

# ORIGINAL

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the matter of:

COMMISSION MEETING

Briefing on Operational Readiness  
Review Pilot Program Georgia Power (Vogtle)

(Public Meeting)

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## 1 UNITED STATES OF AMERICA

## 2 NUCLEAR REGULATORY COMMISSION

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## 4 BRIEFING ON OPERATIONAL READINESS REVIEW PILOT PROGRAM

5 GEORGIA POWER (VOGTLE)

6 \*\*\*

## 7 PUBLIC MEETING

8 Room 1130

9 1717 H Street, Northwest

10 Washington, D.C.

11 Friday, July 26, 1985

12 The commission met, pursuant to notice, at 10:05

13 o'clock, a.m.

## 14 COMMISSIONERS PRESENT

15 NUNZIO J. PALLADINO, Chairman of the Commission

16 THOMAS M. ROBERTS, Commissioner

17 FREDERICK M. BERNTHAL, Commissioner

18 JAMES K. ASSELSTINE, Commissioner

19 LANDO W. ZECH, JR., Commissioner

## 20 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

21 S. CHILK

H. PLAINE

22 P. CRANE

N. GRACE

23 J. TAYLOR

R. W. SCHERER

24 J. H. MILLER

R. J. KELLY

25 P. D. RICE

W. RAMSEY

1 OTHER GEORGIA POWER COMPANY PERSONNEL IN ATTENDANCE:

2 D. O. FOSTER

3 J. T. BECKHAM

4 R. A. THOMAS

5 D. E. DUTTON

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## P R O C E E D I N G S

(10:05 a.m.)

CHAIRMAN PALLADINO: Good morning, ladies and gentleman.

Today we have with us representatives from the Georgia Power Company to brief the Commission on the Vogtle operational readiness review pilot program. This pilot program tests a readiness review concept that has been developed by Georgia Power Company and is being applied to the Vogtle Nuclear Power Plant. It is expected to lead to improvements in managing, licensing, and confirming the quality of nuclear construction projects, including the incremental acceptance by NRC, a properly completed work.

The Georgia Power Company is to be commended for volunteering to undertake this quality assurance pilot program, which recognizes Licensee responsibility for achieving and assuring plant quality. It recognizes that substantive improvements and quality in the nuclear industry must come from the industry itself. It cannot be expected into or regulated into by the NRC.

This pilot program, as well as other quality assurance initiatives, are intended to create an environment which emphasizes incentives for an ability of utilities to achieve excellence beyond assuring compliance with Commission regulations.

1 I understand also that the briefing will include  
2 comments on fitness for duty.

3 The Commission looks forward to today's briefing by  
4 Georgia Power Company. Also, I understand we have, by  
5 telephone hookup, people from Region II listening in to the  
6 meeting.

7 Before turning the meeting over to the  
8 representatives of Georgia Power Company, let me ask if the  
9 Commissioners have opening remarks?

10 COMMISSIONER ASSELSTINE: No.

11 COMMISSIONER ZECH: No.

12 COMMISSIONER BERNTHAL: No.

13 COMMISSIONER ROBERTS: No.

14 CHAIRMAN PALLADINO: Thank you. Then I will turn  
15 the meeting over to Mr. Robert Scherer, Chairman and CEO of  
16 Georgia Power.

17 Will you introduce your colleagues, sir?

18 MR. SCHERER: I will, sir.

19 Good morning, Chairman Palladino, Commissioners, and  
20 NRC Staff members. My name is Robert Scherer. I appreciate  
21 the opportunity to address you today. I am Chairman of the  
22 Board and Chief Executive Officer of Georgia Power Company,  
23 and as you asked, I will introduce several of my staff  
24 members.

25 Jim Miller, who is President of Georgia Power

1 Company. Many of you already know Jim, so we will not go  
2 through the vital description.

3 Also, R. J. Kelly, Executive Vice President, Power  
4 Supply.

5 D. O. Foster, Vice President and Project General  
6 Manager, the Vogtle Project. Foster is a Georgia Tech  
7 graduate with 27 years experience with Georgia Power Company.  
8 He has been associated with the Vogtle project for four years,  
9 and is also a graduate of the Harvard Advanced Management  
10 Program, and is a PE in Georgia.

11 Paul D. Rice, Vice President and General Manager,  
12 Quality Assurance, has an MA degree in Mechanical Engineering  
13 from Vanderbilt University, 23 years experience in the Navy  
14 nuclear program, 13 years reporting directly to Admiral  
15 Rickover, 10 years at two major shipyards, three years as  
16 Director of Radiological Chemistry and Environmental and  
17 Emergency Planning Programs. I am thankful that he joined  
18 Georgia Power in 1982.

19 R. A. Thomas, Vice President-Licensing, Vogtle  
20 Project. He is a Georgia Tech graduate, 32 years continuous  
21 nuclear experience, organized the Southern Company Service  
22 nuclear activities in 1959, a five-year assignment in design  
23 of the Fermi fast breeder, and a member of the AIF Policy  
24 Committee on Nuclear Regulations, the Steering Group for  
25 Reactor Licensing and Safety, and Chairman of the Near-Term

1 Operating License Subcommittee.

2 D. E. Dutton, Vice President-Project Management and  
3 Nuclear Plant Support. He's an Auburn graduate. He has 25  
4 years with the Southern Company Services, 25 years of nuclear  
5 experience, also a graduate of the Harvard Advanced Management  
6 Program. He is the Readiness Review Chairman and was Chairman  
7 of the Nuclear Construction Issues Group.

8 J. T. Beckham, Jr., Vice President-General Manager,  
9 Nuclear Operations, a Georgia Tech, 22 years with Georgia  
10 Power Company, 13 years nuclear experience. He has been  
11 Assistant Plant Superintendent at Hatch for five years, Plant  
12 Manager at Hatch and Vogtle. He has held an SRO operator's  
13 license at Hatch. He's now certified as a Senior Reactor  
14 Operator. He is a FE in Georgia, and he is a graduate of the  
15 Harvard Advanced Management Program.

16 W. C. Ramsey, Jr., Readiness Review Program Manager  
17 at the Vogtle Project, a University of Alabama graduate, 15  
18 years with Southern Services, 13 years nuclear experience  
19 including design engineering management, testing, startup,  
20 audits and licensing, Director for Vogtle Design and Control  
21 Review, the INPO Pilot Response Team and Self-initiated  
22 Evaluation Task Force, most recently Manager of Nuclear  
23 Projects, Nuclear Safety and Fuel, Southern Company Services.

24 That, gentlemen, represents those who are with us.

25 We are here today to update you on our pilot

1 readiness review program. Simply stated, our pilot readiness  
2 review program is designed to accomplish two major objectives.

3 First, it will provide to Jim Miller and myself  
4 positive assurance that Plant Vogtle facilities and staff are  
5 ready for operation.

6 Second, it will provide a systematic and interactive  
7 mechanisms that will assist in the NRC's independent review,  
8 inspection, and acceptance of Vogtle work on a phased and  
9 scheduled basis.

10 We will discuss our progress, our continuing  
11 commitment to the program, and some of the lessons learned.

12 George Power is the largest of the operating  
13 companies that make up the Southern Company System, which is  
14 the largest investor-owned public utility in the United  
15 States. It includes Alabama Power Company, Mississippi Power  
16 Company, Gulf Power Company, and Southern Company Services,  
17 Incorporated.

18 George Power has the largest nuclear staff in the  
19 Southern Company System. In addition, we also have available  
20 the experienced nuclear management engineering and nuclear  
21 operating experiences of the entire system. As you know,  
22 Georgia Power Company currently operates that Hatch nuclear  
23 plants, two 800 megawatt electric BWR units. These units have  
24 been in commercial operation since December of 1975 and  
25 September of 1979.

1           In addition, Westinghouse PWR experience is  
2           available to us from our sister company, Alabama Power, which  
3           owns and operates the Farley Nuclear Plant.

4           The Vogtle Project is a two-unit Westinghouse PWR  
5           plant, rated at a total capacity of 2320 megawatts electric  
6           and is located on the Savannah River approximately 27 miles  
7           southeast of Augusta, Georgia. Plant Vogtle is owned jointly  
8           by the Georgia Power Company, Oglethorpe Power Corporation,  
9           Municipal Electric Authority of Georgia, and the City of  
10          Dalton, Georgia. Georgia Power acts as agent for the  
11          co-owners and is responsible for the design, construction, and  
12          operation of the plant.

13          Unit-1 is over 80 percent complete, and Unit-2 is  
14          about 50 percent complete. Fuel is scheduled to load in late  
15          1986 for Unit-1 and early 1988 for Unit-2. A favorable Vogtle  
16          Final Environmental Statement was issued in March of 1985, and  
17          a favorable Safety Evaluation Report was issued in June of  
18          1985.

19          The ACRS subcommittee met in Augusta on July 18th  
20          and 19th of this year last week. I understand that meeting  
21          also went well.

22          The Plant Vogtle license is contested by two  
23          groups: Georgians Against Nuclear Energy and the Campaign for  
24          a Prosperous Georgia.

25          The twin reactors at Plant Vogtle will play a

1 crucial part in the meeting of the constantly growing  
2 electrical needs of Georgia's Sunbelt economy. Last year, we  
3 delivered 59 billion kilowatt hours to our customers and to  
4 other utilities, a 10.5 percent increase over the previous  
5 year. Last month, we experienced a peak hourly demand of  
6 13,290 megawatts for the Georgia Power territory alone, more  
7 than 6 percent higher than the previous record. This exceeded  
8 our prior forecast for 1985.

9 Georgia is now the nation's fourth fastest growing  
10 state. Georgia Power is adding new customers at more than  
11 40,000 per year. We are now serving about 1.4 million retail  
12 customers in our territory, who depend upon us to continue the  
13 same reliable, high-quality, low-cost electric service they  
14 have come to expect.

15 We are relying on Plant Vogtle to help fuel the  
16 growing economy of our state. We have invested billions of  
17 dollars in it for this purpose.

18 We believe that most of our customers appreciate the  
19 need for Plant Vogtle. I think they welcome the additional  
20 power, the fuel-cost savings, the environmental advantages  
21 that Plant Vogtle will bring to our heavily coal-dependent  
22 state. We believe a growing number recognize that Plant  
23 Vogtle will be instrumental in Georgia's efforts to grow and  
24 prosper.

25 But some of our customers also have questions --



1 questions about Vogtle specifically and about the nuclear  
2 industry in general -- questions such as: Why do nuclear  
3 power plants take so long to build, and why do they cost so  
4 much? Many other hard questions face us, questions involving  
5 future demand, fuel supplies, environmental factors,  
6 regulatory stability, financial trends, and now the changing  
7 concept of prudence reviews.

8 I am glad to report that Georgia Power has taken an  
9 active role in helping find better answers, better ways to  
10 organize and manage nuclear construction. We don't want to be  
11 an eleventh hour headache to the NRC. We want to be part of  
12 the solution.

13 We have what you might call an "invested interest"  
14 in this matter. We have invested billions of dollars, and the  
15 interest is literally increasing every day.

16 I know that we can work together to find a more  
17 stable, more predictable process for reviewing the progress  
18 and quality of nuclear design and construction and  
19 preparations for operation.

20 The issues and the questions that I mentioned lead  
21 me to conclude that both innovative and proven management  
22 actions are absolutely necessary to address industry problems  
23 successfully. The pilot readiness review program, which the  
24 NRC identified for consideration in the NUREG-1055 report to  
25 Congress, is a very important example of such an action, to



1     which we are fully committed.

2             Other examples of actions that our company has taken  
3     include our company's strong support of INPO from its very  
4     inception; our participation in the development of NUMARC,  
5     including Jim Miller's position as Chairman of the NUMARC  
6     Steering Committee; our development of a strong Quality  
7     Concern Program in which the concerns of the workers are  
8     actively solicited and resolved; and the development and  
9     implementation of a strong fitness-for-duty program, which  
10    includes a rigorous anti-drug program during the construction  
11    and operation.

12            Before I discuss readiness review, I will briefly  
13    expand on two of these programs.

14            Our Quality Concern Program provides all the  
15    employees a very visible, positive means to voice concerns and  
16    to receive answers on any area that they feel may affect the  
17    quality of construction or the operation or safety of the  
18    plant.

19            Key features of the program include orientation for  
20    all existing and new employees, exit interviews for those  
21    leaving, numerous program posters with drop boxes for  
22    submittals, as well as published toll-free phone numbers and  
23    options of anonymity and confidentiality for anyone desiring  
24    such protection. Whenever possible, answers to each problem  
25    are provided to the submitter. The program does not interfere

1 if individuals want to report concerns directly to the Nuclear  
2 Regulatory Commission.

3 Our Quality Concern Program has a full-time staff of  
4 nine and receives the attention of a number of key  
5 executives. It has received more than 400 concerns  
6 potentially related to quality or safety. All of these  
7 concerns have been pursued aggressively. Several potentially  
8 significant issues have been identified and corrected through  
9 the program. Even when the concerns are not substantiated, or  
10 as is often the case, the problem is already known and  
11 corrective action initiated, the program gains -- the project  
12 gains from being able to answer and to alleviate an  
13 individual's concern.

14 We have also sent a clear message at Vogtle that  
15 drugs, alcohol and construction don't mix; that the  
16 distribution or the use of these substances in any manner  
17 which could affect job performance will result in permanent  
18 separation from the Vogtle Project. A strongly worded  
19 statement has been issued emphasizing these policies, and we  
20 followed up to assure compliance through the use of both  
21 searches and testing.

22 Uniform, across-the-board testing has been done on  
23 all managerial, supervisory, professional, technical, quality  
24 control and quality assurance personnel on site. These tests  
25 are supplemented by discretionary screening of all personnel,

1 based on such things as behavior observations. We also have  
2 established mandatory fitness-for-duty drug testing for all  
3 nuclear operations employees, who now have, or in the future  
4 will have, unescorted access to the generator facility.

5 The results to date have been encouraging. Of more  
6 than 3000 people recently tested, fewer than one percent  
7 either refused to be tested or showed a positive indication  
8 for use of any of the eight abused substances. Either a  
9 positive test result or refusal to be tested resulted in  
10 permanent separation from the project.

11 Mr. Rice is going to discuss with you several  
12 specific areas of the Pilot Readiness Review Program,  
13 including its organization, work process, and the summary of  
14 results today. But first, I would like to point out several  
15 of the key objectives and commitments which have been built  
16 into the program.

17 First the objectives: The program should provide  
18 for an in-depth self-assessment to demonstrate whether or not  
19 we have complied with the regulatory commitments for work at  
20 Plant Vogtle. Certain areas of the assessment should be  
21 carried out by people who are independent of those who perform  
22 the work.

23 It should have an independent management overview of  
24 the self-assessment process, including outside technical  
25 expert evaluations of the results.

1           It should provide a mechanism for early resolution  
2 of any differences between the NRC Staff and Georgia Power  
3 Company in the interpretation of compliance with previously  
4 reviewed and accepted regulatory requirements that are  
5 specified in the Vogtle FSAR.

6           It should facilitate the various NRC Staff internal  
7 reviews and inspection actions, such that the NRC will speak  
8 to Georgia Power Company with one voice.

9           The program should facilitate the NRC's review,  
10 inspection, appropriate action, and the approval of the  
11 acceptability of the Vogtle work on an advanced and scheduled  
12 basis. It should also, in conjunction with the quality  
13 concern program, facilitate dealing with late contentions or  
14 allegations.

15           We are accomplishing these objectives by making  
16 significant commitments. The more important of these are:

17           The commitment of significant resources to the task  
18 of gathering and analyzing the readiness review information.  
19 Based on our experiences to date, we estimate the readiness  
20 review effort will require about 150 person-years.

21           We have committed key individuals to the program,  
22 including a number of executives from Georgia Power Company,  
23 the Southern Company Services, BEchtel, and outside  
24 consultants. People such as Mr. Thomas, Mr. Dutton, Mr. Rice,  
25 Mr. Beckham, and others are spending almost 25 to 50 percent

1 of their time in this effort.

2 We have committed to carry out this program in an  
3 open and public manner.

4 The key to the success of the program is the NRC's  
5 agreement to participate. The NRC actions are described in  
6 the policy issue paper, which was prepared by the NRC Staff  
7 and submitted to you on April 8, 1985.

8 Particularly important among these are the NRC's  
9 agreement to review and respond formally to Georgia Power  
10 Company on the adequacy of the individual Vogtle work  
11 activities; to do this in a timely and scheduled manner; and  
12 to carry out the NRC's review and responses in an internally  
13 coordinated manner, such that the NRC speaks with one voice  
14 on program conclusions.

15 I am pleased to report that our actions, combined  
16 with the extensive and positive efforts of the NRC Staff, both  
17 in Region II and Washington, are demonstrating the usefulness  
18 and viability of the disciplined readiness review approach.

19 For example, the program has predictably identified  
20 a number of problems. While these problems do not indicate a  
21 significant breakdown in our quality program, it is clear they  
22 needed to be addressed and properly resolved to avoid any  
23 doubt in the satisfactory accomplishment of the Vogtle work.

24 Mr. Rice will discuss several specific examples of  
25 problems we found through readiness review, such things as

1 problems in retrieving documentation, weaknesses in some of  
2 our initial testing procedures, and concerns with certain  
3 design calculations.

4 Of particular importance here is the fact that the  
5 readiness review process is resulting in these items being  
6 identified and addressed early in a timeframe which allows for  
7 meaningful assessments by engineering, construction, and  
8 operations, and the development of solutions, rather than last  
9 minute crash programs, which can and have resulted in costly  
10 delays at other projects.

11 I am encouraged that the successful demonstration of  
12 this pilot program could have a very positive benefit for  
13 future nuclear projects. Conducting early readiness reviews  
14 for individual work activities as they are developed and  
15 implemented over the entire life of a project would be a  
16 manageable and efficient means for carrying out the many  
17 assurance type reviews that have historically occurred late in  
18 the process.

19 I conclude by saying that I am optimistic, based on  
20 the results to date, that the pilot readiness review program  
21 will yield significant benefits, including improved planning  
22 which will enhance the effective use of critical NRC and  
23 Georgia Power Company resources; improved predictability  
24 resulting from early NRC determination of program adequacy;  
25 timely communication between Georgia Power Company and NRC in

1 resolving differences of interpretation of compliance with  
2 requirements or acceptance criteria; and the improved  
3 stability by minimizing the potential for last-minute  
4 identification of major programmatic concerns.

5 Paul Rice will now discuss key areas of the program  
6 in more detail. Mr. Rice, as I said, is the Vice President  
7 and General Manager of our Quality Assurance Department. He  
8 is a member of the Readiness Review Board, which oversees the  
9 readiness review activities, and he has been involved in the  
10 development of the readiness review program from its  
11 inception.

12 Thank you.

13 CHAIRMAN PALLADINO: Thank you.

14 MR. RICE: Thank you, Mr. Scherer.

15 [Slide.]

16 Gentlemen, I am going to cover a number of areas and  
17 summarize the activities that go into the readiness review  
18 program. I invite your remarks and your questions as we go,  
19 and I would be glad to discuss any items further.

20 The readiness review program that I am going to  
21 discuss, I will break it down into these areas of activity:  
22 the organization, the process that we go through in the  
23 program, the results of these activities, the lessons we've  
24 learned, and our conclusions.

25 [Slide.]



1           The organization for the readiness review effort  
2       under Mr. Scherer as the Project Board Chairman and Mr. Don  
3       Foster, who is with us here today, is Mr. Ramsey. Mr. Ramsey  
4       is the Program Manager directing the efforts of the readiness  
5       review program activities and has under him several key areas,  
6       and let me point them out.

7           First, the discipline managers who carry out the  
8       bulk of the activities in the program. These discipline  
9       managers and their staffs are experienced people who were  
10      selected for the project from our architect engineer, Bechtel  
11      for example, because of their experience and knowledge of the  
12      project. These discipline managers here, who are Georgia  
13      Power Company people, have approximately ten to fifteen years  
14      experience, and much of that experience has been with the  
15      project. One of the discipline managers for the appendices,  
16      which I will discuss, is a Bechtel senior project type  
17      manager.

18           We also have in the organization two other points.  
19      First, the Independent Design Review Group. This review  
20      group, reporting under Bill Ramsey, is made up of Stone &  
21      Webster engineers, selected for their experience and expertise  
22      in the design process. That Independent Design Group is  
23      managed by a Senior Project Engineer from Stone & Webster and  
24      provides us with an independent look at the design work  
25      processes, and I will discuss their efforts a little bit



1 later.

2 The other element that I would like to talk about in  
3 organization is the Readiness Review Board. Mr. Scherer  
4 mentioned the Board. The Chairman of the Board is Mr. Dutton,  
5 who is with us today. The Board has seven members. Five of  
6 those members are Georgia Power Company, four of which are  
7 here today. One is a Senior Vice President from Stone &  
8 Webster, and the other is a Senior Engineering Manager from  
9 Bechtel.

10 As Mr. Scherer pointed out, the Board members put a  
11 lot of time in on the readiness review project, and I will  
12 discuss their specific activities and what they do in a few  
13 minutes.

14 The technical experts shown under the Readiness  
15 Review Board have been put into place and our brought into the  
16 process from people who, in the industry, are recognized for  
17 their experience and their knowledge in these particular  
18 processes. For example, technical experts have been brought  
19 in from GE, from Teledyne, from Stone & Webster, in terms of  
20 the specific areas for the work activities being examined.  
21 Through the use of those types of technical experts, the Board  
22 is able to, on a broad basis, get assistance and help in  
23 viewing these activities from someone who has been separate  
24 from the process itself.

25 Currently, there is a total of 75 people working on

1 the readiness review process under the direction of  
2 Mr. Ramsey.

3 [Slide.]

4 I'm going to cover the readiness review process.

5 [Slide.]

6 Within this process, there are a number of  
7 activities. I'm going to summarize these, and again, if you  
8 have any questions, please ask.

9 I'm going to cover how we define the scope of these  
10 readiness review modules, the self-assessment process, and how  
11 we handle problem identification, corrective action, and the  
12 modules themselves.

13 The first area is, how do we define and get the  
14 project broken down into manageable pieces for the  
15 self-assessment process?

16 The first step is just, we break the whole project  
17 down into these four logical disciplines: civil, mechanical,  
18 electrical, and operations. We take these areas, then, and  
19 break them down from there -- you see the four again -- into  
20 further detail, which, as shown on this chart, represents  
21 about 20 areas of logic with which the project is broken down  
22 for evaluation.

23 These are called modules. We have a module here on  
24 the table, and that's what these two volumes here are -- are a  
25 module which represent and have been submitted to the NRC for

1 concrete and cadwelds.

2 The concrete, rebar, and cadwelds are the three  
3 logical activities that were put together in terms of the work  
4 that goes into a reinforced concrete structure. You can see  
5 the logic there, and they were put together in order to assess  
6 and evaluate in this module. The others follow the same type  
7 of logic in many cases, and then there are some cases such as  
8 the backfitting, the backfill, the coatings, and the  
9 post-tensioning, where, while they're not coherent in terms of  
10 their association, they were combined into one module for  
11 review, so that we could manage the numbers and take care of  
12 the overhead that goes into the process. There will actually  
13 be three sub-modules when that comes out.

14 One lesson that we learned early in the game is that  
15 there are a number of activities that crossed the bounds of  
16 these various modules.

17 [Slide.]

18 CHAIRMAN PALLADINO: You have a module for each one  
19 of those blocks?

20 MR. RICE: Yes, sir. There will be.

21 Those activities which cross the bounds of these  
22 different areas are such things as document control, material  
23 control, nonconformances. What I'm saying here is that the  
24 subject matter in a number of those modules would contain the  
25 same subject over and over again.

1           In order to reduce the duplication of effort and the  
2 amount of paperwork, we learned the lesson that we needed to  
3 break these out, and we call them general appendices, and this  
4 is what they are.

5           General appendices are handled in much the same way  
6 as the individual modules are in most cases in terms of  
7 going out and verifying the adequacy of our implementations of  
8 the commitments we have made.

9           CHAIRMAN PALLADINO: Do you have someone overseeing  
10 each one of these general appendices?

11          MR. RICE: Yes, sir, and I will explain further.

12          There are several levels of oversight on those. Let  
13 me say first, that within -- under the direction of  
14 Mr. Ramsey, the direction for each of the appendices, for all  
15 of the appendices, comes under one discipline manager. That's  
16 further broken down into assignments under him of people who  
17 will prepare them.

18          There is another level of overview, though, in terms  
19 of people assigned, and that is from the Readiness Review  
20 Board point of view. Within the Readiness Review Board, each  
21 member of the Board has assigned to him one or more modules or  
22 appendices as an executive sponsor, and through that  
23 technique, one of the Board members will follow the progress  
24 of the development of the verification self-assessment process  
25 through the whole process.

1           Thereby, when the module is done and it comes to the  
2   Readiness Review Board for approval and acceptance, someone on  
3   the Board has an intimate, detailed knowledge of what has gone  
4   on during the process.

5           So those are two levels of oversight and assignment  
6   in terms of these modules and appendices.

7           Did that answer your question, Mr. Palladino.

8           CHAIRMAN PALLADINO: Yes, thank you.

9           MR. RICE: The next area that I will discuss is  
10   self-assessment. The self-assessment process is really the  
11   meat of what we do. This is where we spend most of our  
12   resources and time.

13          The self-assessment process is broken down into  
14   these four categories, and let me summarize them.

15          [Slide.]

16          First, we identify the commitments. The  
17   identification of the commitments is an important step, since  
18   that is what the whole process is about, to go and demonstrate  
19   whether or not we have fulfilled and met those commitments.  
20   The basic document for defining those commitments is the  
21   FSAR. We do go to other documents, such as letters and  
22   reports, other commitments that we have made to the NRC or may  
23   have made, but the FSAR is the principal basis. We take that  
24   as the basis, and we pull out the commitments into matrices  
25   and get them identified in terms of the scope of work that is

1 covered in a particular module.

2 For example, a line-by-line review is made of the  
3 FSAR to find and list all of the commitments that are related  
4 to the concrete structures -- concrete, rebar, and cadweld --  
5 and they are listed, by the way, in that volume under Chapter  
6 III, as a matter of fact, of what you're looking at.

7 The next step after the commitments are identified  
8 and listed and we matrix those -- in fact, we matrix those to  
9 show where those commitments found their way into  
10 project-implementing documents, such as specifications and  
11 procedures. We do that over the life of the plant or from the  
12 time that the commitment was invoked, that we accepted that  
13 commitment.

14 We do that to make sure that there's not a hole in  
15 the process somewhere, that the commitment was not properly  
16 invoked in the procedures or specifications.

17 Once the commitments are identified, verification  
18 plans are preferred by Mr. Ramsey's task force. These plans  
19 are detailed, and they are formal, and they include checklist  
20 designs to go out and test the implementation of the  
21 commitments over the period -- over the life of the plant.  
22 It's not just a one-time check.

23 COMMISSIONER ASSELSTINE: To what extent is that  
24 sort of a moving target or involving the process? I could  
25 understand, for example, concrete structures, that those

1 commitments might be fairly well-defined at the outset and  
2 stay fairly constant throughout the process.

3 But in some of the other areas, I would expect a  
4 more evolving process as those commitments are developed. Am  
5 I wrong about that?

6 MR. RICE: No, you are not wrong. Then let me  
7 explain that you're right.

8 In the case of concrete and some of those types of  
9 construction activities, the process has been very stable.  
10 There have been some changes, in the quality control area for  
11 example, but pretty much stable.

12 But what we've done to compensate for the instances  
13 where things do change is, we have built the matrices to show  
14 when that commitment came into being and when we made the  
15 commitment. And from that time on, we measure its  
16 implementation. So even in instances where you have a moving  
17 target, we have built that into the program to make sure we  
18 picked it up when it started moving.

19 Does that answer your question?

20 COMMISSIONER ASSELSTINE: Yes.

21 CHAIRMAN PALLADINO: How much time lag is there  
22 between something being changed in the plant and your  
23 awareness of it in this process?

24 MR. RICE: Well, in this process, we're going out  
25 and taking the commitments as they exist at the time that the



1 module and the readiness review activity is started. It's  
2 current.

3 Obviously, at some point over the two or three-month  
4 period that we're working on it, there's a cutoff date that  
5 you go with the matrices that are built. But things are not  
6 usually changing so fast that that makes any substantial  
7 difference in terms of the final product.

8 But the work that the Readiness Review Team is doing  
9 is based on what the requirements are now and how they have  
10 changed over the life of the project.

11 The verification plans are developed by Mr. Ramsey's  
12 task force. As I said, these plans are formal, detailed  
13 checklists designed to go test and check the implementation of  
14 the commitments that were listed here and built into the  
15 matrices. The task force goes out and conducts a verification  
16 process, both in terms of commitments, and that check has to  
17 do with finding the documentation over the life of the  
18 project; that they were, in fact, invoked.

19 They also check the same type of commitment  
20 verification in the design program process, construction, and  
21 operations. I say "operations;" of course, that's applicable  
22 to the modules which have to do with operations.

23 In parallel with that verification effort, there is  
24 an effort that goes on called "independent design review." I  
25 list it separately just to make a couple of points.



1           One, it has the same formal verification plans and  
2       commitment definition and the checklist and so forth. But I  
3       list it separately, because that is carried out by the  
4       Independent Design Review Team under Mr. Ramsey, which  
5       actually goes out and looks in terms of those commitments  
6       which affect the design process and the adequacy of design.  
7       It is very similar in the first and the second and the third  
8       bullet, but it is a conducted by a separate and independent  
9       team.

10           [Slide.]

11           The next area that I would like to cover, having  
12       done the self-assessment, obviously the program was put  
13       together to find problems, and, in fact, it has achieved that  
14       goal. We are finding problems.

15           [Slide.]

16           In this area of problem identification and handling,  
17       I wanted to just point out that, one, we have a formal system  
18       for the identification of commitments back to the line  
19       organization and line management. That system accounts for  
20       the project performance evaluations, looking at potential  
21       reportability, testing for the broadness of any issues that  
22       are found, defining corrective action, and the key point here  
23       is that in this process, that net result from the project line  
24       management comes back to the Readiness Review Task Force, and  
25       those results, including the corrective action plans, the

1 corrective actions taken, and the engineering evaluations are  
2 reviewed and either accepted by the Readiness Review Team or  
3 comments are made and additional work goes on.

4 That is not uncommon. It is an interactive  
5 process. Before this is done, before that module is issued,  
6 the people who looked at it on the Readiness Review Task Force  
7 accept the actions and plans that were put together.

8 CHAIRMAN PALLADINO: Are you going to give us any  
9 examples of some of the problems?

10 MR. RICE: Yes, sir, I certainly am. I'm going to  
11 talk about several specific examples in a moment.

12 COMMISSIONER BERNTHAL: I am curious, always am,  
13 about exactly how you carry out this kind of organization. I  
14 recall asking a question of that type in Germany where the TUV  
15 takes primary responsibility for quality assurance, and they  
16 told me, although I hadn't seen it, about a large room that  
17 had all the files in one place.

18 [Commissioner Roberts returns to the Commission  
19 table.]

20 COMMISSIONER BERNTHAL: How are you handling the  
21 mechanics of all this? There must be a highly organized,  
22 highly documented system of some kind. I'm just curious with  
23 how you are dealing with all of that.

24 MR. RICE: You bring up a good point. It's exactly  
25 -- the result is exactly what you're leading to. That is, in

1     this process -- you know, Mr. Ramsey has developed, along with  
2     the organization, detailed procedures as to how the readiness  
3     review actions function.

4             In fact, one of the elements that I didn't discuss  
5     specifically that was on the organization chart was a quality  
6     assurance box. That quality assurance organization or staff  
7     that works for Mr. Ramsey is separate from my quality  
8     assurance project organization and is put into place to test,  
9     measure, and to correct the course on exactly the point that  
10    you're making, and that is that we must carry this out in a  
11    disciplined and predictable way, such that when we are done,  
12    all of the things that we said we would do in the process are  
13    done, and, in fact, it is one of the things that we expect the  
14    NRC to check and test us on -- are those readiness review  
15    programs used -- so we formalized it in the sense of the  
16    readiness review program procedures to guide and direct that  
17    program, and, of course, then we have the oversight functions  
18    in terms of the Readiness Review Board, which I will mention  
19    again in a minute.

20            COMMISSIONER BERNTHAL: The whole thing, in a sense,  
21    is quality assurance, in a very broad use of the term, I  
22    suppose. But I am trying to get a sense for mechanically how  
23    are you -- suppose I wanted to know something about some  
24    corner of this effort somewhere?

25            How are you organizing it physically? Is there a

1        huge volume of papers here and filing cabinets?

2                MR. RICE:    No.

3                COMMISSIONER BERNTHAL:    How will our people find the  
4        documents, should they need to do so, because that often turns  
5        out to be a problem?

6                MR. RICE:    That's right.    Let me give you an  
7        example.    You raise a good question here in terms of how is  
8        this going to be reproducible, for example, in terms of the  
9        people who want to look at it.    Let me give an example on the  
10       concrete module.

11               The concrete module verification plan took a  
12       technique, used the technique whereby slices of the concrete  
13       rebar and cadwelding throughout the life of the project were  
14       picked.    Safety-related walls were picked.    Those processes  
15       were looked at by the verification team in vertical slices,  
16       starting with the core top and coming out like a Christmas  
17       tree and looking at all the resulting quality assurance  
18       actions from that core of safety-related concrete.

19               The fingers of this Christmas tree went way out, for  
20       example, all the way to the calibration of the scales in the  
21       concrete batch plant.    What we did with these slices -- and  
22       there were 26 of those slices -- is that, one, we documented  
23       and recorded, as part of the verification plan, exactly where  
24       we went and what we found.    So those results, including the  
25       documents looked at, are recorded and are in the files of the

1     Readiness Review Team. We took one or two -- Bill, you'll  
2     have to help me there -- we took one or two of those samples  
3     and pulled and copied all of the documents that we looked at  
4     on one of those slices, so that it was readily available for  
5     anyone who wanted to understand what the documents looked  
6     like. So that's on file.

7             In addition, all the results of the readiness review  
8     verification folks -- their notes, the problems, the concerns,  
9     even before they became findings -- are recorded and filed in  
10    terms of that module and its activities.

11            So that when NRC comes to look at our activity on  
12    this module -- and they have -- they can go -- we can show  
13    exactly what we did. But we have not attempted to review all  
14    of the documents that we went to look at. But they are  
15    recorded and retrievable.

16            Does that answer your question?

17            COMMISSIONER BERNTHAL: Yes. That's the thing.

18            MR. RICE: It's in between. There is a good deal of  
19    documentation, and Mr. Ramsey has a formal library, if you  
20    will, where this is being kept and maintained and put into  
21    good order. But then there is also a sensible side where we  
22    are trying to cut down on the paperwork.

23            COMMISSIONER ASSELSTINE: Paul, is it fair to  
24    characterize the content of the modules as basically being,  
25    "Here's what we have committed to do in each of these areas;

1 here's how we're going to go about fulfilling those  
2 commitments, and here's how we're going to verify that the  
3 work is done properly and that, in fact, when the job is done  
4 or the work is done, our progress, that we have carried out  
5 the plan as outlined?" Is that a fair capsule of what's in  
6 the modules?

7 MR. RICE: Yes, I think so. That, plus any problems  
8 we found and what their resolution was.

9 COMMISSIONER ASSELSTINE: How much of that work,  
10 particularly in some of the areas that occurred later on in  
11 the construction process -- electrical pipe hanger support,  
12 those kinds of things -- how much of those are designed  
13 dependent upon the completeness of the design? To what extent  
14 are you having to generate more design information for the  
15 plant, earlier than has occurred, say, historically in the  
16 industry? Say, for example, did that occur when you built the  
17 Plant Hatch?

18 MR. RICE: The answer to your question, at this  
19 point in the design and construction of the Plant Vogtle, very  
20 little. The design is essentially complete. Therefore,  
21 conducting this review at this time results in very little  
22 need to wait on any other actions.

23 MR. MILLER: I think he's trying to say that it  
24 would apply to every project.

25 COMMISSIONER ASSELSTINE: The idea would be, the

1 more information earlier on in the process --

2 MR. MILLER: Part of this -- actually it's helping  
3 us in that regard. Part of it will come out as he described,  
4 one or two of the things that we've found now, rather than  
5 fifteen, eighteen months from now.

6 Go ahead.

7 MR. RICE: Let me just briefly -- under "Module  
8 Preparation," let me just briefly show you how we pass the  
9 buck around the room.

10 [Slide.]

11 This slide essentially just shows the index of  
12 information that's in the book. We talked about a couple of  
13 them. The detailed matrix of commitments that are in the  
14 modules, detailed discussion of the program verification; the  
15 independent design review, and the overall assessment. Those  
16 are what go into the module.

17 [Slide.]

18 Once the module is prepared and we start to conclude  
19 the process, there are several reviews and management  
20 approvals that take place, and let me mention two activities.

21 [Slide.]

22 These are the Readiness Review Board actions and the  
23 project management actions. Under "Readiness Review," these  
24 are the logical steps that we go through in reviewing from a  
25 Readiness Review Board point of view.



1           Let me point out that the scope of the module and  
2           the verification plans are actually reviewed twice -- early  
3           on, when they're being developed, which is the time to get any  
4           comments in for the verification process, and then once when  
5           it's complete. The findings and corrective actions are  
6           reviewed by the Readiness Review Board, and they are either  
7           accepted or, if not accepted, further work is done by the  
8           Readiness Review Team for the project. Overall assessment is  
9           included.

10           I mentioned earlier the use of technical experts by  
11           the Readiness Review Board involving the individual modules.  
12           I also mentioned, in answer to your question, Chairman  
13           Palladino, the fact that we use experts -- not experts; we use  
14           executives from the Board, as a Module Executive, to follow  
15           the whole process through and provide some continuity.

16           Once completed and the Readiness Review Board has  
17           accepted, the project management -- that is, Mr. Foster and  
18           his senior managers -- make the module review for accuracy,  
19           including its being put together by the Readiness Review Task  
20           Force -- the conclusions, the corrective actions -- and when  
21           he's satisfied, it is transmitted to the NRC for their review  
22           and acceptance.

23           [Slide.]

24           I'm going to cover briefly the NRC review and  
25           acceptance.

1 [Slide.]

2 The NRC review, inspection, and verification are  
3 really covered in Mr. Dircks' letter to the Commissioners,  
4 dated April 8, 1985. A number of things are described in  
5 there, including the arrangements that they have made in terms  
6 of scheduling their reviews, both internally coordinated and  
7 so forth. It covers the actions that go on.

8 The second area here points out that we are able to  
9 perform these activities within the existing regulatory rules  
10 in terms of problem identification and dealing back and forth  
11 with the NRC on any violation.

12 Once we have resolved any concerns that have been  
13 raised by the Commission, by the NRC Staff in review of the  
14 module, then the NRC will accept the scope of work covered by  
15 the readiness review module. That is also described in the  
16 April 8th policy letter.

17 [Slide.]

18 You asked about some specific problems, and let me  
19 cover some now.

20 What I would like to do is, I would like to cover  
21 several general areas briefly and then show you three specific  
22 problems, so you can get a feel for the kind of thing that  
23 we're going into in terms of depth and how we're addressing  
24 it.

25 In the general area, there are, I guess, a couple of

1 points to be made. One, it's no surprise that we are finding  
2 problems. That's what the program was designed to do. And,  
3 in fact, as I said, we are achieving that goal.

4 The problems that we're finding in many cases are  
5 the kinds of things that have been seen on other projects.  
6 The difference is that we are identifying them within a period  
7 of time when we are able to address them, correct them,  
8 resolve them, define corrective actions and get them behind  
9 us, and that's exactly what we're doing.

10 [Slide.]

11 The three problems that I am going to discuss in  
12 more detail are the retrievability of documentation,  
13 weaknesses in calculations, and problems in the cable  
14 separation controls. But let me make one other point here.

15 To keep this in perspective, a number of the  
16 problems we have found may well -- in fact, we could probably  
17 demonstrate would be found later in the process of the  
18 project.

19 For example, in electrical cable separation, one I  
20 will discuss in a little more detail, the walkdowns and area  
21 turnovers and their associated inspections, which are not  
22 defined, would have found the problem that I'm going to  
23 discuss. However, the whole goal of the program is to find  
24 problems early and to get them corrected and keep them from  
25 happening. So this has become a finding in this program. It

1 may not have existed, had we waited. We would have picked it  
2 up and corrected it.

3 Let me go to the three specific cases.

4 [Slide.]

5 The first case I would like to point out has to do  
6 with retrievability of documentation. It's associated with,  
7 this concrete module that is on the table in front of you.

8 In that verification effort, we went out to look at  
9 over 4000 quality assurance records. That's what that  
10 Christmas tree boiled down into.

11 COMMISSIONER BERNTHAL: That's why I asked the  
12 question.

13 MR. RICE: Yes, sir.

14 In looking at those over 4000 records, we found 36  
15 records -- or we did not find 36 records. We were not able to  
16 retrieve them from those paths, the fingers that went out.

17 Now each individual item or finding that came up was  
18 addressed specifically as it had to be in terms of its  
19 specific nature. But we also addressed it in terms of the  
20 potential collective significance, and that's what this look  
21 here did, as this part of the concern in this concrete  
22 module. It's described in detail in the module. I'm just  
23 summarizing now.

24 We went through several different types of  
25 iterations. One, for example, there are certain kinds of

1 records which we found. We found file copies, rather than the  
2 original, but we found the records. Other kinds of records  
3 were duplication of other records that existed because of the  
4 redundancy and the duplication, and in some cases,  
5 conservatism in our controls. And there were some records  
6 which did not have that easily available backup in order to  
7 reconstruct the situation that existed.

8 In those cases, we had to perform engineering  
9 evaluations, or in some cases, reinspection to determine what  
10 the significance of that missing document was.

11 The net result of those reviews of this sample,  
12 which is about approximately one percent of what we went out  
13 to look for, told us, one, there was no rework, there was no  
14 destructive testing, and no need to go change the design of  
15 any concrete structures when these evaluations were over.

16 We found in many of the cases, there was evidence  
17 that we were able to take, sufficient evidence to verify the  
18 acceptability and the quality of the work in that area.

19 The overall conclusion was that, even though putting  
20 these together, rather than just treating them individually,  
21 did not result in any collective or broadness type problem in  
22 the concrete structures.

23 CHAIRMAN PALLADINO: The quality control documents  
24 that you found, were they found where you expected them to be,  
25 or did it take a search to find them? Our Staff has had

1 experience in going to some utilities where they were trying  
2 to verify documents, and a considerable amount of effort is  
3 needed before they say, "Yes, it's verified."

4 I was trying to find out, for most of these, did you  
5 go to wherever you expected to find them and find them there,  
6 or did you have to do some more searching?

7 MR. RICE: I think the problem you allude to, some  
8 of the items that came out of here fall into exactly that  
9 category. We did go to where we expected to find them, for  
10 those examples, and, of course, we found 99 percent of what we  
11 looked for.

12 CHAIRMAN PALLADINO: You found those where you  
13 expected to find them?

14 MR. RICE: I'll say in the vast majority of cases,  
15 sir. I think probably some of the 4000 took a person going  
16 two places to find them. But for some of the ones that were  
17 missing, we found exactly that problem; that a file of  
18 information that was being collected for the procedure had not  
19 been put into the vault, and, therefore, it was not where they  
20 expected to find it, and that was true for those items, for  
21 the most part, where we finally found it but it wasn't in the  
22 vault. That's how it became a finding.

23 So, yes, that's a problem. It's a problem that  
24 we're addressing and going back and looking at our whole  
25 documentation vault situation.

1           CHAIRMAN PALLADINO:   You did find the 36?

2           MR. RICE:   No, we did not find all 36.   No, sir.

3   There were a number of cases among this 36 where we had to go  
4   through other techniques and assessments and evaluations in  
5   order to demonstrate the quality of the work.

6           COMMISSIONER ROBERTS:   Isn't there considerable  
7   redundancy to the extent that if you had to verify the mil  
8   test reports on a cadweld, wouldn't you also have that and  
9   also the cadweld manufacturer?

10          MR. RICE:   You bring up a very good point.   One of  
11   the ways some of these items were demonstrated, I'll give you  
12   an example.

13          We, on the project, had a requirement to sand  
14   gradation tests on the sand to be used for the concrete.   Some  
15   of those 36 were missing test reports for those sand  
16   gradations.   When you looked at the process, we had  
17   certifications of compliance from the supplier who supplied  
18   the sand.   So there, you had a redundant system, and you were  
19   able to go from one to the other, and not excusing the fact  
20   that we didn't have all of the records we said we were going  
21   to have, we were able to create this situation.

22          COMMISSIONER ROBERTS:   That's the reason why  
23   redundancy is built in.

24          MR. RICE:   Yes, sir, that's absolutely true in many  
25   cases.



1 Any other questions on this?

2 [No response.]

3 Let me move to the next one. The next question has  
4 to do with a design problem. I'm not going to discuss the  
5 dynamic load factors in detail, but it was an interesting  
6 problem in a couple of senses.

7 One, this problem was found in Los Angeles by the  
8 Independent Design Review Team, the Stone & Webster folks that  
9 work under Mr. Ramsey's direction.

10 This team, in reviewing the calculations that went  
11 into the design of the concrete structures, came to a  
12 conclusion based on their experience in their independent  
13 view, and the fact that they were looking at things in terms  
14 of industry-accepted practices in addition to the commitments,  
15 came up with the facts and questions and raised concerns about  
16 the use of dynamic load factors in the design of the concrete  
17 walls, one in terms of the value of the load factor used, and  
18 the other was the potential lack of using the load factor for  
19 jet impingement.

20 What happened with this issue was it went through  
21 100 percent review of other safety-related structures for this  
22 same type of problem. A complete review was made. One other  
23 problem was, in fact, found, where there was a concern for the  
24 dynamic load factor that was used in the feedwater pump house.

25 As a result of this item, and going through 100

1     percent review of the safety-related structures, all those  
2     calculations were rereviewed. The calculations when done  
3     confirmed that although we questioned the judgment of the use  
4     of the dynamic load factor, the end result of it was that the  
5     wall was designed adequately when that was applied.

6             That was the process we went through and that is how  
7     that problem was identified by the design review team.

8             [Slide.]

9             This item also represents an interesting twist, a  
10    test to demonstrate the readiness review process.

11            [Commissioner Asselstine left the room.]

12            It has to do with the failure to meet the minimum  
13    separation distance between hot pipe and raceway. One example  
14    was found in the verification process by the team where they  
15    actually found a physical separation that was not adequate.

16            In reviewing this further, the Readiness Review Team  
17    on the project came to some interesting findings, and that was  
18    that, one, the design criteria for the separation had been  
19    incorporated into the electrical specifications, which was the  
20    logic of getting it through the electrical process.

21            It had not been put in by the engineering people,  
22    into the mechanical specifications and the piping installation  
23    procedures. Therefore, the logic of installing the piping and  
24    then putting in electrical, which, of course, they always get  
25    in parallel with each other after this process, did not

1 control the situation, and we needed to have them in the  
2 mechanical specifications and procedures, so we found that  
3 problem by tracking through the process.

4 The procedures were upgraded. All of the previously  
5 installed piping will be inspected, and now we have that  
6 situation in a condition such that it should not occur here,  
7 and we won't build up a big backlog of rework.

8 I told you before that in this case, the turnover  
9 inspections and so forth would have found this problem by our  
10 program. What happens is it just builds up a backlog that  
11 comes later. The results are a great deal more difficult to  
12 resolve.

13 [Slide.]

14 I would like to point out a few lessons learned that  
15 we have come across in the project.

16 [Slide.]

17 A couple of them will already be familiar to you.  
18 One, I mentioned the need to create and go with the general  
19 appendices to cut down on the duplication of information.  
20 That was a lesson learned and it caused additional effort.  
21 The biggest lesson that we learned was that we underestimated  
22 what it was going to take to start up the program. It took a  
23 great deal more effort to get it developed, to put it into  
24 place, to define the commitment matrices, and those kinds of  
25 actions.

1           As a result, this lesson learned has resulted in our  
2   having to change and adjust the schedule several times on when  
3   the various modules would come out. It was a lesson learned.  
4   We did expect lessons learned. We underestimated the level of  
5   effort to start this up.

6           The second area here is we have gone back and  
7   adjusted in several cases the scope of work covered in these  
8   modules so we don't get out of balance. Once you get into the  
9   details, you find out that some adjustments are necessary  
10   because you had to get different things in different places or  
11   you would end up like this.

12           We have adjusted the independent design review  
13   process in order to better cover the interfaces among the  
14   engineering discipline activities. We still conduct the  
15   independent design review activities in the modules where they  
16   are applicable, such as in the concrete module for the  
17   calculations of the walls.

18           [Commissioner Asselstine returned to the room.]

19           We also will in the adjustments put into place  
20   an in-depth and detailed review, another module, if you will,  
21   of the interfaces in terms of an auxiliary feedwater system  
22   review which crosses all the bounds. So that is an adjustment  
23   we have made.

24           We have also changed a number of the administrative  
25   and documentation practices in order to make the process more

1     workable both within Georgia Power Company and for the NRC  
2     Staff.

3             [Slide.]

4             In conclusion, I would like to make just a couple of  
5     points.

6             I think we have demonstrated that we clearly see  
7     some of the benefits being realized which we set out as  
8     objectives in the beginning, one coming from the in-depth self  
9     assessment using people who are very familiar with the project  
10    in a disciplined and scheduled and systematic approach, so  
11    that we come back with the product that we set out to get.

12            We also are looking at these processes more broadly  
13    than you might have looked at them before in terms of your  
14    audit program or a quality control inspection program. They  
15    are being looked at more broadly with all of the activities  
16    being covered under the concrete structures over the life of  
17    the plant. It gives a different view and it is a benefit  
18    which we are realizing.

19            We are also able to interact and interface with the  
20    NRC on this program, both in terms of our programmatic  
21    development and in terms of handling these work areas and  
22    having them reviewed, approved, inspected on a scheduled  
23    basis. We see that as a benefit being realized now.

24            Finally, we are finding problems which, while they  
25    don't represent, as of yet, major breakdowns in the program,

1     need to be found, need to be addressed and need to be resolved  
2     so they don't raise questions later on. That is a significant  
3     goal and it is a significant benefit, and we are realizing  
4     that benefit.

5             Mr. Scherer pointed out the potential for the  
6     long-term benefits. There are obvious differences that you  
7     would put into place if you installed this program over the  
8     entire life of the project. You know, you would have more  
9     modules, if you will. They would be smaller modules. They  
10    would be spread out over the life to investigate and look at,  
11    for example, your program, your procedures, your  
12    specifications, your documentation, your training, at the 10  
13    percent point of the concrete, and at that point settle all of  
14    those programmatic issues and rely on a well-founded and  
15    rigorous follow-up system which we have in place.

16            So there would be differences for a project from its  
17    inception, but we feel like the kinds of lessons we are  
18    learning and the principles we have put into place have  
19    potential long-term benefits.

20            I think in conclusion I would say we are striving  
21    for the same thing that NRC is striving for, and that is to  
22    assure that we have carried out and met our commitments over  
23    the life of the project. We have in place our programs that  
24    were in place over the life of the project to make sure that  
25    got done.

1           What we are finding in the readiness review process,  
2   I think, to a great extent is a confirmation that those  
3   programs have worked and that they have caused the activities  
4   to be carried out as we expected them to be, and that we have  
5   met our commitments.

6           Any questions?

7           CHAIRMAN PALLADINO: It sounds like a very ambitious  
8   program. I have a couple of programs.

9           MR. RICE: Yes, sir?

10          CHAIRMAN PALLADINO: You mentioned long-range  
11   benefit, and I was thinking as you were speaking about whether  
12   or not the readiness review program is being extended to  
13   include the readiness of plant personnel to operate a plant.

14          MR. RICE: We have included that in the program. In  
15   fact, one of the four areas that we have divided the whole  
16   project up into is readiness for operation. Take my case.  
17   Personally I am the module executive for the radiological  
18   and chemistry part of that readiness for operations area.

19          In that case, we are taking the radiological -- for  
20   example, pieces, breaking up all of the commitments that will  
21   have to be in place by the time we operate the plant. We are  
22   going out to, one, check their implementation if they are  
23   implemented -- and there are a number which are not  
24   implemented yet because we do not have fuel on the site, for  
25   example -- to check their implementation or to go check the



1 procedures for which they are scheduled to be implemented in,  
2 and if there is not a footprint like that, then that becomes  
3 the issue.

4 That is a finding. There are many areas of the  
5 operations area now where we can go check.

6 MR. MILLER: I think it might be helpful if you look  
7 at the slide we have on module readiness for operation. It  
8 actually contains eight modules involved with readiness for  
9 operation.

10 [Slide.]

11 MR. RICE: This area right here is what I was  
12 talking about.

13 CHAIRMAN PALLADINO: I see at the bottom another one  
14 I was going to ask about. To what extent are you giving  
15 attention to plant maintenance readiness? That seems to be an  
16 area in which a number of problems arise early in operation.  
17 I guess throughout the life.

18 MR. MILLER: Would you like a response to that?  
19 Would you like Tom Beckham to respond to that?

20 MR. BECKHAM: Tom Beckham, Georgia Power.

21 We too, feel as you do, that maintenance is an  
22 important activity. We are putting our effort in readiness  
23 review to be sure we have the procedures in place, the proper  
24 qualified people, proper training facilities at the site, and  
25 readiness review is looking at this in great detail as part of

1       this module.

2               It is one of the many parts of operation that must  
3       receive attention in order for a plant to operate properly,  
4       sir.

5               MR. MILLER: I think, Tom, you are developing  
6       preventive and predictive maintenance for the plant.

7               MR. BECKHAM: Yes, sir. We use both types,  
8       preventive and predictive maintenance. Just to give you an  
9       example, some of the predictive maintenance, we are using  
10      infra red type detectors for looking at electrical type  
11      equipment to detect temperature differences.

12              We are using oil analysis to give you an example, to  
13      predict where in degradation of equipment. In that area, we  
14      are using a very extensive vibration analysis to give  
15      detection of signature changes of equipment's operation so  
16      that we can predict, maintain the equipment before it fails.

17              COMMISSIONER BERNTHAL: Is that acoustic analysis?

18              MR. BECKHAM: The vibration analysis is going and  
19      taking what is called signature analysis in which you take the  
20      particular piece of equipment when it is known to be in good  
21      condition and you get a so-called signature of what the  
22      various frequencies look like of the vibrations, and then you,  
23      on a maintenance schedule, look at those and predict if it is  
24      degrading, sir.

25              COMMISSIONER BERNTHAL: It is actually in the

1 vibration and not the analysis of the acoustics?

2 MR. BECKHAM: That's right, sir.

3 CHAIRMAN PALLADINO: Two other questions. Then I  
4 will turn it over to my colleagues.

5 The first question may seem to have an obvious  
6 answer, but I am going to ask it anyhow.

7 I guess Mr. Scherer spoke about 150 person years  
8 involved in this program. That might mean upwards of \$50  
9 million.

10 Do you feel this program has benefitted, or will  
11 benefit you to that extent?

12 MR. SCHERER: Okay, let me respond to that. I am  
13 not quite sure it is that much money.

14 (Laughter)

15 I would like to reserve that.

16 CHAIRMAN PALLADINO: I just took \$100,000 --

17 COMMISSIONER BERNTHAL: 15 days.

18 CHAIRMAN PALLADINO: That's where I concluded. But  
19 I said the answer may be obvious.

20 MR. SCHERER: I think the answer is obvious. If in  
21 fact we can, by doing this, demonstrate clearly that we have  
22 lived up to our commitment, therefore we can license this  
23 plant and put it into operation in a timely fashion, we will  
24 save our customers millions of dollars.

25 CHAIRMAN PALLADINO: I presumed that.

1 MR. SCHERER: I'm glad you asked that.

2 CHAIRMAN PALLADINO: I think it is important to get  
3 it on the record.

4 Now, a corollary question -- and this is more for  
5 the Staff than it is for Georgia Power -- what sort of  
6 resources has it taken from the NRC's point of view -- let me  
7 stop right there.

8 MR. TAYLOR: Nelson Grace, who has project  
9 responsibility working out of Region, is preparing, I think,  
10 to answer that, Mr. Chairman. He will speak for both the NER  
11 and I&E resources. We are all dedicating resources to this  
12 effort.

13 MR. GRACE: We have been concerned about resources  
14 since the beginning of the project. And we have had  
15 difficulty estimating what the total load would be.

16 So, we agreed, and the EDO directed us to play it  
17 by ear for a period of time. We are just into the program,  
18 really, for a few months. But we have a rough idea of the  
19 extra load that it is going to take. It is very crude at this  
20 stage. It is probably premature to report a figure. But, the  
21 present projection is somewhere between 16 and 17 man years  
22 over and above the base program.

23 Now, we, in Region II for example -- most of that is  
24 in Region II -- we will have expended this fiscal year about  
25 two FTE on the program out of our total need of about nine

1     that we project.

2             Now, please keep in mind this is very rough and I  
3     probably shouldn't even be talking about numbers at this  
4     time. We will gain more experience in the near future and  
5     will be reporting to the EDO on how it is going.

6             So, we will extend it about two this fiscal year.  
7     We have been able to adjust. We have been able to manage  
8     within our resources without hurting the balance of the  
9     program. Next year we are projecting, if our projection today  
10    is correct, about seven in Region II. I am just mentioning  
11    this --

12            CHAIRMAN PALLADINO: Seven for what?

13            MR. GRACE Seven FTE for the balance of the program  
14    in 1986.

15            Now the numbers in I&E and in NRR are smaller. But I  
16    am just mentioning our numbers for example.

17            We have budgeted presently in the 1986 budget, close  
18    to four FTE. So, the present projection would indicate in  
19    Region II, we are three short. But again we are not crying  
20    wolf. We are not going to stop the program and say "Send more  
21    resources." That would be a copout.

22            We are going to manage within our resources. And if  
23    we do reach some irreconcilable problems, we may have to  
24    reprioritize. But in all cases, we will be in close  
25    communication with headquarters to make sure we are all on

1 board.

2 CHAIRMAN PALLADINO: I was just trying to get a feel  
3 insofar as we get general implications in the event we want to  
4 carry this program to other applications.

5 MR. GRACE: Other facilities, other projects?

6 CHAIRMAN PALLADINO: Yes.

7 MR. GRACE: I think Jim Taylor is the right man.

8 MR. TAYLOR: We are not currently budgeted or  
9 projected to carry this type of program for it, except for the  
10 potential at WNP-3. We have had discussions with the folks  
11 out there and are budgeting. And I think you will see in our  
12 fiscal year 1987 budget some numbers associated down in the  
13 depths of the budget.

14 But that is a project. And their program will be  
15 somewhat different. They are in a different situation, for  
16 the potential for that to happen. If that doesn't happen,  
17 that may be a bit of a kitty, which we can take those  
18 resources and apply here. But, that is the extent of the  
19 current Staff budgeting for this type of program.

20 CHAIRMAN PALLADINO: Are we keeping our records in  
21 sufficient shape so that when we have completed the pilot  
22 project we can go back and get a pretty good feel for NRC --  
23 need for NRC resources?

24 MR. TAYLOR: I think we will have a track record of  
25 the FTEs and what we have done. We are documenting that.

1 CHAIRMAN PALLADINO: Okay. Thank you.

2 MR. GRACE: May I ad one point.

3 Yes, we will have accurate records of the resources  
4 expended. But this is not all negative, because we are  
5 anticipating saving resources, considerable resources that we  
6 can't really document by virtue of having avoided the eleventh  
7 hour problems that we often have.

8 CHAIRMAN PALLADINO: I was thinking of comparing  
9 those resources to some of the resources we have had to expend  
10 in handling a lot of last-minute allegations.

11 COMMISSIONER ROBERTS: Quick question. If I  
12 understood Mr. Scherer, an employee who refuses to be tested  
13 for drug use is terminated. Is that correct?

14 MR. SCHERER: That is correct, sir.

15 COMMISSIONER ROBERTS: Has any employee terminated  
16 under that -- challenged that termination either under a  
17 collective bargaining agreement, or through the Department of  
18 Labor?

19 MR. SCHERER: There has been a challenge by the ACLU  
20 of a number --

21 COMMISSIONER ROBERTS: On behalf of the terminated  
22 employees?

23 MR. SCHERER: -- on behalf of a number of the  
24 terminated employees. And as I understand it -- and probably  
25 these people closer to it can tell you -- I understand the



1 Labor Department has determined that the complaint was not  
2 filed timely.

3 COMMISSIONER ROBERTS: but never addressed the  
4 merits of the issue?

5 MR. SCHERER: They have not addressed the merits of  
6 the issue at this point.

7 COMMISSIONER ROBERTS: Do you know -- well, maybe  
8 this is getting into too much detail.

9 I wonder if this circumstance has occurred in other  
10 places, and if the Labor Department has taken any position on  
11 the validity of such determination.

12 That is probably not a fair question.

13 MR. SCHERER: I don't know. Don, do you know? Do  
14 you know if there has been a challenge in other places?

15 MR. FOSTER: Yes, sir. We have had -- Don Foster,  
16 general manager of Plant Vogtle.

17 We have had a number of arbitration cases filed or  
18 grievances filed --

19 COMMISSIONER ROBERTS: Under your collective  
20 bargaining agreement?

21 MR. FOSTER: Yes, sir, under the collective  
22 bargaining agreement. And at least one at Plant Vogtle, one  
23 at one of our other facilities, have been dispositioned and  
24 they ruled in our favor and the program stood up --

25 COMMISSIONER ROBERTS: That dismissal was --

1 MR. FOSTER: Yes, sir, they were dismissed.

2 COMMISSIONER ROBERTS: Thank you.

3 MR. SCHERER: It has not been ruled on as far as  
4 Department of Labor.

5 MR. MILLER: I think the thing is still subject to  
6 final court review, as I recall. However, we feel pretty  
7 confident about the ultimate test. But, it is going to be  
8 tested in due course through the ultimate -- You may have seen  
9 the national TV report which had one person, I think it was,  
10 possibly two, whom we did discharge at Vogtle, complaining  
11 about it. We also had Harry Gregory who at the time, still is  
12 manager of construction, interviewed on that.

13 We think the program has had excellent results. It  
14 doesn't mean we are 100 percent. But we certainly know we have  
15 gotten rid of those folks, and I think that is beneficial.

16 COMMISSIONER BERNTHAL: I assume they are required  
17 to sign some sort of consent agreement as a condition of  
18 employment. Or, is that not the case?

19 MR. MILLER: I am not sure.

20 MR. FOSTER: For new employees in Georgia Power  
21 Company, that is correct.

22 COMMISSIONER BERNTHAL: For you to be able to  
23 enforce that?

24 MR. FOSTER: A number of the employees at Plant  
25 Vogtle were long-term employees.

1 COMMISSIONER BERNTHAL: I understand.

2 MR. FOSTER: We did not fall under that program. So  
3 we have retrofitted our existing antidrug program to include  
4 all of the Staff, including contractor, architect-engineer,  
5 Georgia Power Company, support craft or support staff at Plant  
6 Vogtle under that program. And we have done that now, we have  
7 completed that program, and all individuals at Plant Vogtle  
8 short of craft labor, have been tested and craft labor are  
9 tested under a discretionary program for cause.

10 COMMISSIONER BERNTHAL: So in other words, except  
11 apparently for this craft labor exclusion, you are telling me  
12 that if I walk into the plant everybody that I see sitting  
13 there from maintenance people and custodians up through the  
14 plant manager, fall into this program.

15 Is that correct?

16 MR. FOSTER: Yes, sir.

17 MR. MILLER: Actually plant Vogtle goes beyond that  
18 because it has a tremendous construction engineering and  
19 support force.

20 That is correct. The operating people have been  
21 doing this for many years.

22 COMMISSIONER BERNTHAL: But it doesn't end, let's  
23 say, with control room operators and people --

24 MR. FOSTER: No, sir.

25 MR. MILLER: Every employee, everyone who has

1 exposure in that.

2 CHAIRMAN PALLADINO: Did you lose any control room  
3 or key operating people as a result --

4 MR. MILLER: Not at Vogtle.

5 We haven't had a problem at Hatch, have we?

6 MR. BECKHAM: Tom Beckham, Georgia Power.

7 I don't recall any instance where we have had a  
8 control room operator fail the test.

9 CHAIRMAN PALLADINO: Or be dismissed because he  
10 didn't take it -- he or she didn't take it.

11 MR. BECKHAM: I cannot remember. I am going through  
12 my recollection.

13 COMMISSIONER ROBERTS: It can't be much of a problem  
14 if you can't recall.

15 (Laughter)

16 MR. MILLER: We have one other policy that I think  
17 may be preventive in nature, and that is that everybody we  
18 hire -- before we post the bid list for Hatch, for example,  
19 before we let that guy go there, he has to pass that drug  
20 test. Even if he might be employed somewhere else.

21 Also, if we hire somebody in Georgia Power Company  
22 that is going to come in in any job in Georgia Power Company,  
23 as a laborer or anything, we test him when he comes in. We  
24 test at that time. It is a very rigid test and it is a  
25 standardized test.

1 COMMISSIONER ZECH: What kind of a test is it?

2 MR. MILLER: It is a urinalysis. Peter Benziger.  
3 Maybe more than that. Tom, is it more than urinalysis?

4 Do you want to tell them what we do? For nuclear  
5 plants we go beyond that.

6 MR. BECKHAM: The fitness for duty program is more  
7 than just urinalysis, sir. The fitness for duty includes  
8 background surveys, which goes into the various aspects of  
9 background, credit checks, criminal records, anything of that  
10 nature. It includes a psychological test which is the  
11 Minnesota Test, and then also in some cases an interview with  
12 a psychologist. And it includes the drug screening test which  
13 is a urinalysis test. And an individual must pass all of  
14 these prior to going into the program, sir.

15 COMMISSIONER ROBERTS: That preemployment test, has  
16 that ever been challenged by someone like the ACLU?

17 MR. SCHERER: Not that I know of.

18 COMMISSIONER ASSELSTINE: Your drug test, is that  
19 followed up by random tests, or is it a preannounced kind of  
20 scheduled thing?

21 MR. FOSTER: Yes, sir. We have a prerogative in the  
22 program in place for cause or for any reason that it is deemed  
23 necessary by the supervisor or management staff at the job,  
24 that we would require any individual, craft labor, plant  
25 staff, management staff, to submit themselves to a drug

1 screening.

2 And that does take place and it takes place  
3 regularly. We have a record on that also. Again that is a  
4 successful program, but an equivalent program with our  
5 announced planned total screening of the plant staff.

6 MR. MILLER: We also have a search program that is  
7 really unannounced, of vehicles of people. I guess from time  
8 to time we use dogs on that.

9 MR. FOSTER: Yes, sir. We have used drug dogs. We  
10 have other means of identifying the problem.

11 MR. MILLER: Actually we haven't found that much.

12 COMMISSIONER ROBERTS: Can you have an educational  
13 -- you know, in some utilities that creates a lot of conflict  
14 between the employer and the employee. That's a tough one.

15 MR. FOSTER: In the full implementation of this  
16 program, we have worked all the way from the corporate staff  
17 of our contractor, architect engineers, down through the  
18 individuals and fully informed them of this program, the  
19 intent of it and obligations they have to the program. And,  
20 that is an ongoing process and is an integral part of this  
21 program.

22 MR. MILLER: Generally our experience is people just  
23 don't want to work with people who are taking dope in any  
24 circumstances.

25 Really, a great majority of them might be silent,

1 but they support --

2 COMMISSIONER ROBERTS: But they are not resentful of  
3 the fact --

4 MR. MILLER: Not most of our people, not that I am  
5 aware of.

6 MR. SCHERER: I think you create an environment  
7 where people want to be in a healthy circumstance. Maybe they  
8 haven't been given that opportunity in the past and we are  
9 trying to make that available to them, and I think the  
10 response has been good.

11 MR. MILLER: But it is going to be challenged,  
12 ultimately.

13 MR. SCHERER: We accept that as a fact.

14 COMMISSIONER ASSELSTINE: The sense I have gotten  
15 from a couple of other plants I have visited recently have  
16 very similar programs. By and large they think their programs  
17 are supportive of the concept as well, particularly where it  
18 applies to everyone, where you don't single out selective  
19 groups of people and say this applies to you but it doesn't  
20 apply to the other people. If you apply it across the board.

21 MR. MILLER: Under the OSHA program they have  
22 something called a Star Program where if you, in the union  
23 crafts, and project management and contractors work together  
24 as a team and come up with good results, they give you a Star  
25 Program. And they don't inspect you at all.



1           Vogtle is the only nuclear plant that we know of  
2           that has been accepted. We have one fossil plant, Scherer,  
3           which is a 3200 megawatt plant under construction. It is in  
4           the Star Program. And Vogtle. Those are the only two we know  
5           of. There may be another fossil.

6           COMMISSIONER ASSELSTINE: The results that you  
7           found are kind of interesting, because I think if you look at  
8           society as a whole, you generally tend to find about five  
9           percent of the population that suffers from one or another of  
10          these kinds of problems.

11          The fact that you only found about a one percent  
12          level that either failed the test or wouldn't take the test,  
13          it is --

14          MR. SCHERER: Of course, that may be as a result of  
15          the fact that you have already screened out a significant  
16          number before they even get into the pool.

17          MR. MILLER: And people know that they are subject  
18          to test, they will just go get a job somewhere else.

19          COMMISSIONER ASSELSTINE: Yes, they don't apply.

20          Can you give me a feel for the percentage of  
21          completion of construction in some of the various areas?

22          I guess maybe just the broad categories, civil,  
23          mechanical, and electrical, so I can get a feel for how far  
24          along Vogtle is in these areas?

25          MR. FOSTER: Yes, sir.

1 In Unit 1 we are approximately 80 percent complete  
2 over all; Unit 2, approximately 50 percent complete.

3 Obviously on Unit 1, we have essentially completed  
4 all of our civil and structural work. We are well into the 80  
5 and 90 percent range on our mechanical work. And in the mid  
6 50s, that range, on our electrical work for Unit No. 1.

7 The Unit 2 numbers are something less than that. I  
8 would say probably 70 to 80 percent with our concrete on Unit  
9 2, in our structural work there. Just starting in the low 20s  
10 on our mechanical, electrical work.

11 COMMISSIONER ASSELSTINE: The sense I got from the  
12 presentation was that in essence, an FSAR level of detail,  
13 level of information was fairly crucial to the program, to  
14 being able to develop the modules, identify with some degree  
15 of assurance what the commitments are and how you are going to  
16 go about verifying the commitments are met.

17 Am I right about that?

18 MR. RICE: Yes, that's correct.

19 COMMISSIONER ASSELSTINE: At what point in the  
20 typical construction of a project, the way we have been doing  
21 them, essentially the custom design approach, do you think  
22 this approach is feasible to get started?

23 MR. RICE: We would start with the PSAR in that  
24 case.

25 But, I think the answer to your question is it would

1 be phased. It would be phased over the life of the project.  
2 There is obviously some things which don't get well enough  
3 defined until much later on, even to where we are now in the  
4 operations area, to conduct.

5 But, for those activities such as backfill,  
6 concrete, earthwork and then as you go on with structural  
7 steel, the programs have to be defined to do the first ten  
8 percent.

9 So, there is really no logic that says that you  
10 can't look at all these factors very early on for whatever  
11 work it is that you are carrying out on your quality program.  
12 The requirements are defined.

13 So, we see it occurring very early, even back at the  
14 point where the first earthwork starts to be done in the  
15 safety-related section.

16 COMMISSIONER ASSELSTINE: It does seem the  
17 requirement on our part for being able to do the review and  
18 giving you some assurance that in fact we can give you a  
19 signoff on various modules, is having the information  
20 available for each of the individual modules to be able to  
21 say with a fair degree of assurance that, yes, we know enough  
22 now to be able to say that the commitments are right, the  
23 program is right, the verification efforts are right. So that  
24 we can have confidence that this goes ahead.

25 MR. RICE: That is absolutely right. That is why it

1 would have to be phased according to when those things got  
2 defined well enough to do the process.

3 COMMISSIONER ASSELSTINE: My last point is more of a  
4 comment. I think you can commend it for the objective.  
5 You're right on the mark, identifying problems early on,  
6 getting them corrected, providing a framework for making sure  
7 that you understand what we're looking for and that we find  
8 what you're proposing as acceptable. I think that's the right  
9 way to go. I think that's the way to avoid some of the  
10 problems that have occurred in the past few years, and I  
11 think it really is an essential element for some greater  
12 degree of stability for the future as well.

13 I think you ought to be commended for that  
14 objective. I find the approach very interesting, and I'm  
15 looking forward to seeing how it works over the next several  
16 months and years.

17 CHAIRMAN PALLADINO: Do you plan to apply a similar  
18 program to Vogtle-2?

19 MR. MILLER: We're in a testing phase on that right  
20 now, Mr. Chairman. Of course we'd like to. A lot of work is  
21 generic in nature which will apply to both Vogtle-1 and 2,  
22 particularly appendices. We would like to do it. We need to  
23 move into it and learn a few more lessons before we make the  
24 final decision on that. No final decision has been made at  
25 this time.

1           COMMISSIONER BERNTHAL: That's a good question,  
2    though, because I recall your having mentioned that you would  
3    do more, and there would be more stop points for evaluation,  
4    more modules earlier in the game, should you do it from the  
5    very beginning of plant construction. You're not quite at the  
6    beginning of construction on Unit-2, I guess. But in some  
7    sense, it would be a measure of your own enthusiasm over the  
8    project, whether you decide to buy that for the second unit, I  
9    guess.

10           MR. MILLER: I think I certainly would agree.

11           CHAIRMAN PALLADINO: You would have implications on  
12    the cost/benefit of this.

13           MR. SCHERER: We would know -- the fact that the  
14    numbers would be in hand.

15           MR. RICE: One of the things we have been doing is  
16    that the readiness review, as we're conducting it now, Unit-2  
17    operates to the same specifications, the same requirements and  
18    commitments, the same procedures. So as Mr. Miller pointed  
19    out, there's a great deal of commonality.

20           CHAIRMAN PALLADINO: Yes, we appreciate that part.  
21    But then the plant-specific items, you'd have to do  
22    separately.

23           COMMISSIONER ASSELSTINE: I assume the design is  
24    basically identical, of the two units, isn't it?

25           MR. RICE: Yes.

1 CHAIRMAN PALLADINO: More, Jim?

2 COMMISSIONER ASSELSTINE: No.

3 CHAIRMAN PALLADINO: Fred?

4 COMMISSIONER BERNTHAL: I would just second what Jim  
5 said. There's an old sign that IBM made famous many years ago  
6 that appeared on a lot of desks that said, "Think." And it's  
7 clear that you've given a good deal of thought to this idea,  
8 and your presentation reflects that, and you're thinking about  
9 what you're doing, and that's the way you find your pathway  
10 through the licensing maze, one hopes relatively unscathed.

11 I have a couple of questions on whether there are  
12 early results that have come out of this that might be of  
13 general interest. Have you compared notes much with other  
14 utilities?

15 I'm sure you've talked to the INPO people a good  
16 deal, but are there things that have come out of this already  
17 that other utilities have found particularly interesting or  
18 that are different?

19 MR. RICE: I can address that question. We are  
20 sharing all of the things in the process, procedures, and  
21 results with any other utilities.

22 [Commissioner Roberts leaves the Commission  
23 meeting.]

24 MR. RICE: We've had two utilities -- WNP-3, which  
25 was mentioned awhile ago, and one other utility, TVA -- well,

1     there's really three then -- there's TVA, and also Comanche  
2     Peak has visited us, looked at the process, and carried away  
3     both our procedures, and at least in my exiting with those  
4     folks, some idea of some things they may want to apply from  
5     this. They're in a different condition than we are, but we  
6     are sharing all of the lessons learned and the process in a  
7     very open manner with them.

8                 COMMISSIONER BERNTHAL: What's the general  
9     attitude? I'm not sure how candid you care to be. Did they  
10    consider it overkill? Do they consider it overwhelming to  
11    even think about initiating such a project, or are a lot of  
12    them nodding their heads saying, "Sounds like it's a great  
13    idea, which we have done or we intend to do?"

14                MR. MILLER: I don't think I've had any  
15    broadly-based feedback, enough to really give you a feel for  
16    that. I may get some at my NUMARC meeting in late August.

17                The only people I have talked to have been  
18    supportive, but I haven't really spoken to very many of them.  
19    I really can't tell you what the thrust of the industry might  
20    be.

21                COMMISSIONER BERNTHAL: Has this made visible  
22    differences in construction itself, so if I were to go down  
23    there tomorrow, I would be able to tell somehow that you are  
24    doing things differently in the plant than other utilities  
25    might be? Or is it mostly behind the scenes?



1 MR. SCHERER: Let me address that. I'll let them  
2 address the specifics.

3 I think the plant is excited. I think there's  
4 really a spirit there existing today that was not prior to  
5 this. This may have enhanced it, and I'm going to let Paul or  
6 Don, whoever wants to -- it's an exciting project.

7 MR. MILLER: I'm going to tell you in three little  
8 words. I don't know. You can all probably tell better than I  
9 can.

10 COMMISSIONER BERNTHAL: One last short question.  
11 Have there come out of this yet any broad, new insights on  
12 QC/QA procedures particularly? Have you learned anything  
13 there that might suggest, in carrying out that sort of thing  
14 -- again, I'm getting back in part to the mechanics of QC and  
15 QA -- sometimes one thinks you do best to hire a good  
16 librarian for part of these activities.

17 Is there anything that has come out of that yet that  
18 might be generally useful and applicable, or is too early?

19 MR. RICE: Let me answer the question in two ways.  
20 One, we are applying the lessons learned that can be applied  
21 for future activities where that's the case. So you would  
22 find certain changes made to adjust the process, including  
23 streamlining. But in some cases, the lessons that we see in  
24 looking, for example, at the concrete business, those are  
25 pretty much past us. I believe we have learned lessons, which

1 are reported in that module, which in the future, if we were  
2 going to do it, we would clearly go back to this process,  
3 look at it, and there would be things that we would adjust to  
4 prevent the kinds of issues we now deal with. The lessons are  
5 clearly there.

6 [Commissioner Roberts returns to the Commission  
7 table.]

8 MR. RICE: It's not too early, but in some cases  
9 it's too late.

10 COMMISSIONER BERNTHAL: Right. I guess that's all I  
11 have right now.

12 COMMISSIONER ZECH: Just two comments. First of  
13 all, I commend you for your fitness-for-duty program. It  
14 sounds like, to me, it's a tough program, and I think that's  
15 what we should have.

16 The second point is, it seems to me, this readiness  
17 review program could, indeed, be a very significant  
18 contribution, if the legislation we have pending in Congress  
19 right now for single-stage licensing is passed. It seems to  
20 me that what you are talking about is a formal review  
21 verification process, close working with the NRC Staff. I  
22 think you described it as a "disciplined and scheduled and  
23 systematic approach," which I believe is important.

24 But if that kind of a program was in place, I think  
25 it would be of assistance to the Staff and to the Commission

1 to ensure, as we go through the construction process, that  
2 inspections, the analysis and the requirements were being met.

3 So I would suggest very possible a program or  
4 something like this could be applicable, if that single-stage  
5 licensing was authorized.

6 So I think that's something that we and the Staff  
7 should keep in mind and look at this program with a great deal  
8 of care, because it could have broader application, in my  
9 judgment.

10 Thank you, Mr. Chairman.

11 CHAIRMAN PALLADINO: Thank you.

12 I wonder if the Staff has any comments that they  
13 would deem appropriate with regard to this program? I think  
14 particularly of the readiness review program, but you can  
15 comment on the other aspects also.

16 MR. TAYLOR: We are looking, as you are aware, at  
17 this program with the potential to its application, as  
18 Commissioner Zech has mentioned, to future endeavors in  
19 construction. Of course, it provides the greatest -- although  
20 it takes some resources, it provides assistance to the Staff.  
21 It's a much more disciplined approach, and it gets rid of some  
22 of this hit-or-miss type situation which we have encountered  
23 in past construction.

24 So we are looking, of course, if there is a future  
25 application.

1 Nelson, would you like to add to that?

2 MR. GRACE: Yes. Of course, I'm sold on the program  
3 per se, because of the experience I've had with Westinghouse  
4 and FFTF where it was used, and experience at Princeton in the  
5 fusion program where, again, we used it. There, however, we  
6 did not do it to meet NRC's regulations. We didn't have any  
7 NRC regulations. These were all DOE projects. They did it  
8 mainly as a self-assessment, a highly disciplined  
9 self-assessment technique, and these people have stressed  
10 self-assessment in their presentation.

11 So we are sold on the concept, and we reserve  
12 judgment as to whether it's going to be applied adequately and  
13 correctly and thoroughly and in a timely manner at Georgia  
14 Power. We don't prejudge the conclusion.

15 If it's done correctly and done well, we feel  
16 confident that we're going to save resources in the long run.  
17 It's going to make everybody's job easier.

18 But it is a pilot program. The work is cut out for  
19 them at Georgia Power. I think they ought to be commended for  
20 taking the initiative, and they are off to a good start,  
21 although they have already doubled their estimate from 75  
22 man-years to 150 man-years. It's still in the evolutionary  
23 stage, and the hope is that it will be implemented correctly,  
24 and we will all benefit from it. But we are not prejudging  
25 the outcome. We don't accept programs in lieu of results.

1 We're looking for results ultimately.

2 COMMISSIONER ASSELSTINE: I have agree, by the way,  
3 with Lando's comment about future applications and future  
4 designs. It does seem to me the optimal way for the process  
5 to work, particularly since one approach to the one-stage  
6 licensing approach would be to have much more complete design  
7 information up front, in order to enable much earlier  
8 treatment on the nature of the commitments and also the  
9 programs for assuring that they are verified.

10 So it looks like the information level in having  
11 more complete designs at the outset of the process would  
12 really move the process forward. For future applications, it  
13 would be the key element.

14 CHAIRMAN PALLADINO: Thank you.

15 I am informed that Ms. Billie Garde from GAP wishes  
16 to make a two or three-minute statement on behalf of  
17 Intervenors. General Counsel advises me that there is no  
18 legal problem with letting her speak, although this is a  
19 contested issue, and QA is one of the contentions.

20 So unless the Commission objects, I would propose  
21 that we hear her at this time.

22 COMMISSIONER ASSELSTINE: Fine.

23 COMMISSIONER BERNTHAL: Yes.

24 COMMISSIONER ROBERTS: Yes.

25 COMMISSIONER ZECH: Fine.

1 CHAIRMAN PALLADINO: I would have her use the  
2 podium.

3 The assumption is it will be about a three-minute  
4 presentation.

5 MS. GARDE: Thank you very much for the opportunity  
6 to address you on behalf of the Campaign for a Prosperous  
7 Georgia. I apologize I didn't get a written request in. I  
8 didn't know about the meeting until very recently.

9 I think that it is fair to give some basic positions  
10 of the Intervenor, which I feel confident in representing. And  
11 one of those, as Commissioner Palladino said, is that the  
12 QA/QC issue is a contested issue. The readiness review  
13 programs will be, I believe, a part of that contested  
14 issue. And whether the results of it will be submitted by the  
15 Applicant to substitute in some way for the QA/QC program is  
16 not yet decided. The litigation is not that far along.

17 However, I think it is safe to say that by and large  
18 the program itself as a self-assessment, I agree, is a good  
19 idea. It certainly -- any type of self-assessment along the  
20 way of these projects can avoid the situation we ended up with  
21 at Zimmer and at Midland. And in that sense I support both  
22 from GAP's perspective and also on behalf of Campaign for  
23 Prosperous Georgia, the concept of that program.

24 Our concern is that it will end up substituting or  
25 being submitted as a substitute for a successful

1 implementation of Appendix B, and that, of course, would not  
2 be acceptable particularly at this time since it is a pilot  
3 program, they are working the bugs out.

4 And, it is too early to say in some areas where  
5 there was a breakdown for some reason, even if it is a  
6 particular system, that the program as submitted is an  
7 acceptable substitute. So, we are concerned about that.

8 As a pilot program, GAP doesn't have any problems  
9 with it. We are also watching it, have been watching the  
10 development of it through the DOE for the last year, and  
11 frankly, anticipate that it will surface in the future  
12 probably in some way as a substitute for Appendix B. However,  
13 at this stage, in the middle of a licensing process, we want  
14 to make very clear that that is -- our position is it doesn't  
15 substitute.

16 If, at some point it is necessary to say a  
17 reinspection of a particular system is necessary and then you  
18 want to piggyback what you have done, that is a whole separate  
19 question which needs to be addressed.

20 The second point I wanted to make was, there was a  
21 lot of questions and discussion on the drug abuse program.  
22 And I have two comments on that:

23 One is that contrary to the representations of  
24 Applicant, certainly the information that we have received  
25 from workers is that the attitude on the site is not fully



1 supportive of the program. I would say, in fact, that it has  
2 caused, I won't say a large number, but certainly an  
3 increasing number of workers to become disgruntled,  
4 dissatisfied and upset and contact both us and the  
5 Intervenors, which is why Intervenors contacted GAPS for  
6 assistance. They are not necessarily qualified to deal with  
7 whistle-blowers, workers who call up with problems. We are

8           There is always a question on motivation. Why does  
9 a worker come forward? And, when workers call and say, I  
10 have been dismissed through the drug abuse program either  
11 because I have failed a urinalysis test or because I refused  
12 to take the urinalysis test, there is always a question of  
13 motivation that has to be asked by our side, by your side.

14           However, if situations are presented which, in our  
15 case we believe there are at least a good half dozen, where the  
16 circumstances indicate that a person's test was not on a  
17 random basis, or not across-the-board, everybody is being  
18 tested, that in fact they were tested and then dismissed on  
19 either unreliable data, or on a refusal to take the test when  
20 that directly follows engaging in protected activity, we have  
21 got some real serious problems with that and we do think there  
22 are some examples of that. Some of those are in the cases in  
23 litigation now, which was correctly described as kind of  
24 pending the timeliness question.

25           And the other ones will be at some point either

1 submitted to DOL or the NRC.

2 The only other comment that I wanted to make is that  
3 the readiness review program, particularly coupled with the  
4 separate effort on the drug abuse program, I think there needs  
5 to be a larger sensitivity for contacting the workers.

6 I mean none of the slides indicated that there was  
7 an independent step where you went back to workers, or you go  
8 to workers currently to determine their problems. I think  
9 that that has to be feeding into the readiness review program.

10 I know you have an exit program, I know you have  
11 got an allegation program. Obviously that is not entirely  
12 working, or I wouldn't have the calls that I'm getting. So, I  
13 think that your workforce is still your best source of  
14 information besides your reinspection efforts, and that that  
15 needs to be incorporated in some way with a successful  
16 readiness review program so that they call you before they  
17 call me.

18 CHAIRMAN PALLADINO: Thank you very much.

19 MS. GARDE: Thank you.

20 COMMISSIONER ASSELSTINE: Let me ask just one  
21 question, if I could.

22 On the fitness for duty program, putting aside the  
23 question of whether -- of possible misuse of the programs, do  
24 you have any problem with -- at least with the concept of  
25 rigorous fitness for duty programs that include both

1 pre-announced and random drug screening tests in order to  
2 ensure that the people who were on the site both at  
3 construction sites and at operation sites, are fit to do their  
4 job and aren't going to cause problems.

5 MS. GARDE: Right. I think you know that GAP's  
6 position has always been that we are concerned about drug  
7 abuse among quality control inspectors, engineers on the site,  
8 that we think that that program needs to be addressed by the  
9 NRC. I know that is on the table. And that it needs to be  
10 dealt with at every plant.

11 Our problem is in the implementation of that  
12 concept.

13 COMMISSIONER ASSELSTINE: So, assuming it is a fair  
14 and evenhanded program, you don't have --

15 MS. GARDE: And its reliability and verifiability.  
16 If those things can be built into it, we think it is a  
17 necessary aspect.

18 COMMISSIONER ASSELSTINE: Okay. Thank you.

19 CHAIRMAN PALLADINO: Thank you.

20 Any other comments?

21 COMMISSIONER ASSELSTINE: No.

22 COMMISSIONER ROBERTS: No.

23 COMMISSIONER BERNTHAL: No.

24 COMMISSIONER ZECH: No.

25 CHAIRMAN PALLADINO: Any closing comments?

1 MR. SCHERER: Yes.

2 May I say first of all, we appreciate your taking  
3 this time to examine and hopefully better understand what our  
4 program is. We hope that we have provided you with additional  
5 information on our pilot readiness review program including  
6 our objectives. And, I hope we have conveyed our deep  
7 commitment and the overview of the lessons that we are  
8 learning.

9 I think we are achieving that goal.

10 We also hope that we have showed you that a  
11 disciplined management approach like the one that we are  
12 testing, might be -- might be -- applied to other utilities or  
13 to future plants in an efficient manner which would help to  
14 bring together many diverse assurance type actions that have  
15 been piled one on top of the other.

16 Bottom line, we seek the continued positive support  
17 for the program that is being demonstrated by Mr. Dircks and  
18 his staff, and in particular Dr. Grace and his Region II  
19 staff, Mr. Taylor and his I&E Headquarters staff, and  
20 Mr. Denton and his NRR staff.

21 And we seek the strong support of these efforts not  
22 just for the immediate benefits which would accrue to us and  
23 Plant Vogtle, but for the potential long-term benefits of  
24 streamlining and stabilizing the separate actions of the  
25 utilities, the regulators and I am convinced, to preserve the

1 nuclear option ultimately.

2 CHAIRMAN PALLADINO: Thank you, Mr. Scherer. And  
3 thank you to all of you for your participation in this  
4 meeting.

5 As I said in my opening remarks, I think you are to  
6 be commended for undertaking this program. I think it can  
7 have far-reaching benefits for not only Georgia Power, but for  
8 NRC and for the whole industry.

9 So, we appreciate your coming and we appreciate your  
10 presentation. I think we have all learned -- at least I have  
11 learned quite a bit. And I know some of my colleagues have  
12 been to Vogtle. I still have hopes that I will get there.

13 MR. SCHERER: We invite you all.

14 CHAIRMAN PALLADINO: Thank you.

15 COMMISSIONER ASSELSTINE: Thank you for an excellent  
16 presentation.

17 CHAIRMAN PALLADINO: We will stand adjourned.

18 (Whereupon, at 11:50 a.m., the meeting was  
19 adjourned.)

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1 CERTIFICATE OF OFFICIAL REPORTER

2  
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5 This is to certify that the attached proceedings  
6 before the United States Nuclear Regulatory Commission in the  
7 matter of: Commission Meeting  
8

9 Name of Proceeding: Briefing on Operational Readiness Review  
10 Pilot Program Georgia Power (Vogtle)  
(Public Meeting)

11 Docket No.:

12 Place: Washington, D. C.

13 Date: Friday, July 26, 1985  
14

15 were held as herein appears and that this is the original  
16 transcript thereof for the file of the United States Nuclear  
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18

19 (Signature)

(Typed Name of Reporter) Mimie Meltzer  
20  
21  
22  
23 Ann Riley & Associates, Ltd.  
24  
25

GEORGIA POWER COMPANY

PILOT READINESS REVIEW PROGRAM  
FOR  
VOGTLE ELECTRIC GENERATING PLANT, UNIT 1

FOR: NUCLEAR REGULATORY COMMISSION COMMISSIONERS  
1717 - H STREET, N.W.  
WASHINGTON, D.C. 20555

BY:  
PAUL D. RICE  
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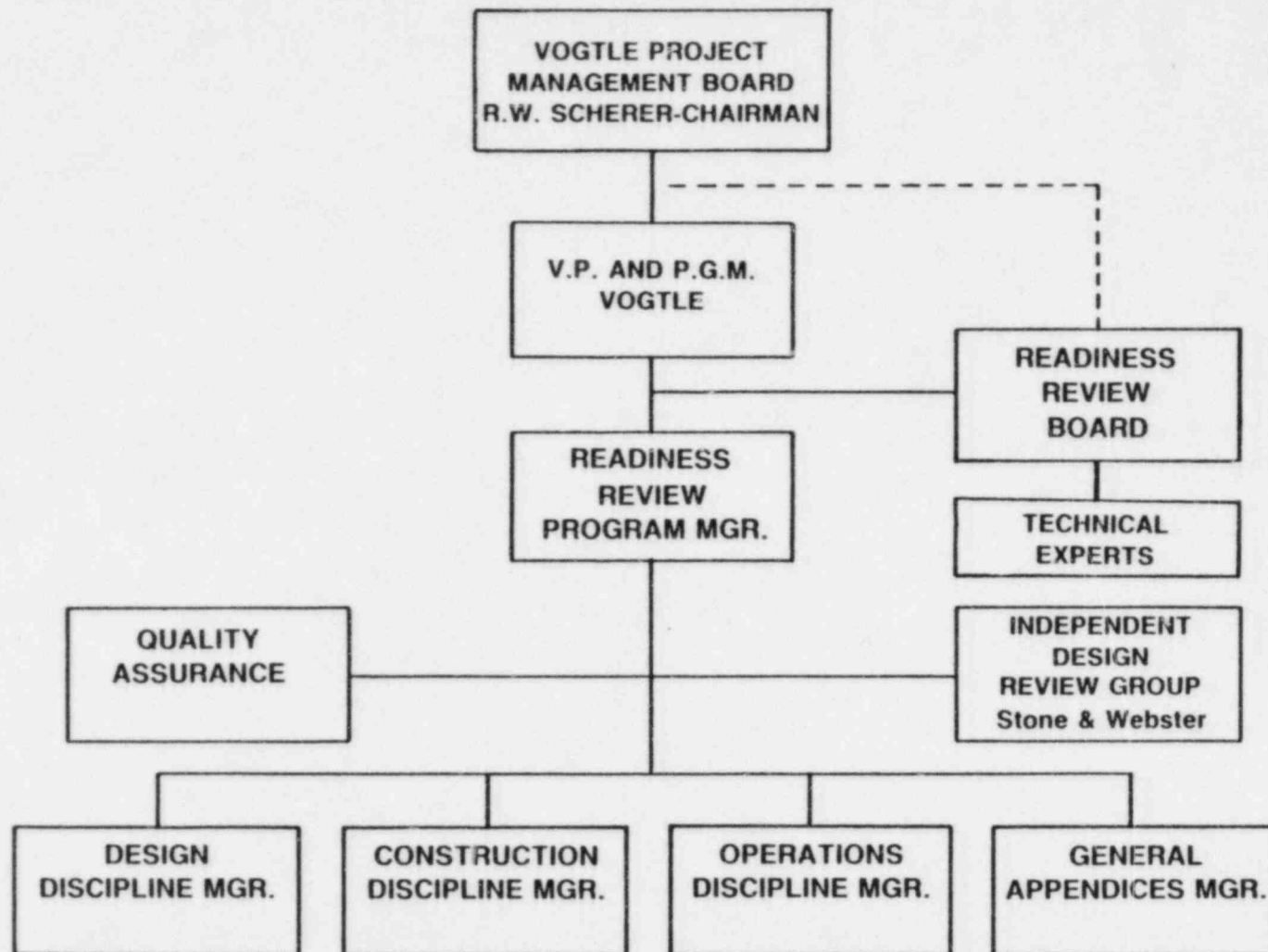
JULY 26, 1985




## **READINESS REVIEW PROGRAM**

- **ORGANIZATION**
- **READINESS REVIEW PROGRAM PROCESS**
- **RESULTS OF SELF-ASSESSMENT ACTIVITIES**
- **LESSONS LEARNED**
- **CONCLUSION**

# READINESS REVIEW ORGANIZATION



## **READINESS REVIEW PROGRAM**

- ORGANIZATION
-  • READINESS REVIEW PROGRAM PROCESS
- RESULTS OF SELF-ASSESSMENT ACTIVITIES
- LESSONS LEARNED
- CONCLUSION

## **READINESS REVIEW PROCESS**

- **SCOPE OF READINESS REVIEW MODULES**
- **SELF-ASSESSMENT**
- **PROBLEM IDENTIFICATION AND CORRECTION**
- **MODULE PREPARATION**
- **GEORGIA POWER COMPANY MANAGEMENT  
REVIEW AND APPROVAL**
- **NRC REVIEW AND ACCEPTANCE**

## **PLANT VOGTLE GENERIC FUNCTIONS**

- **CIVIL**
- **MECHANICAL**
- **ELECTRICAL**
- **READINESS FOR OPERATION**

## MODULES

### CIVIL

CONCRETE/REBAR/CADWELDS
STRUCTURAL STEEL/EMBEDS/WELDING
BACKFILL/COATINGS/POST TENSIONING

### ELECTRICAL

RACEWAYS
CABLES/TERMINATIONS
EQUIPMENT
HANGERS/SUPPORTS

### MECHANICAL

NSSS
PIPE HANGERS/SUPPORTS
PIPING/VALVES/PUMPS
HVAC/FIRE PROTECTION
INSTRUMENTATION & CONTROLS

### READINESS FOR OPERATION


INITIAL TEST PROGRAM
OPERATIONS ORGAN. & ADMIN.
OPERATIONS TRAINING & QUAL.
PLANT OPERATIONS
RAD. PROTECTION & CHEMISTRY
EMERGENCY PREPAREDNESS
OPERATIONS TECHNICAL SUPPORT
PLANT MAINTENANCE

## **GENERAL APPENDICES**

- A. ORGANIZATION**
- B. DESIGN CONTROL**
- C. PROCUREMENT**
- D. DOCUMENT CONTROL**
- E. MATERIAL CONTROL**
- F. INSPECTOR QUALIFICATION/CERTIFICATION**
- G. MEASURING AND TEST EQUIPMENT**
- H. NONCONFORMANCES**
- I. PROJECT QUALITY ASSURANCE ORGANIZATION**
- J. EQUIPMENT QUALIFICATION**
- K. CONSTRUCTION COMPLETION**




## **READINESS REVIEW PROCESS**

- SCOPE OF READINESS REVIEW MODULES
-  • SELF-ASSESSMENT
- PROBLEM IDENTIFICATION AND CORRECTION
- MODULE PREPARATION
- GEORGIA POWER COMPANY MANAGEMENT REVIEW AND APPROVAL
- NRC REVIEW AND ACCEPTANCE

## **SELF-ASSESSMENT**

- **IDENTIFY COMMITMENTS**
- **DEVELOP VERIFICATION PLANS**
- **CONDUCT COMMITMENT/DESIGN/CONSTRUCTION/  
OPERATIONS VERIFICATION**
- **PERFORM INDEPENDENT DESIGN REVIEW**

## **READINESS REVIEW PROCESS**

- **SCOPE OF READINESS REVIEW MODULES**
- **SELF-ASSESSMENT**
-  • **PROBLEM IDENTIFICATION AND CORRECTION**
- **MODULE PREPARATION**
- **GEORGIA POWER COMPANY MANAGEMENT REVIEW AND APPROVAL**
- **NRC REVIEW AND ACCEPTANCE**

## **PROBLEM IDENTIFICATION AND CORRECTION**

- **FORMALLY IDENTIFY DEFICIENCIES AND AREAS OF POTENTIAL COLLECTIVE SIGNIFICANCE**
- **REPORTABILITY EVALUATION**
- **PROJECT EVALUATION**
- **PROJECT CORRECTIVE ACTION**
- **READINESS REVIEW EVALUATION AND ACCEPTANCE OF ACTIONS**

## **READINESS REVIEW PROCESS**

- **SCOPE OF READINESS REVIEW MODULES**
- **SELF-ASSESSMENT**
- **PROBLEM IDENTIFICATION AND CORRECTION**
- ➡ • **MODULE PREPARATION**
- **GEORGIA POWER COMPANY MANAGEMENT REVIEW AND APPROVAL**
- **NRC REVIEW AND ACCEPTANCE**

## **MODULE PREPARATION**

- **INTRODUCTION**
- **ORGANIZATION AND DIVISION OF RESPONSIBILITIES**
- **COMMITMENTS**
- **PROGRAM DESCRIPTION**
- **AUDITS AND SPECIAL INVESTIGATIONS**
- **PROGRAM VERIFICATION**
- **INDEPENDENT DESIGN REVIEW**
- **ASSESSMENT**

## **READINESS REVIEW PROCESS**

- **SCOPE OF READINESS REVIEW MODULES**
- **SELF-ASSESSMENT**
- **PROBLEM IDENTIFICATION AND CORRECTION**
- **MODULE PREPARATION**
- ➔ • **GEORGIA POWER COMPANY MANAGEMENT REVIEW AND APPROVAL**
- **NRC REVIEW AND ACCEPTANCE**



## **MANAGEMENT REVIEW AND ACCEPTANCE**

- **READINESS REVIEW BOARD ACTIONS**
  - **SCOPE OF MODULE**
  - **VERIFICATION PLANS**
  - **FINDINGS AND CORRECTIVE ACTIONS**
  - **OVERALL ASSESSMENT**
- **PROJECT MANAGEMENT ACTIONS**
  - **REVIEW**
  - **ACCEPTANCE**
  - **SUBMITTAL TO NRC**

## **READINESS REVIEW PROCESS**

- **SCOPE OF READINESS REVIEW MODULES**
- **SELF-ASSESSMENT**
- **PROBLEM IDENTIFICATION AND CORRECTION**
- **MODULE PREPARATION**
- **GEORGIA POWER COMPANY MANAGEMENT REVIEW AND APPROVAL**



- **NRC REVIEW AND ACCEPTANCE**

## **NRC REVIEW**

- **NRC REVIEW, INSPECTION AND VERIFICATION**
- **NRC IDENTIFIES TO GPC ANY AREAS OF CONCERN IN ACCORDANCE WITH THE CURRENT POLICY AND PROCEDURE FOR ENFORCEMENT ACTIONS (10 CFR 2, APPENDIX C)**
- **GPC MAKES AN IN-DEPTH INVESTIGATION INTO THE AREA OF CONCERN, POSSIBLY RELATED ITEMS, POTENTIAL PROGRAMMATIC PROBLEMS, AND CORRECTS ALL PROBLEMS INCLUDING THE ROOT CAUSE**
- **NRC ACCEPTS THE SCOPE OF WORK COVERED BY THE READINESS REVIEW MODULE**

## **READINESS REVIEW PROGRAM**

- **ORGANIZATION**
- **READINESS REVIEW PROGRAM PROCESS**
- **RESULTS OF SELF-ASSESSMENT ACTIVITIES**
- **LESSONS LEARNED**
- **CONCLUSION**



## **EXAMPLES OF READINESS REVIEW FINDINGS**

- **PROBLEMS WITH RETRIEVABILITY OF DOCUMENTATION**
- **WEAKNESSES IN INITIAL TEST PROGRAM PROCEDURES**
- **DEFICIENT CONTROLS ASSOCIATED WITH FIELD CHANGES**
- **WEAKNESSES IN CERTAIN DESIGN CALCULATIONS**
- **PROBLEMS IN ELECTRICAL CABLE SEPARATION CONTROLS**
- **PROBLEMS WITH INSPECTOR CERTIFICATION RECORDS**

## MODULE 1 - REINFORCED CONCRETE STRUCTURES

### READINESS REVIEW FINDING

36 OF APPROXIMATELY 4000 QUALITY CONTROL INSPECTION DOCUMENTS  
COULD NOT BE RETRIEVED

### PROJECT RESPONSE

- FURTHER INVESTIGATION LOCATED SOME OF THE MISFILED DOCUMENTS,  
OTHERS COULD NOT BE LOCATED
- MISSING DOCUMENTS WERE CATEGORIZED AS EITHER PRIMARY (NO  
BACKUP) OR SECONDARY (SUPPLEMENTARY TO A PRIMARY DOCUMENT)
  - PRIMARY DOCUMENTS WERE FOUND FOR ALL MISSING SECONDARY  
DOCUMENTS, THUS SUBSTANTIATING THE ADEQUACY OF THE WORK
  - HARDWARE ITEMS ASSOCIATED WITH MISSING PRIMARY DOCUMENTS  
WERE EVALUATED AND ACCEPTED USING EXISTING ALTERNATE  
QUALITY DOCUMENTS OR FIELD INSPECTION

### READINESS REVIEW EVALUATION

- THE SMALL PERCENTAGE OF MISSING RECORDS COMBINED WITH THE  
PROJECT ENGINEERING EVALUATION LEADS TO THE CONCLUSION THAT  
THE REINFORCED CONCRETE STRUCTURES ARE ACCEPTABLE
- SUFFICIENT OBJECTIVE EVIDENCE EXIST TO VERIFY ACCEPTABILITY OF  
THE HARDWARE

## MODULE 1 - REINFORCED CONCRETE STRUCTURES

### READINESS REVIEW FINDING

- LACK OF JUSTIFICATION FOR A JET IMPINGEMENT DYNAMIC LOAD FACTOR OF 1.2 IN CONTAINMENT INTERNALS
- LACK OF DYNAMIC LOAD FACTOR FOR JET IMPINGEMENT IN MAIN STEAM ISOLATION VALVE ROOM IN AUXILIARY BUILDING

### PROJECT RESPONSE

- ANALYSIS PERFORMED TO JUSTIFY DYNAMIC LOAD FACTOR OF 1.2 FOR CONTAINMENT INTERNALS
- AUXILIARY BUILDING EVALUATED AND FOUND ACCEPTABLE FOR DYNAMIC LOAD FACTOR = 2.0
- ALL OTHER CATEGORY 1 STRUCTURES REVIEWED. DYNAMIC LOAD FACTOR EFFECTS NOT CONSIDERED FOR AUXILIARY FEEDWATER PUMPHOUSE
- PUMPHOUSE EVALUATED AND FOUND ACCEPTABLE
- DESIGN CRITERIA REVISED TO CLARIFY DYNAMIC LOAD FACTOR REQUIREMENTS FOR JET IMPINGEMENT LOADING

### READINESS REVIEW EVALUATION

- INDEPENDENT DESIGN REVIEW TEAM CONCURS WITH RE-EVALUATION RESULTS, STRUCTURES ARE ADEQUATELY DESIGNED FOR JET IMPINGEMENT LOADS
- REVISION OF DESIGN CRITERIA WILL PREVENT FUTURE RECURRENCE



## MODULE 4 - MECHANICAL EQUIPMENT AND PIPING

### READINESS REVIEW FINDING

THE MINIMUM SEPARATION BETWEEN HOT PIPE AND RACEWAYS WAS NOT MAINTAINED

### PROJECT RESPONSE

THE PIPING INSTALLATION SPECIFICATION DID NOT GIVE CRITERIA LIMITING THE SEPARATION DISTANCE BETWEEN HOT PIPE AND RACEWAYS

- THE PIPING SPECIFICATION AND INSTALLATION PROCEDURES WILL BE REVISED TO ADDRESS SEPARATION
- PREVIOUSLY INSTALLED PIPING WILL BE INSPECTED TO VERIFY CONFORMANCE TO THE NEW CRITERIA
- FUTURE PIPE INSTALLATION WILL CONFORM TO THE ADDED SPECIFICATION REQUIREMENTS

### READINESS REVIEW EVALUATION

THE CORRECTIVE ACTIONS TAKEN WILL ENSURE PAST AND FUTURE PIPE INSTALLATION IS ACCEPTABLE

## **READINESS REVIEW PROGRAM**

- **ORGANIZATION**
- **READINESS REVIEW PROGRAM PROCESS**
- **RESULTS OF SELF-ASSESSMENT ACTIVITIES**
- **LESSONS LEARNED**
- **CONCLUSION**



## **LESSONS LEARNED**

- **NEED TO ADJUST LEVEL OF READINESS  
REVIEW STARTUP EFFORT**
- **NEED TO MODIFY SCOPE OF WORK COVERED  
BY CERTAIN MODULES**
- **NEED TO DEVELOP GENERAL APPENDICES**
- **NEED TO ADJUST THE INDEPENDENT DESIGN  
REVIEW PROCESS**
- **NEED TO ADJUST PROGRAM ADMINISTRATIVE  
AND DOCUMENTATION PRACTICES**

## **READINESS REVIEW PROGRAM**

- **ORGANIZATION**
- **READINESS REVIEW PROGRAM PROCESS**
- **RESULTS OF SELF-ASSESSMENT ACTIVITIES**
- **LESSONS LEARNED**



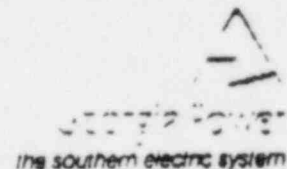
- **CONCLUSION**

## **CONCLUSIONS**

- **PROJECT BENEFITS**
- **LONG RANGE BENEFITS**

Georgia Power Company  
323 Piedmont Avenue  
Atlanta, Georgia 30308  
Telephone 404 525-6526

Mailing Address:  
Post Office Box 4545  
Atlanta, Georgia 30302



J. H. Miller, Jr.  
President

July 17, 1985

Mr. Samuel Chilk  
Secretary of the Commission  
U.S. Nuclear Regulatory Commission  
1717 - H Street, N.W.  
Washington, D.C. 20555

Dear Mr. Chilk:

Attached is an outline of the Georgia Power presentation on the Readiness Review Pilot Program to the Commissioners which is scheduled for July 26, 1985.

Georgia Power will have the following personnel in attendance:

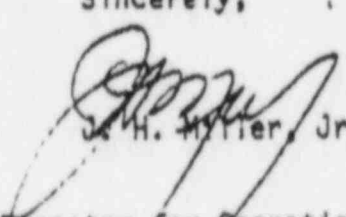
(Speaker) Mr. Robert W. Scherer, Chairman and CEO  
Mr. James H. Miller, Jr., President  
Mr. Richard J. Kelly, Executive Vice President, Power Supply  
Mr. Donald O. Foster, Vice President and General Manager  
Vogtle Project

(Speaker) Mr. Paul D. Rice, Vice President, Quality Assurance  
Mr. Jesse T. Beckham, Jr., Vice President, Nuclear Operations  
Mr. Ruble A. Thomas, Vice President-Licensing, Vogtle Project  
Mr. Douglas E. Dutton, Vice President  
Mr. William C. Ramsey, Readiness Review Program Manager,  
Vogtle Project

Mr. Ramsey, Mr. Scherer and Mr. ~~Ramsey~~<sup>Rice</sup> will make our presentation and Mr. ~~Foster~~<sup>Kelly</sup> and I will sit with them at the presenters table. We expect our presentation to last about an hour plus the time necessary for responding to the Commissioner's questions.

Georgia Power Company looks forward to this briefing for the Commissioners on the important concept of Readiness Review.

Sincerely,

  
J. H. Miller, Jr.

cc: Mr. R. W. Scherer  
Mr. William Dircks, Executive Director for Operations, NRC  
Dr. J. Nelson Grace, NRC Region II Administrator

## PART I

### READINESS REVIEW PROGRAM PRESENTATION

R. W. SCHERER

#### I. Background

- o Industry Problem
- o Perspective
- o Interactive Process
- o NUREG 1055

#### II. Perspective

- o GPC
- o Vogtle Electric Generating Plant
- o Readiness Review

#### III. Objective

- o GPC In-Depth Self-Assessment
- o NRC Review and Acceptance

#### IV. Principles

- o Pilot Program
- o NRC/GPC Single Focus/Contact Point
- o Independence of Technical Review Team
- o Protocol
- o Quality Assurance
- o Conductible within Existing Regulations and Legislative Authority

#### V. Purpose

- o Added Assurance
- o Early Identification of Problem
- o Structured Early Review
- o Help Assure Public Safety
- o Test a Concept



## PART II

### READINESS REVIEW PROGRAM IMPLEMENTATION

W. C. RAMSEY

#### I. Organization

- o Readiness Review Executive Board
- o Readiness Review Staff
- o Quality Assurance

#### II. Readiness Review Process

- o Identification of Commitments
- o Verify Implementation to Engineering Documents
- o Verify Implementation to Construction Documents
- o Verify Technical Adequacy of Design
- o Document Results of Commitment and Verification Process
- o NRC Review and Acceptance

#### III. Results

- o Review of Results to Date

## PART III

### SUMMARY

R. W. SCHERER

- o GPC Major Investments
- o GPC Committed to Quality and Safety
- o Readiness Review Holds Potential as Improved Assessment Tool
- o Requires NRC Participation
- o NRC/GPC Single Focus Contact
- o Conductible within Existing Regulations and Legislative Authority
- o Opportunity to Test New Concept
- o Promise for Future

12/82

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Meeting Title: Briefing by Georgia Power (Vogtle) on Operational Readiness Review of Pilot Program

Meeting Date: 7/26/85 Open ☒ Closed ☐

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