is there a policy, written statement, that reflects
4 the policy that you just outlined?

5 A Not as I know of.

6 Q Is there any written policy that you know of, Mr. Graves,
7 that would for Duke Power Company define that nuclear power
8 plant experience requirement to be specifically Control Room
9 operating experience?

10 A Not as I know of.

11 Q Do you know whether or not all Catawba personnel who
12 are to be credited with the one year nuclear power plant experi-
13 ence have had at least that one year as actual Control Room op-
14 erating experience?

15 A Some of those individuals will have experience at the
16 McGuire Station and/or the Oconee Nuclear Station; and some will
17 gain experience.

18 Of course, they have been gaining experience in the
19 check-out and start-up and the pre-check-out phase of Catawba.

20 Q Is the answer No?

21 A Is the answer No?

22 Q To the question.

23 A The answer is those individuals will have experience
24 at McGuire and Oconee.

25 Q Actual hands-on experience?

1 A They have gone through on-the-job training at Oconee
2 and McGuire and have participated in the pre startup activities
3 at Catawba; so they have actual hands-on experience

4 Actual hands-on experience, not necessarily.

5 Q During the pre startup stages at Catawba and McGuire --

6 A Yes, sir; actual hands-on operating experience; let
7 me give you an example: I was talking to one of my individuals
8 who just came back from McGuire yesterday.

9 He happened, as a matter of fact, he actually
10 performed one of the startups at McGuire, Unit Two.

11 Q Mr. Graves, are you aware of any other errors in the
12 Responses to Interrogatories on the subject of qualifications?

13 A I am not aware of any.

14 Q Except with the area with regard to the one year
15 versus two years?

16 A (The Witness nodded his head affirmatively.)

17 Q Is that an affirmative answer?

18 A Yes.

19 MR. GUILD: Thank you; let me have about two minutes.
20 I am finished with Bill.

21 FURTHER THE DEPONENT SAITH NOT.

22

23

24

25

1 I, Clyde William Graves, hereby certify that I
2 have read and understand the foregoing transcript and believe
3 it to be a true, accurate and complete transcript of my
4 testimony.

5
6
7 CLYDE WILLIAM GRAVES

8
9
10
11 This Deposition was signed in my presence by
12 Clyde William Graves on the _____ day of June, 1983.

13
14
15
16 NOTARY PUBLIC

C E R T I F I C A T E

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

I, Lynn B. Gilliam, Court Reporter and Notary Public,
do hereby certify that the foregoing deposition of Clyde
William Graves is a true, accurate and complete transcript
and that the proceedings were by me reduced to machine shorthand
in the presence of the Witness, afterwards transcribed upon a
typewriter under my direction.

I further certify that this deposition was taken at
the time and place in the foregoing caption specified.

I further certify that I am not a relative, counsel
or attorney for either party or otherwise interested in the
outcome of this action.

IN WITNESS WHEREOF, I have hereunto set my hand at
Charlotte, North Carolina, on this the _____ day of May,
1983.

LYNN B. GILLIAM
Notary Public

My Commission expires May 12, 1988.