

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BRIEFING BY NORTHEAST UTILITIES

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, December 9, 1993

The Commission met in open session,
pursuant to notice, at 2:00 p.m., Ivan Selin,
Chairman, presiding.

COMMISSIONERS PRESENT:

IVAN SELIN, Chairman of the Commission
KENNETH C. ROGERS, Commissioner
FORREST J. REMICK, Commissioner
E. GAIL de PLANQUE, Commissioner

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STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

KAREN CYR, Office of the General Counsel

BERNARD FOX, President & CEO, Northeast Utilities

JOHN OPEKA, Executive Vice President, Northeast
Utilities

TED FEIGENBAUM, Senior Vice President and Chief
Nuclear Officer, NAESCO

ROBERT BUSCH, Executive Vice President and Chief
Financial Officer

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

2:00 p.m.

CHAIRMAN SELIN: Good afternoon, ladies and gentlemen.

Today we'd like to welcome Northeast Utilities' management who will brief the Commission on the status of their nuclear units.

We thank you for coming to update us on your progress, Mr. Fox.

The Commission was last briefed by NU in May 1992 on a proposed merger to transfer ownership of Seabrook to Northeast Utilities and the transfer has taken place. It's important to note that during the last brief the Commission had concerns about the allegations of intimidation and harassment of employees reporting potential safety concerns and both financially and managerially we also had concerns about Northeast Utilities' ability to operate the five nuclear power plants safely. So, we would look forward to an update on these as well as other issues today.

We're also interested in hearing Northeast Utilities' changes to address the safety perspective in an enhanced nuclear unit's performance. The Commission would like to be briefed on the utility

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1 management changes and the increased focus on
2 engineering that we've heard quite a bit about. We're
3 also interested on the broader sense to hear about
4 electrical demand and your longer term plans for the
5 system.

6 I understand that copies of your
7 viewgraphs are available.

8 Commissioners, do we have anything?

9 Mr. Fox, the floor is yours.

10 MR. FOX: Thank you very much and good
11 afternoon.

12 I have with me a team of people and we're
13 here to report on the performance improvements of
14 Northeast Utilities' nuclear programs, those places
15 where we have made improvements over the past year,
16 year and a half, as well as those areas where clearly
17 further improvements are called for because our
18 performance has been either declining or
19 disappointing.

20 With me today to make this presentation to
21 the entire Commission is the team of people I have
22 seated at the table. What we will do in the entire
23 overview of our program is I will first give the
24 Commission an overview of where NU has been in the
25 last 12 months, as well as the level of safety

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1 commitment and the strategic steps that we are
2 undertaking and have undertaken to enhance our
3 performance.

4 Secondly, after that presentation, John
5 Opeka will give a summary of the current performance
6 levels that we're experiencing at our facilities, the
7 improvements we're making in both our engineering
8 organization as well as unit support organization, and
9 finally a number of steps that are being undertaken to
10 further enhance our nuclear safety concerns program.
11 I might also add that a key and critical component of
12 John's presentation will be our performance
13 enhancement program discussion because I think that's
14 a matter of very keen interest to the entire
15 Commission. John is our Executive Vice President of
16 Nuclear Engineering and Operation and is our chief
17 nuclear officer for the four units which we operate in
18 Connecticut.

19 On my right is Mr. Feigenbaum who will be
20 presenting information about the current status and
21 recent history of the Seabrook Station. Mr.
22 Feigenbaum is the Senior Vice President of our North
23 Atlantic subsidiary which owns and also has operating
24 responsibility for the Seabrook Station. He is the
25 chief nuclear officer for the Seabrook Station.

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1 On my far right is Mr. Robert Busch, who
2 I will introduce a little later on. He will not
3 actually be making a presentation, but he is a member
4 of the senior management team of a recent major
5 reorganization of the company which I'll be discussing
6 a little later on in this presentation.

7 Finally, the last formal part of our
8 agenda is a discussion of the electrical demand
9 projections for the New England area and Northeast
10 Utilities, as well as our strategies for meeting that
11 demand and how nuclear facilities fit into that
12 overall strategy.

13 (Slide) Let me turn to the next viewgraph
14 and next slide which really is meant to give a very
15 brief and I hope concise representation of the
16 extensive commitment and long and rich history that
17 Northeast Utilities has in owning and operating
18 nuclear facilities, beginning with our being the
19 largest owner of the Rowe Yankee plant, which was one
20 of the very first nuclear facilities going back to
21 1960, as well as a history that wends its way through
22 owning -- the largest owner and operator of the
23 Connecticut Yankee facility, the total owner of two of
24 the three units at Millstone Point, a unique site in
25 the sense that it has three different technologies and

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1 designs spanning the period from 1970 through 1986.
2 And beginning in 1982 with the completion of the
3 acquisition of Public Service of New Hampshire, we
4 became the operator as well as the largest owner of
5 the Seabrook Nuclear Station.

6 The real thrust of this slide is
7 summarized in the last bullet, which points out that
8 about 60 percent of our electricity that we generate
9 and provide to our customers comes from nuclear
10 generation. The future of this company is clearly
11 tied to success in our nuclear program.

12 (Slide) Well, what about our success?
13 This next slide is an attempt at providing a very
14 brief snapshot summary of how our nuclear program is
15 doing today, focusing on a number of key performance
16 indicators. In the case of Haddam Neck, or
17 Connecticut Yankee, the record seems to suggest quite
18 clearly that Haddam Neck has been performing very
19 well, has been performing at a standard referred to as
20 excellent by the Institute for Nuclear Power
21 Operations. It is, in fact, an INPO Category 1
22 facility and also has seen excellent results from the
23 SALP process with its SALP results being all 1s and a
24 single 2.

25 Seabrook, moving along that spectrum, has

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1 generally had good operating results. Seabrook, as
2 recently as last week when I was up at the facility to
3 receive the exit interview with INPO, had its INPO 2
4 reaffirmed by that organization. Yesterday at
5 Seabrook was the public proceeding on the SALP process
6 and Seabrook received two 1s and two 2s from the SALP
7 review process. Mr. Feigenbaum, as I say, will be
8 giving you a lot more detail about that facility.

9 Millstone is more of a mixed bag. Clearly
10 in the case of Millstone Units 1 and Unit 3, we see
11 those units, in our view and I believe in the view of
12 the NRC, on an upward trajectory of improvement.
13 Clearly more to be done. Acceleration of those
14 improvements, but a trajectory in the right direction.

15 In the case of Millstone 2, we have seen
16 declines in performance levels during 1993 and our
17 focus is very clearly on first making sure the
18 declines are stopped and then secondly getting the
19 trajectory of performance levels at Millstone moving
20 in the same direction, the upward direction that we've
21 seen at the other two units. Our commitment and our
22 strategic challenge is keep the excellent performance
23 where we are experiencing it today, build on our
24 strengths to be sure that the performance improves at
25 our other facilities.

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1 (Slide) The next slide is really the
2 beginning of what I would call the first step in a
3 three step strategic process which we are very much
4 embarked upon. If I could capsule the three step
5 process, what I would say is step number 1 is
6 communicate in an absolutely crisp, unambiguous, clear
7 way that safety for our facilities is the number one
8 priority. Not only is safety the number one priority,
9 it is the key to the success of this program. Step 2
10 is create an organization and staff that organization
11 with personnel who understand and support that message
12 and are prepared to implement and carry it forward.

13 In step number 3, which I will touch on in
14 a moment, is certainly making sure that the financial
15 resources are available to that organization to carry
16 out the mission. That is our three step strategic
17 plan. In the case of safety, we are making a clear
18 signal in every way and every venue that we have been
19 able to find, including such extraordinary steps as
20 sending out a video tape to 3,000 employees
21 emphasizing the safety as number one priority. I'll
22 be leaving some of those videos, by the way, here in
23 case the Commission would like to look at it.

24 We also understand that our employees
25 realize that nuclear facilities must run in the long-

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1 term in an economic fashion if they're to meet the
2 market test. But the message that we are trying to
3 emphasize so directly and heavily is that meeting the
4 market test is an issue to be dealt with only after
5 the threshold test of conservative and safe operation
6 has been met. If that first threshold test is not
7 met, we will never get to the issue of the long-run
8 economic performance of our facilities. I believe
9 that message is one that is increasingly understood,
10 that the priority, in fact the key to the future is
11 safety and that is the first step in our strategic
12 efforts.

13 Our next step, of course, is to create an
14 organization which will not only build on that message
15 but will allow us to institutionalize on a going
16 forward basis that that is the way our facilities will
17 be run.

18 (Slide) You see in the next slide some of
19 the things that we have done recently, I would say
20 things that have been aggressive both in an
21 organizational and in a managerial sense to inculcate
22 change, change with the hope and the expectation and
23 belief that these changes will help us move ahead with
24 our nuclear performance efforts.

25 Number one, and clearly a major step for

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1 us, beginning this week is we have a new Senior Vice
2 President for Nuclear on board, Don Miller. He is the
3 person who will be running -- is running our Millstone
4 station. Don worked many years for us before he left
5 us a couple of years ago. He's a tried and true and
6 proven take-charge executive who we believe will bring
7 great value to our nuclear organization and
8 specifically to the Millstone site.

9 Millstone 2 has been our most difficult
10 and vexing problem at Millstone. We have put into
11 place another seasoned executive who we have a great
12 deal of faith in based on an excellent track record.
13 He was, in fact, at Connecticut Yankee as unit
14 director during the period of time that Connecticut
15 Yankee was experiencing the improvements that we've
16 now seen come to fruition with its very strong SALP
17 and INPO performance indicators.

18 We also have made fundamental change,
19 which Mr. Opeka will discuss with you, in the
20 integration of our engineering organization, making
21 sure that we have high levels of accountability but we
22 also have the resources to be sure that that
23 accountability can be discharged. We are moving the
24 bulk of our engineering forces, as well as our nuclear
25 support forces, down to our sites. In the case of

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1 Millstone Point, we are building a five story, \$30
2 million building to be certain that we have the assets
3 in place to support the superior and I believe
4 excellent operations that we intend to achieve at that
5 facility and we'll be moving literally hundreds of
6 people from Headquarters down to Millstone Station
7 into that new facility.

8 If you have the organizational structure
9 and you have the people in place in that organization,
10 certainly step number 3 is to make certain that the
11 financial resources are available and that's what the
12 next slide that I'd like to show you is meant to
13 communicate.

14 (Slide) One could display budget numbers
15 in a whole series of ways, some of which would be
16 increasingly complicated to project. We thought that
17 the most straightforward way is to harken back to
18 where we were about a year and a half ago when we were
19 here before the Commission to give you the
20 projections, which is what the dotted line in this
21 case is, the projections as to what our operation and
22 maintenance expenses would be for a three year period
23 from the middle of 1992 until the end of 1995. The
24 solid line indicates what our actual experience was in
25 '92 and through the current period to today's date in

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1 1993 and projections to the end of 1995.

2 The point of this slide being, A, we are
3 clearly following through on the commitments we made
4 a year and a half or so ago. But B, we also want our
5 organization, as well as the public, to understand
6 that by spending more than budget, as we have in 1992
7 and '93, when an issue arises that demands additional
8 resources, we will make those resources available. As
9 you can see also over that integrated three and a half
10 year basis, we will -- we expect to spend about \$100
11 million more in operating and maintenance expenses
12 over that three and a half years than what was
13 projected to be the case 18 months or so ago when we
14 filed the May 1992 information with the Commission.

15 (Slide) Now, that's operating and
16 maintenance expenses. I thought you would also want
17 to know about our capital program, that's captured in
18 this next slide. What you can see here is once again
19 the dotted line being the projection we provided you
20 in May of '92, the solid line being actuals and
21 current projections. Over the integrated period, you
22 can see we expect to spend just about what we told you
23 back in May of '92. The under run that you see in
24 1992, the bulk of that is really driven by, I'm sorry
25 to admit, an accounting change in that there was

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1 almost \$25 million taken out of our capital program
2 associated with the Millstone 2 project simply by
3 moving those dollars from the capital program into the
4 cost of removal account. So, a big piece of that
5 under run is really -- has nothing to do with physical
6 assets being put in place at Millstone Point or at any
7 of our other facilities.

8 I think in closing, before I turn the
9 program over to John Opeka, the message that we are
10 trying to bring to our public as well as to the
11 organization is that this company is deeply committed
12 to and totally linked to a future success if and only
13 if our nuclear program is successful. Our nuclear
14 program can be successful only if it is founded upon
15 a bedrock solid commitment to safe and conservative
16 operation of these facilities. We're doing a lot.
17 We're making a lot of assets available and resources
18 available to fulfill that commitment.

19 I think what I'd like to do is to turn the
20 session over to John Opeka will give you some sense as
21 to the type of performance we're experiencing
22 currently and how we believe the performance
23 enhancement program that we have underway has
24 contributed to that performance and will form a
25 foundation for further improvements on a going forward

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1 basis.

2 So, with that, I'll turn the program over
3 to John.

4 MR. OPEKA: Thank you, Bernie.

5 COMMISSIONER REMICK: Excuse me. If I
6 could --

7 MR. FOX: Yes.

8 COMMISSIONER REMICK: -- before we leave
9 your presentation, Mr. Fox, you mentioned the video
10 and at the CEO conference you made an offer to make
11 that available to other utilities, other licensees of
12 the NRC. Have you had takers to receive that?

13 MR. FOX: Yes.

14 COMMISSIONER REMICK: Have they been a
15 substantial number?

16 MR. FOX: No, it has not been a
17 substantial number. But my understanding is that
18 through less formal processes, a number of utilities
19 have received that video through the various owners
20 groups and what have you. But at INPO, I did get a
21 couple of requests and we have followed through on
22 those.

23 COMMISSIONER REMICK: Okay. One other
24 question. You have the not necessarily unique but I
25 think somewhat unusual position of being involved in

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1 a number of different plants, from excellent to good
2 to marginal. Quite often when a plant gets in trouble
3 they seek outside support from good or excellent
4 performers. But within your corporation you basically
5 have that. What do you do to try to share your good
6 practices at some plants or good experiences with the
7 others? Do you go out of your way to do that or are
8 they operated pretty well as isolated entities?

9 MR. FOX: Well, we're certainly going
10 increasingly out of our way to try to transfer the
11 good knowledge. Clearly communications, regular tight
12 communications is a key to this. A number of things
13 that come to mind, and I think Mr. Opeka will pick up
14 on several of these, but for instance every morning
15 now at 8:15 all of our nuclear plants participate in
16 a morning briefing in which the senior management of
17 those plants gets together and speaks about what the
18 problems are. The technology can help. We use video
19 conferencing so people at all of the sites can see one
20 another simultaneously.

21 In addition to that, we clearly are in a
22 mode now of trying to rotate people where appropriate
23 to get the best possible outcomes. One of the things
24 we learned at Millstone 2, I believe, is that the
25 strength of having highly experienced management in a

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1 facility can become a weakness if the management
2 doesn't have an injection of new blood on a periodic
3 basis. Now, I've mentioned already some of the
4 injection of new management and so the rotational
5 concept is one that we're really trying to inculcate.
6 Things along those lines, I think, can give us the
7 best utilization of some of our very superior
8 facilities.

9 COMMISSIONER REMICK: Thank you.

10 COMMISSIONER ROGERS: If I might just ask
11 you a question. You know, certainly none of us will
12 quarrel with your statement that safety has to be your
13 number one priority. That's a kind of abstract
14 statement, however. What's really important, of
15 course, is that people understand what it is they do
16 and how it relates to safety. Sometimes what you're
17 doing and what their procedures or requirements are
18 are not always obviously related to a safety question.
19 They are in somebody's mind and in some way, but not
20 necessarily in the people who have to carry out the
21 activities. It seems to me that one of the things
22 that's very important is that people understand the
23 safety implications of the things they are supposed to
24 do. It's not just that there are procedures there
25 that they have to follow and not following them

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1 results in a potentially unsafe situation, but they
2 understand how it is that a potentially unsafe
3 situation arises from not following those procedures.

4 That, it seems to me, is where many
5 organizations fall short. To make the abstract
6 statement that safety is terribly important and then
7 to take the leap to, "Well, now you have to follow
8 these procedures," and if the individuals don't see
9 what the connection is between those procedures and a
10 lack of safety, then it's just sort of mouthing a good
11 motherhood statement.

12 MR. FOX: Yes.

13 COMMISSIONER ROGERS: I think that that's
14 a very, very important effort that has to be made
15 because unless people understand why it is that they
16 are doing or should do what they're expected to and
17 what the safety implications are, the highest level of
18 the company saying, "Well, safety is our number one
19 priority," doesn't really mean anything to the person
20 in the field that has to carry out a particular
21 operation in a particular way and when they don't do
22 that, that safety is jeopardized. They may not see
23 that connection. That takes real thought and that's
24 part of the education and training programs it seems
25 to me are fundamental to maintaining a safety culture

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1 because everybody is in favor of safety. Nobody wants
2 an unsafe situation. But also people, when they don't
3 understand the implications, may decide that, well,
4 I'm all for safety, but that isn't really important.

5 MR. FOX: I think we subscribe totally to
6 what you say. One of the efforts clearly that's
7 actually part of the performance enhancement program
8 is even before you make that step of linkage that you
9 described, you have to be sure that even at the
10 procedural level that the procedures are written in
11 such a way that they're clear. We're spending a lot
12 of money to make sure that those procedures are
13 upgraded.

14 In a very real way, I think possibly one
15 of the most catalytic events that has ever occurred,
16 the most catalytic event that has ever occurred to
17 make palpable the linkage that you're speaking about,
18 Commissioner Rogers, is this 442 valve event because
19 there was a series of actions where a lot of different
20 people did a lot of different things, none of whom had
21 bad intentions, but where no one, and our organization
22 did not, in fact, step back and look at the trees as
23 well as the forest and see where we were going. I
24 think that there has been a truly almost lightning-
25 like realization flowing through wider and wider

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1 sectors of our organization that we never want to see
2 ourselves get into a trap. A trap can evolve by small
3 incremental steps of people not doing the right thing
4 at the right time or stepping back and saying, "Wait
5 a second. What are we doing in this situation?"

6 I don't know if that's responsive, but I
7 think it's very germane to the kind of issue that
8 you're raising.

9 COMMISSIONER ROGERS: Well, you know,
10 there's a good case study of a situation, but it does
11 seem as if there has to be an ongoing program that
12 every manager down to the very lowest level is
13 constantly being challenged in a certain sense on an
14 understanding of the safety implications of everything
15 they're responsible for. Not just in some abstract
16 sense, but in a very clear technical sense.

17 MR. FOX: That's the whole issue of
18 personal accountability that we're working so
19 vigorously to enhance both organizationally and
20 through training.

21 MR. OPEKA: I'd like to just give you an
22 example. Words are one thing, but actions are more
23 important. In our morning meetings which I hold, this
24 is through video conferencing, before the 442 valve
25 incident occurred, we talked about the status of

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1 plants and had a rather high threshold to discuss
2 plant problems. We never really talked about systems
3 being out of service also. After that, we changed our
4 method of that meeting to lower the threshold on what
5 items would be discussed in the plants so that
6 information could be shared amongst the various units.
7 But I think just as importantly to ask the questions
8 on what safety systems are available and which ones
9 are out of service. Not only safety systems, what
10 main components are out of service? Because we've
11 found in some cases that there wasn't enough attention
12 to ensure that the maximum number of systems are
13 available to those operators. So, if a transient does
14 occur, they have their maximum compliment of equipment
15 to handle that transient. That was a change that
16 occurred as a result of 442. Not words, but actions,
17 and it turned out to be rather successful.

18 MR. FEIGENBAUM: Commissioner Rogers, it
19 even gets even a little more subtle because we find
20 that errors that occur in the field are not always
21 caused by people that handle the wrenches and operate
22 the switches, it's the people that prepare the work
23 packages, the people that do the labeling, the people
24 that calibrate the tools. To connect the actions of
25 those people to safety is a little more difficult.

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1 COMMISSIONER ROGERS: Yes.

2 MR. FEIGENBAUM: It needs face to face
3 discussion and expectations continuously.

4 COMMISSIONER ROGERS: Thank you.

5 MR. OPEKA: (Slide) I'm going to start
6 off talking about our safety goals. In the nuclear
7 industry, everyone has safety goals. In the past, we
8 monitored safety goals. But in 1993, unlike past
9 years, we set a target on the number of safety goals
10 we wanted to at least achieve and then tied that
11 target to an incentive program and as a result, as you
12 can see from this slide, we had a substantial
13 improvement in the number of safety goals that we
14 achieved in 1993 versus past years.

15 (Slide) When we look at the next slide,
16 that provides the details on what are the safety goals
17 that we monitor. They range from the availability of
18 safety systems, which are the first three, all the way
19 down to the last two that have to do with industrial
20 safety. If you look at the year to date results for
21 our plants, you can see that -- and we set a target.
22 Our target is accomplishing eight of nine safety goals
23 for each of our plants. You can see that for CY and
24 Millstone 1 we've accomplished to date all the safety
25 goals. So, we're beyond the target. For Millstone 2

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1 and Seabrook, we are on target and then for Millstone
2 3 we're one below the target.

3 I'd like to just say one of the items
4 under Millstone 3 that has to do with unplanned
5 automatic scrams, which is the goal being no more than
6 one per 7,000 hours of critical operation, which means
7 the plant has to operate at basically 80 percent
8 capacity factor for the year, if our plant, Millstone
9 3, operates well between now and the end of the year.
10 The only reason we would not achieve that goal is
11 because the plant would only have operated 6600 hours
12 instead of 7,000 hours. So, it's a technicality.

13 So, the point here is that we've made a
14 major change, I think, in 1993 versus past years on
15 putting more emphasis on safety goals and we've been
16 successful in meeting those.

17 One of the things we found from the 442
18 valve incident though is that this is not an all-
19 encompassing set of parameters that we should be
20 reviewing and get comfort from that our plants are
21 being operated safely. We're reviewing this list now
22 and are considering expanding the list to include
23 things like number of valve mispositions, number of
24 personnel errors, using even PRA, probabilistic risk
25 assessment data as maybe a parameter. Our intent is

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1 to expand the number of safety parameters but still
2 have a target and tie it to an incentive program.

3 (Slide) If you look at the next slide,
4 when you review industry data I think most people
5 agree that there is a relationship between good, safe
6 operation measured by things like SALP ratings or INPO
7 ratings and high capacity factors. If you look --
8 just remember our past data where we had success this
9 year in achieving most of our safety goals and the
10 fact that our capacity factors now are being reflected
11 in high levels. We expect about 80 percent this year.
12 I think that confirms in some respects that
13 relationship.

14 I think the message I'm getting, as well
15 as passing on to the rest of the organization, is that
16 if you concentrate on operating these plants safely,
17 then the capacity factors will come with it. So,
18 that's the theme of our message that we're sending out
19 to our employees.

20 (Slide) I'd like to go next to just talk
21 about some of the experiences that we've learned from.
22 I've picked three examples here and I'll briefly go
23 through those and kind of give you a lessons learned.

24 Millstone 1 has had two successive UNSAT
25 programs in the licensed operator requal program. I'm

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1 happy to say that in September when we were tested
2 that we had 100 percent pass rate and there were no
3 program weaknesses. The message that we got from
4 these last three years is the fact that in order to be
5 successful in programs, you have to do critical
6 comprehensive self-assessments and you have to have
7 good monitoring programs. We have been successful in
8 the operator requal in the other plants, but the
9 lessons that we are learning from this experience are
10 being shared with the other plants.

11 A second area has to do with Millstone 3
12 and a system that's called a supplementary leak
13 collection and release system. This is a very complex
14 system that depends on other systems to be successful.
15 What we found is that we've had a problem with this
16 system and not meeting technical specification
17 requirements. We made some major modifications last
18 year and we did a test, but we simulated part of the
19 test. This was an integrated test, but we simulated
20 the loss of the diesel generators.

21 This year, when we went into our refueling
22 outage, and there's a requirement to do annual
23 integrated testing, we went an extra step and said,
24 "Let's minimize the amount of simulation that we're
25 going to do in our testing programs." So, we did not

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1 assimilate the loss of normal power, which is having
2 the diesel start. When we did that, we found that
3 there was a trap in the system which caused the system
4 to fail again.

5 So, we went through extensive work again
6 and, in fact, took two more days of critical path work
7 to do extensive critical testing, integrated testing,
8 not only of this system but all the safeguard systems
9 so that if there was any work that we did during the
10 outage that could affect the systems that were tested
11 early in the outage, we wanted to make sure that the
12 systems were fully operable at the end of the outage
13 because of all the maintenance activities.

14 The lesson that we learned is that we
15 should stay away from simulating parts of our tests.

16 The third item is the 442 valve event.
17 This is the most serious event as far as I'm concerned
18 in end use nuclear history. This is the catalyst that
19 we're using for improvement in our systems, in our
20 plants. The lessons that we learned, and we learned
21 many of them from this event, but two main ones was
22 that we have to continually stress to our employees
23 that safety is the number one goal and everything else
24 is secondary.

25 Secondly is that when we do work, we have

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1 to not only look at the tress but also the forest.
2 This was the case where we spent two months
3 concentrating on trying to do a temporary fix on a
4 valve and nobody stood back and said, "Wait a minute.
5 What is going to happen if we have a failure here?
6 We're going to have a potential small break loss of
7 coolant accident." So, those are two messages that
8 we learned from that. What we're learning and using
9 from these lessons is to emphasize conservative
10 decision making in anything we do in our nuclear
11 programs.

12 (Slide) Some recent examples of
13 conservative decision making since the 442 valve
14 incident -- and I'm not planning on going over each of
15 these, I'll pick two of them. The first one, the
16 Millstone 3 outage, where we did this additional
17 integrated testing at the expense of two additional
18 days of outage time. The third one had to do with
19 during the Millstone 3 outage when we were refueling
20 the reactor, we found a part that we identified to be
21 part of a locking cap on a bolt that's from one of our
22 reactor coolant pumps. We had problems with the same
23 type of device early in the history of the Millstone
24 3 plant and we replaced all the locking caps with a
25 new design as well as all the bolts. We could have

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1 gone down the path of trying to justify continued
2 operation. We did justify that it can actually
3 operate with that cap or we would have removed that
4 cap, but any other caps in the vessel. But we decided
5 to go ahead, pull all the reactor coolant pumps and
6 eventually we replaced them at a cost of over \$7
7 million which was unbudgeted.

8 Then the last one was that since the 442
9 valve incident we've shut down three of our plants at
10 least once since then for a short time period to
11 repair some steam leaks, I know one of which could
12 easily have been fixed temporarily using this stop
13 leak method that we were using on the 442 valve
14 incident. But we're straying away from using a
15 temporary fix and going to more permanent fixes.

16 The other emphasis that we're making to
17 our plants, which I described a little earlier, was
18 that we want to make sure our operators have a full
19 complement of equipment, whether it's safety-related
20 or non-safety-related, available to them so that they
21 can handle transients properly. Just to give you an
22 example, you might have three pumps, two of which you
23 need in order to meet technical specifications. If
24 one of those pumps is out of service, we're putting a
25 lot of effort to get that pump back into service and

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1 not let it stay out of service for months. That's a
2 change, radical change in some respects from what we
3 did in the past.

4 (Slide) Let me divert now to the PEP
5 program, the performance enhancement program. A
6 little history on that. In 1991, when we experienced
7 a decline in our operations, particularly at
8 Millstone, we formed four self-assessment groups to
9 review our overall operations. Those findings were
10 subsequently shared with the NRC and we decided at
11 that time that we alone could not really put together
12 an enhancement program and we hired an outside -- well
13 known outside consultant to help us put together a
14 performance enhancement program.

15 That program was made up of three phases.
16 Phase 1, which was done primarily by the consultant,
17 was to determine what the root cause of our problems
18 was. That effort was completed in March of 1992. The
19 second phase was put together the necessary action
20 plans to address those root causes. We came up with
21 42 action plans and that effort was completed in June
22 of '92 with a report that was submitted to the NRC.
23 Then in June we started the third and last phase,
24 which was implementation of the PEP program.

25 What I was going to go through here is

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1 that there's four series of programs. The first three
2 series have to do with the root causes and the fourth
3 series has to do with up and coming programs that we
4 knew that we would have to address. What we didn't
5 want to do was come up with a comprehensive program
6 and then have to deal with these new emerging items
7 and ask for resources. We wanted to include that in
8 the program.

9 Series 1, which is shown on this slide,
10 I've added two items that we've worked on and I
11 thought I'd just describe what the results are. One
12 of the items we worked on was competency model
13 development. This is where we work with a human
14 behavioralist to come up with competency model data
15 for the various positions, vice president, director,
16 and manager positions in the nuclear organization and
17 then when we got that data through various surveys and
18 interviews of our people, the people in those jobs
19 determined what the strengths and weaknesses of the
20 people are and then concentrated on developing and
21 addressing those weaknesses of the people. We later
22 used the competency model information as a tool in our
23 engineering integration effort and I'll describe that
24 in more detail later on.

25 Another area in the management practices

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1 was to find out what the culture within in the
2 organization is. Through a number of surveys, we
3 asked the employees where they think the nuclear
4 organization is and where would they like to have the
5 nuclear organization be. We developed a gap analysis,
6 a gap between expected and actual, and we're sharing
7 that information with the employees and in working
8 towards reducing that gap so that actual meets their
9 expectations.

10 (Slide) A second series has to do with
11 programs and processes. Just an update on three of
12 the areas that have been completed or are in process.
13 The first one has to do with process mapping. What we
14 did is we looked at the various important processes
15 that are underway in the nuclear organization, such as
16 work control, design control, tagging and through
17 process mapping came up with a way of making those
18 processes more efficient.

19 A second area was we found that as a
20 result of our erosion/corrosion experience a couple
21 years ago that we didn't have one program in
22 erosion/corrosion for our plants, we had four
23 programs. So, we came up with program manuals,
24 consistent ways of addressing major programs like
25 erosion/corrosion, high energy pipe break, electrical

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1 equipment qualification, motor-operated valves. Four
2 of those programs have been completed and are being
3 used so that we have consistency amongst our plants.

4 Then the third area has to do with working
5 off the design backlog that we have in our plants.
6 We've completed that backlog on Millstone 2. We're
7 scheduled to complete it on Millstone 1 by the end of
8 this year and then the other plants later on.

9 (Slide) A third area that has to do with
10 the root cause is in the performance assessment area.
11 We've done a number of things there. We've changed
12 the reporting relationship, developed more improved --
13 better improved report formats. We had additional
14 root cause training. We developed some trend analysis
15 plans. But the most important one, because the others
16 are more like tools for the foundation of the last, is
17 that we're starting an extensive self-assessment
18 program of our nuclear program on January of next
19 year. This is where all the line managers will have
20 to do self-assessments of their operations. I'll
21 still have the nuclear assessment, quality assessment
22 group do an independent assessment, but we want to
23 have the line management do more self-assessments to
24 find the problems and correct them.

25 (Slide) The last area has to do with

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1 functional programs. This is that added area, because
2 of emerging issues. Some of the things we've done
3 there is that we now have a measures of performance
4 publication that tracks the safety goals and other
5 parameters. We have about 50 parameters. Tracks them
6 against targets. We implemented a shutdown risk
7 management program and then we enhanced our nuclear
8 safety concerns program. Now, I'll get into more
9 detail on what we did on our nuclear safety concerns
10 program later on in my presentation.

11 Some of the ongoing significant PEP
12 activities are we continue to work off the engineering
13 design backlog. We're in the midst of a major
14 procedural upgrade, over 4,000 procedures being
15 modified to the new writer's guides and we're about 27
16 percent complete there. We should complete the design
17 basis reconstruction program on all our plants by the
18 end of next year and we continue to use the competency
19 models and other management practices, products in
20 order to select our people as well as performing self-
21 assessments.

22 COMMISSIONER REMICK: John, you mentioned
23 engineering design backlog. Could you give me an
24 example of what you're referring to there?

25 MR. OPEKA: Well, if you have a plant

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1 design change request, they're not completely closed
2 out. Either the simulator hasn't been upgraded, the
3 change is in there but the simulator hasn't been
4 upgraded. Or if we have drawing changes that the
5 drawings haven't been updated, what we wanted to do is
6 work off that backlog. Right now, if a drawing isn't
7 updated, what a person has to do is take out the
8 original. He might have 20 drawing control changes
9 and he'd have to look at all those drawing changes to
10 find out what the true configuration of that system
11 is. That's the type of work, the backlog, that we're
12 working off.

13 COMMISSIONER REMICK: These are not
14 necessarily then related to -- I believe in several of
15 your plants you use the integrated schedule approach
16 or ISAP. These are more routine. Okay.

17 MR. OPEKA: We hired an outside group of
18 people to come in to help us work off the backlog. We
19 just didn't have enough people to address normal plant
20 PVCs and DCNs, but work off the backlog that was
21 created in the past. We're working it off pretty
22 successfully.

23 (Slide) The next slide, I'm very
24 committed to making sure that the performance
25 enhancement program is implemented on schedule. What

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1 we do on an annual basis is identify important
2 deliverables and milestones that have to be
3 accomplished throughout the year. In 1993, we had
4 119. As you can see, we've tracked either -- we've
5 been ahead of the game or on target in accomplishing
6 those milestones and deliverables.

7 Then the next slide just gives you a very
8 brief overview on where we are on the performance
9 enhancement program. As indicated by the top phrase,
10 by the end of January two-thirds of our PEP action
11 plans will have been completed. So, we're well on our
12 way to implementing the results of the PEP programs in
13 our systems.

14 (Slide) On the next item, the next slide,
15 I just wanted to briefly go over how the performance
16 enhancement program has helped us in our
17 reorganization of the engineering part of our nuclear
18 organization. We had a situation where plant
19 engineering reported to one vice president and then we
20 had a project services group that was unitized that
21 reported to one person, and then a functional
22 organization that provided electrical, mechanical
23 services to the various plants on a corporate
24 functional basis. We took those three organizations
25 and put them under one vice president and now we

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1 have -- each unit has one specific engineering
2 organization that's dedicated to that unit and then we
3 have one smaller specialized engineering organization
4 that takes care of like the programs, the program
5 manuals. That information is given to the unit
6 organizations to implement the programs on a
7 consistent basis.

8 The end result of this reorganization is
9 that we've had improved accountability and decision
10 making and more defined roles and responsibilities.
11 It's more clearly defined because we have one officer
12 in charge.

13 We used our competency model information
14 to select the people that would be in this new
15 organization and we selected the people based on
16 independent of who's in the job. We started with the
17 officers and the directors and the managers and then
18 the supervisors that were affected in this engineering
19 organization. And, as a result, we've made some
20 extensive changes in who these supervisors are.

21 This was a very difficult process. We
22 made some very tough decisions, but, when we implement
23 them, the feedback that we're getting from the people
24 is very favorable and the organization I see now is a
25 much more effective organization than we had in the

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1 past.

2 Now we are in the process of doing a
3 similar type of review in the maintenance area. The
4 magnitude of the changes will not be anywhere near to
5 the magnitude in engineering, but that is underway and
6 should be implemented sometime this month.

7 COMMISSIONER ROGERS: Do you find any
8 situations where, I know it may sound bizarre but I've
9 run into it myself in the past, where the people who
10 had the most competency for a particular job really
11 didn't want to do the job?

12 MR. OPEKA: We haven't had a situation
13 where, in this reorganization, that somebody refused
14 a job. We did not have that occur. In fact, in most,
15 in the vast majority of cases, the people were happy
16 to get the new job because there were like 22
17 promotions involved too. But there were a number of
18 rotations and people were looking forward to new
19 challenges and new jobs, very favorable response. And
20 the lower level people, the feeling was that we picked
21 the right people for the right jobs.

22 COMMISSIONER ROGERS: That's the important
23 thing.

24 MR. OPEKA: That was the support.

25 COMMISSIONER ROGERS: Good.

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1 MR. OPEKA: The next area I'd like to
2 cover is on the subject of employee concerns. This is
3 definitely one of the most important issues that
4 demands my time and other top management's attention,
5 because we're continually looking for ways to improve
6 and try to be proactive as possible when we hear that
7 people might have concerns.

8 We have revamped our Nuclear Safety
9 Concerns Program. We've had additional training for
10 our supervisors to make sure that they are sensitive
11 to concerns, that they listen and that they are
12 responsive to the people's concerns and also make sure
13 that if they're not comfortable bringing issues up
14 with their supervisors that there is another avenue.
15 There is a Nuclear Safety Concerns Program and we
16 encourage people to use that.

17 We do have a new set of petitions that we
18 have to address. These are the 2.206 petitions.
19 About four people, I believe, have made petitions to
20 the NRC through this avenue and what we are trying to
21 be is responsive in volunteering information on these
22 issues and providing it to the NRC so that the NRC
23 hopefully could bring these items to resolution in a
24 timely fashion. But this is an area that is getting
25 a lot of attention, top level attention, in looking

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1 for new ways of trying to be as proactive as possible
2 in the concern area.

3 (Slide) One of the things we did
4 recently, as shown on the next slide, is that we
5 selected a new director of our Nuclear Safety Concerns
6 Program. This is a person who is well known within
7 the organization, I believe very well respected, has
8 training background, engineering background, and it
9 just brings a fresh perspective to the job. In fact,
10 we decided that we're going to make this a two year
11 rotational job so that people don't get stale in it
12 and when new people come in reenergize the program.

13 And we do have an innovative program
14 called a Peer Representative Group where we have about
15 30 people. These are people who are in various
16 positions within the organization, most of them at
17 lower levels, who have good interpersonal skills, are
18 very approachable and act as an arm to the Nuclear
19 Safety Concerns Program so that if people have
20 concerns these people are available to listen to
21 people and bring that information up to the director
22 for resolution.

23 MR. FOX: I might add they're all
24 volunteers.

25 COMMISSIONER ROGERS: How many? How many

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1 people?

2 MR. OPEKA: Thirty.

3 In summary, I believe that our performance
4 at Millstone in some areas is improving, Millstone 1
5 and 3, and that we have or are close to stabilizing
6 the decline in Millstone 2, but in all cases have to
7 put more emphasis in all our plants.

8 Our focus on continually stressing safe
9 operation as our number one goal is having positive
10 results in our plant and that we continue to learn
11 from our past experiences and are being more
12 conservative in our actions in what we do.

13 I believe that PEP is the key to long-
14 lasting results and success and is on schedule.

15 We continue to seek new ways to improve in
16 the employee concerns area with the intent of
17 fostering an open and health environment.

18 And finally, as I said to our nuclear
19 group after the 442 valve incident, we will operate
20 our nuclear plant safely or not at all.

21 At this point, I'd like to turn it over to
22 Ted unless you have any questions.

23 CHAIRMAN SELIN: Well, not a question for
24 a short answer, but, at the time that the PEP was
25 promoted, not promoted but put forward, the Commission

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1 made it very clear that normally we're not in the
2 business of getting into people's capital programs per
3 se, but there were serious questions raised about
4 Northeast Utilities' resources, the ability to take on
5 Seabrook.

6 It doesn't look to me from the outside
7 that the financial situation has really gotten much
8 easier since the time you got into the program. I
9 assume you've gotten some of the economies that you
10 hoped to get out of the consolidation, but you're in
11 a very difficult environment, financial environment.
12 You did put up some sort of general programs about
13 spending. Even then, I wasn't clear whether spending
14 had been deferred or it was a change in the capital
15 program, whether there was a change in the standard.

16 But at some point it would be very helpful
17 if you could figure out a way to track the programs
18 you said you were going to do, the capital programs,
19 et cetera, with what you've done at the same time
20 you're putting some efficiencies into what's going on.
21 Otherwise, it's just very hard to separate out what
22 the programs were and what was going on versus what I
23 assume are efficiencies rather than sort of a meat axe
24 approach to covering operating costs.

25 MR. FOX: I was actually at sort of the

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1 tail end of the program here, the formal part of the
2 agenda, going to touch on some of the financial
3 structures, status of the company. However, we
4 certainly can give major project descriptions and we
5 will file that if that would be helpful.

6 CHAIRMAN SELIN: It would be helpful to
7 actually track the kind of projects you're talking
8 about and how they turned out and how they're going.
9 I mean, this discussion has been worthwhile, but it's
10 been a very qualitative discussion and there were
11 talks about resources, about people, about jobs, about
12 numbers in the previous presentation and it would be
13 very good to go back to what was said then and look a
14 little more quantitatively about how that's held up
15 and how it's been done.

16 MR. FOX: I'll try to add a little more
17 detail at the end of the program here and then we'll
18 follow up with some additional filing.

19 CHAIRMAN SELIN: Okay.

20 MR. FEIGENBAUM: I'll try to leave you
21 some time to do that.

22 Good afternoon.

23 (Slide) I'd like to briefly touch on
24 Seabrook's performance, so let me start by giving you
25 a little bit of background. Overall, Seabrook Station

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1 has operated fairly well since the start of regular
2 full-power operations in August of 1990. Our strong
3 safety culture and conservative operating philosophy
4 have resulted in generally positive safety ratings
5 from the NRC staff and the Institute of Nuclear Power
6 Operations, as Bernie mentioned.

7 In addition to good safety performance,
8 we've experienced better than average operating
9 performance during our initial 40 months of operation.
10 The slide depicts cycle capacity factors between
11 refuelings while the bottom line, the cumulative
12 lifetime capacity factor, includes all refuelings.
13 However, despite the numbers, I recognize that the
14 current cycle has not met either my own or the NRC's
15 expectations and two areas specifically require
16 management attention and focus.

17 The two areas of concern to both the NRC
18 staff and North Atlantic and the NU team are the
19 number of plant trips that we've experienced in this
20 cycle, a total of seven, and the number of personnel
21 errors that we experience. Now while individual
22 examination, which we have on an individual basis
23 examined the individual plant trips and the human
24 performance errors, if you examine them each one
25 individually, they do not by themselves indicate a

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1 safety issue. But we nonetheless are disturbed by the
2 trend as we fully recognize that personnel errors and
3 plant trips challenge plant operators and safety
4 systems and this must be avoided.

5 One of the strengths at Seabrook has been
6 our ability to perform critical and thorough self-
7 assessment and we've been aggressively pursuing our
8 performance weaknesses since the middle of the summer
9 using self-assessment techniques and we've learned a
10 number of lessons that I think will enable us to
11 improve our performance. These lessons and the 20
12 plus recommendations that have fallen out of the self-
13 assessments that we're actively implementing fall into
14 three general categories of cultural changes,
15 programmatic changes, and management oversight areas.

16 First of all, the key cultural issue and
17 perhaps in my opinion the most important is that we
18 must foster an environment where personnel errors are
19 neither tolerated nor rationalized. This cultural
20 shift is being accomplished by communicating my and
21 the station manager's personal management expectations
22 directly with every member of the staff and then we
23 must repeatedly reinforce this message at every level
24 of management on a daily basis. Incorporating this
25 intolerance for error into our culture I think will be

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1 an adjustment that will yield the most significant
2 long-term benefits to our station performance.

3 Now, as both we and the NRC have both
4 observed, the North Atlantic team does a fairly
5 thorough job at identifying and assessing and
6 correcting equipment related problems, and we're real
7 good at that. But we must now apply the same
8 aggressiveness that we apply to hardware issues to
9 human performance problems. We're doing so by
10 providing our entire management team with
11 comprehensive leadership skills training which is
12 already resulting in better communication and coaching
13 amongst our staff and by raising the sensitivity as to
14 the relationship between human performance and plant
15 performance along the lines of the question that
16 Commissioner Rogers asked before.

17 Next, long term procedure compliance must
18 be improved. This can only be achieved if management
19 clearly reinforces its expectations regarding
20 procedure compliance and if the quality of the
21 procedures is enhanced by the workers themselves.
22 We're providing procedure compliance training to the
23 station staff and we're developing a plan to upgrade
24 station procedures that will increase their ownership
25 by employees. Incidentally, we'll be using the NU

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1 Performance Enhancement Program procedure upgrade
2 guidelines that have yielded very high quality
3 procedures at Millstone and we're using that as a
4 synergy of our relationship.

5 Turning to the issue of plant trips that
6 we've seen during the current cycle, North Atlantic
7 has found that there are a number of aspects that must
8 be addressed as part of a comprehensive trip reduction
9 program. We're expediting a plant reliability program
10 that includes many of the following trip avoidance
11 features.

12 First of all, all personnel are being
13 sensitized to those components and activities that
14 they do in the plant which have a potential to cause
15 a trip. Before we go out in the plant, there is a
16 great deal more awareness, management involvement and
17 training and self-checking on doing the potential trip
18 activities during surveillances and maintenance.

19 Also, another feature of the plan is to as
20 much as possible eliminate or closely monitor those
21 activities where the failure of a single component can
22 result in a plant trip. There are many areas in the
23 plant, especially on the secondary side, where that is
24 the case and we're looking at creative ways to monitor
25 those components more closely and look for

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1 degradation.

2 We must review our surveillance
3 frequencies and where safety is not compromised modify
4 them to reduce the amount of time that the plant is
5 placed in a condition where it is vulnerable to a
6 trip, and right now that's a fairly sizeable number of
7 hours a week. North Atlantic will evaluate whether
8 there are opportunities through either design changes
9 or possibly the use of different test configurations,
10 ways to minimize trip vulnerability during
11 surveillance activities.

12 So these are some of the key trip
13 avoidance features that our plant reliability program
14 will be incorporating.

15 But perhaps the most important lesson is
16 in the way that we as managers function. We feel that
17 we must consistently follow-up and monitor the
18 effectiveness of our corrective actions. This is a
19 necessary change from one of assuming that actions
20 that we take to deal with a given problem will
21 actually resolve the problem versus a new culture of
22 verifying whether they are in fact corrective, that is
23 that the corrective actions are effective, and if
24 necessary make mid-course corrections to our
25 corrective action.

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1 To do this we need good trend reports and
2 quantitative measures of effectiveness and I've got to
3 tell you that developing measures of effectiveness for
4 cultural issues is not a straightforward deal. But we
5 are confident and we're certain that with some outside
6 help that we can develop the relevant trend indicators
7 for our specific needs and our specific situation to
8 measure the culture and the cultural improvement, so
9 we will be building these checks of effectiveness into
10 our plans for improvement.

11 Lastly, senior management must ensure that
12 when a human performance event or a challenge to a
13 plant safety system occurs that the underlying cause
14 is quickly identified, fully assessed and properly
15 corrected. As discussed earlier, we have found that
16 very often the underlying cause of the personnel
17 errors is not with the person in the plant doing the
18 work but often with the people that provide support.
19 They're deficiencies in procedures and processes and
20 training and very often management direction, so I
21 believe that what we're doing now is a more broad-
22 based view of the human performance problem and I
23 think that consequently our plan will be effective and
24 more long-lasting.

25 So with the implementation of the

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1 extensive recommendations that flow from our self-
2 assessments this past summer and that are continuing
3 and incorporation of an expedited and improved plant
4 reliability plan, we believe that we'll be able to
5 return our performance to the superior levels that
6 both the NRC and North Atlantic NU team would like to
7 see.

8 CHAIRMAN SELIN: I'd like to ask you a
9 couple of questions. This is not a SALP exit
10 interview and I'm not going to let it become one, but
11 the performance I would characterize a little less
12 generously at Seabrook compared to where it was before
13 and I wonder if this is the first time you've been
14 through the new SALP process.

15 MR. FEIGENBAUM: Yes, it is.

16 CHAIRMAN SELIN: Do you believe that the
17 difference in perceptions that we got from the
18 previous SALP to this one, did the difference in the
19 process have anything to do with that? In other
20 words, Seabrook came out in the previous processes as
21 a very well-run plant. I mean, there were some
22 learning problems and all that, but really the plant
23 has done quite well operationally considering
24 especially that it was a new plant with the coming in
25 area and the strength of the management came out very

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1 strongly.

2 In this assessment we get something that
3 might be characterized as still very good attention to
4 material condition problems but not quite the same
5 looking for precursors in human problems that we -- I
6 mean, you're better in analyzing problems in valves
7 than problems in operators, if I put it in simple
8 terms. Is that an accurate perception or did the
9 change in the SALP process lead to some
10 discontinuities in our perceptions? Is it possible
11 that you aren't quite as good as we thought earlier,
12 you're a little better than you come out now, or is
13 that a legitimate difference in performance?

14 MR. FEIGENBAUM: Well, I think we've
15 always been better, frankly, at fixing hardware than
16 we have at fixing personnel problems. I think the NRC
17 over the last year or so has been concentrating more
18 on management effectiveness, on self-assessment and
19 looking beyond just the obvious root cause but looking
20 beyond that to the things that we talked about such as
21 management support, so I think it's a combination of
22 a number of things.

23 I think the current SALP process was very
24 effective. It was hard-hitting in terms of
25 synthesizing the real issues right in the cover

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1 letter. It was more concise and I think our meeting,
2 as Bernie can attest to, Bernie and John, was a very
3 good and frank dialogue. We haven't always seen that
4 in the past. Sometimes SALP discussions in the past
5 have been somewhat sterile. This was not a sterile
6 discussion. It was very meaningful and helpful and
7 candid.

8 CHAIRMAN SELIN: That's good. That sounds
9 very much like what the senior managers said they
10 intended to do when they recommended that we change
11 the process. Concentrate on fundamental things and
12 less time on compliance. Look for underlying problems
13 and try to hit some of these trends, some of these
14 patterns. So, it sounded like pretty good support for
15 the process

16 MR. FEIGENBAUM: And it's not just the
17 SALP. We've seen this in inspection teams, we've seen
18 it by the residents. More of a performance-based
19 approach to problems rather than compliance.

20 CHAIRMAN SELIN: The second question I
21 wanted -- well, let me go back. Do you agree that
22 there's been sort of a somewhat disappointing trend in
23 the personnel and the human relations or do you think
24 that was there earlier en masse and it's just coming
25 out more clearly now?f

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1 MR. FEIGENBAUM: As I said, I think we've
2 always done a little bit better at fixing hardware
3 problems. A lot of us coming up through the ranks are
4 engineers. But nonetheless, we had a very good cycle
5 in cycle 2. We ran essentially continuously for 325
6 days. That is a mixed blessing. It's very good from
7 a performance and economic point of view. However,
8 that sometimes has a tendency to build in some
9 complacency in the staff. I think it's a hard thing
10 to overcome. You have to constantly work at it. But
11 I think we certainly did experience some level of
12 complacency. We did see maybe a drop in the focus.
13 We've been spending a lot of time working on strategic
14 plans for the future and it's diverted some of our
15 attention. We're trying to refocus on plant
16 operations now, on personnel errors and plant trips.
17 I think we'll see an improvement.

18 CHAIRMAN SELIN: That's all positive. One
19 of the concerns that we had when the merger went
20 through was that obviously an objective of the merger
21 was the squeeze out some extra costs in the operation
22 of Seabrook. Now, none of the causes that you put
23 your finger on have to do with resources. I take it
24 you don't feel that financial pressure in operations
25 is --

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1 MR. FEIGENBAUM: None whatsoever. None
2 whatsoever. And as a matter of fact, I think I can
3 say this because there are no other joint owners here,
4 but Northeast Utilities has been the most supportive
5 of our joint owners, financially and technically and
6 in many other ways.

7 CHAIRMAN SELIN: It's not in the
8 presentation, but have you achieved the financial
9 objectives you hoped to achieve in the consolidation?

10 MR. FEIGENBAUM: Largely yes. We
11 basically are concentrating on the business areas, the
12 computer functions, the accounting, personnel
13 relations, communications, and really we have not made
14 any significant changes in the operations,
15 maintenance, engineering, quality assurance area.
16 That is the plan.

17 MR. FOX: And we intend to deal with that
18 issue in a very gradual way. The focus in 1994 and
19 1995 is improve Millstone and make the corrections
20 necessary and appropriate at Seabrook.

21 I might add that in addition to the very
22 long runs that Seabrook has had, which have been, as
23 Ted said, a mixed blessing, I also think there's
24 another human dynamic and that is we've got a plant
25 that is in the transition from its construction and it

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1 was by any measure a very exciting construction
2 period. When one has to go from the adrenalin levels
3 that existed prior to the more routine operational
4 challenges, there is an emotional let down here.

5 I believe, and I'm at the plant with some
6 regularity, I believe that both the INPO performance
7 evaluation that we received last week, as well as the
8 SALP evaluation that we received in a formal public
9 way yesterday has come at a very good time because it
10 allows us to accelerate that transition and get on
11 with the improvements that have to be made.

12 CHAIRMAN SELIN: Thank you.

13 COMMISSIONER ROGERS: Yes. Just a
14 question on your trips. What fraction of the trips in
15 this latest flurry of trips that you've experienced
16 have come as a result of surveillances, on-line
17 surveillances?

18 MR. FEIGENBAUM: I can think of two
19 offhand. I wouldn't swear unless I went back and
20 looked, but I would say that two of them are due to
21 surveillances that I know of. We went back and looked
22 at all the trips that we've had since the beginning of
23 operation and you might be interested to know that
24 although we certainly believe that personnel error can
25 lead to plant trips, the percentages, the way they

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1 break out, is that essentially equipment has resulted
2 in about 58 percent of our trips in the 40 months.
3 Tools, which involves procedures as well as actual
4 physical tools and training, is about 26 percent of
5 our trips. People, personnel errors, lack of
6 attention to detail, has resulted in about 16 percent
7 of our trips, or three out of a total of 19, 3 out of
8 19 in the 40 months of operation.

9 So, that just gives you a rough idea of
10 the breakout.

11 COMMISSIONER ROGERS: Well, it does seem
12 to me that classification of some trips during
13 surveillances that have been attributed to personnel
14 error were probably properly attributed to personnel
15 error, but I would say it was the design engineer who
16 was the error and didn't really think about how a
17 technician is going to do a surveillance. They very
18 often have to go into a cabinet with no light in there
19 and stick a couple of leads on something they can't
20 really see and then get something on the wrong lead
21 and down goes the plant. That's just crazy, you would
22 pay that kind of a penalty for that kind of a lack of
23 concern about how operational surveillances have to be
24 conducted by real people under real circumstances.

25 MR. FEIGENBAUM: Right. We did -- and I

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1 don't dispute that. But we did have one trip that I
2 can recall in this cycle where we were in the cabinets
3 and we have a four train logic and when you're in
4 surveillance you take one train out. So, it really
5 takes one out of three to take you off-line. Sure
6 enough, we were in that cabinet, I guess, about seven
7 hours. During that seven hours we got a spurious
8 signal from another train and it took the plant down.

9 So, that is a case where it's not
10 necessarily a design engineering situation. It's
11 where we're probably in a trip vulnerable situation
12 too many hours a week and the probability is such that
13 it's going to bite you at some point. But I agree
14 with you that there are many cases where the human
15 factored approach has not been built into the design
16 of the plant.

17 MR. FOX: I do believe that this area that
18 we're speaking about now is one of the places where
19 although there may be some very sophisticated issues
20 at play, there's a lot of sort of basic blocking and
21 tackling that has to be done. That is really look at
22 your surveillance, your high-risk surveillance and do
23 we really have to do these as frequently and so forth
24 to look at that issue --

25 COMMISSIONER ROGERS: That's why a PRA

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1 approach would be very helpful.

2 MR. FOX: Exactly right. Exactly right.
3 Then also are there things that we can do, like put a
4 light in the cabinet, that deal with some of the very
5 simple human issues. That's the sort of thing that
6 we're very much focused on trying to make happen and
7 make happen in a better way.

8 MR. FEIGENBAUM: And I just might add when
9 you put that light switch in the cabinet, it better be
10 labeled as a light switch. We've had that problem
11 too.

12 COMMISSIONER REMICK: What's the breakdown
13 of your equipment failure between NSSS and balance of
14 plant during the history of the --

15 MR. FEIGENBAUM: I think I have it by
16 system here. Real quickly, reactor coolant system is
17 only about -- NSSS, I would say, is only about seven
18 percent. You have to add the reactor safeguards
19 cabinets. It's about 20 percent. Twenty percent is
20 primary side. The rest of it is secondary side, which
21 is not atypical of what the rest of the industry is
22 experiencing.

23 COMMISSIONER REMICK: In balance of plant.
24 Ours is not the choice of how you should use words,
25 but I must admit the written statement and your

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1 statement that personnel errors will not be tolerated
2 to me seems very severe. On this side of the table we
3 never make errors, but we realize people in general do
4 make errors. When we say it's intolerable, it worries
5 me that then people do make mistakes and it's
6 important when they make mistakes that they admit it
7 and notify people and so forth and so corrective
8 action. But have you had any reaction to the words
9 "personnel errors are not tolerated?"

10 MR. FEIGENBAUM: In our discussions and
11 our training sessions, and I have one tomorrow, we
12 very often get the question, "Well, what do you mean
13 by that?"

14 COMMISSIONER REMICK: Right. Right.

15 MR. FEIGENBAUM: What we mean by it is we
16 want to inculcate a culture where people absolutely
17 hate to make errors and that when they do make an
18 error they want to go in there, find out what it was
19 that caused it and make sure it never happens again.
20 Perhaps intolerance for error is maybe a poor phrase
21 and maybe we need to adjust that. But it's a hatred
22 for error.

23 COMMISSIONER ROGERS: Well, I have to
24 confess, I had exactly the same gut reaction when I
25 heard it. What are you going to do, shoot people?

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1 MR. FOX: Well, I think the language that
2 we've been using -- and as a matter of fact, I met
3 with the entire senior management team of 70 or 80
4 people last week with the Seabrook -- the entire
5 Seabrook staff. I think the language that we're using
6 within the plant is zero tolerance for error. That's
7 the phrase that's been used quite widely. When I
8 described this to the plant folks, I said, speaking as
9 the company's CEO, "We understand that from time to
10 time someone is going to make a mistake," but the
11 analogy that I used came from -- I'm Chairman of the
12 Board of a very large hospital. Through that process
13 I've come to know oncologists. The analogy I used was
14 that I know an oncologist very well, he's a relative,
15 who hates cancer. He knows that many of his patients
16 will ultimately die from that disease, but he hates it
17 so much that every time he treats a patient he wants
18 to learn how to treat the next one better.

19 That's what we want to do when we say zero
20 tolerance for error, is we learn from every error we
21 make not to have the error again. You've got to
22 clearly get people to understand that doesn't mean you
23 have a public execution when someone makes a mistake.

24 COMMISSIONER REMICK: I'm very pleased
25 that you are revising your procedures, by the way.

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1 Historically, industry-wide, procedures have been
2 pretty bad, many times written by a vendor or a
3 contractor or by innumerable contractors with
4 inconsistencies. Are you using desktop publishing to
5 improve the human factors aspect of the readability of
6 those procedures as well?

7 MR. FEIGENBAUM: Yes, absolutely. The
8 technology these days is tremendous. We're actually
9 going to put drawings of the equipment in the body of
10 the procedure, that kind of thing,

11 MR. FOX: In fact, that was something that
12 we pioneered at Connecticut Yankee. So, we're trying
13 to translate that technology over.

14 COMMISSIONER ROGERS: I think you did
15 mention that here a couple years ago.

16 COMMISSIONER REMICK: Yes. The one thing
17 that I've been pushing is that people put in the same
18 diagrams and things that they use in training in the
19 procedures, so the same thing they were trained by or
20 trained with.

21 CHAIRMAN SELIN: I'm not sure what I'm
22 supposed to conclude about the mental state of
23 somebody who is both the CEO of a utility and a
24 hospital at the same time.

25 MR. FOX: No, no, I'm not the CEO of the

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1 hospital. I am the lay Chairman of the Board of a
2 hospital. There's only so much angina that any single
3 individual can carry.

4 (Slide) Let me turn to the last formal
5 part of the program that we have this afternoon. That
6 has to do with the -- and this is on page 27 of the
7 document that you have. The current projections and
8 outlook for electric demand and financial structure
9 and situation as far as New England, as far as
10 Northeast Utilities is concerned.

11 There's no question there's a surplus of
12 generating capacity throughout the Northeast and, in
13 fact, in many parts of our country. We have capacity
14 that we believe will carry us to the middle of the
15 next decade, the year 2007 plus or minus a bit.

16 Our projections for low growth are really
17 quite modest. We think one and a half to two percent
18 a year out into the future, unless there's some very
19 sharp step-up in the economy that we see.

20 Now, it turns out that, as with all
21 things, there are mixed blessing and there are silver
22 linings. As far as our nuclear facilities are
23 concerned, even the surplus generating capacity that
24 we and the relatively low load growth that we have
25 does present us with some financial blessing. The

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1 financial blessing, of course, is that we are facing
2 little, if any, capital program requirements for
3 construction of new power facilities. In fact, we're
4 facing no capital construction program.

5 Our nuclear facilities provide a very
6 strategic benefit to us, not only by way of simply
7 providing electric generating plants, which means you
8 don't have to build any new things, but in certain
9 other areas of very great import in our service
10 territory. Clearly oil is the fuel at the margin
11 within the Northeast still, and oil dependence is an
12 issue that we really have made major progress in over
13 the last couple of decades. That has been a very
14 major strategic value for us.

15 In our service territory, clean air and
16 the clean air compliance is a very major issue. It's
17 not only an environmental issue of great import, and
18 people think of us as butting up against New York
19 City, as that being an area of great potential
20 challenge. That's true, but we also are on the New
21 Hampshire seacoast and that's an area of great
22 challenge as far as clean air is concerned.

23 Our nuclear facilities really
24 fundamentally mean that our requirements, capital
25 requirements going forward for complying with clean

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1 air standards are de minimis. Once again, that
2 provides a great financial help to us. Even as we're
3 dealing with the challenge of a slow economy, we don't
4 have to look forward to large capital improvements for
5 clean air compliance.

6 I might say that our clean air compliance
7 outlook is so strong that as I think a number of
8 people are aware, we were the first, and to my
9 knowledge the only utility, but the first utility to
10 utilize our clean air credits in what I thought was a
11 fairly innovative way, making a contribution to the
12 American Lung Association of 10,000 tons of SO₂
13 allowances and it was very gratifying at the national
14 press conference that we had down here in Washington
15 which Senator Lieberman and I and the President of the
16 American Lung Association, that in that conference
17 Senator Lieberman did, in fact, recognize that our
18 ability to make that contribution was rooted in
19 several things, but nuclear power was clearly
20 something that was right at the base of our ability to
21 do that.

22 This may be a point to stop, sort of in an
23 unplanned way, and I hope this works out well. But if
24 you could turn back to page 8, I think it is, I think
25 I can at least give a preliminary response to the

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1 question you asked me, Doctor Selin, about our capital
2 program and then ask for the luxury of following up
3 with more detailed information.

4 (Slide) The thrust of this slide, yes,
5 this is the correct slide, page 8, the thrust of this
6 slide was to show that we are spending the full number
7 of dollars that we had indicated we would spend. Now,
8 obviously, 1992 was an anomalous year because it was
9 in '92 that we put in the steam generators for
10 Millstone Point Unit 2. So, it was a very large
11 number. But if you look at the more fundamental and
12 traditional type of capital projects, to just give you
13 a sense as to what has happened in this program, there
14 have been some projects that have been removed from
15 where we thought we were back in the middle of last
16 year.

17 For instance, working with the NRC, there
18 have been certain projects removed because the
19 conclusion has been, and the NRC has endorsed these
20 conclusions, that there are projects that really are
21 not key and critical or important to safety. Things
22 like control room habitability, as an example, at
23 Connecticut Yankee. Those aren't gigantic numbers,
24 but they're meaningful. They add up over this period
25 to about \$7 or \$8 million.

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1 But there are other projects that have
2 been put in. For instance, we put in, based on the
3 kinds of strategic thinking that I described before,
4 a large number of dollars, \$25 to \$30 million, to
5 build the facilities at Millstone Point, to bring all
6 of our people to the site. Then, of course, there are
7 other projects that have moved, that are still in this
8 same period but are at different times in the period.
9 For instance, we're going to be completely retubing
10 the condenser at Millstone Point Unit 1 in the outage
11 that will be coming in '94. That was originally
12 planned in '92. It's been moved out to 1994. We're
13 also doing an LP turbine rotor replacement, again in
14 '94 versus '92.

15 So, the projects as always takes place, we
16 have some projects that move out, some projects that
17 move in and some projects that move back and forth.
18 There is a very big project at the tail end of this
19 session, of this period, where we will be putting in,
20 based on all the knowledge we have right now, full
21 flow condensate to mineralizers at Seabrook and that
22 should be something that really enhances the long-term
23 operability of that facility being at saltwater site.

24 But I will follow-up and give some further
25 detailed information as to the additions, the

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1 deletions, as well as the movements in our capital
2 program.

3 (Slide) I guess turning back to the
4 original series of slides, if I could bring you back
5 now to slide number 29, and touch on another important
6 and quite recent matter which was only announced last
7 week for Northeast Utilities. We've spoken already in
8 passing about the issue of competition and evolution
9 in the electric utility industry. We think
10 competitive market forces are clearly going to evolve
11 quickly during the remainder of the 1990. We've done
12 a number of things to provide ourselves some strategic
13 positioning for that evolution. We intend and hope to
14 be winners, not losers as that unfolds.

15 One of the things we've done is we have
16 reorganized the most senior level in our company and
17 we've reorganized into what I would refer to as three
18 core groups.

19 We have an energy resource group, and I'll
20 describe that in a little more detail in just a
21 moment, an energy resource group where fundamentally
22 our generating capability and our wholesale marketing
23 capability, large bulk power sales to other utilities,
24 if you will, is concentrated in that group.

25 We have a retail business group where

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1 we're trying to be sure that we satisfy superbly well
2 the 1.6 million retail customers that we serve under
3 relatively traditional franchise arrangements.

4 And then thirdly, we want to be sure that
5 what we refer to as a "corporate center," human
6 resources, information technology and so forth, that
7 we have the best we can have where the focus and the
8 mission is one thing, support the two line functions
9 that are out there dealing with our customers, because
10 customers are a key in this kind of a world, in the
11 competitive world, that that corporate center supports
12 those two customer focus groups well, extremely well.

13 (Slide) Now the energy resource group, as
14 the next slide mentions, is the group into which our
15 nuclear organization will fall. This reorganization
16 is effective on January 1 of '94. We have named as
17 the President of that energy resource group Mr. Robert
18 Busch, who is seated here with me. Bob is someone who
19 also, as did I, Bob also has come from a long period
20 of involvement with our nuclear operations. He was
21 the Millstone 3 project manager and I think, as we
22 have mentioned in the past, I worked for six or seven
23 years in our nuclear organization also in the project
24 management area.

25 We have concentrated in this group

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1 generation and wholesale markets. We believe that
2 without any increase in the levels of command that our
3 nuclear organization has traditionally had that we
4 have brought additional senior management focus,
5 senior management that also has quite a bit of nuclear
6 experience, into working with and interacting with all
7 of our generating technologies and certainly our
8 nuclear technology is included in that.

9 And one thing that we wanted to make
10 absolutely clear, because there has been some
11 confusion brought on by maybe some other approaches in
12 other companies, within this energy resource group we
13 do have fossil-hydro, fossil plants, hydro plants, and
14 unregulated power plants. But particularly as far as
15 unregulated power plants are concerned, that is an
16 extremely small organization. It only has six people
17 in it. We expect that organization is going to stay
18 quite small. It's fundamentally a financial
19 investment mechanism and we are diverting no resources
20 from our nuclear organization at all into that part of
21 the business as part of this reorganization. So we
22 think that we've brought more focus in helping to
23 assure that our nuclear activities as well as our
24 other generating activities, but clearly our nuclear
25 activities, are continuing to be supported in the

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1 improvements that we're trying to make.

2 I guess in closing, if there's anything
3 that I would want to reemphasize, it's that having
4 come from the nuclear organization myself in years
5 past and also having lived through some of the
6 challenges in recent years I understand very well the
7 uniqueness of the nuclear technology. Our company is
8 one that has a rich history, that has a rich history
9 of excellent operation in years past. That is a
10 history that I want very much to see us revisit.

11 We have what I think is a very simple
12 strategy, but I do believe that simple strategies are
13 the ones that are most able to be implemented and
14 achieved. And the strategy is, communicate your
15 expectations superbly well, staff your organization
16 and structure your organization to be able to carry
17 forward on those management expectations, and fund the
18 organization with necessary resources to be able to
19 carry out that mission. That mission is rooted in the
20 very clear message that our future and our success for
21 our nuclear program is rooted in making sure that
22 conservative and safe operations is right at the very
23 foundation of everything we do, and that's where we
24 intend to be as we end '93 and that's clearly the
25 focus for our company as we go into '94.

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1 Thank you very much.

2 CHAIRMAN SELIN: Thank you, Mr. Fox.

3 Commissioner Rogers?

4 COMMISSIONER ROGERS: I just want to thank
5 all the people who presented here. I thought they
6 were excellent presentations.

7 I really don't have anything more that I'd
8 want to raise.

9 CHAIRMAN SELIN: Commissioner Remick?

10 COMMISSIONER REMICK: You've partially
11 answered one question I had, because, if I recall,
12 your company was certainly one of the early and one of
13 the very few that kind of jumped on the ISAP or
14 integrated schedule concept and to do this one has to
15 have a good knowledge based on risk assessment and so
16 forth to establish priorities. You gave me one
17 example at Haddam Neck where as a result of that
18 you've been able to eliminate some requirements which
19 otherwise you would have had to carry out.

20 Have you been successful through this
21 process of eliminating more than that one example of
22 things that otherwise you would have had to do but
23 based on a risk assessment and putting things in
24 priority of risk and so forth? Has that been helpful
25 to you?

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1 MR. FOX: We have had some other projects
2 in the same category and we're working with the NRC
3 staff to develop further down this road. Let me let
4 John Opeka give you some more data on that.

5 MR. OPEKA: There's about 150 items that
6 we're working on with the NRC that have marginal
7 safety significance and there's been a very
8 cooperative interchange between the NRC and they've
9 been very responsive.

10 COMMISSIONER REMICK: I've always been
11 surprised that more licensees do not utilize that
12 process, but I realize it's probably a strong
13 commitment of an engineering group to be able to make
14 the justifications and so forth. But you feel it's
15 been a worthwhile involvement?

16 MR. OPEKA: Definitely.

17 COMMISSIONER REMICK: Could you give me a
18 quick status report on your IPE and IPEEE and have you
19 found anything significant in that process at any of
20 the plants?

21 MR. OPEKA: I don't have the results of
22 that. I think that the results of our evaluation
23 didn't find anything significant in there that I can
24 think of at this point. I just can't recall the
25 schedule at this point, where we are.

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1 COMMISSIONER REMICK: Have IPES been
2 submitted for some or all?

3 MR. OPEKA: Some, but not all.

4 COMMISSIONER REMICK: Just one final
5 comment. I have a perception, and it could be the
6 wrong perception, that in recent history your company
7 has been a little reluctant to come in and communicate
8 with the Commissioners. I think you serve yourself
9 very well by coming in like you have today and in
10 recent months and keeping us informed and keeping the
11 staff informed. Whether it's a misconception or
12 misperception on my part that there has been some
13 recent past reluctance, as I say, I think you serve
14 yourself very well by coming in and giving the
15 excellent presentations that I also feel that you gave
16 to us today.

17 MR. FOX: Well, we'll certainly follow
18 through on that and try to be sure that we present
19 those issues that are of interest at the various
20 levels here at the NRC and we will follow through very
21 thoroughly on that.

22 CHAIRMAN SELIN: Commissioner de Planque?

23 COMMISSIONER de PLANQUE: I've just
24 recently had an opportunity to talk to you, so you've
25 covered most of the areas that I've been interested in

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1 and I would thank you for the presentations. It's
2 been very informative.

3 CHAIRMAN SELIN: I also thank you, but the
4 point I'd like to make and the point that is of most
5 interest is here you have a company that has a really
6 superb record at Connecticut Yankee, always a superb
7 record at Connecticut Yankee, a set of problems at
8 Millstone which over the last few years have really
9 gotten worse rather than better and there have been
10 some serious personnel problems and management
11 problems that I hope you're on the way to fixing, and
12 a pretty good record at Seabrook but not quite what
13 you want it to be. And the question I'm looking for--
14 I don't mean today, but I'm trying to monitor -- is
15 how much does the corporation add to the operation of
16 the individual plants when you have such a varied set
17 of performance from three sites, really five sites,
18 three which happen to be in the same county in
19 Connecticut?

20 MR. FOX: Actually, I think they're all in
21 the same county.

22 CHAIRMAN SELIN: Oh, is that right?

23 MR. FOX: There's no county government in
24 Connecticut, so it doesn't much matter.

25 CHAIRMAN SELIN: But that's my particular

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1 area of interest as we go on, that we'd like to see,
2 I'd like to see some of the successful learning at the
3 better sites spread to the others and pulling up the
4 laggards consistently. It shouldn't be like the old
5 woman in the shoe that every time one of the children
6 was behaving another one started to be a problem. So
7 for me that's the main area of focus, more corporate
8 level of uniformity. Perhaps your organization may be
9 of some help in that. I don't know.

10 MR. FOX: That certainly is the strategic
11 challenge that faces us, and, as I mentioned before,
12 one of the places that we try to use in communicating
13 a sense of encouragement and hope even at Millstone 2,
14 which is clearly the caboose in this five car train,
15 if you will, is that it wasn't too many years ago, if
16 we went back to the mid-'80s, eight or nine years ago,
17 where Millstone was riding at the top of the crest and
18 Connecticut Yankee was really having a lot of problems
19 that sound reminiscent to some of the problems we're
20 having at Millstone and we turned that around. We
21 could turn it around.

22 And in fact, some of the folks that are
23 now at Millstone Point Station, Don Miller, and also
24 at Millstone Point Unit 2, Gary Boushard, these are
25 some of the people that were the key people in turning

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1 around that situation so that, as difficult as it is,
2 and you rightly point out it is a difficult and a
3 perplexing sort of an issue, that things can and do
4 get better if you really pay attention and commit
5 yourself to making them better, and I think that's
6 both the communications as well as the management
7 challenge.

8 CHAIRMAN SELIN: Thank you very much.

9 MR. FOX: Thank you.

10 CHAIRMAN SELIN: Good luck to you, Mr.
11 Busch.

12 MR. BUSCH: Thank you.

13 (Whereupon, at 3:34 p.m., the above-
14 entitled matter was adjourned.)
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of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: BRIEFING BY NORTHEAST UTILITIES

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: DECEMBER 9, 1993

were transcribed by me. I further certify that said transcription
is accurate and complete, to the best of my ability, and that the
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Reporter's name: Peter Lynch

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**NORTHEAST UTILITIES
PRESENTATION TO THE
NUCLEAR REGULATORY COMMISSION**

DECEMBER 9, 1993

**Contact: Richard M. Kacich
Phone: (203) 665-3298**

AGENDA

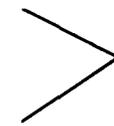
- **Overview and Safety Commitment** **B. M. Fox**
- **Safety and Performance Summary** **J. F. Opeka**
- **Seabrook Overview** **T. C. Feigenbaum**
- **Electrical Demand Projections and Strategies** **B. M. Fox**
- **Summary** **B. M. Fox**

NU HAS EXTENSIVE NUCLEAR COMMITMENT AND OPERATING EXPERIENCE

- **Largest owner of Yankee Rowe (1960)**
- **Largest owner of Haddam Neck (1968)**
- **Three different plant designs at Millstone Station (Millstone 1-1970; Millstone 2-1975; Millstone 3-1986)**
- **Largest owner of Seabrook (1992)**
- **60+% of energy from Nuclear Generation**

OUR PERFORMANCE TODAY SPANS THE SPECTRUM

- **Haddam Neck - excellent SALP**
- **Seabrook - good SALP**
- **Millstone Units 1 & 3 improving
Millstone Unit 2 declining**



**disappointing
SALP**

**Our commitment is to maintain areas of
excellence, and reach for excellence in other
areas**

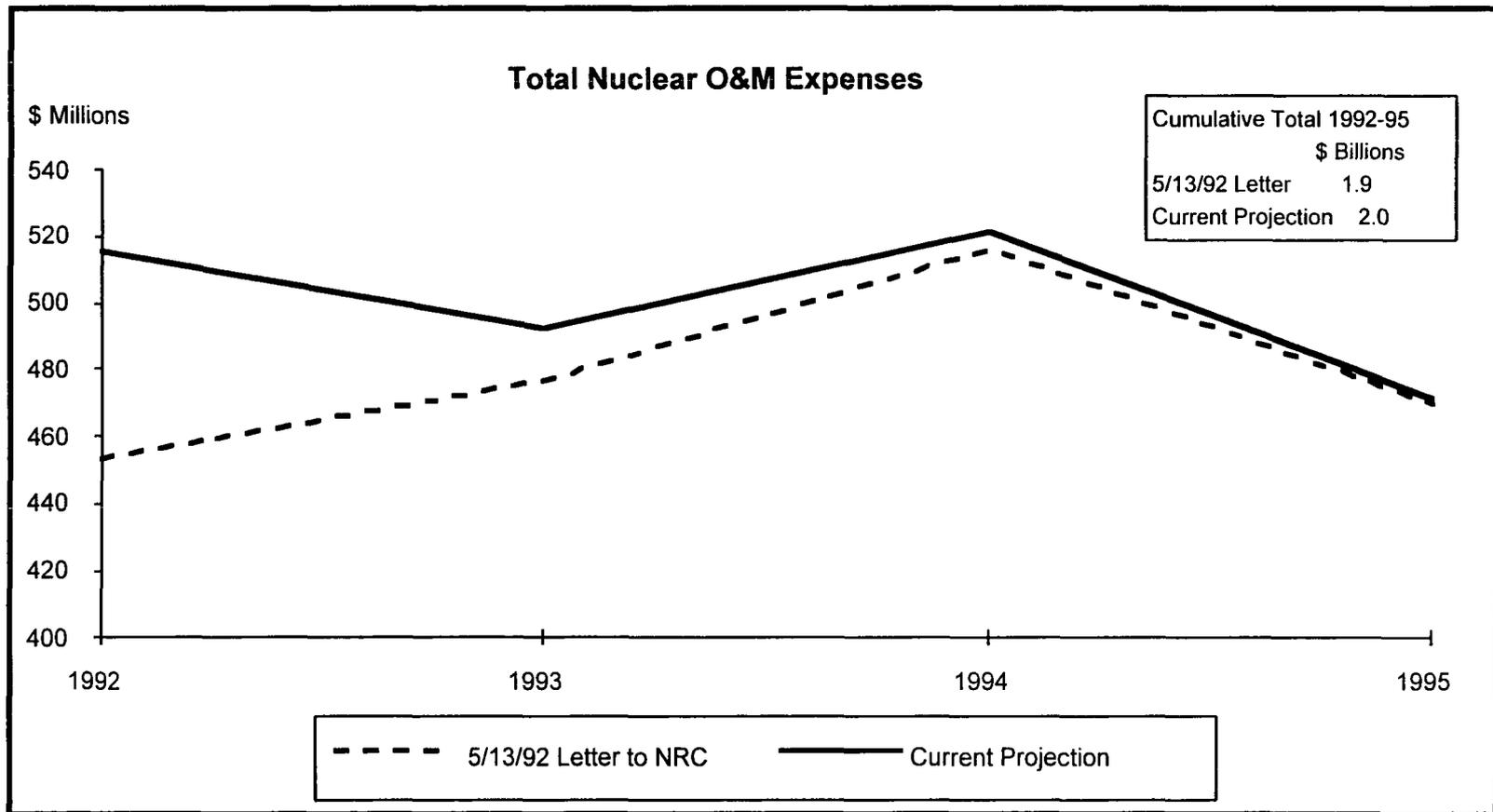
SAFETY IS THE NUMBER 1 PRIORITY

- **This message is continually communicated**
- **Safety and economic performance are linked and compatible**
- **In fact, economic performance is achievable only upon a foundation of a safe, conservative philosophy**
- **Organizational and financial resources are committed to this end**

AGGRESSIVE ORGANIZATIONAL AND MANAGEMENT CHANGES HAVE BEEN MADE

- **New Millstone Station Senior Vice President**
- **New Unit Director at Millstone Unit 2**
- **Integration of Engineering Organization**
- **Movement of Nuclear Group to the sites**

NU CONTINUES TO MAINTAIN ITS FINANCIAL COMMITMENT TO NUCLEAR POWER



SETTING OF SPECIFIC TARGETS HAS DRAMATICALLY IMPROVED ATTAINMENT OF SAFETY GOALS

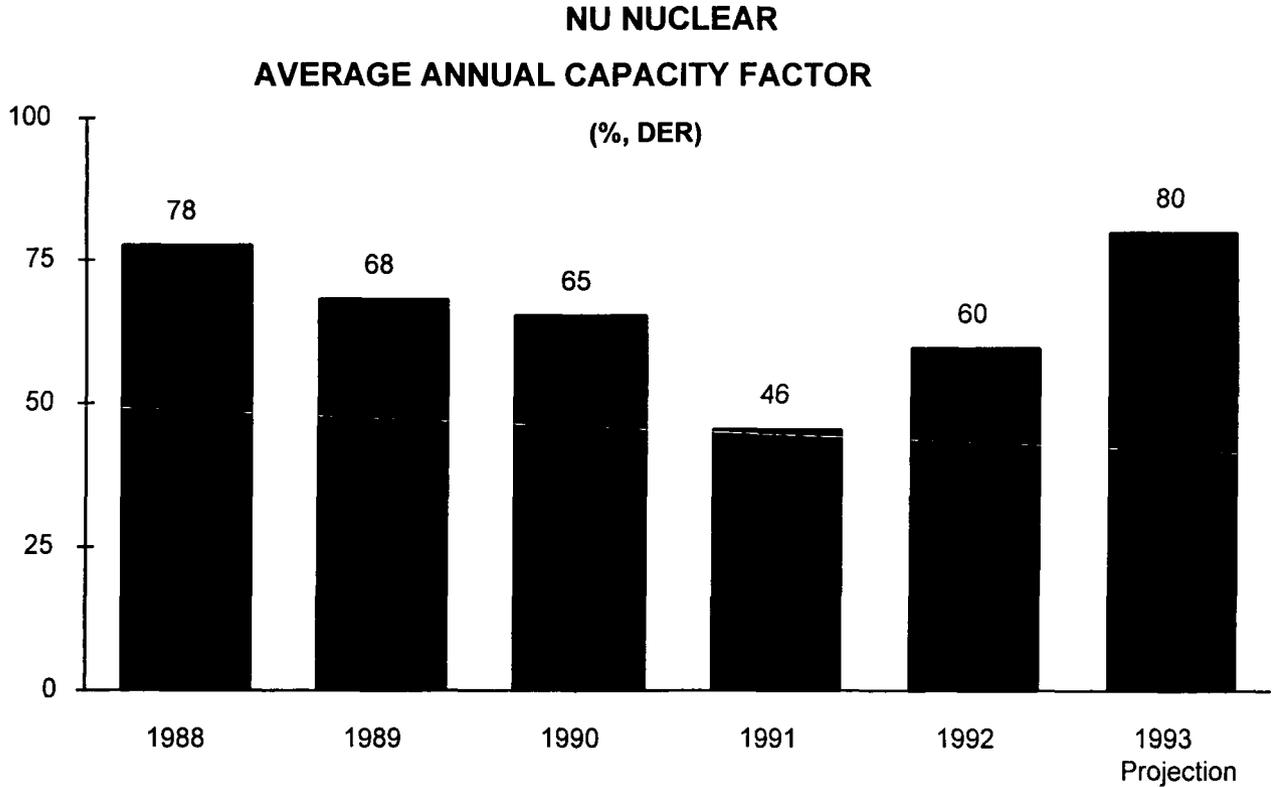
- **1991 - 28 of 40 goals achieved**
- **1992 - 29 of 40 goals achieved**
- **1993 - 41 of 45 goals achieved to date**

SETTING OF SPECIFIC TARGETS HAS DRAMATICALLY IMPROVED ATTAINMENT OF SAFETY GOALS

	CY	MP1	MP2	MP3	SB
Safety System Perf. - HPSI (HPI/HR)	YES	YES	YES	YES	YES
Safety System Perf. - AFW (RHR)	YES	YES	YES	YES	YES
Safety System Perf. - Emerg. AC Power	YES	YES	YES	YES	YES
Unpl. Auto Scrams / 7000 Hrs. Critical	YES	YES	NO	NO	NO
Fuel Reliability	YES	YES	YES	YES	YES
Collective Radiation Exposure	YES	YES	YES	NO	YES
Solid Radioactive Waste	YES	YES	YES	YES	YES
Recordable Case Incident Rate	YES	YES	YES	YES	YES
Lost Workday Case Incident Rate	YES	YES	YES	YES	YES

JFO * Unit Target = Accomplish 8 of 9 safety goals

ATTAINMENT OF SAFETY GOALS LEADS TO STRONG ECONOMIC PERFORMANCE



WE ARE CHALLENGED TO LEARN FROM OUR PAST EXPERIENCES

- **Licensed Operator Requalification**
- **Supplementary Leak Collection and Release System**
- **“442 Valve” event**

Reinforce emphasis on conservative decision making

NU'S RECENT PERFORMANCE REFLECTS CONSERVATIVE DECISION MAKING

- **Millstone 3 outage: Integrated Testing**
- **Millstone 2 Feedwater Isolation Valve upgrade**
- **Millstone 3 Reactor Coolant Pump replacement**
- **Plant shutdowns to repair steam leaks**

Corporate wide emphasis on equipment availability beyond minimum requirements

PEP MILESTONE AND DELIVERABLE SCHEDULES CONTINUE TO BE MET

Series 1, Management Practices

- **Competency Model developed and implemented**
 - **Applied to manager, director, and officer levels**
 - **Utilized in management selection for engineering integration**
- **Initial Cultural Analysis survey completed, and results distributed**

PEP MILESTONE AND DELIVERABLE SCHEDULES CONTINUE TO BE MET

Series 2, Programs and Processes

- **Process Mapping completed for work control, design control, tagging control & material control**
- **Four Engineering Program Manuals completed**
- **Engineering Design Backlog Reduction completed for Millstone 2 - other units on schedule**

PEP MILESTONE AND DELIVERABLE SCHEDULES CONTINUE TO BE MET

Series 3, Performance Assessment

- **Improved Quality Services reporting relationship**
- **Developed improved report formats**
- **Enhanced root cause determination training**
- **Implemented improved Trend Analysis plan**
- **Extensive self-assessment program commencing January 1994**

PEP MILESTONE AND DELIVERABLE SCHEDULES CONTINUE TO BE MET

Series 4, Functional Programs

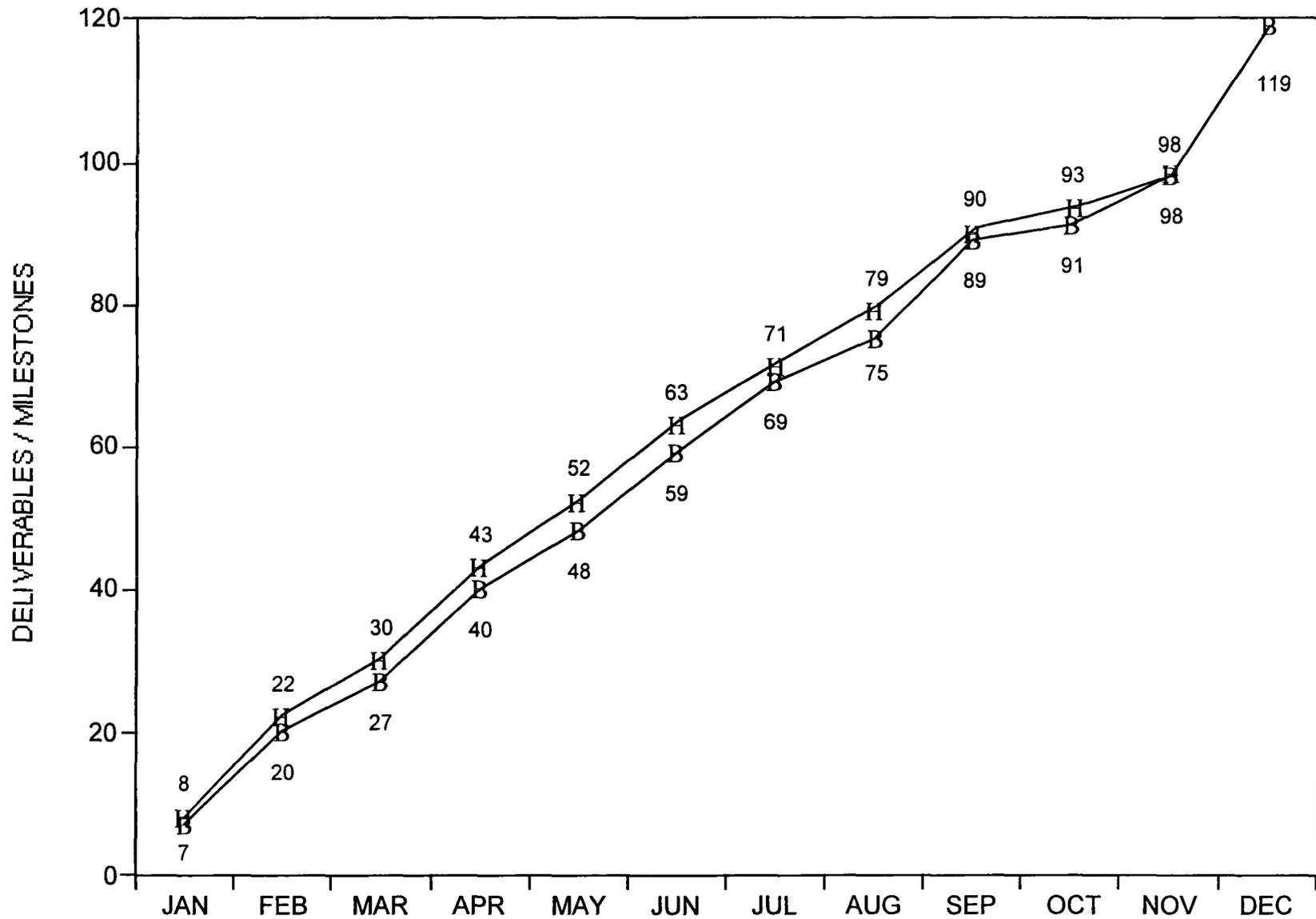
- **Monthly measures of performance publication**
- **Shutdown Risk Management procedures completed and in use**
- **Nuclear Safety Concerns Program**

PEP MILESTONE AND DELIVERABLE SCHEDULES CONTINUE TO BE MET

Significant ongoing PEP activities

- **Engineering design backlog reduction**
- **Procedure upgrade**
- **Design basis reconstruction**
- **Applying enhanced management practices**
- **Self assessment and trending**

PEP MILESTONES AND DELIVERABLES HAVE BEEN CONSISTENTLY ON SCHEDULE



**BY FEBRUARY 1994, NEARLY TWO THIRDS OF
PEP ACTION PLANS WILL BE COMPLETED**

<u>STATUS UPDATE</u>	<u>NO./%</u>
• Action Plans completed, and successfully validated	6 (14%)
• Action Plans completed, to be validated	14 (33%)
• Action Plans to be completed by 1/31/94	7 (17%)
• Action Plans remaining	<u>15</u> (36%)
Total	42 (100%)

PEP HAS HELPED GUIDE RE-ORGANIZATION

- **Improved accountability and decision making**
- **More clearly defined roles and responsibilities**
- **Four unit specific engineering departments and one smaller specialized engineering department**
- **Competency model utilized to select best people**
 - **41 of 135 management jobs changed**
 - **1/3 of management personnel changed**

NU IS HIGHLY FOCUSED ON EMPLOYEE CONCERNS ISSUES

- **Important issue demanding top management attention**
- **Continually seeking ways to improve**
- **Proactive approach to new cases**
- **Recent 10CFR2.206 petitions**

NU CONTINUES TO ENHANCE THE NUCLEAR SAFETY CONCERNS PROGRAM

- **Revitalization of the NSCP**
 - **New NSCP Director; 2 year rotational assignment**
 - **Continue and promote peer representative program**

SEABROOK STATION HAS PERFORMED WELL

- **Safety**

- **SALP for period 3/92 through 8/93**

- » **Operations** **2**

- » **Engineering** **1**

- » **Maintenance** **2**

- » **Plant Support** **1**

- **Performance**

- **Capacity Factors**

- » **Cycle 1:** **84.8%**

- » **Cycle 2:** **97.1%**

- » **Cycle 3 (as of 12/08/93)** **88.0%**

- » **Cumulative lifetime:** **78.5%**

SEABROOK STATION HAS LEARNED FROM RECENT PERFORMANCE ISSUES

- **Recent performance issues**
 - **Plant trips during third cycle**
 - **Personnel errors**
- **Areas for increased management attention**
 - **Challenges to operators and safety systems**

SEABROOK STATION HAS LEARNED FROM RECENT PERFORMANCE ISSUES

- **Lessons learned**
 - **Personnel error**
 - **Human performance issues**
 - **Procedure compliance**
 - **Plant reliability program**
 - **Identify underlying issues**
 - **Monitor effectiveness of corrective actions**
- **Management Action Plan**
 - **Personnel Error Response Plan**
 - **Trip Avoidance Program**

NU HAS A COMPREHENSIVE STRATEGY TO MEET CUSTOMER NEEDS

- **Current projections indicate that customers' needs can be met with existing supply resources until 2007**
- **Projected peak winter load growth of 1.5 percent per annum and peak summer load growth of 2.0 percent per annum over the next 10 years**

NUCLEAR PLANTS HAVE SUBSTANTIAL STRATEGIC VALUE

- **Provide baseload capacity**
- **Reduce oil dependence**
- **Clean air**
- **SO₂ emission credit donation**

NU HAS RECENTLY ANNOUNCED A NEW CORPORATE ORGANIZATION

- **Energy Resources Group**
- **Retail Business Group**
- **Corporate Center**

NU HAS RECENTLY ANNOUNCED A NEW CORPORATE ORGANIZATION

- **Energy Resource Group focused on:**
 - **Generation**
 - **Wholesale markets**
- **Provides additional senior management interaction with all generation technologies including nuclear**
- **No resources diverted from Nuclear Organization**

NU IS A NUCLEAR COMPANY

- **Recent organization and personnel changes position both NU and the nuclear group for a successful future**
- **The #1 priority of nuclear safety will continue to be reinforced**