

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: DISCUSSION OF FULL POWER OPERATING LICENSE
FOR LIMERICK-2

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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DISCUSSION OF FULL POWER OPERATING
LICENCE FOR LIMERICK-2

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, August 17, 1989

The Commission met in open session, pursuant to notice, at 10:00 a.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

KENNETH M. CARR, Chairman of the Commission
THOMAS M. ROBERTS, Commissioner
KENNETH C. ROGERS, Commissioner
JAMES R. CURTISS, Commissioner

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STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

WILLIAM C. PARLER, General Counsel

JAMES TAYLOR, Acting Executive Director for Operations

WILLIAM RUSSELL, Administrator, Region I

STEVE VARGA, Director, Division of Projects, NRR

JAMES SNIEZEK, Deputy Office Director, NRR

RICHARD CLARK, Project Manager, Limerick

THOMAS KENNY, Senior Resident Inspector, Limerick

WALTER BUTLER, Director, Directorate 1-2, NRR

JOSEPH PAQUETTE, Chairman and CEO, PECO

CORBIN McNEILL, Executive Vice President, Nuclear

GRAHAM LEITCH, Vice President, Limerick

JAY DOERING, Superintendent of Operations

MARTIN McCORMICK, Plant Manager, Limerick

JACK SPENCER, Superintendent, Maintenance, Instrument
and Control

TED ULLRICH, Start-up Manager, Limerick-2

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

10:00 a.m.

CHAIRMAN CARR: Good morning, ladies and gentlemen.

The purpose of today's meeting is for the Commission to hear the Philadelphia Electric Company, licensee for the Limerick Generating Station, and the NRC staff discuss readiness of Limerick Unit 2 for a full power operating license.

The purpose is not to discuss the merits of the contentions currently pending before the Licensing Board. There will be no discussion today of the merits of any matter at issue in the Licensing Board proceeding.

The Commission does not intend to vote on the full power license today. Yesterday, the NRC staff issued a supplement to the final environmental impact statement. Neither the Commissioners nor the parties have had an opportunity to analyze the information contained in this document. Consequently, the Commission believes that in making its immediate effectiveness decision, it would be inappropriate to rely on any substantive information contained in this document which has not been previously available for comment by the parties involved.

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1 Copies of the presentation slides should be
2 available at the entrance to the meeting room.

3 Do any of my fellow Commissioners have any
4 opening remarks?

5 If not, Mr. Paquette, you may please
6 proceed.

7 MR. PAQUETTE: Good morning. I'm Joseph
8 Paquette, Chairman and CEO of Philadelphia Electric
9 Company.

10 Exactly four months ago, my associates and I
11 spoke to you about our readiness to restart Peach
12 Bottom Unit 2 and the other challenges that faced our
13 company this year. Today we have the pleasure of
14 discussing our readiness to operate Unit 2 of our
15 Limerick Generating Station at full power and to tell
16 you why we believe we are ready for a full power
17 license for Limerick Unit 2.

18 With me at this table today, on my right is
19 Corbin McNeill, our Executive Vice President for
20 Nuclear. On my immediate left, Graham Leitch, our
21 Site Vice President at Limerick; Marty McCormick, our
22 Limerick Plant Manager; Ted Ullrich, Start-up Manager
23 for Limerick-2; and on -- further on the right, Jay
24 Doering who is Superintendent of Operations at
25 Limerick and Jack Spencer who is Superintendent of

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1 Maintenance and I&C.

2 Additional members of our corporate and
3 plant organizations are also in attendance today and
4 are available to answer questions.

5 Mr. McNeill will discuss our Nuclear Group
6 organization, the status of meeting our challenges for
7 this year, the incorporation of lessons learned from
8 our experience at Peach Bottom, and the readiness of
9 our Nuclear Group organization for full power
10 operation of Limerick Unit 2.

11 Mr. Leitch will highlight our operating
12 record of Limerick Unit 1 and report on recent issues,
13 readiness for two unit full power operation at
14 Limerick and our management self-assessment efforts.

15 Mr. McCormick will then discuss the station
16 organization with particular emphasis on license
17 operators, the approach to maintenance at Limerick,
18 our plant management self-assessment efforts and the
19 current Unit 2 operational status.

20 Today I am proud to say that the
21 construction of Limerick Unit 2 was completed in what
22 is probably the most efficient and safety conscious
23 manner compared to other nuclear power plant
24 construction projects. Our accomplishments were
25 recognized in the last systematic assessment of

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1 licensee performance conducted by the NRC staff for
2 Unit 2 construction. All four areas evaluated by that
3 SALP received the highest ratings, Category I. In
4 addition, the completion of construction of Limerick
5 Unit 2 has been referred to as the model for
6 contractual arrangements and planning to be followed
7 when the nation's utilities again order nuclear power
8 plants, as I am sure will happen.

9 With the successful experience of returning
10 Limerick Unit 1 to service from its refueling outage
11 under our belt, we are ready to start up and operate
12 Unit 2 with the same care, attention to detail and
13 safety-mindedness that has demonstrated -- that has
14 been demonstrated in the operation of Limerick
15 Unit 1 and the restart of Peach Bottom Unit 2.

16 I will now ask Corbin McNeill to discuss the
17 readiness of our Nuclear Group operation for full
18 power operation of Limerick Unit 2.

19 MR. McNEILL: Thank you, Joe.

20 Mr. Chairman, Commissioners, I'm Corbin
21 McNeill, Executive Vice President, Nuclear of the
22 Philadelphia Electric Company. I've been with
23 Philadelphia Electric since early 1988 and have spoken
24 with you previously regarding the Peach Bottom
25 restart. I'm pleased to be here today to discuss the

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1 start-up of the second unit at Limerick.

2 (Slide) Four months ago I spoke to you
3 about the challenges facing the Philadelphia Electric
4 Company this year. They were the Peach Bottom Unit 2
5 restart, the Limerick Unit 1 return from its refueling
6 outage, the loading of fuel into Limerick Unit 2, and
7 the commencement of its power ascension test program,
8 and the return of Peach Bottom Unit 3 to operation.
9 These challenges have required a significant amount of
10 Philadelphia Electric's resources and attention.

11 Four months ago we received approval from
12 you to restart Peach Bottom Unit 2. I'm proud to
13 report that we have been operating the unit at or near
14 full power for the last two weeks and our ongoing
15 assessment shows satisfactory progress in improving
16 plant, operator and management performance.

17 Limerick Unit 1 returned from its refueling
18 outage in May of this year, following extensive
19 reconfiguration of the core due to fuel problems
20 encountered during the previous operating cycle. Its
21 ascension to full power was initially restrained by
22 chemistry limits, particularly feed water copper
23 level. However, we've been successful in maintaining
24 operation within restrictive limits and the unit is
25 now operating at full power.

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1 We've loaded fuel into Limerick Unit 2 and
2 achieved initial criticality, as Mr. Leitch will later
3 describe. The unit will soon be ready for further
4 power ascension testing.

5 We continue to perform outage related work
6 on Peach Bottom Unit 3 and expect its restart in the
7 fourth quarter of this year, an achievement of full
8 power by the end of the year.

9 We've successfully managed this work load
10 through dedicated site organizations, aggressive
11 management attention and involvement and through a
12 high degree of corporate and external support.

13 (Slide) The organization shown here is our
14 post-Peach Bottom shutdown reorganization that
15 reflects the lessons learned from the root cause
16 analysis of the Peach Bottom shutdown. It was
17 established to provide singular control of nuclear
18 activities in the Philadelphia Electric Company which
19 in fact has 70 percent of its investment in nuclear
20 and will also be producing 65 to 70 percent of its
21 electricity from nuclear generating sources.

22 Mr. Kemper is the Senior Vice President of
23 Construction and under his direction Limerick Unit 2
24 construction was completed ahead of schedule, under
25 budget, and achieves a recent construction SALP rating

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1 of all is as described by Mr. Paquette.

2 Our Nuclear Group organization has a vice
3 president in charge of each of our nuclear stations.
4 The Vice President of Limerick is Mr. Leitch, who you
5 will hear from next. Mr. Smith is the Vice President
6 of the Peach Bottom site and he spoke to you four
7 months ago at the Peach Bottom restart meeting.

8 Mr. Kowalski is in charge of nuclear
9 engineering and is responsible for maintaining the
10 configuration of our nuclear plants, and Mr. Helwig is
11 in charge of nuclear services and has the role of
12 coordinating the nuclear training, support functions
13 of licensing, radiological waste, radiological
14 protection, fuel management, security, emergency
15 preparedness and information systems management. He
16 also has a large mobile maintenance force which
17 services our fossil and nuclear facilities.

18 Mr. Madara is in charge of the nuclear
19 quality assurance organization. Also reporting
20 directly to me is the Chairman of our Nuclear Review
21 Board, Mr. Kistner.

22 Our Nuclear Group has about 3600 people and
23 is essentially a quasi-business unit in the company
24 with dedicated human resource and business planning
25 support. Because of the large cultural changes that

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1 we're bringing about in the Nuclear Group, we've taken
2 a leadership role in bringing about many changes in
3 the human resource practices of the Philadelphia
4 Electric Company.

5 (Slide) The dedicated site organizations
6 provide a greater degree of control, resource
7 allocation and accountability at the site level. The
8 vice president at each station provides focused
9 management attention on the activities at that
10 particular station.

11 (Slide) We have a widely shared and
12 communicated group vision, missions and values which
13 we are using to inculcate the safety culture in the
14 organization and to ensure that all of our employees
15 have a focus on those -- on those values which we feel
16 are most important, namely safety and quality.

17 (Slide) Annually we develop and disseminate
18 to our employees a set of Nuclear Group objectives for
19 the year which we all work toward.

20 Our goals program allows us to measure
21 corrective actions when these goals are not met. We
22 review these monthly at each station and also with
23 each of the support departments.

24 (Slide) With respect to management
25 attention and involvement within the Nuclear Group, we

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1 have weekly department head meetings which we use to
2 highlight near-term problems and then to coordinate
3 our response. Also, the vice presidents attend a
4 weekly senior corporate management meeting with Mr.
5 Paquette at which they're able to express their
6 concerns and any resource deficiencies they might have
7 or assistance that they might require.

8 We have a strong on-site presence of
9 corporate support staff and executives. Our objective
10 is to feel the pulse of the organization, sense
11 developing weaknesses or concerns and to verify that
12 quality is present in our ongoing operations.

13 We also employ multi-level safety oversight.
14 In addition to the normal Plant Operating Review
15 Committee, we have a Nuclear Review Board which meets
16 monthly. It conducts tours of the facilities and
17 utilizes three outside consultants who are very free
18 at expressing their opinions when they don't think
19 things are going -- when they don't think that things are
20 getting their proper attention. These meetings are
21 held at each station, alternating between Limerick and
22 Peach Bottom, so that the members get, in addition to
23 briefings, firsthand views of the activities that are
24 going on at the stations.

25 We also have a Nuclear Committee of the

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1 Board which has been meeting monthly and we expect to
2 continue that -- this level of activity well into next
3 year.

4 (Slide) The lessons learned from the root
5 cause -- causes of the Peach Bottom shutdown have been
6 incorporated on a corporate-wide basis and are as
7 applicable to the operation of Limerick as they were
8 to Peach Bottom.

9 The first root cause was that there was a
10 lack of adequate leadership and management skills on
11 the part of the senior management at the plant. This
12 root cause does not now exist at Peach Bottom and has
13 not existed at Limerick. We've had strong leadership
14 with management skills and resources in the senior
15 management team at Limerick since the inception of the
16 station organization.

17 The second root cause was that the company
18 had failed to -- at Peach Bottom to initiate timely
19 licensed operator replacement training. You will hear
20 from Mr. McCormick later that we have an adequate
21 reserve of operators, licensed operators, and a
22 continuing training program to ensure that we maintain
23 that reserve.

24 The third root cause was that the station
25 culture, which had its roots in fossil and pre-TMI

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1 operations, had not adapted to changing nuclear
2 requirements. Fortunately Limerick is a post-TMI
3 plant and has been established with requirements,
4 programs and processes that reflect the true change in
5 the nuclear operations in this country in the post-
6 Three Mile Island era. Although the Peach Bottom root
7 cause analysis indicated that some of the seeds of
8 deterioration at Peach Bottom had been planted in
9 Limerick, we're confident that the culture changes
10 being undertaken within the company and the Nuclear
11 Group will correct that situation.

12 Finally, the corporate management failed to
13 recognize the developing severity of the problems at
14 Peach Bottom and thus did not take sufficient
15 corrective actions. The creation of the Nuclear Group
16 organization and senior management's involvement and
17 attention to plant operations which I have described
18 directly address this last root cause.

19 (Slide) Sustaining quality is an important
20 part of the Nuclear Group's objectives. We have a
21 continued dedication at the corporate level for safety
22 and quality. We have put our dedicated nuclear group
23 organization in place so that we are not encumbered by
24 activities outside of nuclear. We have firm
25 commitment established through our vision, mission and

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1 values, and we have an effective self-assessment
2 program, but one that needs continued attention and
3 refinement.

4 (Slide) Our self-assessment of the programs
5 and processes that relate to the completion and
6 readiness of Unit 2 began in 1987. This self-
7 assessment initiative was the readiness program
8 assessment. The objective of this assessment was to
9 identify and assess the programs intended to ensure
10 and demonstrate completion of Limerick Unit 2 and its
11 readiness for operation in accordance with the
12 licensing commitments. This assessment concluded that
13 the programs can assure and demonstrate that Limerick
14 Unit 2 construction is complete and it is ready for
15 operation per licensing commitments. This review also
16 concluded, however, that an organizational readiness
17 assessment and a readiness verification program were
18 needed.

19 (Slide) The organizational readiness
20 assessment was performed to assure that all the
21 functional organizations and their procedures,
22 training and materials were ready to support two unit
23 operation. The approach used in this assessment was
24 to conduct interviews with managers in 17
25 organizational units or activity areas associated with

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1 Limerick operation and support, and to identify items
2 requiring closure prior to certain milestones
3 associated with Limerick Unit 2. Those milestones
4 were fuel load, heat-up, and power ascension testing.
5 Action plans for implementing these items were
6 developed and progress was tracked.

7 (Slide) The conclusions of the assessment
8 were that the station was properly staffed, training
9 programs were in place and effective, and that some
10 procedural and administrative actions were needed
11 before plant licensing. These items have subsequently
12 been tracked to completion

13 The readiness verification program was
14 performed to assess the design, construction and
15 operational aspects of Limerick Unit 2. A major
16 feature of this assessment was an independent design
17 and construction audit performed by Stone and Webster
18 Engineering Corporation to provide additional
19 assurance that Limerick Unit 2 is ready for operation
20 in accordance with the licensing and other
21 commitments.

22 (Slide) The conclusions of the construction
23 assessment were that some inattention to detail
24 existed. However, hardware deficiencies would not
25 have affected functionality and overall construction

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1 quality of the plant was very good.

2 (Slide) The conclusions of the design
3 assessment were that identified deficiencies were
4 generally minor and had no effect upon design
5 adequacy, and that engineering and design were
6 satisfactory, meeting licensing commitments and were
7 technically adequate.

8 (Slide) Overall, the conclusion of our
9 self-assessment process for Limerick-2 was that it was
10 a thorough process, items were identified for action
11 and their resolution was verified, and that the
12 process provided effective confirmation of readiness
13 for operation.

14 Subject to your questions, I will now ask
15 Mr. Leitch to report on the operating record on Unit-
16 - Limerick Unit 1, recent issues that we've had at the
17 station and our continuing management self-efforts.
18 And finally, a readiness -- a discussion of the
19 readiness for two unit operation at full power.

20 MR. LEITCH: Mr. Chairman, Commissioners,
21 good morning. My name is Graham Leitch. I am the
22 Vice President of Limerick Generating Station. I have
23 worked for Philadelphia Electric Company for 33 years,
24 all that time in the business of operating power
25 plants. I have had the overall responsibility for the

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1 operation of Limerick since 1975, having various
2 titles with varying levels of responsibility.

3 Four years ago, when Limerick-1 was issued a
4 full power license, I had the privilege to speak to
5 you as plant superintendent. I am here today to tell
6 you about our experiences with Limerick Unit 1 and our
7 readiness to operate Unit 2.

8 At Limerick, each unit is 1055 megawatt
9 electric boiling water reactor, type 4 1/2 with a Mark
10 II containment. The plant is located on the
11 Schuylkill River, 30 miles northwest of Philadelphia
12 and two miles from Pottstown, Pennsylvania.

13 Since the beginning of staffing for
14 Limerick, we have emphasized values such as quality
15 and safety and the importance of people. We, the
16 management of the Nuclear Group and of Limerick
17 Station, firmly believe in the values Corbin has
18 already discussed. We consider them not only in what
19 we write and what we say, but also in our day-to-day
20 decision making processes. As we communicate these
21 values to employees at Limerick, we see reflected a
22 positive culture. We feel that such a culture has
23 always existed at Limerick and the formalization of
24 this statement of values serves to reinforce that
25 culture.

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1 In considering our readiness to operate Unit
2 2, let me first review with you some of our
3 experiences in the operation of Unit 1.

4 (Slide) It has been 22 months since there
5 was a forced outage at Limerick and our forced outage
6 rate in the year 1988 and thus far in 1989 has been
7 zero. As well as having a very low number of SCRAMS
8 during the power ascension program of Unit 1, we have
9 had only four SCRAMS in four years of commercial
10 operation. We attribute this very low number of
11 SCRAMS to a conservative design combined with a
12 conservative quality approach to operations.

13 We measure our performance using both INPO
14 and other internal indicators. This performance
15 information is reported to me on a monthly basis so
16 that -- so that I can be aware and take appropriate
17 corrective actions if I observe trends toward
18 degradation.

19 (Slide) At Limerick, the major downtime has
20 been for planned outages. Between these outages we
21 have achieved long periods of continuous power
22 operation. In 1986, there was 198 day run. In 1987
23 through 1988, there was a 200 day run. And the run
24 which ended with the second refueling outage was a 268
25 day run. We have been in continuous operation since

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1 returning from the second refueling outage in May of
2 this year. In addition, our radiation exposure of 53
3 man rem in 1988 was not only better than the INPO best
4 quartile, it was the best in the United States and one
5 of the best in the world.

6 The operation of Unit 1 has not been totally
7 without difficulty. We have faced two problems I
8 would like to discuss, one technical and one
9 managerial.

10 First the technical problem. From the
11 spring of 1988 through the beginning of 1989, the
12 capacity factor gradually decreased because we were
13 conservatively reducing load to control off-gas
14 activity caused by the fuel cladding problem which we
15 experienced in the second cycle of operation. The
16 problem was crud induced localized corrosion caused
17 primarily by high levels of copper in the feed water.
18 At the second refueling outage, two-thirds of the core
19 was replaced rather than the normal one-third. Since
20 start-up, there have been no indication of fuel leaks.
21 Copper levels are currently being controlled by
22 optimizing pre-coats on existing filtered
23 demineralizers. Deep bed demineralizers will be
24 installed at the next refueling outage of each unit to
25 permanently resolve the copper problem.

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1 (Slide) The managerial problem was in the
2 area of emergency preparedness. An NRC inspection was
3 conducted by regional based emergency preparedness
4 inspectors during May of this year. That inspection
5 identified a violation regarding the ability of the
6 shift superintendent to properly classify a rapidly
7 escalating emergency and recommend off-site protective
8 action. There was also a violation regarding
9 recurring deficiencies.

10 Our response to these violations were both
11 immediate and continuing. Immediate remedial training
12 was conducted for those individuals serving in the on-
13 shift roles prior to them resuming these duties.
14 Additional table top training sessions were conducted
15 for the shift crews and the emergency directors
16 focusing on emergency classification, dose assessment,
17 and protective action recommendations. A senior
18 engineer, having previous emergency preparedness
19 experience, was assigned to provide full-time overview
20 of the on-site program. A root cause analysis was
21 initiated.

22 (Slide) The root cause assessment team was
23 made up of four individuals, two from within PECO and
24 two from the industry. The project took about three
25 weeks and approximately 50 people involved with,

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1 emergency preparedness were interviewed.

2 The analysis identified a number of concerns
3 which were classified into six major categories as
4 follows: management systems, organization, training,
5 commitment tracking, procedures and administration.
6 There may be a degree of overlap in these categories;
7 however we believe that we now have sufficiently
8 detailed listing concerns which we can address with a
9 high likelihood of success.

10 (Slide) The results of the root cause
11 assessment were presented to the NRC at an enforcement
12 conference on July 6th and a reinspection was
13 conducted during the week of July 24th by the same
14 regional based inspector. During this inspection,
15 four shift crews were observed, including the shift
16 technical advisors serving as the dose assessment team
17 leaders. All of the personnel performed well and were
18 able to properly classify accidents and provide
19 protective action recommendations.

20 A major corrective action has been completed
21 with the hiring of a new Director of Emergency
22 Preparedness within the Nuclear Group. This
23 individual has considerable experience and comes to us
24 with demonstrated ability to develop and direct
25 emergency preparedness.

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1 As a result of the root cause analysis, we
2 are developing a long-range action plan which will
3 address not only the concerns of the root cause
4 report, but also numerous items which -- which the
5 emergency preparedness group had previously
6 identified.

7 Now, I would like to turn to the power
8 ascension program for Unit 2. The schedule which
9 predicts commercial operation on February 1st, 1990 is
10 an aggressive one, but no more so than the schedule
11 which was already accomplished on Unit 1.

12 During the power ascension program of Unit
13 1, we could concentrate all our resources on that
14 unit; however, now we must be sure that we continue to
15 devote all necessary resources to maintaining the safe
16 operation of Unit 1 while at the same time conducting
17 power ascension program on Unit 2.

18 (Slide) To assure that we are properly
19 managing our resources during this critical phase in
20 the life of our plant, we have established a plant
21 management self-assessment program. This program
22 reviews all site related activities such as event
23 reports, system and equipment status, regulatory
24 activities, programmatic items and quality assurance
25 issues.

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1 Marty McCormick, the Plant Manager, will
2 discuss in his presentation the early results of these
3 self-assessment activities.

4 There is also a higher level management
5 oversight committee which meets three times during the
6 power ascension program. They meet after zero power
7 testing, low power testing and at the 50 percent power
8 testing plateau. After our 50 percent plateau review,
9 we will meet on-site with regional NRC representatives
10 to discuss the results of our self-assessment so that
11 we can jointly agree to our readiness to proceed to
12 higher power levels.

13 All construction is completed and all pre-
14 operational and acceptance tests are completed. Since
15 receiving the Unit 2 fuel load and low power licenses,
16 we have accomplished fuel loading, an operational
17 hydrostatic test, and the completion of all
18 surveillance tests required for initial criticality.
19 All start-up tests associated with the "open vessel"
20 phase have been completed. On August 12, the plant
21 was taken critical and initial heat-up and associated
22 testing is in progress. Our judgment is that we will
23 be ready for a full power license by August 29th or
24 possibly a day or two earlier.

25 As I mentioned at the outset, we believe

1 that as management it is of utmost importance that we
2 continue to convey to all the people who work at
3 Limerick our sense of values. We believe that as we
4 continue to live these values, the culture will
5 continue to reflect them in safe operation.

6 We are satisfied with the operational
7 experiences that we have had with Unit 1. We believe
8 that the plant has operated safely and in a high
9 quality fashion. We are ready to accept the full
10 power license for Unit 2, fully recognizing the
11 responsibility and public trust associated with this
12 endeavor.

13 Subject to your questions, I will now ask
14 Mr. Marty McCormick, the Plant Manager, to discuss the
15 station organization, maintenance strategy, self-
16 assessment and Unit 2 operations.

17 Thank you.

18 CHAIRMAN CARR: Go ahead, Mr. McCormick.

19 MR. MCCORMICK: Thank you, Graham.

20 Good morning, Mr. Chairman, Commissioners.

21 I am Marty McCormick, the Plant Manager at
22 Limerick Generating Station. I have been an employee
23 of the Philadelphia Electric Company for more than 35
24 years and I've held various positions of increased
25 responsibility involving the operation and maintenance

1 of fossil, nuclear and hydroelectric generating
2 stations. I have been at Limerick on a full-time
3 basis since December of 1987, initially as Assistant
4 to the Vice President while obtaining hot license
5 certification and as Plant Manager since June of 1988.

6 My presentation today will give an overview
7 of the plant's organization, including our shift
8 staffing, comments on our maintenance strategy, our
9 plant management self-assessment results, and finally
10 a summary report on the status of Unit 2's power
11 ascension program.

12 (Slide) The plant division is organized to
13 fully operate and maintain both units at Limerick. I
14 have five direct reports, four of which will continue.
15 However, the test review board chairman has worked his
16 way out of a job. The test review board had
17 responsibility for reviewing and improving all start-
18 up tests and the test results to ensure the equipment
19 would perform as designed before acceptance by the
20 plant staff. All systems are now accepted by the
21 plant staff.

22 The four plant superintendents' areas of
23 responsibility span the technical, operations,
24 services and maintenance aspects of the power plant.

25 The Technical Superintendent, Mr. Phil Duca,

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1 heads up the system engineers and associated technical
2 staff, including the site regulatory group that
3 interfaces with the NRC on all regulatory issues. The
4 technical superintendent and his direct reports
5 maintain SRO licenses.

6 The Superintendent of Operations, Mr. Jay
7 Doering, has overall responsibility for the conduct of
8 day-to-day shift operations. The superintendent of
9 operations has a full-time assistant superintendent.
10 They both are licensed at the SRO level. Subsequent
11 discussion will cover the shift complement in more
12 detail.

13 The Superintendent of Services, Mr. Richard
14 Dubiel, has responsibility for the plant's
15 radiological protection program, the chemistry program
16 and the radwaste management program, including both
17 liquid and solid waste. A senior engineer level
18 manager has been assigned to each of these areas. The
19 present radwaste engineer maintains an SRO license.

20 The Superintendent of Maintenance, Mr. Jack
21 Spencer, has overall responsibility for the
22 mechanical, electrical and instrument and control,
23 preventive and corrective maintenance work at the
24 site. The maintenance superintendent also has direct
25 access to the resources of the centralized maintenance

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1 division during outages and can further expand his
2 support staff by using contractors when necessary.

3 (Slide) Shift operations are covered by a
4 six shift rotation of operators. This permits one
5 week of training out of every six and a week on
6 utility to supplement the day shift in the performance
7 of routine duties such as lubrication and equipment
8 inspections.

9 A basic shift is headed by a shift
10 superintendent. He has two supervisors, one for full-
11 time control room duties and one for duties inside or
12 outside the control room as required. These three
13 positions are filled by persons holding senior reactor
14 operator licenses. There is a reactor operator for
15 each unit and a chief operator that can operate to
16 assist or relieve the reactor operators and also to
17 direct the floor personnel in response to control room
18 needs. They are all licensed at the reactor operator
19 level. The floor complement is nine people, two for
20 each unit and five for the common plant equipment such
21 as radwaste operation.

22 On day work we staff a permit and blocking
23 supervisor's position and a permit writer's position.
24 The incumbents rotate on a six month schedule and are
25 licensed at the SRO and RO levels respectively. These

1 positions are supplemented during outages to provide
2 multiple shift coverage as required to support the
3 work load.

4 Each shift also has a degreed engineer's
5 position, called the shift technical advisor. This is
6 a non-licensed position, but it is one that has become
7 very beneficial to the shift as a whole. The STA's
8 position has evolved from one of support for emergency
9 duties to one that also provides strong on-shift
10 technical support. We also find that when an STA
11 returns to engineering duties in one of the plant
12 sections after two to four years on shift, he is an
13 extremely effective engineer, one who understands the
14 operator's needs from first-hand experience.

15 (Slide) In terms of licenses, we are in a
16 good position to handle the demands of two unit
17 operation. On the operations staff we have 23 SRO
18 dual unit licenses. The tech. spec. requirement is
19 12. Our RO licenses are currently at 23 dual unit
20 licenses and the tech. spec. requirement is 18. In
21 terms of total operational staffing, we currently have
22 129 persons, which is well in excess of the minimum
23 required staffing. In addition, we have 19 licensed
24 staff engineers.

25 I should note that control -- that control

1 room aspects of the entire pre-operational test
2 process were conducted by our operators. We have had
3 hands-on control of all phases of the work since
4 December of 1988.

5 Furthermore, the entire plant division has
6 had extensive experience in operating and maintaining
7 Unit 1. This experience has been carried over into
8 the Unit 2 test and power ascension programs as a
9 natural extension of existing programs and procedures.
10 Thus far, we have had a successful ascension to full
11 power operation and we expect it to continue.

12 (Slide) The maintenance and I&C strategy at
13 Limerick is based on maintaining a low corrective
14 maintenance backlog and a high ratio of preventive
15 maintenance to corrective maintenance. We trend these
16 statistics and they are part of the data reviewed by
17 Graham and Corbin during their respective monthly
18 reviews of plant performance. On Unit 2, as part of
19 the start-up program, we established baseline data
20 that will permit predictive maintenance based on an
21 analysis of actual vibration data versus original.
22 Oil-analysis and a pilot program of thermography are
23 also part of that program.

24 Safe and reliable operation depends on a
25 well managed maintenance program and we have one. The

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1 NRC maintenance tree inspection conducted earlier this
2 year, verified that our program was indeed effective.
3 Of the 38 areas evaluated by the NRC, 35 met all
4 requirements--and only three needed some improvement
5 and there were no areas considered inadequate.

6 (Slide) As part of the power ascension
7 process, we have documented our performance and bi-
8 weekly self-assessed the results against the following
9 criteria: safe and reliable operation of Unit 1, Unit
10 2 and common equipment; control room operations and
11 professionalism; teamwork and communications;
12 engineering and maintenance support services;
13 organizational interfaces involving both on-site and
14 off-site groups; plant configuration control;
15 procedural adequacy and the effectiveness of
16 implementation.

17 (Slide) Since receiving the license to load
18 fuel on Unit 2, we have performed our duties with the
19 following clearly demonstrated strengths: professional
20 response to events; teamwork and communication have
21 been maintained at high levels; and a strong use--
22 and a emphasis on the use of procedures.

23 Also, as part of the self-assessment
24 process, we identified several adverse trends early
25 on, which we called "watch" areas. The watch areas

1 were plant incidents that resulted in LERs, the number
2 of procedures requiring temporary changes before use;
3 the backlog of paperwork for closing out completed
-4 maintenance request work; the backlog of engineering
5 work requests and industrial safety statistics for all
6 personnel on-site, including our contractors. We have
7 taken strong corrective action in each of these areas
8 and our actions appear to be effective. We will
9 continue to monitor and adjust the corrective actions
10 in these areas as required.

11 (Slide) I now want to turn to the power
12 ascension program. Our power ascension program is
13 based on a plan that takes us from open vessel testing
14 through to commercial operation in eight distinct
15 steps. We are now in the second of these steps,
16 called test condition heat-up. This morning we are at
17 three percent power and at 800 pounds reactor
18 pressure, continuing our ascension to rated pressure.

19 We have successfully completed low pressure
20 testing of the reactor core isolation cooling and high
21 pressure coolant injection pumps. These pumps have
22 been declared operable. We have also successfully
23 completed testing of the reactor automatic
24 depressurization system valves. We are currently
25 about 30 percent through test condition heat-up and

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1 approximately 25 percent through the total power
2 ascension program.

3 The next phase, test condition one, which
4 requires a full power license, will permit rolling the
5 turbine and synchronizing the generator. Various
6 tests will be conducted during the other test
7 conditions in this program, including the loss of
8 power test, a dual recirculation pump trip test, and a
9 unit shutdown from the remote shutdown panel.

10 In summary, we are fully trained and ready
11 to take Unit 2 to full power. Further, we will
12 operate and maintain both units in a manner that
13 reflects our world class style, a style that fully
14 respects and protects the health and safety of the
15 public we serve.

16 Subject to your questions, I will now return
17 our presentation to Mr. Paquette for some concluding
18 remarks.

19 CHAIRMAN CARR: All right. Go ahead, Mr.
20 Paquette.

21 MR. PAQUETTE: Mr. Chairman and
22 Commissioners, today you've heard my associates and me
23 explain why we believe we are ready for a full power
24 license for Limerick Unit 2.

25 In considering our request, I want to

1 reconfirm, as I did before you four months ago, our
2 strong commitment to safety and quality, to rising
3 standards of excellence in our nuclear operations and
4 to working with the NRC to continually improve the
5 management and the quality of operations of our
6 nuclear power plants. We have institutionalized that
7 commitment in our corporate goals and long-term plans
8 and I believe our accomplishments over the past 18
9 months have established a proven track record which
10 demonstrates adherence to those goals.

11 On behalf of Philadelphia Electric Company,
12 I respectfully request your approval of the full power
13 license for Limerick Unit 2.

14 Thank you, and we'll be very happy to answer
15 any other questions you have at this time.

16 CHAIRMAN CARR: Commissioner Roberts?

17 COMMISSIONER ROBERTS: No questions. Two
18 observations. I think your total operating staff is
19 certainly commendable compared to what you are
20 required by the tech. specs. Secondly, I think your
21 worker exposure on Limerick-1 is remarkable.

22 That's all I have.

23 MR. PAQUETTE: Thank you very much.
24 Appreciate those comments.

25 CHAIRMAN CARR: Commissioner Rogers?

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1 COMMISSIONER ROGERS: Well, just to say that
2 it wasn't long ago that I did have the opportunity to
3 visit you folks and I was very favorably impressed
4 with everything I saw there and it seems as if the
5 quality and detail with which you've been approaching
6 your problems is really very commendable and
7 impressive.

8 I'd like to hear from the staff, of course,
9 their views on this a little later.

10 Mr. McNeill, you said that in your statement
11 that there were a few minor hardware deficiencies that
12 had to be corrected. Can you tell me just what those
13 were?

14 MR. McNEILL: In which section were you
15 referring?

16 COMMISSIONER ROGERS: Well --

17 MR. McNEILL: All right, in the -- oh, there
18 were such things as some of the hold down bolts on
19 equipment had not been properly torqued and did not
20 have second nut -- there were nut engagements. I
21 believe that we found that we had a series of
22 unqualified valves in some of the instrumentation
23 lines and it was of that general nature, the equipment
24 problems that we had to correct.

25 COMMISSIONER ROGERS: Okay. Go on. Thank

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1 you.

2 CHAIRMAN CARR: Commissioner Curtiss?

3 COMMISSIONER CURTISS: Well, I'd just like
4 to second Commissioner Roger's comments. I do think
5 that your experience at Unit 1 is commendable,
6 especially on the man rem exposure that Commissioner
7 Roberts mentioned, the low SCRAM rate and the low
8 forced outage rate. Those are, I think, indications
9 of a well run operation and if a full power license is
10 forthcoming for Unit 2, I'd like to encourage you to
11 keep up that good record.

12 Let me just ask one question, it's the only
13 one I have, on the emergency planning issue. Could
14 you describe the steps that you're taking to make sure
15 that the root causes that you identified in the
16 emergency planning area don't extend into or crop up
17 in other areas of the organization?

18 MR. McNEILL: Yes. There were a number of
19 interrelated issues generally revolving in the area of
20 management. On the slide that Mr. Leitch showed,
21 there were some human resource and management issues.
22 We intend to address those in the selection and
23 development of people -- our 1990 -- as you might
24 expect in the human resource area and its relationship
25 to Peach Bottom, human resource management was a major

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1 issue and we laid out a multi-year program to, in
2 fact, address that. The first year was supervisory
3 selection and development. In 1990, it will be
4 management selection and development and that will be
5 one way that we're going to address that.

6 Secondly, we are looking at the specifics of
7 the problems that we've had in the area of emergency
8 preparedness and we have identified one other area
9 that we have the potential same problem in terms of
10 leadership of an area and we're examining that also
11 right now. So, they generally tend to be in that
12 common inner thread of people and we know that we have
13 one area that we are probably going to have to do
14 something about fairly soon now.

15 COMMISSIONER CURTISS: Good.

16 That's all I have.

17 CHAIRMAN CARR: Well, gentlemen, I
18 appreciate the briefing. As you know, when I came up
19 to visit you, I must say Limerick-2 has got the best
20 labeled plan I've seen. I wish we could get everybody
21 to at least have that good labeling. As I said then,
22 I hope it lasts a long time.

23 I would comment to you yesterday -- today,
24 as I did yesterday, that one of the first clues of a
25 possible problem are long runs because they generate

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1 complacency and complacency, as I mentioned when I
2 visited you, is one of the problems you've got to look
3 out for. It happens in a hurry and you don't always
4 know what's happening.

5 In view of the recent reorganizations,
6 what's been the effect on Limerick Station and can the
7 station staff expect reasonable stability at least in
8 the near-term?

9 MR. PAQUETTE: I think definitely so.
10 You're asking a question?

11 CHAIRMAN CARR: Yes, sir.

12 MR. PAQUETTE: Yes, sir, I think definitely
13 so. We have no plans to make any immediate --

14 Corbin?

15 MR. McNEILL: There may be one change. We
16 are discussing one organizational change to -- one of
17 the gentlemen at this table as a possible candidate
18 for promotion, but there will not be wholesale
19 organization -- we're also promoting one shift
20 superintendent next month and intend to put another
21 shift superintendent in. So, with the exception of
22 those two --

23 CHAIRMAN CARR: Reasonable stability.

24 MR. McNEILL: There will be reasonable
25 stability, yes.

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1 CHAIRMAN CARR: Okay.

2 MR. PAQUETTE: I stand corrected, but beyond
3 that, we have no other plans.

4 CHAIRMAN CARR: Well, it's easy to -- as I
5 also mentioned yesterday, it's easy to promote a
6 winning team out of the business and leave behind them
7 not nearly as good guys and then have to bring them
8 back in to clean up.

9 MR. PAQUETTE: Right.

10 CHAIRMAN CARR: So, Mr. McCormick, you
11 indicated that the STAs serve about two to four years
12 before returning to engineering duties and that STAs
13 are non-licensed. Do any of your STAs have a license?

14 MR. MCCORMICK: Not yet, but as they come
15 out some of them can stand for a license, as they move
16 into higher levels of responsibility. We have --

17 CHAIRMAN CARR: So you anticipate some of
18 them might?

19 MR. MCCORMICK: Yes, I expect that they will
20 and certification would definitely be the minimum that
21 they would be exposed to and part of the STA process
22 essentially gives them the certification level
23 training without having maybe to stand for the full
24 SRO license.

25 CHAIRMAN CARR: When did the plant staffing

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1 levels reach the current level which you listed, I
2 think, as 648?

3 MR. McCORMICK: They've been that way for
4 about almost a year now.

5 CHAIRMAN CARR: Yes.

6 MR. McCORMICK: We were poised for two unit
7 operation for some period in advance of the need. I
8 guess I would say that that would indicate the cost
9 per kilowatt. Working only one unit would give
10 indication that we were not as efficient as we would
11 like to be, but within a very short few months I'm
12 going to look like a hero because of it.

13 CHAIRMAN CARR: Well, based on your
14 experience operating one unit with two unit staffing,
15 do you anticipate any problems with actual two unit
16 operation?

17 MR. McCORMICK: Well, going from a one unit
18 plant to a two unit plant is not going to be without
19 its learning curve. We are bringing to bear on that
20 problem though individuals who are not just locked to
21 operating one unit. Jay Doering and Jack Spencer, of
22 course myself, have extensive experience in operating
23 multiple unit plants. We understand what has to be
24 done and we understand the demands of that.

25 We recognize that we have to change how we

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1 do some things and they are changing as we go. We
2 recognize that we have to plan each day much more
3 carefully so that we don't overload the control room
4 and we have that in place and it's working very
5 effectively right now because we can sense the early
6 departure from one unit. More than one man may be
7 able to solve a problem

8 CHAIRMAN CARR: Well, I recognize that you
9 all appreciate it, but I hope the operators appreciate
10 that it's going to change their lifestyle a little bit
11 too.

12 MR. McCORMICK: It does and I -- in the
13 control room now, we have been at essentially a two
14 unit level since, as I mentioned, back in early last
15 year where we took into the power ascension -- the
16 pre-start-up phase so that the operators have been
17 well involved early on. It's not like it's turn the
18 switch and now it's two units.

19 CHAIRMAN CARR: Okay.

20 MR. ULLRICH: The superintendents have two
21 unit operation time.

22 MR. McCORMICK: Yes. The shift
23 superintendents, as Ted mentions, many of them came
24 from two unit operations, nuclear operations, having
25 had early experience in the early '80s and '70s with

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1 the Peach Bottom operation.

2 CHAIRMAN CARR: Mr. McNeill, you stated the
3 Peach Bottom root cause analysis indicated that some
4 of the seeds of deterioration at Peach Bottom had been
5 planted at Limerick. Please provide me some examples
6 of those and your opinion as to why similar
7 manifestation of the problems were apparently not
8 evident at Limerick.

9 MR. McNEILL: Some of those manifestations
10 were some of the work practices, some of the human
11 resource practices, seniority issues that had put
12 people in positions which they were not as well
13 qualified as other people for and work load.

14 The reasons that they were not apparent at
15 Limerick and really had not nurtured until -- they
16 were long-term. If we didn't change them, we would
17 have ended up long-term in a situation or predicted to
18 end up in a situation similar to Limerick -- Peach
19 Bottom.

20 Limerick had, in fact, been able to
21 circumvent some of the corporate practices in their
22 initial hiring. So, they avoided some of that. They
23 had a newer staff and had not gone through a
24 progressive promotion of people through seniority-
25 based promotions only. Since then -- and, for

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1 instance, right now we are selecting a new foreman for
2 maintenance and I&C positions and that's being done on
3 an assessment basis without regard to seniority.

4 The work load, we staffed the plant early
5 and have given it an adequate staff right from the
6 beginning. So, those are the kinds of corrective
7 actions that we've undertaken to avoid -- and those
8 were the seeds and some of the corrective actions that
9 have been taken.

10 Plus the attitude has been a post-Three Mile
11 Island attitude with acknowledgement of the newer
12 requirements and the resources have been provided
13 through the construction program to make sure that we
14 met all of the existing requirements now rather than
15 at Peach Bottom, they were going back and trying to
16 recover all of those in an after-the-fact mechanism.
17 In other words, they were changing programs which
18 takes a lot of resources at the same time you're
19 trying to operate; whereas at Limerick they created
20 those programs to the new standards and they had less
21 effective effort needed to do that.

22 CHAIRMAN CARR: Thank you.

23 Any other questions?

24 Thank you, gentlemen. Appreciate --

25 MR. PAQUETTE: We appreciate this

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1 opportunity.

2 CHAIRMAN CARR: The staff will come forward,
3 please.

4 Mr. Taylor, you may proceed.

5 MR. TAYLOR: Good morning, sir. We're
6 prepared now to present the staff overview with regard
7 to the licensing of Limerick-2, both from the
8 headquarters and from the regional perspective.

9 And to accomplish that, at the table with me
10 starting at my far left is Dick Clark, who's the
11 Project Manager. Next is James Sniezek, the Deputy
12 Director of NRR and next Steve Varga at my immediate
13 left, who is the Division Director in Reactor
14 Projects, responsible. Of course to my right,
15 Regional Administration, Region I, Bill Russell.
16 Next, Tom Kenny, Senior Resident at Limerick and at
17 the end, Walt Butler who is the Branch Chief of the
18 project area for this plant.

19 I'll now ask Mr. Sniezek to commence the
20 process.

21 MR. SNIEZEK: Good morning, Mr. Chairman,
22 Commissioners.

23 CHAIRMAN CARR: Good morning.

24 MR. SNIEZEK: We're here to brief the
25 Commission on the staff's assessment of Philadelphia

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1 Electric Company's readiness to operate the Limerick-2
2 facility.

3 The initial part of the briefing focuses
4 primarily on licensing issues and will be conducted by
5 Steve Varga, the responsible project's Division
6 Director in NRR.

7 The second part of the briefing, which
8 focuses on plant construction, testing and on
9 operational readiness will be conducted by the
10 Regional Administrator, Bill Russell, and the Senior
11 Resident Inspector, Tom Kenny.

12 The staff will move smartly through those
13 portions of our briefing which have already been
14 adequately covered by the Philadelphia Electric
15 Company.

16 Now I'll turn to Steve Varga and ask him to
17 proceed with the staff briefing.

18 MR. VARGA: Good morning, Mr. Chairman and
19 Commissioners.

20 (Slide) May I have the first slide?

21 I'll be covering the five items from
22 licensing milestones through emergency planning and
23 then Bill Russell will continue with the next four and
24 Jim Sniezek will conclude.

25 (Slide) May I have the next slide, please?

1 The next are the significant licensing
2 milestones. Particularly draw your attention to the
3 fuel load license which was just recently issued in
4 June, followed then a month later with a low power
5 license in July.

6 (Slide) The next slide, please.

7 The license conditions. There are no
8 special license conditions for Limerick. All the TMI
9 items have been implemented and we have no special,
10 unique considerations that need to be addressed in a
11 licensed condition.

12 The two standard conditions on physical
13 security and safeguard plans and fire protection
14 programs are the standard ones that assure that the
15 procedures and the equipment in place for fire
16 protection and safeguards do not deteriorate without
17 our approval and those that they do make changes to
18 that do not, they then have to report to us in
19 accordance with the exemption requests with the
20 conditions in the license.

21 (Slide) The next slide, please.

22 Again, for Limerick, there's nothing unique
23 in the exemptions that we are proposing to grant.

24 The leak testing requirements of Appendix J
25 are three-fold. One has to do with the air lock

1 testing where the rule requires testing of the air
2 locks whenever entry is made at the reactor -- at the
3 design pressure of the -- of the accident, which is
4 about 44 psi. The exemption has two items to it,
5 which is that when no maintenance is performed they
6 would then -- at time of entry we would have a test of
7 10 psi and use that test psi test rate in accordance
8 with the technical specifications. However, if
9 maintenance is performed, they would then do the air
10 lock testing at the design pressure.

11 Recall that there is every six months,
12 regardless of the situation, whether maintenance has
13 been performed or not, they do require a full pressure
14 test of the air lock.

15 The other item in Appendix J has to do with
16 the main steam line isolation valve, during testing of
17 the valves. These are valves in series. The test
18 pressure is applied in between. If they apply the
19 full containment design pressure, accident design
20 pressure, the lifting of the inboard valve and there's
21 a meaningless test. So, what we have -- the exemption
22 would grant would be a test pressure of 25 psi and
23 then the total pressure leakage would then be assigned
24 to meet the tech. spec. requirements of 11 1/2.

25 The third item has to do with the traversing

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1 in-core probe system. As you recall, the probe system
2 has a ball valve which does have a type C test to it.
3 However, the ball valve is only effective is the cable
4 is withdrawn and the probe and the neutron detector is
5 withdrawn. However, in the unlikely condition that
6 the probe does not -- cannot be withdrawn and there is
7 a necessity to isolate the guide tube, there's a sheer
8 -- explosive sheer valve that is in the system. Now,
9 in order to test that sheer valve, you have to
10 destruct the valve as well as the cable as well as the
11 tube.

12 So, the exemption allows that the circuitry
13 up through the exposure squib is tested every 31 days.
14 The explosive squib itself for each valve is removed
15 and bench exploded through the circuitry every 18
16 months and that each squib is tested at least once
17 during the 90 month period, and the replacement of the
18 explosive squibs are consistent with the
19 manufacturer's recommendations.

20 The next item on the exemptions is
21 monitoring requirements of the Part 70.24. These are
22 criticality monitors and it's a standard exemption
23 that we -- that we grant from the NMSS considerations
24 of criticality and the shipping containers and the
25 storage racks and the procedures controls that need to

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1 be in place.

2 The scheduled exemption for filing
3 decommissioning reports is the standard one where an
4 operating license has already been issued to one plant
5 and an operating license is to be issued for another,
6 and it simply requires that the report be submitted at
7 the time of the operating license which is -- of the
8 plant that is operating, which is July the 26th, 1990
9 for a combined report.

10 Finally, the final exemption has to do with
11 containment inerting. This again is a standard to
12 allow containment entry during the power ascension
13 program and we impose the standard condition of within
14 120 effective full power days that the power ascension
15 program is completed and then the inerting is required
16 will then be imposed.

17 That completes the exemptions on the
18 Limerick-2.

19 (Slide) Let me go to the next slide,
20 please.

21 COMMISSIONER ROGERS: Just before we leave
22 that, did I understand correctly that the last three
23 of the exemptions were standard and the first group
24 were site specific? Is that correct?

25 MR. VARGA: The last three -- the 70.24, the

1 decommissioning and the inerting are standard, as well
2 as the air lock testing and the main steam line
3 isolation valves have been imposed and have been
4 granted to a number of utilities in the past. And the
5 traversing in-core probe as well as been granted to a
6 number, although they are more site specific than the
7 remaining -- than the other three.

8 MR. SNIEZEK: Commissioner Rogers, when the
9 regulations were written, they did not take into
10 account some of the designs on the current plants.

11 MR. VARGA: (Slide) May I have the next
12 slide, please?

13 Mr. Chairman, you've already alluded and
14 mentioned the issuance of the supplement to the FES.
15 SAMDAs, of course, is an acronym that the Third
16 Appeals Court, Circuit Court, has -- has proposed,
17 severe accident mitigation design alternatives. It
18 simply recounts a history. We issued our supplement
19 yesterday and the litigation is in process.

20 (Slide) Next slide, please.

21 This has to do with emergency planning. As
22 noted, FEMA has provided reasonable assurance
23 findings. The Court of Appeals decision, which was
24 under the Graterford prisons for training for the
25 Graterford prisons, stipulations have been signed by

1 all parties and the ASLB decision was issued on the
2 11th of August and terminated the proceedings.

3 That concludes my discussion.

4 MR. RUSSELL: Thank you.

5 (Slide) With respect to construction
6 inspection activities, I believe that you've met and
7 heard the company's presentation. They did put
8 together a very experienced construction team, but I
9 think the results speak very much for themselves. I'd
10 like to focus on the inspection activities.

11 Inspection at the plant since the
12 commencement of construction in February of '86 has
13 been approximately 10,000 hours of inspection
14 activity. We've had two major team-type inspections,
15 one a construction inspection team and we also had the
16 non-destructive examination van on site to review the
17 quality of welding and other activities. These
18 inspections, as well as others, have confirmed the
19 quality of construction and the deficiencies
20 identified were not significant.

21 The company has used extensive third party
22 audits with utility management reviews, as well as
23 independent design and construction assessment of key
24 systems that showed comparable results to the early
25 inspection results.

1 I think those results are directly
2 attributable to the significant effort that the
3 company put into careful and methodical review of the
4 as-built plant to the design basis and to the FSAR.
5 There's been very good correlation in that area.

6 There are no allegations open at this time
7 and I point out that the balance of plant, that part
8 of the plant that's necessary to support full power
9 operation, is much more complete at this point in low
10 power testing than other facilities at a comparable
11 point. And in fact, the construction work force is
12 now off of the facility. They are working on removing
13 construction buildings, et cetera, but they're no
14 longer working inside the protected area.

15 (Slide) With respect to the pre-operational
16 test programs, the company was effective in
17 incorporating the lessons learned from Unit 1
18 operation and from other units. The testing has been
19 exceptionally well planned and executed. The
20 operations staff conducted the testing. In fact, they
21 were testing Unit 2 while they were operating Unit 1,
22 and that transition has been discussed here earlier
23 today. There were few test exceptions, and there was
24 a very thorough analysis of the test results.

25 An overall point that I'd like to make is

1 that there's been an exceptionally good working
2 relationship between operations testing and other on-
3 site organizations. It's been very much a team
4 effort, and there's been a management emphasis on
5 performing the job right the first time. That is,
6 schedule has not been the emphasis, but rather
7 schedule has resulted from the quality of the work
8 that was being performed.

9 An example that I'd like to give relates to
10 what I call completing the paperwork. In the spring
11 of this year, the company found that they had quite a
12 large backlog in some of the test reviews, in
13 completing the reviews of paperwork following testing.
14 They actually took the step of extending the schedule
15 for fuel load approximately 30 days in order to
16 complete that and reduce the backlog. I believe
17 signals like that are appropriate, and in fact have
18 resulted in the quality work that's been done.

19 (Slide) With that background, I'd like to
20 address the SALP. In this instance, we did give all
21 category 1 ratings. I must admit I scrubbed that one
22 pretty hard, given that precedent.

23 They had exceptionally good controls over
24 construction, and in this area the system turnover
25 activities were quite well controlled.

1 And there was good field engineering
2 involvement early on, supervising the activities. A
3 particularly good working relationship developed at
- 4 the design interfaces between Bechtel, General
5 Electric, and Philadelphia Electric Company.

6 They did conduct very effective and
7 proactive operational readiness reviews to determine
8 the readiness of the facility to support operation.

9 And at this point, to give you a feel for
10 on-site experience, I'd like to ask Tom Kenny to
11 address management and staffing issues as he's
12 observed them as Senior Resident Inspector.

13 MR. KENNY: Good morning, Mr. Chairman,
14 Commissioners.

15 I have a staff of three residents on site.
16 We monitor two programs currently, the start-up
17 program and the operational program for the other
18 unit.

19 We have verified through our inspections and
20 recently an operational readiness inspection by a team
21 that the staff is experienced in two unit operation,
22 for the most part. Lots of the senior residents that
23 were discussed this morning are two unit experienced.

24 We also have verified that the QA and the QC
25 on-site are now working in both units, and anything

1 identified in the Unit 2 construction effort has been
2 carried over to the Unit 1 side and repaired there in
3 a prompt manner.

4 We also have verified that the procedures
5 are in place, both administratively and operationally,
6 for two unit operation.

7 And we verified that there was a smooth
8 transition in the operators operating the two unit
9 control room in an efficient safe manner.

10 As far as the six unit staff, we have
11 verified that they are in excess of what tech specs
12 requires.

13 MR. RUSSELL: During the licensee's
14 presentation, they did discuss the emergency
15 preparedness weaknesses that occurred which we
16 identified as part of our inspection activities. I'd
17 just like to emphasize that we did independently
18 reexamine those, and we found that the corrective
19 actions were adequate and that the crews were able to
20 effectively classify and report simulated fast
21 breaking events.

22 In addition, you heard about their power
23 assessment -- or self assessment program for power
24 ascension. The staff will be augmenting our
25 inspection activities on-site under Tom Kenny. We

1 will be conducting a parallel review. We intend to
2 meet with the licensee on-site at approximately the 50
3 percent power point at the completion of test
4 condition 2, and review the results of their
5 assessment during the early phases of power ascension
6 with our own assessment.

7 We have concluded that the plant is
8 physically ready, upon completion of the remaining low
9 power tests, to support full power operation.

10 MR. SNIEZEK: Okay.

11 (Slide) In conclusion, Mr. Chairman and
12 Commissioners, I'd like to say that based on the
13 results of the staff's licensing review, our
14 construction testing and operational readiness
15 inspection program, we have concluded that the STAP
16 has been built and will operate consistent with the
17 regulations and that there is reasonable assurance
18 that the plant can be operated without endangering
19 public health and safety.

20 In light of this conclusion, we would
21 recommend to the Commission approval to issue a full
22 power license upon completion of the Commission's
23 immediately effectiveness review.

24 CHAIRMAN CARR: Any questions?

25 COMMISSIONER ROBERTS: No questions. I

1 guess I've heard dozens of these full power briefings.
2 I think this is one of the best I've ever heard, both
3 by the applicant and the staff.

-4 CHAIRMAN CARR: Commissioner Rogers?

5 COMMISSIONER ROGERS: Just the standard
6 point that I keep coming back to is these standard
7 exemptions. I wonder if there is some way of working
8 those out, getting rid of them, changing them so we
9 don't have to bring them up every time there is a new
10 licensing application.

11 MR. VARGA: Yes. That is something that I
12 think would be very helpful. As you know, the change
13 to the rule went out for comment some year and a half
14 to two ago and it now has been revised and I think the
15 latest information I have is that it will go to the
16 CRGR within the next month or so and that we envision
17 that it will probably be effective sometime early next
18 year.

19 MR. SNIEZEK: But that's on the Appendix J
20 rule.

21 MR. VARGA: The Appendix J rule.

22 MR. TAYLOR: That will clean up some of it.

23 COMMISSIONER ROGERS: Some if it. Well,
24 there still are a few others.

25 MR. VARGA: Yes, there are.

1 COMMISSIONER ROGERS: Keep working them.

2 MR. VARGA: Yes.

3 COMMISSIONER ROGERS: Thank you.

4 CHAIRMAN CARR: Commissioner Curtiss?

5 COMMISSIONER CURTISS: No questions.

6 CHAIRMAN CARR: Well, I would like to thank
7 the Philadelphia Electric Company and the NRC staff
8 for the very informative briefing. I concur with
9 Commissioner Roberts that it's been an amazingly
10 trouble-free operation to date.

11 As I cautioned the company, complacency is
12 one of those things you have to continually worry
13 about. I would also caution the staff to keep a close
14 eye and make sure that things proceed as we expect
15 them to.

16 While the Commission is not ready to vote on
17 the question of approving a full power license at this
18 time, certainly the information we've gotten will be
19 factored into the decision. As I said, the plant
20 appears ready, well constructed with a good test
21 program and a good operating history of Unit 1 and
22 good evaluations. So, I would encourage my fellow
23 Commissioners to take this into account in the
24 immediate effectiveness review and we'll get our
25 decision out as quickly as we can.

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1 Do any of my fellow Commissioners have any
2 additional remarks? General Counsel?

3 MR. PARLER: No, sir.

4 CHAIRMAN CARR: In that case, we stand
5 adjourned.

6 (Whereupon, at 11:10 a.m., the above-
7 entitled matter was adjourned.)

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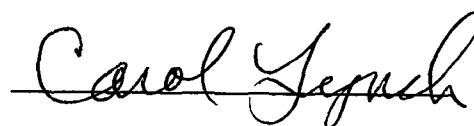
This is to certify that the attached events of a meeting
of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: DISCUSSION OF FULL POWER OPERATING LICENSE
FOR LIMERICK-2

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: AUGUST 17, 1989

were transcribed by me. I further certify that said transcription
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PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION
UNIT 2

FULL POWER
OPERATING LICENSE
PRESENTATION
TO THE NRC COMMISSIONERS

AUGUST 17, 1989

**PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION - UNIT 2**

**OUTLINE FOR PRESENTATION TO NRC COMMISSIONERS
IN SUPPORT OF FULL POWER LICENSE
AUGUST 17, 1989**

- I. Mr. J. F. Paquette, Jr., Chairman of the Board and Chief Executive Officer 5 min.
 - o Introductions and Agenda

- II. Mr. C. A. McNeill, Jr., Executive Vice President - Nuclear 12 min.
 - o Nuclear Group Organization
 - o Nuclear Group Objectives
 - o Vision, Mission and Values
 - o Perspective on Management Involvement
(Challenges and Lessons Learned from PBAPS)
 - o Readiness Review Program

- III. Mr. G. M. Leitch, Vice President - Limerick 12 min.
 - o Personal Background
 - o General Plant Description
 - o Limerick Unit 1 Performance
 - o Recent Issues
 - o Management Self-Assessment
 - o Readiness for Two Unit Operation

IV. Mr. M. J. McCormick, Jr., Plant Manager - Limerick 12 min.

- o Personal Background
- o Station Organization
- o Shift Arrangement
- o Licensed Operators
- o Plant Management Self-Assessment
- o Current Operational Status, Unit 2

V. Mr. J. F. Paquette, Jr. 4 min.

- o Closing Comments
- o Request Full Power License

STATEMENT BY JOSEPH F. PAQUETTE, JR.
CHAIRMAN AND CEO OF PHILADELPHIA ELECTRIC COMPANY
TO U.S. NUCLEAR REGULATORY COMMISSION
AUGUST 17, 1989

OPENING REMARKS:

GOOD MORNING. I AM JOSEPH PAQUETTE, CHAIRMAN AND CEO OF PHILADELPHIA ELECTRIC COMPANY. EXACTLY FOUR MONTHS AGO, MY ASSOCIATES AND I SPOKE TO YOU ABOUT OUR READINESS TO RESTART PEACH BOTTOM-UNIT 2 AND THE OTHER CHALLENGES THAT FACED OUR COMPANY IN THIS YEAR. TODAY, WE HAVE THE PLEASURE OF DISCUSSING OUR READINESS TO OPERATE UNIT 2 OF OUR LIMERICK GENERATING STATION AT FULL POWER. MY ASSOCIATES AND I APPRECIATE THIS OPPORTUNITY TO TELL YOU WHY WE BELIEVE WE ARE READY FOR A FULL POWER LICENSE FOR LIMERICK UNIT 2.

WITH ME AT THIS TABLE TODAY ARE MR. CORBIN MCNEILL, OUR EXECUTIVE VICE PRESIDENT FOR NUCLEAR, MR. GRAHAM LEITCH, OUR SITE VICE PRESIDENT AT LIMERICK, AND MR. MARTIN MCCORMICK, OUR LIMERICK PLANT MANAGER. ADDITIONAL MEMBERS OF OUR CORPORATE AND PLANT ORGANIZATIONS ARE ALSO IN ATTENDANCE TODAY, AND ARE AVAILABLE TO ANSWER QUESTIONS.

MR. MCNEILL WILL DISCUSS OUR NUCLEAR GROUP ORGANIZATION, THE STATUS OF MEETING OUR CHALLENGES FOR THIS YEAR, THE INCORPORATION OF LESSONS LEARNED FROM OUR EXPERIENCE AT PEACH BOTTOM, AND READINESS OF OUR NUCLEAR GROUP ORGANIZATION FOR FULL POWER OPERATION OF LIMERICK UNIT 2.

MR. LEITCH WILL HIGHLIGHT OUR OPERATING RECORD ON LIMERICK UNIT 1 AND REPORT ON RECENT ISSUES, READINESS FOR TWO UNIT FULL POWER OPERATION AT LIMERICK, AND OUR MANAGEMENT SELF-ASSESSMENT

EFFORTS. MR. McCORMICK WILL THEN DISCUSS THE STATION ORGANIZATION, WITH PARTICULAR EMPHASIS ON LICENSED OPERATORS, THE APPROACH TO MAINTENANCE AT LIMERICK, OUR PLANT MANAGEMENT SELF-ASSESSMENT EFFORTS, AND THE CURRENT UNIT 2 OPERATIONAL STATUS.

TODAY I AM PROUD TO SAY THAT THE CONSTRUCTION OF LIMERICK UNIT 2 WAS COMPLETED IN WHAT IS PROBABLY THE MOST EFFICIENT AND SAFETY-CONSCIOUS MANNER COMPARED TO OTHER NUCLEAR POWER PLANT CONSTRUCTION PROJECTS. OUR ACCOMPLISHMENTS WERE RECOGNIZED IN THE LAST SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE CONDUCTED BY THE NRC STAFF FOR UNIT 2 CONSTRUCTION. ALL FOUR AREAS EVALUATED BY THAT SALP RECEIVED THE HIGHEST RATINGS, CATEGORY 1. THE COMPLETION OF CONSTRUCTION OF LIMERICK UNIT 2 HAS BEEN REFERRED TO AS THE MODEL FOR CONTRACTUAL ARRANGEMENTS AND PLANNING WHEN THE NATION'S NUCLEAR UTILITIES BEGIN AGAIN TO ORDER NUCLEAR POWER PLANTS, AND I AM SURE THIS WILL HAPPEN.

WITH THE SUCCESSFUL EXPERIENCE OF RETURNING LIMERICK UNIT 1 TO SERVICE FROM ITS REFUELING OUTAGE UNDER OUR BELT, WE ARE READY TO STARTUP AND OPERATE UNIT 2 WITH THE SAME CARE, ATTENTION TO DETAIL, AND SAFETY-MINDEDNESS THAT HAS BEEN DEMONSTRATED IN THE OPERATION OF LIMERICK UNIT 1 AND THE RESTART OF PEACH BOTTOM UNIT 2.

I WILL NOW ASK CORBIN McNEILL TO DISCUSS THE READINESS OF OUR NUCLEAR GROUP ORGANIZATION FOR FULL POWER OPERATION OF LIMERICK UNIT 2.

STATEMENT BY CORBIN A. MCNEIL, JR.
EXECUTIVE VICE PRESIDENT - NUCLEAR
PHILADELPHIA ELECTRIC COMPANY
TO U.S. NUCLEAR REGULATORY COMMISSION
AUGUST 17, 1989

MR. CHAIRMAN, COMMISSIONERS, I AM CORBIN MCNEILL, EXECUTIVE VICE PRESIDENT - NUCLEAR OF PHILADELPHIA ELECTRIC COMPANY. I HAVE BEEN WITH PHILADELPHIA ELECTRIC COMPANY SINCE EARLY 1988 AND HAVE SPOKEN WITH YOU PREVIOUSLY REGARDING THE PEACH BOTTOM RESTART. IT IS A PLEASURE TO BE HERE TODAY TO DISCUSS THE START-UP OF THE SECOND UNIT AT LIMERICK.

FOUR MONTHS AGO I SPOKE TO YOU ABOUT THE CHALLENGES FACING PHILADELPHIA ELECTRIC COMPANY THIS YEAR. (SLIDE #1) THEY WERE THE PEACH BOTTOM UNIT 2 RESTART, THE LIMERICK UNIT 1 RETURN FROM ITS REFUELING OUTAGE, THE LOADING OF FUEL INTO LIMERICK UNIT 2 AND THE COMMENCEMENT OF ITS POWER ASCENSION TEST PROGRAM, AND THE RETURN OF PEACH BOTTOM UNIT 3 TO OPERATION. THESE CHALLENGES HAVE REQUIRED A SIGNIFICANT AMOUNT OF PHILADELPHIA ELECTRIC'S RESOURCES AND ATTENTION. FOUR MONTHS AGO WE RECEIVED APPROVAL FROM YOU TO RESTART PEACH BOTTOM UNIT 2. I AM PROUD TO REPORT THAT WE ARE NOW OPERATING THE UNIT AT FULL POWER AND OUR ONGOING ASSESSMENT SHOWS SATISFACTORY PROGRESS IN IMPROVING PLANT, OPERATOR, AND MANAGEMENT PERFORMANCE. LIMERICK UNIT 1 RETURNED FROM ITS REFUELING OUTAGE THIS YEAR FOLLOWING EXTENSIVE RECONFIGURATION OF THE CORE DUE TO FUEL PROBLEMS ENCOUNTERED DURING THE PREVIOUS OPERATING CYCLE. ITS ASCENSION TO FULL POWER HAS BEEN RESTRAINED BY CHEMISTRY LIMITS, PARTICULARLY FEEDWATER COPPER LEVEL. WE HAVE BEEN SUCCESSFUL IN

MAINTAINING OPERATION WITHIN RESTRICTIVE LIMITS, AND THE UNIT IS NOW OPERATING AT FULL POWER. WE HAVE LOADED FUEL IN LIMERICK UNIT 2, AND ACHIEVED INITIAL CRITICALITY, AS MR. LEITCH WILL LATER DESCRIBE. THE UNIT WILL SOON BE READY FOR FURTHER POWER ASCENSION TESTING. WE CONTINUE TO PERFORM OUTAGE RELATED WORK ON PEACH BOTTOM UNIT 3, AND WE EXPECT ITS RESTART IN THE FOURTH QUARTER OF THIS YEAR AND ACHIEVEMENT OF FULL POWER BY THE END OF THIS YEAR. WE HAVE SUCCESSFULLY MANAGED THIS WORK LOAD THROUGH DEDICATED SITE ORGANIZATIONS, AGGRESSIVE MANAGEMENT ATTENTION AND INVOLVEMENT, AND THROUGH A HIGH DEGREE OF CORPORATE AND EXTERNAL SUPPORT. (SLIDE #2)

THE ORGANIZATION SHOWN HERE IS OUR POST-PEACH BOTTOM SHUTDOWN REORGANIZATION THAT REFLECTS THE LESSONS LEARNED FROM THE ROOT-CAUSE ANALYSIS OF THE PEACH BOTTOM SHUTDOWN. IT WAS ESTABLISHED TO PROVIDE SINGULAR CONTROL OF NUCLEAR ACTIVITIES IN THE PHILADELPHIA ELECTRIC COMPANY WHICH, IN FACT, HAS 70 PERCENT OF ITS INVESTMENT IN NUCLEAR AND WILL ALSO BE PRODUCING 65 TO 70 PERCENT OF ITS ELECTRICITY FROM NUCLEAR GENERATING SOURCES.

MR. KEMPER IS THE SR. VICE PRESIDENT OF CONSTRUCTION, AND UNDER HIS DIRECTION LIMERICK UNIT 2 CONSTRUCTION WAS COMPLETED AHEAD OF SCHEDULE, UNDER BUDGET AND ACHIEVED A RECENT CONSTRUCTION SALP RATING OF ALL 1'S AS DESCRIBED BY MR. PAQUETTE. OUR NUCLEAR GROUP ORGANIZATION HAS A VICE PRESIDENT IN CHARGE OF THE LIMERICK SITE. THIS IS MR. LEITCH WHO YOU WILL HEAR FROM NEXT. MR. SMITH IS THE VICE PRESIDENT OF THE PEACH BOTTOM SITE, AND HE SPOKE TO YOU FOUR MONTHS AGO. MR. KOWALSKI IS IN CHARGE OF NUCLEAR ENGINEERING, AND IS RESPONSIBLE FOR MAINTAINING THE CONFIGURATION OF OUR NUCLEAR

PLANTS. MR. HELWIG IS IN CHARGE OF NUCLEAR SERVICES AND HAS THE ROLE OF COORDINATING THE NUCLEAR TRAINING AND PROVIDING SUPPORT FUNCTIONS IN LICENSING, RADIOLOGICAL WASTE, RADIOLOGICAL PROTECTION, FUEL MANAGEMENT, SECURITY, EMERGENCY PREPAREDNESS, AND INFORMATION SYSTEMS MANAGEMENT. HE ALSO HAS A LARGE MOBILE MAINTENANCE GROUP WHICH SERVICES OUR PLANTS. MR. MADARA IS IN CHARGE OF OUR NUCLEAR QUALITY ASSURANCE ORGANIZATION. ALSO REPORTING TO ME IS THE CHAIRMAN OF OUR NUCLEAR REVIEW BOARD, MR. KISTNER. THE NUCLEAR GROUP HAS ABOUT 3,600 PEOPLE AND IS ESSENTIALLY A QUASI BUSINESS UNIT IN THE COMPANY WITH DEDICATED HUMAN RESOURCE AND BUSINESS PLANNING SUPPORT. BECAUSE OF THE LARGE CULTURAL CHANGES WE ARE BRINGING ABOUT IN THE NUCLEAR GROUP, THE NUCLEAR GROUP HAS TAKEN A LEADERSHIP ROLE IN BRINGING ABOUT MANY CHANGES TO THE HUMAN RESOURCE PRACTICES IN THE COMPANY. (SLIDE #3)

THE DEDICATED SITE ORGANIZATIONS PROVIDE A GREATER DEGREE OF CONTROL AND RESOURCE ALLOCATION AND ACCOUNTABILITY AT THE SITE LEVEL. THE VICE PRESIDENT AT EACH STATION PROVIDES FOCUSED MANAGEMENT ATTENTION ON THE ACTIVITIES AT THAT PARTICULAR STATION. (SLIDE #4) WE HAVE WIDELY SHARED AND COMMUNICATED GROUP VISIONS, MISSIONS AND VALUES WHICH WE ARE USING TO INCULCATE THE SAFETY CULTURE IN THE ORGANIZATION AND TO ENSURE THAT ALL OUR EMPLOYEES HAVE A FOCUS ON THOSE VALUES WHICH WE FEEL ARE MOST IMPORTANT, NAMELY SAFETY AND QUALITY. (SLIDE #5) ANNUALLY, WE DEVELOP AND DISSEMINATE TO OUR EMPLOYEES A SET OF NUCLEAR GROUP OBJECTIVES FOR THAT YEAR TOWARD WHICH WE ALL WORK.

OUR GOALS PROGRAM ALLOWS US TO MEASURE CORRECTIVE ACTIONS WHEN THOSE GOALS ARE NOT MET. WE REVIEW THESE MONTHLY AT EACH STATION,

AND THEN WITH EACH OF THE SUPPORT DEPARTMENTS. (SLIDE #6)

WITH RESPECT TO MANAGEMENT ATTENTION AND INVOLVEMENT, WITHIN THE NUCLEAR GROUP WE HAVE A WEEKLY DEPARTMENT HEAD MEETING, WHICH WE USE TO HIGHLIGHT NEAR TERM PROBLEMS AND THEN TO COORDINATE AND FOCUS CROSS DISCIPLINARY EFFORTS IN THE QUALITY RESOLUTION OF THOSE PARTICULAR PROBLEMS. ALSO, THE VICE PRESIDENTS ATTEND A WEEKLY SENIOR CORPORATE MANAGEMENT MEETING WITH MR. PAQUETTE, AT WHICH THEY ARE ABLE TO EXPRESS THEIR CONCERNS AND ANY RESOURCE DEFICIENCIES THAT THEY MIGHT HAVE, OR ASSISTANCE THAT THEY MIGHT NEED.

WE HAVE A STRONG ONSITE PRESENCE OF CORPORATE SUPPORT STAFF AND EXECUTIVES. OUR OBJECTIVE IS TO FEEL THE PULSE OF THE ORGANIZATION, SENSE DEVELOPING WEAKNESSES OR CONCERNS AND TO VERIFY THE QUALITY THAT IS GOING INTO CURRENT OPERATIONS.

WE ALSO EMPLOY MULTI-LEVEL SAFETY OVERSIGHT. IN ADDITION TO THE NORMAL PLANT OPERATING REVIEW COMMITTEES, WE HAVE A NUCLEAR REVIEW BOARD WHICH CURRENTLY MEETS MONTHLY. IT CONDUCTS TOURS OF THE FACILITIES AND UTILIZES THREE OUTSIDE CONSULTANTS WHO ARE VERY FREE AT EXPRESSING THEIR OPINIONS WHEN THEY DON'T THINK THAT THINGS ARE GETTING PROPER ATTENTION. THESE MEETINGS ARE HELD AT EACH STATION, ALTERNATING BETWEEN LIMERICK AND PEACH BOTTOM, SO THAT THE MEMBERS GET, IN ADDITION TO BRIEFINGS, FIRSTHAND VIEWS OF ACTIVITIES THAT ARE GOING ON AT THE STATIONS.

WE ALSO HAVE A NUCLEAR COMMITTEE OF THE BOARD WHICH HAS BEEN MEETING MONTHLY, AND WE EXPECT IT TO CONTINUE AT THIS LEVEL OF ACTIVITY WELL INTO NEXT YEAR. (SLIDE #7)

THE LESSONS LEARNED FROM THE ROOT CAUSE ANALYSIS OF THE PEACH

BOTTOM SHUTDOWN HAVE BEEN INCORPORATED ON A CORPORATE-WIDE BASIS AND ARE AS APPLICABLE TO THE OPERATION OF LIMERICK AS THEY ARE TO PEACH BOTTOM. THE FIRST ROOT CAUSE WAS THAT THERE WAS A LACK OF ADEQUATE LEADERSHIP AND MANAGEMENT SKILLS ON THE PART OF SENIOR MANAGEMENT OF THE PLANT. THIS ROOT CAUSE DOES NOT NOW EXIST AT PEACH BOTTOM AND HAS NOT EXISTED AT LIMERICK. WE'VE HAD STRONG LEADERSHIP WITH MANAGEMENT SKILLS AND RESOURCES IN THE SENIOR MANAGEMENT AT LIMERICK SINCE THE INCEPTION OF THE STATION ORGANIZATION.

THE SECOND WAS THAT THE COMPANY HAD FAILED AT PEACH BOTTOM TO INITIATE TIMELY LICENSED OPERATOR REPLACEMENT TRAINING PROGRAM. YOU WILL HEAR FROM MR. MCCORMICK LATER THAT WE HAVE AN ADEQUATE RESERVE AND A CONTINUING TRAINING PROGRAM FOR LICENSED OPERATORS AT LIMERICK.

THE THIRD ROOT CAUSE WAS THAT THE STATION CULTURE, WHICH HAD ITS ROOTS IN FOSSIL AND PRE-TMI OPERATIONS, HAD NOT ADAPTED TO CHANGING NUCLEAR REQUIREMENTS. FORTUNATELY, LIMERICK IS A POST-TMI PLANT AND HAS BEEN ESTABLISHED WITH REQUIREMENTS AND PROGRAMS AND PROCESSES THAT REFLECT THE TRUE CHANGE IN THE NUCLEAR OPERATIONS IN THIS COUNTRY IN THE POST-THREE MILE ISLAND ERA. ALTHOUGH THE PEACH BOTTOM ROOT CAUSE ANALYSIS INDICATED THAT SOME OF THE SEEDS OF DETERIORATION AT PEACH BOTTOM HAD BEEN PLANTED AT LIMERICK, WE ARE CONFIDENT THAT THE CULTURE CHANGE BEING UNDERTAKEN WITH THE COMPANY AND NUCLEAR GROUP WILL ALTER THAT SITUATION.

FINALLY, THAT CORPORATE MANAGEMENT FAILED TO RECOGNIZE THE DEVELOPING SEVERITY OF THE PROBLEMS AT PEACH BOTTOM AND THUS DID NOT TAKE SUFFICIENT CORRECTIVE ACTIONS. THE CREATION OF THE

NUCLEAR GROUP ORGANIZATION AND SENIOR MANAGEMENT'S INVOLVEMENT AND ATTENTION TO PLANT OPERATIONS WHICH I HAVE DESCRIBED, DIRECTLY ADDRESS THIS LAST ROOT CAUSE. (SLIDE #8)

SUSTAINING QUALITY IS AN IMPORTANT PART OF THE NUCLEAR GROUP'S OBJECTIVES. WE HAVE A CONTINUED DEDICATION AT THE CORPORATE LEVEL FOR SAFETY AND QUALITY. WE HAVE PUT OUR DEDICATED NUCLEAR GROUP ORGANIZATION IN PLACE SO THAT WE ARE NOT ENCUMBERED BY ACTIVITIES OUTSIDE OF NUCLEAR. WE HAVE FIRM COMMITMENT ESTABLISHED THROUGH OUR VISION, MISSION AND VALUES, AND WE HAVE AN EFFECTIVE SELF ASSESSMENT PROGRAM, BUT ONE THAT NEEDS CONTINUED ATTENTION AND REFINEMENT. (SLIDE #9)

OUR SELF ASSESSMENT OF THE PROGRAMS AND PROCESSES THAT RELATE TO THE COMPLETION AND READINESS OF UNIT 2 BEGAN IN 1987. THIS SELF ASSESSMENT INITIATIVE WAS THE READINESS PROGRAM ASSESSMENT. THE OBJECTIVE OF THIS ASSESSMENT WAS TO IDENTIFY AND ASSESS OUR PROGRAMS INTENDED TO ASSURE AND DEMONSTRATE COMPLETION OF LIMERICK UNIT 2 AND ITS READINESS FOR OPERATION IN ACCORDANCE WITH LICENSING COMMITMENTS. THE ASSESSMENT CONCLUDED THAT THE PROGRAMS CAN ASSURE AND DEMONSTRATE THAT LIMERICK UNIT 2 CONSTRUCTION IS COMPLETE AND IT IS READY FOR OPERATION PER LICENSING COMMITMENTS. IT ALSO CONCLUDED THAT AN ORGANIZATIONAL READINESS ASSESSMENT AND A READINESS VERIFICATION PROGRAM WERE NEEDED. (SLIDE #10)

THE ORGANIZATIONAL READINESS ASSESSMENT WAS PERFORMED TO ASSURE THAT ALL FUNCTIONAL ORGANIZATIONS AND THEIR PROCEDURES, TRAINING, AND MATERIALS WERE READY TO SUPPORT TWO UNIT OPERATION. THE APPROACH USED IN THIS ASSESSMENT WAS TO CONDUCT INTERVIEWS WITH MANAGERS IN 17 ORGANIZATIONAL UNITS OR ACTIVITY AREAS ASSOCIATED

WITH LIMERICK OPERATION AND SUPPORT, AND TO IDENTIFY ITEMS REQUIRING CLOSURE PRIOR TO CERTAIN MILESTONES ASSOCIATED WITH LIMERICK 2. THOSE MILESTONES WERE FUEL LOAD, HEATUP AND POWER ASCENSION TESTING. ACTION PLANS FOR IMPLEMENTING THESE ITEMS WERE DEVELOPED AND PROGRESS WAS TRACKED. (SLIDE #11) THE CONCLUSIONS OF THE ASSESSMENT WERE THAT THE STATION WAS PROPERLY STAFFED, TRAINING PROGRAMS WERE IN PLACE AND EFFECTIVE, AND THAT SOME PROCEDURAL AND ADMINISTRATIVE ACTIONS WERE NEEDED BEFORE PLANT LICENSING. THESE ITEMS HAVE SUBSEQUENTLY BEEN TRACKED TO COMPLETION.

THE READINESS VERIFICATION PROGRAM WAS PERFORMED TO ASSESS THE DESIGN, CONSTRUCTION AND OPERATIONAL ASPECTS OF LIMERICK UNIT 2. A MAJOR FEATURE OF THIS ASSESSMENT WAS AN INDEPENDENT DESIGN AND CONSTRUCTION ASSESSMENT PERFORMED BY STONE AND WEBSTER ENGINEERING CORPORATION TO PROVIDE ADDITIONAL ASSURANCE THAT LIMERICK UNIT 2 IS READY FOR OPERATION IN ACCORDANCE WITH LICENSING AND OTHER COMMITMENTS. (SLIDE #12) THE CONCLUSIONS OF THE CONSTRUCTION ASSESSMENTS WERE THAT THERE WAS SOME INATTENTION TO DETAIL; HOWEVER, HARDWARE DEFICIENCIES WOULD NOT HAVE AFFECTED FUNCTIONALITY AND OVERALL CONSTRUCTION QUALITY IS GOOD.

(SLIDE #13) THE CONCLUSIONS OF THE DESIGN ASSESSMENT WERE THAT IDENTIFIED DEFICIENCIES WERE GENERALLY MINOR AND HAD NO EFFECT ON DESIGN ADEQUACY, AND THAT ENGINEERING AND DESIGN ARE SATISFACTORY, MEET LICENSING COMMITMENTS AND ARE TECHNICALLY ADEQUATE.

(SLIDE #14)

OVERALL, THE CONCLUSION OF OUR SELF ASSESSMENT PROCESS FOR LIMERICK UNIT 2 WAS THAT IT WAS A THOROUGH PROCESS, ITEMS WERE

IDENTIFIED FOR ACTION AND THEIR RESOLUTION WAS VERIFIED, AND THE PROCESS PROVIDED EFFECTIVE CONFIRMATION OF READINESS FOR OPERATION.

SUBJECT TO YOUR QUESTIONS, I WILL NOW ASK MR. LEITCH TO REPORT ON OUR OPERATING RECORD ON UNIT 1, RECENT ISSUES, OUR MANAGEMENT SELF ASSESSMENT EFFORTS, AND READINESS FOR TWO UNIT FULL POWER OPERATION AT LIMERICK.

STATEMENT BY GRAHAM LEITCH
VICE PRESIDENT OF LIMERICK GENERATING STATION
PHILADELPHIA ELECTRIC COMPANY
TO NRC COMMISSIONERS PRESENTATION
AUGUST 17, 1989

GOOD MORNING, MY NAME IS GRAHAM LEITCH. I AM THE VICE PRESIDENT OF LIMERICK GENERATING STATION. I HAVE WORKED FOR PHILADELPHIA ELECTRIC COMPANY FOR 33 YEARS, ALL THAT TIME IN THE BUSINESS OF OPERATING POWER PLANTS. I HAVE HAD THE OVERALL RESPONSIBILITY FOR THE OPERATION OF LIMERICK SINCE 1975, HAVING VARIOUS TITLES WITH VARYING LEVELS OF RESPONSIBILITY. FOUR YEARS AGO, WHEN LIMERICK UNIT 1 WAS ISSUED A FULL POWER LICENSE, I HAD THE PRIVILEGE TO SPEAK TO YOU AS PLANT SUPERINTENDENT. I AM HERE TODAY TO TELL YOU ABOUT OUR EXPERIENCES WITH LIMERICK UNIT 1 AND OUR READINESS TO OPERATE UNIT 2.

AT LIMERICK, EACH UNIT IS A 1055 MW ELECTRIC BOILING WATER REACTOR TYPE 4 1/2, WITH A MARK II CONTAINMENT. THE PLANT IS LOCATED ON THE SCHUYLKILL RIVER, 30 MILES NORTHWEST OF PHILADELPHIA AND 2 MILES FROM POTTSTOWN, PA.

SINCE THE BEGINNING OF STAFFING FOR LIMERICK, WE HAVE EMPHASIZED VALUES SUCH AS QUALITY AND SAFETY AND THE IMPORTANCE OF PEOPLE. WE, THE MANAGEMENT OF THE NUCLEAR GROUP AND OF LIMERICK STATION FIRMLY BELIEVE IN THE VALUES CORBIN HAS ALREADY DISCUSSED. WE CONSIDER THEM NOT ONLY IN WHAT WE WRITE AND WHAT WE SAY, BUT ALSO IN OUR DAY TO DAY DECISION MAKING PROCESSES. AS WE COMMUNICATE THESE VALUES TO THE EMPLOYEES AT LIMERICK, WE SEE REFLECTED A POSITIVE CULTURE. WE FEEL THAT SUCH A CULTURE HAS ALWAYS EXISTED AT LIMERICK AND THE FORMALIZATION OF THIS STATEMENT

OF VALUES SERVES TO REINFORCE THAT CULTURE.

IN CONSIDERING OUR READINESS TO OPERATE UNIT 2, LET ME FIRST REVIEW WITH YOU SOME OF OUR EXPERIENCES IN THE OPERATIONS OF UNIT 1. (SLIDE #15) IT HAS BEEN 22 MONTHS SINCE THERE WAS A FORCED OUTAGE AT LIMERICK AND OUR FORCED OUTAGE RATE IN THE YEAR 1988 AND THUS FAR IN 1989 HAS BEEN ZERO.

AS WELL AS HAVING A VERY LOW NUMBER OF SCRAMS DURING THE POWER ASCENSION PROGRAM, WE HAVE HAD ONLY FOUR SCRAMS IN FOUR YEARS OF COMMERCIAL OPERATION. WE ATTRIBUTE THIS VERY LOW NUMBER OF SCRAMS TO A CONSERVATIVE DESIGN COMBINED WITH A CONSERVATIVE QUALITY APPROACH TO OPERATIONS.

WE MEASURE OUR PERFORMANCE USING BOTH INPO AND OTHER INTERNAL INDICATORS. THIS PERFORMANCE INFORMATION IS REPORTED TO ME ON A MONTHLY BASIS SO THAT I CAN BE AWARE AND TAKE APPROPRIATE CORRECTIVE ACTIONS IF I OBSERVE TRENDS TOWARD DEGRADATION.

AT LIMERICK THE MAJOR DOWNTIME HAS BEEN FOR PLANNED OUTAGES. (SLIDE #16) BETWEEN THESE OUTAGES, WE HAVE ACHIEVED LONG PERIODS OF CONTINUOUS POWER OPERATION. IN 1986, THERE WAS A 198 DAY RUN, IN 1987 THROUGH 1988 THERE WAS A 200 DAY RUN AND THE RUN WHICH ENDED WITH THE SECOND REFUELING OUTAGE WAS A 268 DAY RUN. WE HAVE BEEN IN CONTINUOUS OPERATION SINCE RETURNING FROM THE SECOND REFUELING OUTAGE IN MAY OF THIS YEAR. IN ADDITION, OUR RADIATION EXPOSURE OF 53 MAN REM IN 1988 WAS NOT ONLY BETTER THAN THE INPO BEST QUARTILE, IT WAS THE BEST IN THE UNITED STATES, AND ONE OF THE BEST IN THE WORLD.

THE OPERATION OF UNIT 1 HAS NOT BEEN TOTALLY WITHOUT DIFFICULTY. WE HAVE FACED TWO PROBLEMS I WOULD LIKE TO DISCUSS,

ONE TECHNICAL AND ONE MANAGERIAL.

FIRST THE TECHNICAL PROBLEM. FROM THE SPRING OF 1988 THROUGH THE BEGINNING OF 1989, THE CAPACITY FACTOR GRADUALLY DECREASED BECAUSE WE WERE CONSERVATIVELY REDUCING LOAD TO CONTROL OFF-GAS ACTIVITY CAUSED BY THE FUEL CLADDING PROBLEM WHICH WE EXPERIENCED IN THE SECOND CYCLE OF OPERATION. THE PROBLEM WAS CRUD INDUCED LOCALIZED CORROSION CAUSED PRIMARILY BY HIGH LEVELS OF COPPER IN THE FEEDWATER. AT THE SECOND REFUELING OUTAGE 2/3 OF THE CORE WAS REPLACED RATHER THAN THE NORMAL 1/3. SINCE STARTUP THERE HAVE BEEN NO INDICATIONS OF FUEL LEAKS. COPPER LEVELS ARE CURRENTLY BEING CONTROLLED BY OPTIMIZING PRE-COATS ON EXISTING FILTER DEMINERALIZERS. DEEP BED DEMINERALIZERS WILL BE INSTALLED AT THE NEXT REFUELING OUTAGE OF EACH UNIT TO PERMANENTLY RESOLVE THE COPPER PROBLEM.

THE MANAGERIAL PROBLEM WAS IN THE AREA OF EMERGENCY PREPAREDNESS. (SLIDE #17) AN NRC INSPECTION WAS CONDUCTED BY REGIONAL BASED EMERGENCY PREPAREDNESS INSPECTORS DURING MAY OF THIS YEAR. THAT INSPECTION IDENTIFIED A VIOLATION REGARDING THE ABILITY OF THE SHIFT SUPERINTENDENT TO PROPERLY CLASSIFY A RAPIDLY ESCALATING EMERGENCY AND RECOMMEND OFFSITE PROTECTIVE ACTION. THERE WAS ALSO A VIOLATION REGARDING RECURRING DEFICIENCIES.

OUR RESPONSES TO THESE VIOLATIONS WERE BOTH IMMEDIATE AND CONTINUING.

- o IMMEDIATE REMEDIAL TRAINING WAS CONDUCTED FOR THOSE INDIVIDUALS SERVING IN THE ON-SHIFT ROLES PRIOR TO THEM RESUMING THESE DUTIES.

- o ADDITIONAL TABLE TOP TRAINING SESSIONS WERE CONDUCTED FOR THE SHIFT CREWS AND THE EMERGENCY DIRECTORS FOCUSING ON EMERGENCY CLASSIFICATION, DOSE ASSESSMENT, AND PROTECTIVE ACTION RECOMMENDATIONS.
- o A SENIOR ENGINEER, HAVING PREVIOUS EMERGENCY PREPAREDNESS EXPERIENCE, WAS ASSIGNED TO PROVIDE FULL-TIME OVERVIEW OF THE ONSITE PROGRAM.
- o A ROOT CAUSE ANALYSIS WAS INITIATED. (SLIDE #18)

THE ROOT CAUSE ASSESSMENT TEAM WAS MADE UP OF FOUR INDIVIDUALS, TWO FROM WITHIN PECO AND TWO FROM THE INDUSTRY. THE PROJECT TOOK ABOUT THREE WEEKS AND APPROXIMATELY 50 PEOPLE INVOLVED WITH EMERGENCY PREPAREDNESS WERE INTERVIEWED.

THE ANALYSIS IDENTIFIED A NUMBER OF CONCERNS WHICH WERE CLASSIFIED INTO 6 MAJOR CATEGORIES AS FOLLOWS:

- o MANAGEMENT SYSTEMS
- o ORGANIZATION
- o TRAINING
- o COMMITMENT TRACKING
- o PROCEDURES
- o ADMINISTRATION

THERE MAY BE A DEGREE OF OVERLAP IN THESE CATEGORIES, HOWEVER WE BELIEVE THAT WE NOW HAVE A SUFFICIENTLY DETAILED LISTING OF

CONCERNS WHICH WE CAN ADDRESS WITH A HIGH LIKELIHOOD OF SUCCESS.
(SLIDE #19)

THE RESULTS OF THIS ROOT CAUSE ASSESSMENT WERE PRESENTED TO THE NRC AT AN ENFORCEMENT CONFERENCE ON JULY 6, AND A RE-INSPECTION WAS CONDUCTED DURING THE WEEK OF JULY 24 BY THE SAME REGIONAL BASED INSPECTOR. DURING THIS INSPECTION FOUR SHIFT CREWS WERE OBSERVED, INCLUDING THE SHIFT TECHNICAL ADVISORS SERVING AS THE DOSE ASSESSMENT TEAM LEADERS. ALL OF THE PERSONNEL PERFORMED WELL AND WERE ABLE TO PROPERLY CLASSIFY ACCIDENTS AND PROVIDE PROTECTIVE ACTION RECOMMENDATIONS.

A MAJOR CORRECTIVE ACTION HAS BEEN COMPLETED WITH THE HIRING OF A NEW DIRECTOR OF EMERGENCY PREPAREDNESS WITHIN THE NUCLEAR GROUP. THIS INDIVIDUAL HAS CONSIDERABLE EXPERIENCE AND COMES TO US WITH DEMONSTRATED ABILITY TO DEVELOP AND DIRECT EMERGENCY PREPAREDNESS.

AS A RESULT OF THE ROOT CAUSE ANALYSIS WE ARE DEVELOPING A LONG RANGE ACTION PLAN WHICH WILL ADDRESS NOT ONLY THE CONCERNS OF THE ROOT CAUSE REPORT BUT ALSO NUMEROUS ITEMS WHICH THE EMERGENCY PREPAREDNESS GROUP HAD PREVIOUSLY IDENTIFIED.

NOW I WOULD LIKE TO TURN TO THE POWER ASCENSION PROGRAM FOR UNIT 2. THE SCHEDULE WHICH PREDICTS COMMERCIAL OPERATION ON FEBRUARY 1, 1990 IS AN AGGRESSIVE ONE, BUT NO MORE SO THAN THE SCHEDULE WHICH WAS ACCOMPLISHED ON UNIT 1.

DURING THE POWER ASCENSION OF UNIT 1, WE COULD CONCENTRATE ALL OUR RESOURCES ON THAT UNIT; HOWEVER, NOW WE MUST BE SURE THAT WE CONTINUE TO DEVOTE ALL NECESSARY RESOURCES TO MAINTAINING THE SAFE OPERATION OF UNIT 1 WHILE AT THE SAME TIME CONDUCTING THE POWER

ASCENSION PROGRAM ON UNIT 2. (SLIDE #20) TO ASSURE THAT WE ARE PROPERLY MANAGING OUR RESOURCES DURING THIS CRITICAL PHASE IN THE LIFE OF OUR PLANT, WE HAVE ESTABLISHED A PLANT MANAGEMENT SELF-ASSESSMENT PROGRAM. THIS PROGRAM REVIEWS ALL SITE RELATED ACTIVITIES SUCH AS:

- o EVENT REPORTS
- o SYSTEM AND EQUIPMENT STATUS
- o REGULATORY ACTIVITIES
- o PROGRAMMATIC ITEMS
- o QUALITY ASSURANCE ISSUES

MARTY MCCORMICK, THE PLANT MANAGER, WILL DISCUSS, IN HIS PRESENTATION, THE EARLY RESULTS OF THESE SELF-ASSESSMENT ACTIVITIES.

THERE IS ALSO A HIGHER LEVEL MANAGEMENT OVERSITE COMMITTEE WHICH MEETS THREE TIMES DURING THE POWER ASCENSION PROGRAM. THEY MEET AFTER ZERO POWER TESTING, LOW POWER TESTING, AND AT THE 50% POWER TESTING PLATEAU. AFTER OUR 50% PLATEAU REVIEW, WE WILL MEET ON SITE WITH REGIONAL NRC REPRESENTATIVES TO DISCUSS THE RESULTS OF OUR SELF-ASSESSMENT SO THAT WE CAN JOINTLY AGREE TO OUR READINESS TO PROCEED TO HIGHER POWER LEVELS.

ALL CONSTRUCTION IS COMPLETED, AND ALL PREOPERATIONAL AND ACCEPTANCE TESTS ARE COMPLETED. SINCE RECEIVING THE UNIT 2 FUEL LOAD AND LOW POWER LICENSES, WE HAVE ACCOMPLISHED FUEL LOADING, AN OPERATIONAL HYDROSTATIC TEST AND THE COMPLETION OF ALL SURVEILLANCE

TESTS REQUIRED FOR INITIAL CRITICALITY. ALL STARTUP TESTS ASSOCIATED WITH THE "OPEN VESSEL" PHASE HAVE BEEN COMPLETED. ON AUGUST 12, THE PLANT WAS TAKEN CRITICAL AND INITIAL HEAT UP AND ASSOCIATED TESTING IS IN PROGRESS. OUR JUDGEMENT IS THAT WE WILL BE READY FOR A FULL POWER LICENSE BY AUGUST 29.

AS I MENTIONED AT THE OUTSET, WE BELIEVE THAT AS MANAGEMENT IT IS OF UTMOST IMPORTANCE THAT WE CONTINUE TO CONVEY TO ALL THE PEOPLE WHO WORK AT LIMERICK, OUR SENSE OF VALUES. WE BELIEVE THAT AS WE CONTINUE TO LIVE THESE VALUES, THE CULTURE WILL CONTINUE TO REFLECT THEM IN SAFE OPERATION.

WE ARE SATISFIED WITH THE OPERATIONAL EXPERIENCES THAT WE HAVE HAD WITH UNIT 1, WE BELIEVE THE PLANT HAS OPERATED SAFELY AND IN A HIGH QUALITY FASHION. WE ARE READY TO ACCEPT A FULL POWER LICENSE FOR UNIT 2 FULLY RECOGNIZING THE RESPONSIBILITY AND PUBLIC TRUST ASSOCIATED WITH THIS ENDEAVOR.

SUBJECT TO YOUR QUESTIONS, I WILL NOW ASK MR. MCCORMICK TO DISCUSS THE STATION ORGANIZATION, MAINTENANCE STRATEGY, SELF-ASSESSMENT, AND UNIT 2 OPERATIONS. THANK YOU.

STATEMENT BY MARTIN J. MCCORMICK
PLANT MANAGER OF LIMERICK GENERATING STATION
PHILADELPHIA ELECTRIC COMPANY
TO NRC COMMISSIONERS PRESENTATION
AUGUST 17, 1989

GOOD MORNING, I AM MARTY MCCORMICK, THE PLANT MANAGER AT LIMERICK GENERATING STATION. I HAVE BEEN AN EMPLOYEE OF PHILADELPHIA ELECTRIC COMPANY FOR MORE THAN 35 YEARS AND HAVE HELD VARIOUS POSITIONS OF INCREASED RESPONSIBILITY INVOLVING THE OPERATION AND MAINTENANCE OF FOSSIL, NUCLEAR AND HYDROELECTRIC GENERATING STATIONS. I HAVE BEEN AT LIMERICK ON A FULL-TIME BASIS SINCE DECEMBER OF 1987, INITIALLY AS ASSISTANT TO THE VICE PRESIDENT WHILE OBTAINING HOT LICENSE CERTIFICATION, AND AS PLANT MANAGER SINCE JUNE OF 1988.

MY PRESENTATION TODAY WILL GIVE AN OVERVIEW OF THE PLANT'S ORGANIZATION, INCLUDING OUR SHIFT STAFFING, COMMENTS ON OUR MAINTENANCE STRATEGY, OUR PLANT MANAGEMENT SELF-ASSESSMENT RESULTS AND FINALLY A SUMMARY REPORT ON THE STATUS OF UNIT 2'S POWER ASCENSION PROGRAM. (SLIDE #21)

THE PLANT DIVISION IS ORGANIZED TO FULLY OPERATE AND MAINTAIN BOTH UNITS AT LIMERICK. I HAVE FIVE DIRECT REPORTS, FOUR OF WHICH WILL CONTINUE, HOWEVER, THE TEST REVIEW BOARD CHAIRMAN HAS WORKED HIS WAY OUT OF A JOB. THE TEST REVIEW BOARD HAD RESPONSIBILITY FOR REVIEWING AND APPROVING ALL STARTUP TESTS, AND THE TEST RESULTS, TO ENSURE THE EQUIPMENT WOULD PERFORM AS DESIGNED BEFORE ACCEPTANCE BY THE PLANT STAFF. ALL SYSTEMS ARE NOW ACCEPTED BY THE PLANT STAFF. THE FOUR PLANT SUPERINTENDENTS AREAS OF RESPONSIBILITY SPAN THE TECHNICAL, OPERATIONS, SERVICES, AND MAINTENANCE ASPECTS OF THE

POWER PLANT.

- o THE TECHNICAL SUPERINTENDENT, MR. PHIL DUCA, HEADS UP THE SYSTEM ENGINEERS AND ASSOCIATED TECHNICAL STAFF INCLUDING THE SITE REGULATORY GROUP THAT INTERFACES WITH THE NRC ON ALL REGULATORY ISSUES. THE TECHNICAL SUPERINTENDENT AND HIS DIRECT REPORTS MAINTAIN SRO LICENSES.
- o THE SUPERINTENDENT OF OPERATIONS, MR. JAY DOERING, HAS OVERALL RESPONSIBILITY FOR THE CONDUCT OF DAY TO DAY SHIFT OPERATIONS. THE SUPERINTENDENT OF OPERATIONS HAS A FULL-TIME ASSISTANT SUPERINTENDENT; THEY BOTH ARE LICENSED AT THE SRO LEVEL. SUBSEQUENT DISCUSSION WILL COVER THE SHIFT COMPLEMENT IN MORE DETAIL.
- o THE SUPERINTENDENT OF SERVICES, MR. RICHARD DUBIEL, HAS RESPONSIBILITY FOR THE PLANT RADIOLOGICAL PROTECTION PROGRAM (HEALTH PHYSICS), THE CHEMISTRY PROGRAM, AND THE RADWASTE MANAGEMENT PROGRAM, INCLUDING BOTH LIQUID AND SOLID WASTES. A SENIOR ENGINEER LEVEL MANAGER HAS BEEN ASSIGNED TO EACH OF THESE AREAS. THE PRESENT RADWASTE ENGINEER MAINTAINS AN SRO LICENSE.
- o THE SUPERINTENDENT OF MAINTENANCE, MR. JACK SPENCER, HAS OVERALL RESPONSIBILITY FOR MECHANICAL, ELECTRICAL, AND INSTRUMENT & CONTROL PREVENTIVE AND CORRECTIVE MAINTENANCE AT THE SITE. THE MAINTENANCE SUPERINTENDENT ALSO HAS DIRECT ACCESS TO THE RESOURCES OF THE CENTRALIZED MAINTENANCE DIVISION DURING OUTAGES AND CAN FURTHER EXPAND HIS SUPPORT STAFF BY USING CONTRACTORS WHEN NECESSARY. (SLIDE #22)

SHIFT OPERATIONS ARE COVERED BY A SIX SHIFT ROTATION OF OPERATORS. THIS PERMITS ONE WEEK OF TRAINING OUT OF EVERY SIX, AND A WEEK ON UTILITY, TO SUPPLEMENT THE DAY SHIFT IN THE PERFORMANCE OF ROUTINE DUTIES SUCH AS LUBRICATION AND EQUIPMENT INSPECTIONS.

A BASIC SHIFT IS HEADED BY A SHIFT SUPERINTENDENT. HE HAS TWO SUPERVISORS, ONE FOR FULL-TIME CONTROL ROOM DUTIES AND ONE FOR DUTIES OUTSIDE OR INSIDE THE CONTROL ROOM AS REQUIRED. THESE THREE POSITIONS ARE FILLED BY PERSONS HOLDING SENIOR REACTOR OPERATOR LICENSES. THERE IS A REACTOR OPERATOR FOR EACH UNIT AND A CHIEF OPERATOR THAT CAN OPERATE TO ASSIST OR RELIEVE THE REACTOR OPERATORS AND ALSO DIRECT THE FLOOR PERSONNEL. THEY ARE ALL LICENSED AT THE REACTOR OPERATOR LEVEL. THE FLOOR COMPLEMENT IS 9 PEOPLE, 2 FOR EACH UNIT AND 5 FOR THE COMMON PLANT EQUIPMENT, SUCH AS RADWASTE OPERATIONS.

ON DAY WORK WE STAFF A PERMIT AND BLOCKING SUPERVISOR'S POSITION AND A PERMIT WRITER'S POSITION. THE INCUMBENTS ROTATE ON A SIX MONTH SCHEDULE AND ARE LICENSED AT THE SRO AND RO LEVELS RESPECTIVELY. THESE POSITIONS ARE SUPPLEMENTED DURING OUTAGES TO PROVIDE MULTIPLE-SHIFT COVERAGE AS REQUIRED TO SUPPORT THE WORK LOAD.

EACH SHIFT ALSO HAS A DEGREED ENGINEER'S POSITION, CALLED THE SHIFT TECHNICAL ADVISOR (STA). THIS IS A NON-LICENSED POSITION, BUT IT IS ONE THAT HAS BECOME VERY BENEFICIAL TO THE SHIFT AS A WHOLE. THE STA'S POSITION HAS EVOLVED FROM ONE OF SUPPORT FOR EMERGENCY DUTIES TO ONE THAT ALSO PROVIDES STRONG ON-SHIFT TECHNICAL SUPPORT. WE ALSO FIND THAT WHEN AN STA RETURNS TO ENGINEERING DUTIES IN ONE OF THE PLANT SECTIONS AFTER 2-4 YEARS ON

SHIFT, HE IS AN EXTREMELY EFFECTIVE ENGINEER; ONE WHO UNDERSTANDS THE OPERATOR'S NEEDS FROM FIRST HAND EXPERIENCE. (SLIDE #23)

IN TERMS OF LICENSES, WE ARE IN A GOOD POSITION TO HANDLE THE DEMANDS OF TWO UNIT OPERATION. ON THE OPERATIONS STAFF, WE HAVE 23 SRO DUAL UNIT LICENSES; THE TECH. SPEC. REQUIREMENT IS 12. OUR RO LICENSES ARE CURRENTLY AT 23 DUAL UNIT LICENSES AND THE TECH. SPEC. REQUIREMENT IS 18. IN TERMS OF TOTAL OPERATIONAL STAFFING, WE CURRENTLY HAVE 129 PERSONS, WHICH IS IN EXCESS OF THE MINIMUM REQUIRED STAFFING. IN ADDITION, WE HAVE 19 LICENSED STAFF ENGINEERS.

I SHOULD NOTE THAT CONTROL ROOM ASPECTS OF THE ENTIRE PREOPERATIONAL TEST PROCESS WERE CONDUCTED BY OUR OPERATORS. WE HAVE HAD HANDS-ON CONTROL OF ALL PHASES OF THE WORK SINCE DECEMBER OF 1988.

FURTHERMORE, THE ENTIRE PLANT DIVISION HAS HAD EXTENSIVE EXPERIENCE IN OPERATING AND MAINTAINING UNIT 1. THIS EXPERIENCE HAS BEEN CARRIED OVER INTO THE UNIT 2 TEST AND POWER ASCENSION PROGRAMS AS A NATURAL EXTENSION OF EXISTING PROGRAMS AND PROCEDURES. THUS FAR, WE HAVE HAD A SUCCESSFUL ASCENSION TO FULL POWER OPERATION AND EXPECT IT TO CONTINUE. (SLIDE #24)

THE MAINTENANCE/I&C STRATEGY AT LIMERICK IS BASED ON MAINTAINING A LOW CORRECTIVE MAINTENANCE BACKLOG AND A HIGH RATIO OF PREVENTIVE MAINTENANCE TO CORRECTIVE MAINTENANCE. WE TREND THESE STATISTICS AND THEY ARE PART OF THE DATA REVIEWED BY GRAHAM AND CORBIN DURING THEIR RESPECTIVE MONTHLY REVIEWS OF PLANT PERFORMANCE. ON UNIT 2, AS PART OF THE STARTUP PROGRAM, WE ESTABLISHED BASELINE DATA THAT WILL PERMIT PREDICTIVE MAINTENANCE

BASED ON AN ANALYSIS OF ACTUAL VIBRATION DATA VS. ORIGINAL. OIL-ANALYSIS AND A PILOT PROGRAM OF THERMOGRAPHY ARE ALSO PART OF THAT PROGRAM. SAFE AND RELIABLE OPERATION DEPENDS ON A WELL MANAGED MAINTENANCE PROGRAM AND WE HAVE ONE. THE NRC MAINTENANCE TREE INSPECTION CONDUCTED EARLIER THIS YEAR VERIFIED THAT OUR PROGRAM WAS INDEED EFFECTIVE. OF THE 38 AREAS EVALUATED BY THE NRC, 35 MET ALL REQUIREMENTS. ONLY 3 NEEDED SOME IMPROVEMENT AND THERE WERE NO AREAS CONSIDERED INADEQUATE. (SLIDE #25)

AS PART OF THE POWER ASCENSION PROCESS, WE HAVE DOCUMENTED OUR PERFORMANCE AND BI-WEEKLY SELF-ASSESSED THE RESULTS AGAINST THE FOLLOWING CRITERIA:

- o SAFE AND RELIABLE OPERATION OF UNIT 1, UNIT 2 AND COMMON
- o CONTROL ROOM OPERATIONS AND PROFESSIONALISM
- o TEAMWORK AND COMMUNICATIONS
- o ENGINEERING AND MAINTENANCE SUPPORT SERVICES
- o ORGANIZATIONAL INTERFACES, INVOLVING BOTH ONSITE AND OFFSITE GROUPS
- o PLANT CONFIGURATION CONTROL
- o PROCEDURAL ADEQUACY AND EFFECTIVENESS OF IMPLEMENTATION

SINCE RECEIVING (SLIDE #26) THE LICENSE TO LOAD FUEL ON UNIT 2, WE HAVE PERFORMED OUR DUTIES WITH THE FOLLOWING CLEARLY DEMONSTRATED STRENGTHS:

- PROFESSIONAL RESPONSE TO EVENTS
- TEAMWORK AND COMMUNICATION
- USE OF PROCEDURES

ALSO, AS PART OF THE SELF ASSESSMENT PROCESS WE HAVE IDENTIFIED SEVERAL ADVERSE TRENDS, WHICH WE CALL "WATCH" AREAS.

THE "WATCH" AREAS ARE:

- PLANT INCIDENTS
- PROCEDURE CHANGES
- BACKLOG OF MAINTENANCE REQUEST FORM PAPER CLOSURE
- BACKLOG OF ENGINEERING WORK REQUESTS
- INDUSTRIAL SAFETY STATISTICS FOR ALL PERSONNEL ON-SITE

WE HAVE TAKEN STRONG CORRECTIVE ACTION IN EACH OF THESE AREAS AND THESE ACTIONS APPEAR TO BE EFFECTIVE. WE WILL CONTINUE TO MONITOR AND ADJUST THE CORRECTIVE ACTIONS AS REQUIRED.

I NOW WANT TO TURN TO THE POWER ASCENSION PROGRAM.

(SLIDE #27) OUR POWER ASCENSION PROGRAM IS BASED ON A PLAN THAT TAKES US FROM OPEN VESSEL TESTING THROUGH TO COMMERCIAL OPERATION IN 8 DISTINCT STEPS.

WE ARE NOW IN THE SECOND OF THESE STEPS, CALLED TEST CONDITION "HEATUP" AND ARE AT ____% POWER AND AT ____PSIG. WE HAVE SUCCESSFULLY COMPLETED TESTING OF THE REACTOR CORE ISOLATION COOLING AND HIGH PRESSURE COOLANT INJECTION PUMPS. THESE PUMPS HAVE BEEN DECLARED OPERABLE. WE HAVE ALSO SUCCESSFULLY COMPLETED TESTING OF THE UNIT 2 REACTOR AUTOMATIC DEPRESSURIZATION SYSTEM VALVES. THE NEXT PHASE, TEST CONDITION ONE, WHICH REQUIRES A FULL POWER LICENSE, WILL PERMIT ROLLING THE TURBINE AND SYNCHRONIZING THE GENERATOR. VARIOUS TESTS WILL BE CONDUCTED DURING THE OTHER TEST CONDITIONS IN THIS PROGRAM, INCLUDING A LOSS OF POWER TEST, A DUAL RECIRCULATION PUMP TRIP TEST, AND A UNIT SHUTDOWN FROM THE REMOTE SHUTDOWN PANEL.

SHUTDOWN FROM THE REMOTE SHUTDOWN PANEL.

IN SUMMARY - WE ARE FULLY TRAINED, AND CAPABLE TO TAKE UNIT 2 TO FULL POWER. FURTHER, WE WILL OPERATE AND MAINTAIN BOTH UNITS IN A MANNER THAT REFLECTS OUR WORLD CLASS STYLE, A STYLE THAT FULLY RESPECTS AND PROTECTS THE HEALTH AND SAFETY OF THE PUBLIC WE SERVE.

SUBJECT TO YOUR QUESTIONS, I WILL NOW RETURN OUR PRESENTATION TO MR. PAQUETTE FOR SOME CONCLUDING REMARKS.

STATEMENT BY JOSEPH F. PAQUETTE, JR.
CHAIRMAN AND CEO OF PHILADELPHIA ELECTRIC COMPANY
TO U.S. NUCLEAR REGULATORY COMMISSION
AUGUST 17, 1989

CONCLUDING REMARKS:

MR. CHAIRMAN, COMMISSIONERS, YOU HAVE HEARD MY ASSOCIATES AND ME EXPLAIN WHY WE BELIEVE WE ARE READY FOR A FULL POWER LICENSE FOR LIMERICK UNIT 2. IN CONSIDERING OUR REQUEST, I WANT TO RECONFIRM, AS I DID BEFORE YOU FOUR MONTHS AGO, OUR STRONG COMMITMENT TO SAFETY AND QUALITY, TO RISING STANDARDS OF EXCELLENCE IN OUR NUCLEAR OPERATIONS, AND TO WORKING WITH THE NRC TO CONTINUALLY IMPROVE THE MANAGEMENT AND THE QUALITY OF OPERATIONS OF OUR NUCLEAR POWER PLANTS. WE HAVE INSTITUTIONALIZED THAT COMMITMENT IN OUR CORPORATE GOALS AND LONG TERM PLANS, AND I BELIEVE OUR ACCOMPLISHMENTS OVER THE PAST 18 MONTHS HAVE ESTABLISHED A PROVEN TRACK RECORD WHICH DEMONSTRATES ADHERENCE TO THOSE GOALS.

ON BEHALF OF PHILADELPHIA ELECTRIC COMPANY, I RESPECTFULLY REQUEST YOUR APPROVAL OF THE FULL POWER LICENSE FOR LIMERICK UNIT 2.

THANK YOU, AND WE'LL BE VERY HAPPY TO ANSWER ANY OTHER QUESTIONS YOU MAY HAVE.

PHILADELPHIA ELECTRIC COMPANY
LIMERICK GENERATING STATION, UNIT 2
PRESENTATION TO NRC COMMISSIONERS
AUGUST 17, 1989

JOSEPH F. PAQUETTE, Jr.
CHAIRMAN AND CEO

CORBIN A. McNEILL, Jr.
EXECUTIVE VICE PRESIDENT - NUCLEAR

GRAHAM M. LEITCH
VICE PRESIDENT - LIMERICK

MARTIN J. McCORMICK, Jr.
PLANT MANAGER - LIMERICK

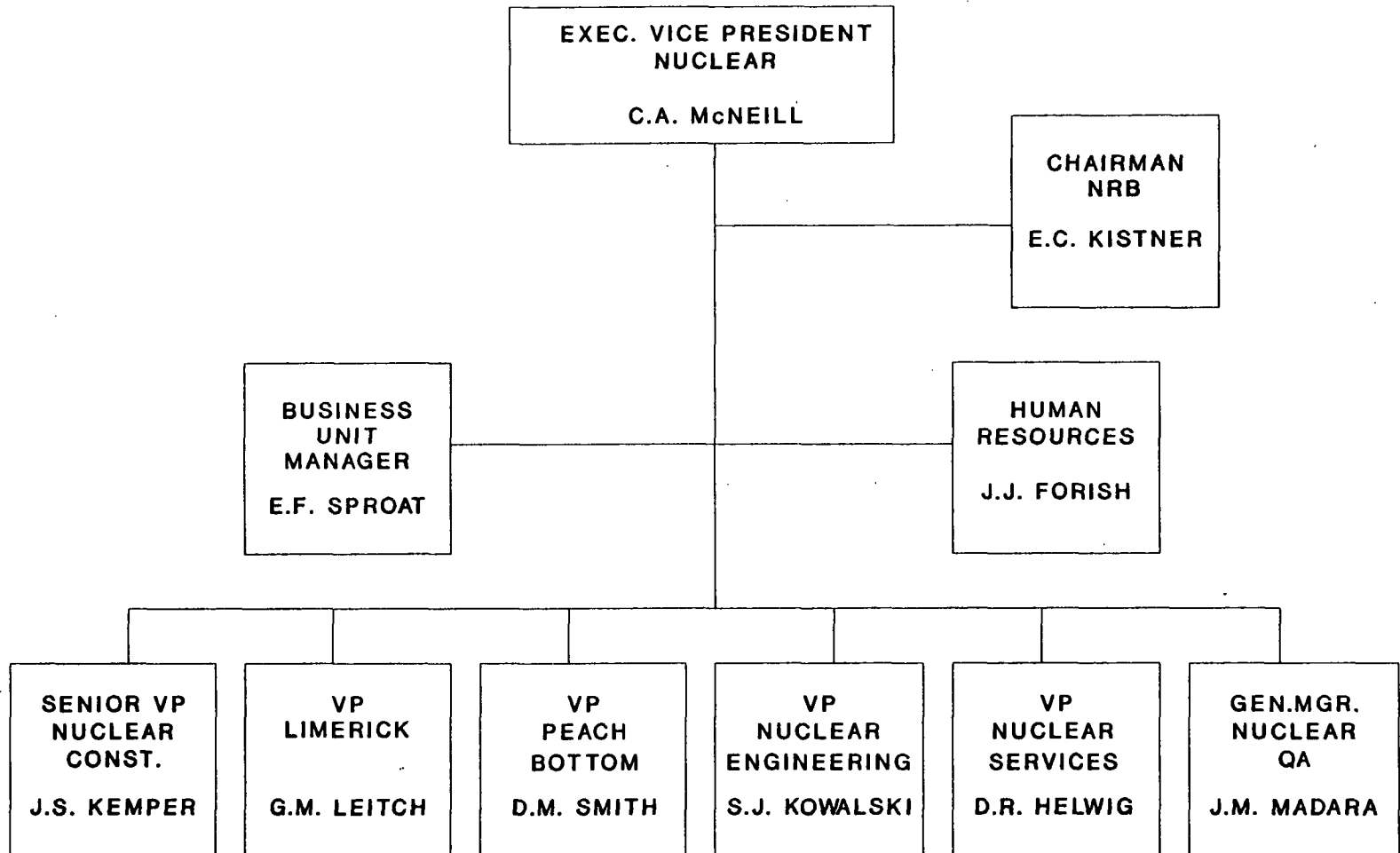
LIMERICK GENERATING STATION
UNITS 1 AND 2

CORBIN A. McNEILL, Jr.
EXECUTIVE VICE PRESIDENT - NUCLEAR

NUCLEAR GROUP CHALLENGES IN 1989

- Peach Bottom Unit 2 Restart - April 26, 1989
- Reached 100% Power - August 4, 1989
- Limerick Unit 1 Return From Refueling - May 19, 1989
- Limerick Unit 2 Fuel Load Start - June 23, 1989
- Peach Bottom Unit 3 Restart - October 1989 (estimate)

NUCLEAR GROUP ORGANIZATION CHART



DEDICATED SITE ORGANIZATIONS

- Vice President at each Station
- Focused Management Attention
- Nuclear Group Vision, Mission and Values
- Nuclear Group Goals Program
- Monthly Status Review Meetings at each Station

VISION, MISSION, AND VALUES

VISION

- Leader in the Nuclear Power Industry

MISSION

- Safe, Economical, Reliable Power

VALUES

- Safety
- Quality
- Dynamic Business Focus
- Teamwork
- People
- Integrity

DEDICATED SITE ORGANIZATIONS

- Vice President at each Station
- Focused Management Attention
- Nuclear Group Vision, Mission and Values
- Nuclear Group Goals Program
- Monthly Status Review Meetings at each Station

MANAGEMENT ATTENTION AND INVOLVEMENT

- Weekly Nuclear Group Department Heads Meetings
- Weekly Senior Corporate Management Meetings
- On-Site Presence
- Multi-Level Safety Oversight

PBAPS SHUTDOWN

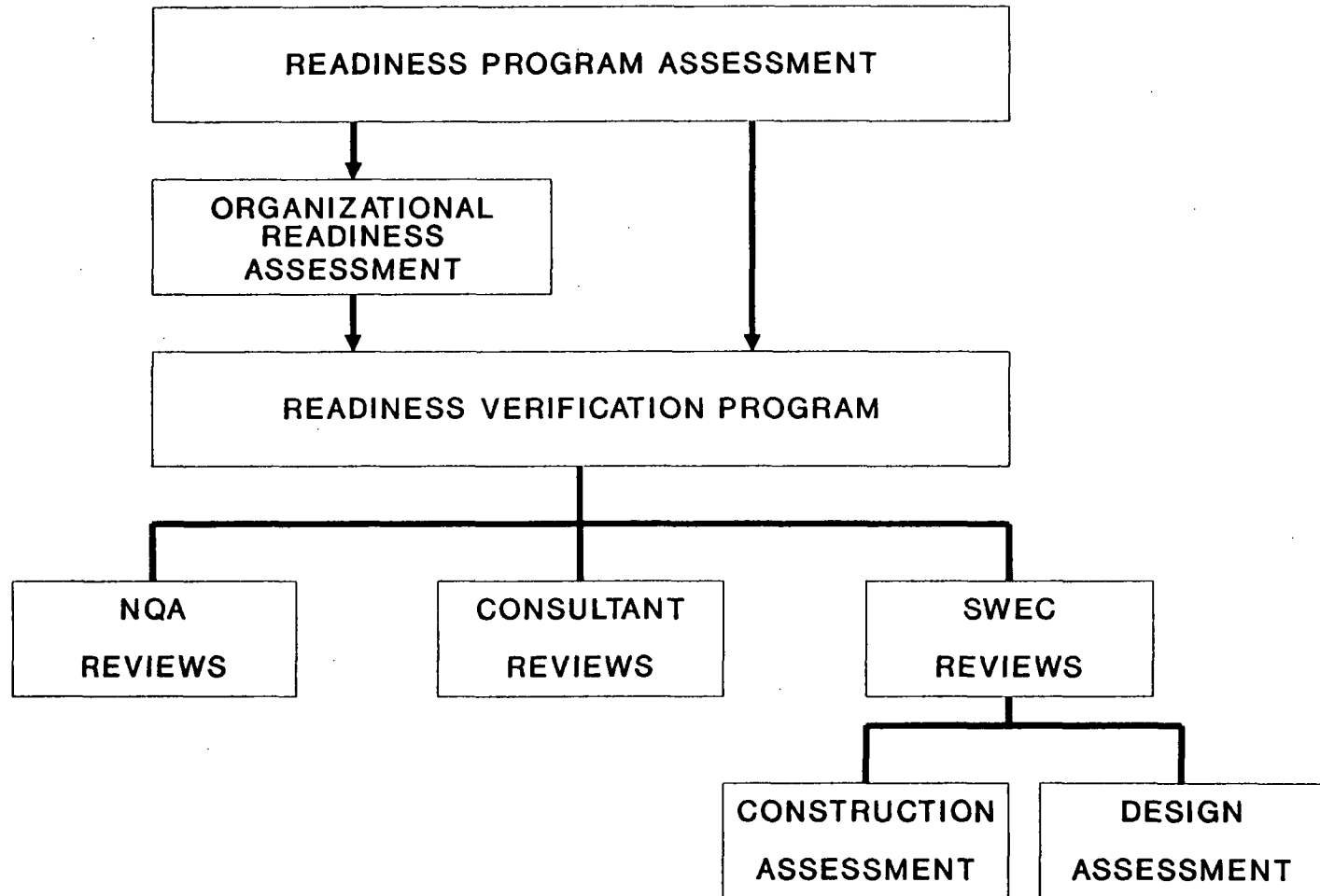
ROOT CAUSES

- **There was a Lack of Adequate Leadership and Management Skills on the Part of Senior Management at the Plant**
- **The Company Failed to Initiate Timely Licensed Operator Replacement Training Program**
- **The Station Culture, Which had its Roots in Fossil and Pre-TMI Operations, had not Adapted to Changing Nuclear Requirements**
- **Corporate Management Failed to Recognize the Developing Severity of the Problem at PBAPS and Thus, did not Take Sufficient Corrective Actions**

SUSTAINING QUALITY

- **Corporate Dedication to Safety and Quality**
- **Dedicated Nuclear Group Organization in Place**
- **Management Commitment and Support to Nuclear Activities**
- **Vision, Mission, Values, Goals**
- **Self-Assessment Program Established**

LIMERICK UNIT 2 SELF-ASSESSMENT PROCESS



ORGANIZATIONAL READINESS ASSESSMENT

PURPOSE

- To Assure That All Functional Organizations and Their Procedures, Training and Materials are Ready to Support Two-Unit Operation

APPROACH

- Conduct Interviews
- Identify Items and Determine Status
- Develop and Implement Action Plan
- Track Progress

ORGANIZATIONAL READINESS ASSESSMENT (CONTINUED)

RESULTS AND CONCLUSIONS

- Properly Staffed
- Training Programs in Place and Effective
- Most Items Identified are Procedural or Administrative in Nature
- Those Required Before Licensing will be Complete

READINESS VERIFICATION PROGRAM

CONSTRUCTION ASSESSMENT CONCLUSION

- Some Inattention to Details (Including QC)
- Hardware Deficiencies Would not have Affected Functionality
- Overall Construction Quality is Good

READINESS VERIFICATION PROGRAM (CONT'D)

DESIGN ASSESSMENT CONCLUSION

- Identified Deficiencies were Generally Minor and had No Effect on Design Adequacy
- Engineering and Design are Satisfactory; Meet Licensing Commitments, Technically Adequate

OVERALL SELF-ASSESSMENT CONCLUSIONS

- Thorough Process of Self-Assessment
 - Readiness Program Assessment
 - Organizational Readiness Assessment
 - Readiness Verification Program including IDCA
- Items Were Identified for Action and Their Resolution was Verified
- Process Provided Effective Confirmation of Readiness for Operation

LIMERICK GENERATING STATION
UNITS 1 AND 2

GRAHAM M. LEITCH
VICE PRESIDENT

DEMONSTRATED ABILITY TO OPERATE AT OR BETTER THAN INPO's BEST QUARTILE

- OPERATIONS

- FORCED OUTAGE RATE

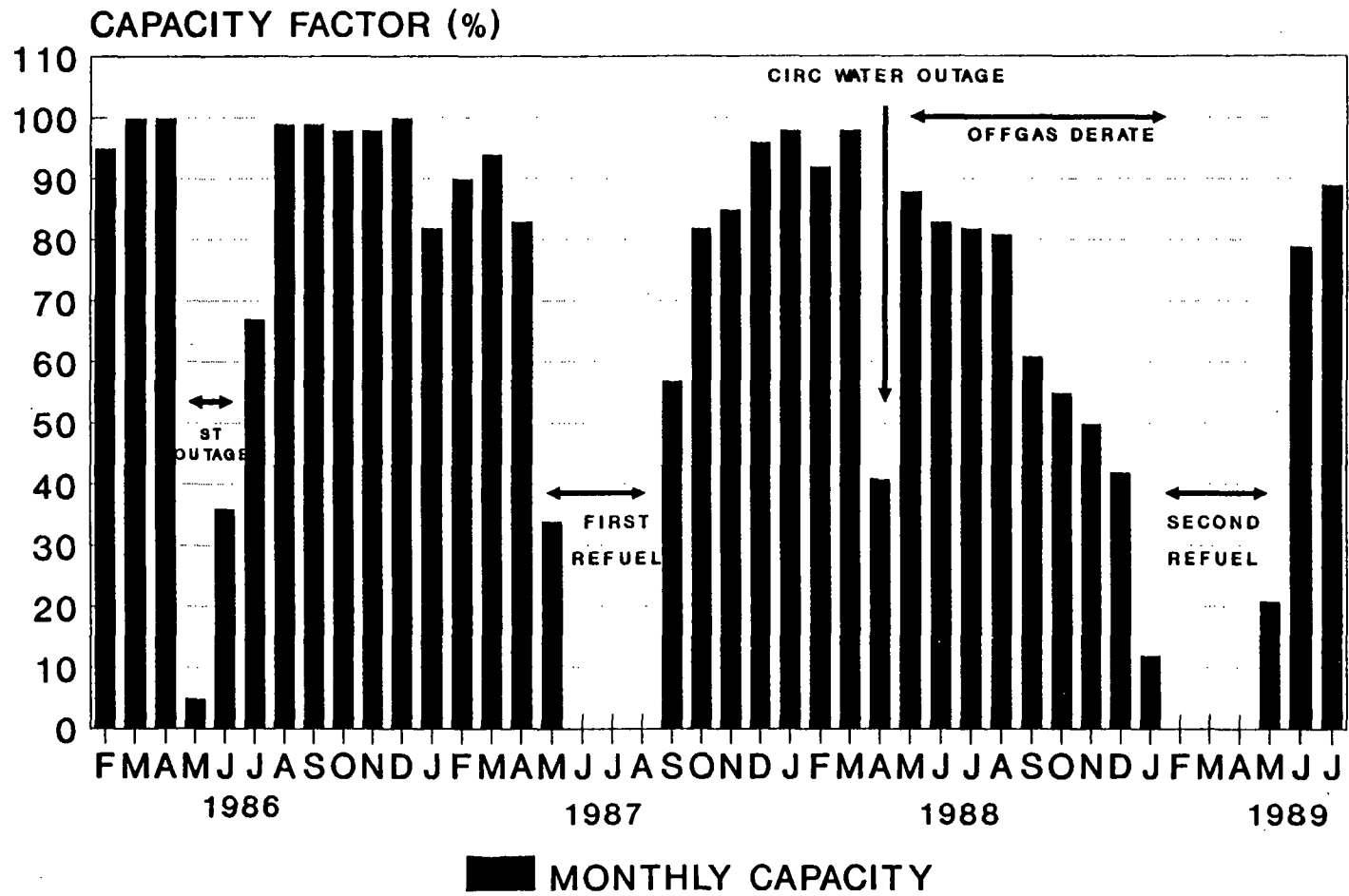
- 22 MONTHS WITHOUT A FORCED OUTAGE
 - 0 IN 1988

- SCRAMS

- 15 MONTHS WITHOUT AN AUTO SCRAM

1986	1987	1988	1989
1	2	1	0

LIMERICK UNIT 1 MONTHLY CAPACITY FACTOR



EMERGENCY PREPAREDNESS PROGRAM STATUS

- May 1989 NRC Inspection Violations
 - Ability to Properly Respond to Rapidly Escalating Emergency
 - Recurring Deficiencies
- PECO Response
 - Immediate
 - On-Shift Training
 - Table Top Training
 - Senior Engineer Assigned
 - Root Cause Assessment

RESULTS OF ROOT CAUSE ASSESSMENT

PROBLEMS IDENTIFIED IN SIX AREAS

- Management Systems
- Organization
- Training
- Commitment Tracking
- Procedures
- Administration

LONG TERM CORRECTIVE ACTIONS

- Assessment Results Reviewed with NRC
(Enforcement Conference 7/6/89)
- NRC Reinspection Week of 7/24/89
- Appointment of New Emergency
Preparedness Director
- Other Actions Being Developed Based
on Root Cause Analysis Results

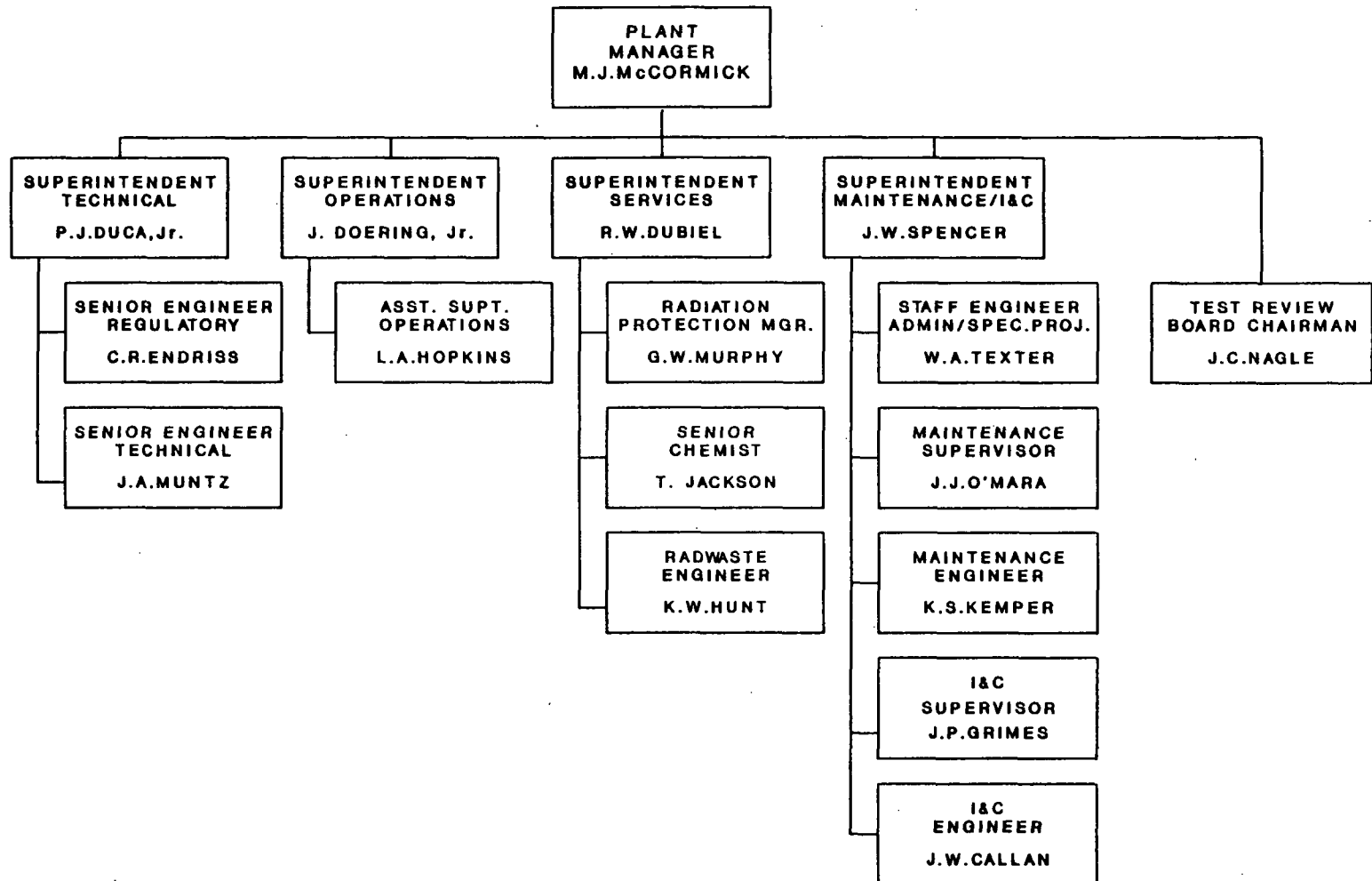
SELF-ASSESSMENT INPUTS

- Event Reports
- System/Equipment Status
- Regulatory Activity
- Programmatic Items
- Quality Assurance Issues

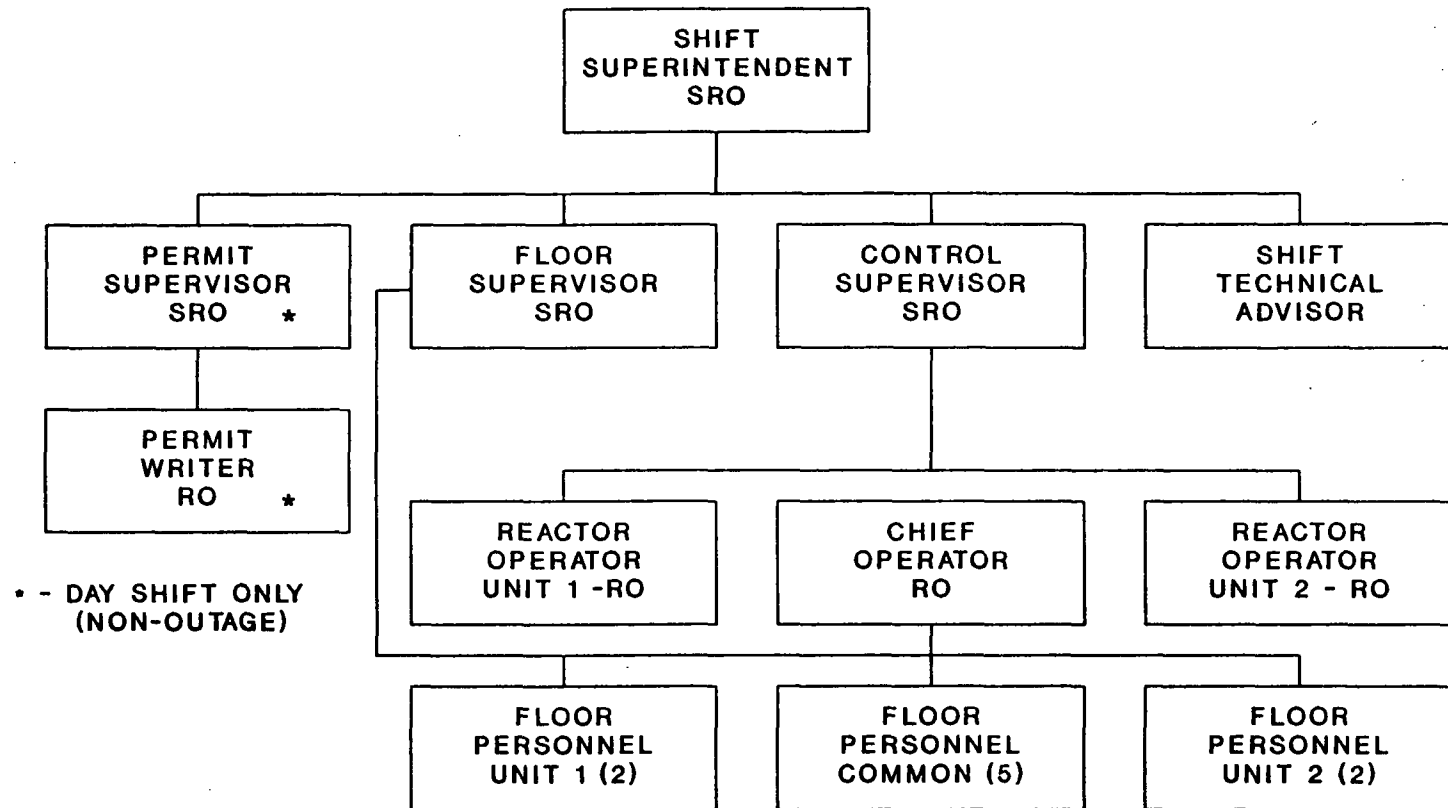
LIMERICK GENERATING STATION
UNITS 1 AND 2

MARTY McCORMICK
PLANT MANAGER

**PLANT DIVISION
ORGANIZATION CHART**



SHIFT OPERATIONS ORGANIZATION CHART



TOTAL OPERATING STAFF

	<u>AVAIL.</u>	<u>TECH. SPEC.</u>
Senior Reactor Operators	23	12
Reactor Operators	23	18
Non-Licensed Operators	62	18
Others	21	NA
Total	129	48
Licensed Staff Engineers	19	2

MAINTENANCE/I&C STRATEGY

- Low Corrective Maintenance Backlog
- Preventive Maintenance
 - Trend Equipment Failures
- Predictive Maintenance
 - Vibration Analysis
 - Oil Analysis
 - Thermography (Pilot)

PLANT MANAGEMENT SELF-ASSESSMENT

- Safe and Reliable Operation of Unit 1, Unit 2 and Common
- Control Room Operations and Professionalism
- Teamwork and Communications
- Engineering and Maintenance Support Services
- Organizational Interfaces, Involving both Onsite and Offsite Groups
- Plant Configuration Control
- Procedural Adequacy and Effectiveness of Implementation

RESULTS FROM THE SELF-ASSESSMENT PROGRAM

- Strengths Identified
 - Professional Response to Events
 - Teamwork and Communication
 - Use of Procedures
- Watch Areas
 - Plant Incidents
 - Procedure Changes
 - Backlog of MRF Paper Closure
 - Backlog of Engineering Work Requests
 - Industrial Safety

POWER ASCENSION TEST PROGRAM

<u>TEST PHASE</u>	<u>STATUS</u>	<u>REQUIRED</u>
Open Vessel	Complete	Low Power License
Heat up	In-Progress	Low Power License
Test Conditions 1 - 6	To-Go	Full Power License

COMMISSION BRIEFING

ON

LIMERICK GENERATING STATION, UNIT 2

FULL POWER LICENSE

AUGUST 17, 1989

BRIEFING OUTLINE

- LICENSING MILESTONES
- LICENSE CONDITIONS
- EXEMPTIONS
- SAMDAS
- EMERGENCY PLANNING
- CONSTRUCTION INSPECTION
- PREOPERATIONAL TESTING PROGRAM
- SALP RESULTS (UNIT 2)
- READINESS FOR POWER OPERATION
- STAFF CONCLUSIONS

LICENSING MILESTONES

CONSTRUCTION PERMIT	JUNE 1974
ASLB DECISION, UNITS 1&2	JULY 1985
ACRS LETTER, UNIT 2	MAY 1989
FUEL LOAD LICENSE	JUNE 1989
LOW POWER LICENSE	JULY 1989

LICENSE CONDITIONS

- NO SPECIAL LICENSE CONDITIONS - ALL
TMI ITEMS IMPLEMENTED
- STANDARD CONDITIONS ON
 - PHYSICAL SECURITY AND
SAFEGUARDS PLANS AND
 - FIRE PROTECTION PROGRAM

EXEMPTIONS

- LEAK TESTING REQUIREMENTS OF APPENDIX J TO 10 CFR 50
- MONITORING REQUIREMENTS OF PART 70.24
- SCHEDULAR EXTENSION FOR FILING DECOMMISSIONING REPORT
- SCHEDULAR EXTENSION FOR CONTAINMENT INERTING

SAMDAS

- COURT OF APPEALS 2/28/89 DECISION
 - NEPA REQUIRES CONSIDERATION OF
SAMDAS
 - REMAND TO LITIGATE INTERVENOR'S
CONTENTION
- STAFF ISSUED ITS FES SUPPLEMENT
EVALUATING SAMDAS FOR LIMERICK ON 8/16/89
- LITIGATION OF INTERVENOR CONTENTION
ON SAMDAS IS IN PROCESS

EMERGENCY PLANNING

- ° FEMA HAS PROVIDED REASONABLE ASSURANCE FINDING
- ° COURT OF APPEALS 2/28/89 DECISION
 - TRAINING NOT PROVIDED TO DRIVERS FOR EVACUATION OF GRATERFORD PRISONERS
 - COMMISSION REMANDED TO ASLB 4/18/89
 - STIPULATION SIGNED BY ALL PARTIES 5/30/89
 - AGREEMENT ON RESOLUTION
 - REQUESTED DISMISSAL OF PROCEEDINGS
 - STIPULATION SIGNED BY ALL PARTIES
 - ALL ACTIONS COMPLETED
 - ASLB DECISION ISSUED 8/11/89
 - TERMINATED THE PROCEEDING

CONSTRUCTION INSPECTION

- EXPERIENCED CONSTRUCTION TEAM
- INSPECTION EFFORT COMPARABLE TO OTHER PLANTS
- TEAM INSPECTIONS SINCE 1986
- FSAR ACCURATELY REFLECTS AS-BUILT PLANT
- PLANT CONSTRUCTED PER DESIGN
- FEW CONSTRUCTION DEFICIENCIES
- FEW ALLEGATIONS, NONE OPEN

PREOPERATIONAL TEST PROGRAM

- INCORPORATED LESSONS LEARNED FROM UNIT 1 AND OTHERS
- TESTING WELL PLANNED AND EXECUTED
- OPERATIONS STAFF INTEGRATED INTO TEST PROGRAM
- FEW TEST EXCEPTIONS
- THOROUGH ANALYSIS BY TEST REVIEW BOARD

SALP RESULTS (UNIT 2)

- GOOD CONTROLS OVER CONSTRUCTION
- PREOPERATIONAL TESTING WELL MANAGED
- PREVIOUS ENGINEERING INTERFACE PROBLEMS CORRECTED
- PROACTIVE OPERATIONAL READINESS REVIEW PROGRAMS

READINESS FOR POWER OPERATION

- DEDICATED NUCLEAR ORGANIZATION
- BWR EXPERIENCED SITE MANAGEMENT
- SIX SHIFTS FULLY STAFFED
- EMERGENCY PREPAREDNESS WEAKNESSES
CORRECTED
- POWER ASCENSION SELF ASSESSMENT
PROGRAM IN PLACE
- NRC READINESS ASSESSMENT TEAM
INSPECTION COMPLETE-AUGUST

STAFF CONCLUSIONS

- THE PLANT MEETS THE REGULATIONS
- THERE IS REASONABLE ASSURANCE THAT THE PLANT CAN BE OPERATED WITHOUT ENDANGERING THE HEALTH AND SAFETY OF THE PUBLIC
- RECOMMEND COMMISSION APPROVAL TO ISSUE FULL POWER LICENSE UPON COMPLETION OF IMMEDIATE EFFECTIVENESS REVIEW