UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: IMMEDIATE EFFECTIVENESS REVIEW BRIEFING - SEABROCK

Location: ROCKVILLE, MARYLAND

Date: JANUARY 18, 1990

Pages: 95 PAGES

NEAL R. GROSS AND CO., INC.

COURT REPORTERS AND TRANSCRIBERS
1323 Rhode Island Avenue, Northwest
Washington, D.C. 20005
(202) 234-4433

DISCLAIMER

This is an unofficial transcript of a meeting of the United States Nuclear Regulatory Commission held on January 18, 1990, in the Commission's office at One White Flint North, Rockville, Maryland. The meeting was open to public attendance and observation. This transcript has not been reviewed, corrected or edited, and it may contain inaccuracies.

The transcript is intended solely for general informational purposes. As provided by 10 CFR 9.103, it is not part of the formal or informal record of decision of the matters discussed. Expressions of opinion in this transcript do not necessarily reflect final determination or beliefs. No pleading or other paper may be filed with the Commission in any proceeding as the result of, or addressed to, any statement or argument contained herein, except as the Commission may authorize.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

- - - -

IMMEDIATE EFFECTIVENESS REVIEW
BRIEFING - SEABROOK

- - - -

PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, January 18, 1990

The Commission met in open session, pursuant to notice, at 9:00 a.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

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

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

WILLIAM C. PARLER, General Counsel

JAMES TAYLOR, Executive Director for Operations

THOMAS MURLEY, Director, Office of Nuclear Reactor

WILLIAM RUSSELL, Regional Administrator, Region I

VIC NERSES, Project Manager for Seabrook, NRR

ANTON CERNE, NRR

EDWARD A. BROWN, President and CEO, Division of Public Service of New Hampshire

TED FEIGENBAUM, Sr. V.P. and Chief Operating Officer

BRUCE DRAWBRIDGE, Executive Director of Nuclear Production

GEORGE GRAM, Executive Director of Emergency Preparedness and Community Relations

JOHN TRAFICONTE, Chief, Nuclear Safety Unit, Department of the Attorney General, Commonwealth of Massachusetts

ROBERT A. BACKUS, Seacoast Anti-Pollution League

DIANE CURRAN, New England Coalition on Nuclear Pollution

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

9:04 a.m.

CHAIRMAN CARR: Good morning, ladies and gentlemen.

Commissioners Curtiss and Remick will not be with us today.

The purpose of today's meeting is for the Commission to be briefed on the readiness of Seabrook Station Unit 1 for a full power operating license. The purpose is not to discuss or hear arguments on any adjudicatory matter currently before the Commission. Those matters are under consideration by the Commission in accordance with our rules of practice and the parties to the proceeding have been afforded an opportunity to make their views known on those issues.

The Commission will first hear from the applicant, the New Hampshire Yankee Division of Public Service Company of New Hampshire. They will be followed by the NRC staff. Then we will hear comments from representatives of the Commonwealth of Massachusetts, the Seacoast Anti-Pollution League, and the New England Coalition on Nuclear Pollution, who have requested an opportunity to speak at this meeting. All three parties have been interveners in

the Seabrook proceeding. The last three presenters have been asked to limit their remarks to approximately five minutes in length. Upon completion of these presentations, the applicant and the staff will be afforded an opportunity to briefly respond. I would ask the Secretary of the Commission, Mr. Chilk, to keep track of the time.

These are the only speakers the Commission is scheduled to hear from today. If anyone other than the scheduled speakers have something to contribute to the Commission's consideration of this matter, they are requested to do so in writing to the Secretary of the Commission at the earliest opportunity.

This is, of course, a public meeting. I would ask the audience to be mindful of the rules of conduct that have appeared on the monitors in the hearing room prior to the meeting as a matter of courtesy to the representatives of the various parties who are speaking today and to the Commission.

This meeting is for information only. No Commission vote will be taken at this meeting.

I understand that copies of the presentation slides are available at the entrance to the meeting room.

Do any of my fellow Commissioners have any

opening remarks?

Does the General Counsel have any comments before we proceed?

MR. PARLER: Yes, Mr. Chairman. I would like to elaborate briefly on your point that the purpose of this meeting is not to discuss or hear oral arguments on any adjudicatory matter that's currently before the Commission.

In that regard, I note that some of the briefing papers, I guess the applicants that I have, have some 21 pages of slides on emergency preparedness. Emergency preparedness issues constitute the bulk of the adjudicatory issues that have to be decided on the merits. The adjudicatory record on those issues is available to the Commission. If the Commission needs further information for its adjudicatory purposes, it will ask the parties to provide that information on the record.

If, in this briefing this morning, anyone in their presentation, in my judgment, gets into the-- or appear to me to be getting into the merits of adjudicatory matters, I will interrupt them. And I will apologize now in advance for doing so, but I will do so.

Thank you.

CHAIRMAN CARR: Thank you very much.

Mr. Brown, please proceed.

MR. BROWN: Good morning. My name is Edward A. Brown and I'm President and Chief Executive Officer of New Hampshire Yankee.

New Hampshire Yankee is the managing agent for the 12 joint owner utility companies that own Seabrook Station. I report directly to the Executive Committee of the Seabrook joint owners for budget, financial and policy matters and for licensing related matters I report to the Chief Executive Officer of Public Service Company of New Hampshire.

Observing this meeting today are representatives from three of our joint owner companies that comprise over two-thirds of the percentage ownership of Seabrook: Mr. John Eichorn, who is Chairman of the Joint Owner Executive Committee and Chairman of Eastern Utilities Associates; George Edwards, Vice Chairman of the Joint Owner Executive Committee and who is President and Chief Executive of United Illuminating Company; and Mr. John Duffert, President and Chief Executive Officer of Public Service Company of New Hampshire.

On behalf of New Hampshire Yankee and the joint owners, I'd like to thank the Commission for the

opportunity to brief you on Seabrook Station's readiness for full power operation. We are indeed ready to safely operate Seabrook Station. Our presentation this morning will demonstrate our readiness and it will also demonstrate that safety is our number one priority and safety comes before all else at Seabrook Station. Safety will be foremost in our minds at all times during the startup, the power ascension and the operation of the plant.

Now, in addition to my position at New Hampshire Yankee, I am also Chairman and Chief Executive of Yankee Atomic Electric Company. As you know, Yankee Atomic has a superb 30 year record of safe, efficient and reliable nuclear power operations and at New Hampshire Yankee we rely on Yankee Atomic for management support and special technical expertise.

Joining me at this table today are members of New Hampshire Yankee's management team. To my right, Mr. Feigenbaum. Ted Feigenbaum is Senior Vice President and Chief Operating Officer. To his right, Bruce Drawbridge, Executive Director of Nuclear Production; and to my left, Mr. George Gram, Executive Director of Emergency Preparedness and Community Relations. These individuals will be addressing the

subject areas as indicated on the agenda slide.

Our experienced managers have been called on many times over the past years to respond to a variety of challenges. These challenges have included the events surrounding the June 22nd shutdown of our reactor at completion of the low power testing. We've taken responsibility for those events and we've learned from them. In fact, just recently we received a letter from Mr. Russell, the NRC Region I Administrator, indicating that we've successfully implemented our corrective action program and have satisfied Region I concerns about the June 22nd shutdown.

(Slide) In meeting our challenges, we relied on a strong work ethic and a fundamental set of core values. We've codified these core values into a well accepted values for excellence program. Our core values will be the basis for our safe, efficient management and operation of Seabrook Station.

Through a number of scheduled, formalized employee presentations, one on one meetings, management briefings and weekly employee communications, our ongoing commitment to ensure that every action of every employee at Seabrook Station is based on a key four core values.

First, safety, ensuring that every action is taken with full regard for the health and safety of our fellow employees and the general public.

Second, professionalism, emphasizing that all of us, from the maintenance worker to the Chief Executive, are professionals in managing, operating and supporting our power plant.

Third, quality, supporting independent reviews and self-assessments as a way of life, to help us initiate improvements and ensure quality both as individuals and as a company.

And fourth, excellence, recognizing that each of us is uniquely important and each of our jobs is important and that we must be firmly committed to professional operational excellence.

These values have become a living set of guidelines against which we measure ourselves on a continuing basis, and it's not just another morale program. Values for excellence is the way of doing business at New Hampshire Yankee everyday. At Seabrook Station we're going to take nothing for granted. We rely on an aggressive program of formalized and continuous self-assessment to assure that we're always striving for excellence in performance.

As we proceed with our formal presentation, I'd like to stress once again that we're ready for the receipt of a full power license and we're ready to operate Seabrook Station safely and conservatively.

Now, I'd like to introduce Mr. Ted Feigenbaum, our Senior Vice President and Chief Operating Officer.

MR. FEIGENBAUM: Good morning, Mr. Chairman, members of the Commission.

As Ed Brown mentioned, I am the Senior Vice President and Chief Operating Officer at Seabrook Station. I report to Mr. Brown and am responsible for day to day operations at New Hampshire Yankee, including production, emergency preparedness, quality programs, engineering and licensing, communications and administration.

I'd like to start out this morning by briefly describing our organization at New Hampshire Yankee.

(Slide) We have a staff at the plant of about 1100 people. In addition, there are about 375 contractors who make up our security force and our craft workers. This entire staff, including executive management, is located on-site and is completely dedicated to the operation of Seabrook. Having the

total organization at the plant allows us to focus solely on the safe operation of Seabrook and we feel that this is an important advantage that increases our efficiency and our responsiveness to station needs.

Bruce Drawbridge, on my right, was appointed as the Executive Director of Nuclear Production in July of 1988. He has overall responsibility for station operations, maintenance, training and production services. Bruce is a Vice President with the Yankee Atomic Electric Company and has more than 15 years experience in the nuclear industry, including five years as an assistant plant superintendent at the Yankee Rowe plant. He will follow me as speaker and brief you on our operational readiness and our power ascension test program.

The Executive Director for Engineering and Licensing is Jeb DeLoach, who is here in our audience today. Jeb has more than 20 years experience in the nuclear industry and previously the project manager for all of Yankee Atomic's Engineering Services for Seabrook. His staff of engineers are responsible for all plant design modifications, configuration management, as well as for specialty programs such as fire protection and equipment qualification.

We also have a staff of systems engineers in

our technical support group reporting directly to the station manager. They provide direct day to day support to the station. Together, altogether, we have a dedicated on-site complement of over 150 engineering and technical personnel who support the operation and maintenance groups.

Now, further augmenting this very strong on-site engineering staff is our ability to call upon the experienced services of Yankee Atomic, particularly in specialized areas such as radiological engineering, nuclear engineering, environmental sciences and fuels analysis.

Neal Pillsbury is the Director for Quality Programs and Neal is in our audience today as well. Neal has more than 24 years experience in the energy field and he directs the quality assurance and quality compliance programs and a number of oversight functions that provide a comprehensive check and balance on station operations. This includes our recent full power readiness self-assessment, which I'll be describing to you later this morning.

Now, due to the importance of emergency preparedness, New Hampshire Yankee has established a separate subdivision for all emergency planning activities. George Gram is the Executive Director of

Emergency Preparedness and Community Relations and has more than 19 years of experience in the nuclear industry.

This morning he will describe our program with an emphasis on the utility sponsored plan that we've developed for the Commonwealth of Massachusetts and the six local communities inside the Massachusetts portion of the emergency planning zone and will strive to do that within the confines of the Chairman's opening remarks.

Now, at this point, I'd like to discuss some of the lessons we've learned during our low power test program.

On May 26, 1989 we received our low power license and on June 22nd we had completed low power physics testing and were conducting a natural circulation test when we failed to immediately trip the reactor as required by procedure. As the NRC staff noted in our most recent SALP report, this event was a notable exception to a low power test program that was otherwise conducted in a deliberate and controlled manner by a well trained and highly motivated operations staff.

The June 22nd event led to a serious self-examination of our entire organization. We studied

the event in great detail to determine its root causes and the lessons that we could learn from them. This led to the development of a comprehensive corrective action plan that addressed the root causes of our error. Its implementation has not only provided a number of benefits and enhancements to our test program, but also has strengthened our management and improved our overall conduct of operations.

(Slide) The corrective action plan covered the seven broad categories shown on this slide. The categories covered every aspect of the event: procedures, equipment, test personnel, operations and management. These categories, in turn, encompassed a total of 55 individual action items.

(Slide) Now, some of the key features of the plan included increased emphasis on procedure compliance and a revision of our policy to more clearly state that procedures must be followed unless there's an overriding safety concern. We've combined this policy with training for the entire New Hampshire Yankee organization to make sure that a heightened awareness of the need for procedure adherence is always maintained.

For the test program, our startup and operator crews will be integrated in a single cohesive

team to improve command and control and communications. For complex tests, we have dedicated crews who will train together as a team on the simulator. We also require formal, comprehensive pretest briefings for each test. These briefings will ensure that each member of the test crew fully understands the reason for the test, understands any test termination criteria, special test limits or precautions, and is prepared to handle abnormal situations and unexpected responses that may be encountered. Perhaps most importantly, each individual understands his individual responsibility for adherence to procedures.

At this time, we have fully implemented the corrective measures or established the necessary programs or procedures that ensure that each element of the corrective action plan is carried out. In most cases, the programs and policies we've established as a result of the corrective action plan will be with us not just for power ascension but also for the life of the plant. For that reason, they constitute an enhancement to our readiness for power ascension testing, but also to our overall readiness to operate Seabrook safely.

Now, in addition to the actions taken as a

result of the June 22nd event, New Hampshire Yankee has also modified the emergency feedwater system as a result of experience gained during low power testing. Leakage past the emergency feedwater steam turbine supply valves require a changeout of the valves to a low leakage design, evaluation of the system check valves and modification of the downstream drain system. This was all done to improve the operational characteristics of the system. These modifications have been implemented and will be tested during our heatup prior to criticality.

Another area that I'd like to discuss briefly this morning is the self-assessment that New Hampshire Yankee has performed to evaluate our readiness to proceed with the power ascension test program and a subsequent full power operation of the plant.

Self-assessment has been and always will be a way of life at Seabrook. In 1984, we instituted a group known as the independent review team. Their function is to drawn on the best available talent both inside and outside the company and they evaluate key aspects of our operations and provide recommendations for improvement directly to senior management. To date, this independent review team has performed

hundreds of important self-critiques. This function will continue into the operational phase.

In order to assess our operational readiness and the effectiveness of our preparations for power ascension and commercial operation, the independent review team manager has assembled a multi-disciplined self-assessment team.

(Slide) The self-assessment team organization is composed of a group of experienced personnel who are not directly associated with the areas they are evaluating. The team reports to a management oversight committee through a team manager. The management oversight committee is composed of our most senior management, including Mr. Brown, myself and a number of the subdivision heads.

A scoping document has been developed for the self-assessment which outlines the review plan, the performance objectives and the evaluation criteria. The self-assessment team will evaluate programs, performance, resources, qualifications of personnel, training, organizational interfaces and management. They do this primarily by first-hand observations in the field, by auditing simulator and classroom training, by interviewing working level, supervisory and management personnel, and also by

reviewing documentation. The self-assessment team manager will convene the management oversight committee and discuss issues with senior management individually on a periodic basis and whenever a matter arises that he believes needs immediate attention.

(Slide) Our self-assessment for power ascension was divided into two phases. Phase one evaluated the preparation and readiness to begin power ascension testing. It looked at the completion of full power preparation activities, implementation and completion of commitments, physical plant readiness, completion and effectiveness of our programs and the effectiveness of management and management oversight.

Phase two will monitor and evaluate the actual conduct of the power ascension test program and our readiness for full power operations.

The phase one assessment was completed in December of 1989. It concluded that the plant was in good physical condition, that management attention had been appropriately focused on establishing the operational readiness of the plant and that we've made conservative and thorough preparations for a safe and deliberate power ascension test program.

The team made a number of recommendations to enhance our readiness for full power ascension and

these have all been accepted by the management oversight committee and will be implemented before we begin the test program. Overall the self-assessment team concluded that the plant would be ready to begin power ascension testing by the end of January.

During phase two, the self-assessment team will report to management at power levels of 5, 30, 50, 75 and 100 percent. The test program and further power ascension will be allowed to continue only after management evaluation and approval. We've also agreed with Mr. Russell that we would provide a written report to the NRC at the 50 percent power plateau and would proceed no further before formally meeting and discussing the report with the NRC staff.

(Slide) The independent review team and the self-assessment team are only two of the nine management evaluating elements through which New Hampshire Yankee management receives total overview of the power ascension test program and the overall station and conduct of operations of the company.

The slide lists the groups within our organization that provide the formal checks and balances to which we are committed. The operational quality assurance program, the off-site and on-site review committees, the independent safety engineering

group and the human performance evaluation program are all well recognized nuclear industry concepts.

The employee allegation resolution program provides investigations of concerns raised by either current or former Seabrook site employees, of allegations brought to our attention by the NRC, or by members of the general public. Now, we've used this program to investigate allegations that were recently received and have determined that there are none that have any unresolved safety significance.

The use of these groups or committees ensures that an effective, multi-disciplined, independent management overview is consistently provided and maintained.

In closing, I'd like to mention that we recognize that the transition of a plant from the construction mode to the operating mode can sometimes be difficult. Construction of Seabrook was completed in 1986. Our operating staff was in place and fuel was loaded in October of that year. We therefore have been operating in accordance with the plant technical specifications for over three years. During that time, we've successfully completed the transition to an operating mode and worked to improve our training programs, procedures to ensure that a conservative

operating philosophy is fully in place.

Finally, because we recognize the important responsibility that goes along with operation of a nuclear power plant, we've learned to guard against complacency and to reinforce to everyone on the New Hampshire Yankee team that attention to detail is of paramount importance in all activities performed at Seabrook.

This concludes my remarks this morning and at this time I'd like to ask Bruce Drawbridge to brief you on our operational readiness and the power ascension test program.

MR. DRAWBRIDGE: Thank you, Ted.

Mr. Chairman, members of the Commission, good morning. My name is Bruce Drawbridge. I am the Executive Director of Nuclear Production for New Hampshire Yankee. I am responsible for the power ascension test program and the subsequent operation of Seabrook Station. I'll be discussing Seabrook Station's readiness to commence operations, as well as our power ascension test program.

We completed the low power testing of Seabrook Station in June of 1989. In the period since low power testing, we have completed the physical in-plant work required to prepare the unit for power

ascension testing and power operations.

(Slide) The major activities were: the completion of the 18 month surveillance outage on both trains of our engineered safety features, which includes our emergency core cooling system and our containment spray system; the installation of design enhancements to address plant performance items that were identified during low power testing; and the completion of our containment integrated leak rate test.

New Hampshire Yankee has evaluated all of the NRC open items for their relation to the issuance of a full power license. The open NRC items required for full power are presently being completed. All relevant activities will be completed prior to entering the applicable plant operating mode. These items are reviewed and statused at our daily plan of the day meetings.

Our actions related to the Three Mile Island Action Plan, as provided in NUREG-0737, are complete with the exception of the submittal of operational data for three items. These submittals will confirm information that we have previously provided to the NRC.

The first item concerns the safety parameter

display system, which is commonly referred to as the SPDS. That is complete. However, we will be providing the results of the availability calculations and response time testing to the NRC prior to startup from the first refueling outage. These calculations and response time tests will reflect SPDS performance during the first operating cycle, and therefore cannot be provided at this time. The SPDS status is addressed in our current operating license and in the NRC Safety Evaluation Report, Supplements 6 and 7.

The second item is related to the post accident sampling. All hardware and procedural changes related to this item are complete. However, we still have to verify system performance using a diluted reactor coolant system sample. The reactor has only been operated for approximately 19 effective full power minutes and therefore there is not sufficient reactor coolant activity to allow a diluted sample to be utilized. The post accident sampling system will be verified during the performance of our power ascension test program.

The third item is related to the control room design review. This review has been completed, however we still have to address control room environmental parameters, such as temperature, air

flow and noise, data that can only be obtained during power operations. We'll provide a report after the plant has operated at full power.

(Slide) In regard to our current plant schedule, the major in-plant work has been completed and we are currently performing the surveillance testing and valve lineups to prepare the plant for heatup. Station operations personnel are completing the final actions to establish containment integrity today. Our current schedule identifies a completion of surveillance testing to be accomplished by January 23rd. We are progressing in a controlled, deliberate manner, emphasizing a conservative approach to operations.

Once the surveillance testing is complete, we'll be ready to begin the plant heatup to operating temperature and pressure. Entry into plant operating mode 4 could begin January 25th and we could be ready to begin power ascension testing on January 31st, should the Commission authorize the issuance of a full power license.

Some surveillance testing will be performed during mode 3, hot standby, to verify the operability of the emergency feedwater system and perform baseline monitoring of the atmospheric steam dump valves. This

testing is being conducted at this time due to the need for normal plant operating temperature and pressure.

Our maintenance organization has been very active since low power testing due to the outage work that I previously mentioned. With the completion of the outage work and the preparation of the plant for power operations, our maintenance backlog is being reduced to be within expected levels.

(Slide) Performance of maintenance and modification activities at Seabrook Station is controlled by a comprehensive work control program that has been in place for approximately four years. All plant-related maintenance is controlled by our work control system. Any component that requires maintenance or modification is assigned a unique work request. In our system, in order to ensure accurate machinery history records, we do not group like items in one work request, but require a unique work request per item.

As of this morning -- we had a previous slide, but I've updated it. I got new information this morning. As of this morning, we have 177 work reques ; that are required for plant mode 4 through mode 1. These items will be completed prior to

entering the applicable mode. In addition, we have 698 work requests that are part of our normal ongoing maintenance and operations program.

(Slide) New Hampshire Yankee coordinates all training activities through our on-site training group. Our operator programs are accredited by INPO and we are actively pursuing INPO accreditation of our remaining programs. Presently, we have an accreditation visit scheduled for our maintenance programs, mechanical, electrical and instrumentation control, in April of this year. The accreditation visit for the remaining programs, chemistry, health physics, technical staff and shift technical advisor, are scheduled for July of this year. A key element in our training program, reactor operator training, utilizes our on-site plant-specific simulator.

(Slide) We currently have 34 senior reactor operators and nine reactor operators in our operations and training departments. Our operations department has 21 senior reactor operators and eight reactor operators assigned to a six shift rotation.

(Slide) Each shift is headed by a shift superintendent who holds a senior reactor operators license. Reporting to him are the unit shift supervisor who also holds an SRO license and two

reactor operators. On some shifts we fill the reactor operator's position with a senior reactor operator.

Also, each shift has a complement of auxiliary operators, fire fighters, instrumentation and control technicians, health physics, chemistry and maintenance technicians, plus our security force.

The shift technical advisor is a dual role STA/SRO function performed by a degreed individual with a senior reactor operators license who has received additional training in accident assessment appropriate to the shift technical advisor position.

The majority of our senior reactor operators have been at Seabrook Station for over six years. They have observed and participated in the construction of the station while concurrently receiving operator training. We have manned the control room continuously since 1984. Our operators have operated systems and equipment since it was turned over from construction and participated in both the preoperational and low power testing programs.

The operations department has approximately 140, 1-4-0, manyears of nuclear operating experience prior to coming to New Hampshire Yankee. Since coming to New Hampshire Yankee, our operators have received additional hot experience from their participation in

and observation of plant operations at other utilities. A majority of our hot experience was obtained at Millstone Unit 3, a similar Westinghouse unit.

(Slide) New Hampshire Yankee has implemented a fitness for duty testing program in April of 1986. We have enhanced the program as appropriate through the years. We have followed the NRC Fitness for Duty rulemaking and made the appropriate modifications to our program to meet the Fitness for Duty Rule. Our revised program was implemented on a test basis for program verification on December 7th of last year and was fully implemented in compliance with the rule on January 3rd of this year.

The changes that we made to the program included alcohol testing by breathalizer test and the random testing of personnel. We have approximately 42 days of implementation experience with the new program and have identified no major or unexpected problems.

Upon issuance of a full power license, power ascension testing would then begin at Seabrook Station. Testing will be performed by integrated test crews comprised of power ascension test personnel and operations personnel. The power ascension test

organization includes experienced personnel from throughout the New Hampshire Yankee organization. We have supplemented this organization with consultant personnel who have recent experience in startup testing at similar pressurized water reactors. The power ascension test program manager reports to the station manager and is responsible for all aspects of the program. This test position is being filled by our technical support manager, an individual who has held an NRC senior reactor operators license for Seabrook Station.

An important element of our power ascension test program involves the utilization of enhanced test procedures. In order to incorporate the lessons learned from low power testing that was performed in June of 1989, the power ascension test program was reviewed and updated. The procedures were revised to include a background document and a briefing document and were integrated into the station operating procedure system.

We have conducted a comprehensive training program for our power ascension test crews. Each test crew is comprised of power ascension test personnel combined with one of our normal operating crews. Training has been provided on the power ascension test

program for these combined crews. Additionally, the crews receive training on the simulator for certain power ascension test procedures which require substantial interaction between the operations and power ascension test personnel.

For the performance of certain complex power ascension test procedures, we will designate specific dedicated crews. Prior to the performance of these particular tests, the designated crew will receive additional training utilizing the simulator. Although this action may extend our power ascension testing program by a short period of time, we believe that this action with ensure an effective and well conducted test program.

(Slide) Power ascension testing will be performed at the power level plateaus of 0, 5, 30, 50, 75 and 100 percent reactor power. At the completion of testing at key power level plateaus, the power ascension test manager will provide a briefing to executive management describing the testing that has been performed to date and explain any problems identified, along with their resolution. Executive management will also receive a briefing from the self-assessment team manager, providing the team's assessment of power ascension testing and New

Hampshire Yankee's readiness to proceed to the next power level.

The senior vice president will authorize continuation of testing at the next power level after reviewing both reports. New Hampshire Yankee will also meet with NRC management to discuss our evaluation of power ascension testing prior to exceeding the 50 percent reactor power.

In summary, we believe that Seabrook Station, along with our people and programs, are ready to commence power ascension testing and subsequent full power operations.

At this time, I would like to ask George Gram, Executive Director of Emergency Preparedness and Community Relations, to brief you on our emergency preparedness and vehicular alert and notification system.

George?

MR. GRAM: Thank you, Bruce.

Good morning, Mr. Chairman and members of the Commission.

My objective this morning is to provide you with a brief overview of emergency preparedness for Seabrook Station, focusing on our utility plan developed for the Commonwealth of Massachusetts. The

presentation is intended to show our readiness in the emergency planning area and it is designed to be descriptive. If the General Counsel believes that any portion of my remarks impinge upon matters in litigation, please interrupt and I will move on to the next section.

(Slide) Seabrook Station's ten mile plume exposure pathway emergency planning zone, or EPZ, is made up of 23 communities, 17 in New Hampshire and six in Massachusetts. The EPZ boundary was established by the two states and include portions of communities which extend well beyond a ten mile radius from Seabrook Station. All of the land area within two miles of and nearly two-thirds of the total EPZ land area is in New Hampshire. The EPZ is also transversed by two major interstate highways, I-95, which runs north and south, and I-495, which runs east and west, both of which are six or eight lane highways.

The resident population of the EPZ is approximately 148,000 and the summer peak population is approximately 247,000, of which New Hampshire accounts for 94,500 resident population and 161,000 total summer peak population.

(Slide) The Seabrook Station 50 mile ingestion pathway zone, or IPZ, includes portions of

three states, New Hampshire, Massachusetts, and Maine.

(Slide) There are four major organizations involved in planning for and responding to a radiological emergency at Seabrook Station. The first is New Hampshire Yankee, which is responsible for on-site response.

(Slide) The State of New Hampshire and 17 local communities cover off-site response in New Hampshire for the ten mile emergency planning zone and the 50 mile ingestion pathway zone.

(Slide) The State of Maine is involved in off-site planning and response for that portion of Maine that falls inside the 50 mile IPZ for Seabrook.

(Slide) And New Hampshire Yankee has developed a utility plan and organization for the ten mile EPZ and 50 mile IPZ in Massachusetts.

(Slide) The planning, staffing and facilities for the on-site plan and the New Hampshire and Maine state plans are typical of emergency preparedness at nuclear power stations throughout the U.S. I would like to now --

MR. PARLER: Mr. Chairman, it seems to me that if we get beyond simply descriptive material which is in the background information, that that would be inappropriate. The other participants in

this proceeding were under the impression that their contributions, their participation would not be on contested issues.

The gentleman just said that the plan or whatever he was talking about is comparable to other places. Whether or not that is the case, whether or not emergency planning is adequate is hotly contested in this proceeding and the merits of the matters still haven't been resolved.

If the gentleman wants to describe -- just give a description of things which are in the adjudicatory record, perhaps that's okay. But any judgmental sort of things about the adequacy of the plan or what have you, those are adjudicatory matters and should not be discussed.

CHAIRMAN CARR: Can you proceed along those lines?

MR. GRAM: Yes, sir, I believe so.

CHAIRMAN CARR: Please do.

MR. GRAM: I would now like to focus on our utility plan.

(Slide) Although the Commonwealth of Massachusetts has prepared and exercised emergency response plans for the Pilgrim Nuclear Power Station in Plymouth, Massachusetts, the Yankee Nuclear Power

Station in Rowe, Massachusetts, and the Vermont Yankee Nuclear Power Station in Vernon, Vermont, this is not the case for Seabrook Station.

(Slide) New Hampshire Yankee has developed and manned a utility-sponsored plan for Massachusetts, the Seabrook Plan for Massachusetts Communities, or the SPMC. This plan, along with the on-site and New Hampshire and Maine state plans, were demonstrated in a deficiency free June 1988 full participation graded exercise. We believe it was the largest radiological emergency exercise ever held in association with commercial nuclear power.

(Slide) The SPMC planning basis provides for response in a ten mile EPZ and 50 mile IPZ in Massachusetts.

(Slide) Seabrook Station is located approximately two miles from the Massachusetts border and planning encompasses six local communities in the EPZ.

(Slide) And ingestion pathway planning in Massachusetts extends south of Boston.

(Slide) The SPMC provides for full implementation by the utility off-site response organization commonly referred to as the ORO, and is based on three possible modes of response.

(Slide) The first mode calls for the ORO to be fully activated and all facilities and resources readied to respond. This is called standby mode. The Commonwealth may elect to respond fully with its own personnel and resources, in which case the ORO would remain in standby mode to assist if required.

(Slide) The second mode involves the ORO providing manpower and equipment to the Commonwealth to supplement existing state resources, but the Commonwealth retains overall command and control of response activities.

(Slide) The resources available are extensive. In terms of equipment and personnel, more than 2300 emergency workers have been trained and are currently qualified ORO responders.

(Slide) The organization has access to over 1200 transportation vehicles, including buses, ambulances, tow trucks and vans. New Hampshire Yankee has also purchased or --

MR. PARLER: Mr. Chairman, the interveners have on appeal from an on-site licensing board decision a challenge to the finding that the applicant's vehicle alert notification system, the so-called VAN system, was adequate. That's in LPB-89-17.

I would urge the gentleman to just stick

with the descriptive materials or else -- if I had my pleasure, he would terminate the discussion about emergency planning. The issues are very broad. They go to the heart of many of the adjudicatory matters and if he goes beyond descriptive discussion that is already in the record and it is unchallenged, I would have a problem.

CHAIRMAN CARR: Mr. Brown, do you think we can dispense with the rest of the emergency preparedness proceedings?

MR. BROWN: Yes, sir, I believe we can.

CHAIRMAN CARR: All right. We'll do so then.

MR. BROWN: Mr. Chairman and members of the Commission, this concludes the formal part of our presentation.

In closing, I'd like to affirm that we at New Hampshire Yankee are ready for the full power licensing and operation of Seabrook Station. Our physical plant, our programs and our procedures are ready. Most importantly, our people, as characterized by a commitment to safety, professionalism, quality and excellence, are ready to conduct a conservative power ascension program that will bring Seabrook Station into commercial operation.

Given this state of readiness, we respectfully request that the Commission allow the decision of the licensing board authorizing full power operation to become effective.

We realize that a full power operating license from the Nuclear Regulatory Commission carries with it significant responsibilities. I can assure you that everyone on the New Hampshire Yankee team takes those responsibilities very seriously and we're committed to maintaining the trust of the Commission and to protecting the health and safety of the public at all times.

Thank you.

CHAIRMAN CARR: Thank you very much.

Any questions, Commissioner Roberts?

Commissioner Rogers?

COMMISSIONER ROGERS: Just a couple little ones.

Mr. Feigenbaum, how stable has your staffing been over the last few years, I don't know, three years or so? For example, what's been the turnover rate of licensed operators, engineers, or experienced technicians?

MR. FEIGENBAUM: In this past year, 1989, the overall company turnover rate was in the area of

five percent.

COMMISSIONER ROGERS: Excuse me. The company is the plant or --

MR. FEIGENBAUM: Everybody located at the plant, all our employees, New Hampshire Yankee employees was about five percent. In previous years, in '87, '88, it was somewhat higher than that as we were going through our transition from the construction to operating mode.

As far as operators, Bruce, can you address the people on our operations staff?

MR. DRAWBRIDGE: Yes. For this past year, for the operations staff, the turnover rate was 4.6 percent and that was primarily new people coming in, new AOs coming in, et cetera. That would be typical for the last few years.

COMMISSIONER ROGERS: That would be roughly the same average --

MR. DRAWBRIDGE: Roughly the same, yes.

COMMISSIONER ROGERS: -- for the categories of engineers, operators and technicians?

MR. DRAWBRIDGE: Overall for the station last year, it was 3.9 percent.

COMMISSIONER ROGERS: And for the company it was about five percent?

MR. DRAWBRIDGE: About five percent.

COMMISSIONER ROGERS: All right.

Mr. Drawbridge, you talked about self-assessment team. Is the self-assessment team manager a full-time assignment for that individual? Was that discussed?

MR. FEIGENBAUM: Yes. I was discussing that. The self-assessment team manager is full-time for the period that he's doing self-assessment work. The individual that happens to be filling that particular position is also the independent review team manager. So we see a nice complementary arrangement there between his normal functions, which are to provide oversight, as well as being a self-assessment team manager for the power ascension readiness preparation. But when he's in that task, for the last 60 to 90 days, he's been doing that essentially full-time.

CHAIRMAN CARR: Let me piggyback on that one because that's one of the questions I had for you. What's the difference between the IRT and the SAT, the independent review team and the self-assessment team?

MR. FEIGENBAUM: Well, the self-assessment team is a task that essentially has a beginning and an end. It will end when their report is completed for

the phase 2 review of the conduct of the operations of the power ascension test program. The independent review team is a standing organization at New Hampshire Yankee and is --

CHAIRMAN CARR: Roughly the same people?

MR. FEIGENBAUM: The manager is the same, the rest of the people are different.

CHAIRMAN CARR: And all those activities that you have ongoing there for management oversight, what kind of coherence and consistency -- who makes sure all those guys know what each other is doing?

MR. FEIGENBAUM: Well, we've arranged essentially all the quality program groups, the QA, QC group, the independent safety engineering group, the independent review team, as well as the employee allegations resolution program, all under a single director of quality programs. He meets with all his department managers on a weekly, if not more often than that, basis and they coordinate their activities to make sure that they're not overlapping or stepping on each other's area of responsibility and creating a problem as far as time and effort in the station to support those activities. So, it is coordinated through the director of quality programs.

COMMISSIONER ROGERS: To just come back to

this assignment of the individual who's the self-assessment team manager, did you say that that person would be the IRT manager as well?

MR. FEIGENBAUM: Yes, that's correct.

COMMISSIONER ROGERS: And those two committees or teams, do they constitute that person's full-time assignment then?

MR. FEIGENBAUM: Yes, they do.

COMMISSIONER ROGERS: It's either one or the other?

MR. FEIGENBAUM: That's correct. We have an authorized level of four people for our independent review team at all times throughout the year. For the self-assessment team, the independent review team manager assembled a group of about ten people, more than his authorized budget, and we took those people from all areas of the company that had expertise in the areas that he was assessing.

He also has the ability and has contracted for a couple of people with outside expertise because we couldn't find people that had the expertise and were independent of the work at the plant. So, it's a combination on the self-assessment team of independent contractors as well as our own employees.

COMMISSIONER ROGERS: What is the background

of that individual? What is the experience and background of that self-assessment team manager? I think that's a very important role in this and I'd just like to know a little bit more about --

MR. FEIGENBAUM: The individual's name is Ed DeMaris. Ed was in our technical support group at the plant for a number of years during the construction phase and the preparation of engineering programs and procedures. He then went to work in our corporate engineering group and has a very extensive engineering background.

Together in his team, on the independent review team, we also have operational capability. We have a unit shift supervisor that was recently assigned to the independent review team who reports to Ed DeMaris. So, I think there's a nice balance of operational experience as well as engineering design experience.

COMMISSIONER ROGERS: Thank you very much.

Mr. Drawbridge, I guess you did talk about the work requests and you said there were some changes on the slide that we had and the mode 4, 3, 2, 1 work requests outstanding were 175 as contrasted to 205.

MR. DRAWBRIDGE: 177, I believe, sir.

COMMISSIONER ROGERS: I see, 177. Now, what

about the rest of them, the priority 1, 2, 3, 4 additional items?

MR. DRAWBRIDGE: Sure. Do you want that breakdown?

COMMISSIONER ROGERS: Well, just, for example, yes, why not. It would be helpful to just see what the change has been in that.

MR. DRAWBRIDGE: Priority 1, there are five. Priority 2, there are 68. Priority 3, there are 494. Priority 4, there's 130.

COMMISSIONER ROGERS: All right. Now, those numbers have gone up from the slide. What was the occasion that led to that, for those changes? How did that come about?

MR. DRAWBRIDGE: What we're doing right now, sir, is we're collecting all of our work requests, as I mentioned earlier. We have a separate work request that's issued for each item that occurs. We're right now going through our surveillance testing and as we go through our surveillance tests, a number of these work requests will be worked off at the same time. That is to say, if we have work requests, let's say, on 12 valves in the same system, those 12 valves, when we do that retest of that system, the work request could then be closed out.

The work request system does -- you do see perturbations. It does go up and down. We expect to see it around 750 typically.

COMMISSIONER ROGERS: What does that represent in a typical month's work?

MR. DRAWBRIDGE: Typical months work? We usually close out approximately 100, 125 work requests a week, something like that. We also open approximately 100 or so a week too.

COMMISSIONER ROGERS: Roughly a month and a half then or something?

MR. DRAWBRIDGE: Roughly, yes. Roughly about seven weeks, eight weeks.

COMMISSIONER ROGERS: All right. Fine. Thank you.

CHAIRMAN CARR: Any other questions?

COMMISSIONER ROGERS: No.

CHAIRMAN CARR: How about telling me what priority 1 means in your work request system?

MR. DRAWBRIDGE: Sure. Priority 1 work requests are those work requests that we want to start immediately and work on. It could involve a personal safety issue, for example if you had a railing that was down. Also, if you had a tech. spec. item too as well that you wanted to have cleared out. Priority 1

makes the plant focus on those items so that we work those items first and get them completed.

CHAIRMAN CARR: And priority 2?

MR. DRAWBRIDGE: Priority 2, those are items that are of a lesser nature than the priority 1, obviously. Those are the items that if the issue were allowed to continue could affect the performance of the piece of equipment.

CHAIRMAN CARR: Of those work requests you've described, how many of them have to be completed prior to being ready to pull rods?

MR. DRAWBRIDGE: All of the --

CHAIRMAN CARR: 177?

MR. DRAWBRIDGE: 177, plus we would also clear out any priority 1 items that might come up in the course of that as we heat out the 2 as well.

CHAIRMAN CARR: Now, the 177 are separate. They're also categorized, I assume.

MR. DRAWBRIDGE: That's correct, yes. They're categorized by the particular mode that they're required to be operational in.

CHAIRMAN CARR: Well, as you know, maintenance is one of my interests, I presume. There was concern expressed in the SALP with respect to maintenance personnel errors and lack of attention to

detail and failure to conduct post maintenance tests on the steam dump valve. Reassure me that you're corrective action since the June 22nd event have solved the problems. It looks to me like you're using a lot of overtime still in maintenance. Give me your long-range plans on maintenance personnel. How are you going to get your hands on this maintenance problem or do you see it as a problem?

MR. DRAWBRIDGE: Well, we are always monitoring our maintenance efforts. We have done a fair amount of overtime, quite a bit of overtime in the past six months. That is due to the amount of work we have done and the amount of improvements that we've done in the system.

We have what we call a system week concept in maintenance. That allows us to do a lot of our preventative maintenance on an ongoing basis. That is to say every given week we specify a particular system or systems. There might be two that we're going to be working on. Our crews are trained and specialized in certain systems. We are getting ready to go through the accreditation program right now and as that, of course -- I'm sure you're well aware that's very systemized training. We think we have a good training program.

CHAIRMAN CARR: What's your goal for ratio of preventive maintenance to corrective maintenance when you're operating?

MR. DRAWBRIDGE: Our goal would be about 60 percent preventative maintenance, 40 percent corrective.

CHAIRMAN CARR: Well, is this work-off rate of 125 a week include the ones -- I mean, includes a lot of overtime?

MR. DRAWBRIDGE: I'm sorry?

CHAIRMAN CARR: The work-off rate, you said close out 125 a week and open about 100. So you're gaining about 25 a week. That's taking into account all that overtime.

MR. DRAWBRIDGE: That's correct. For our given situation right now today, yes. Our goal for outstanding work requests is 750 or less.

CHAIRMAN CARR: Yes, I got that.

I notice that you resleeving and plugging the tubes in both primary component cooling water heat exchangers to repair tube degradation due to erosion and pitting in order to allow one full cycle of operation with acceptable performance. When and what's your long-term fix for that problem?

MR. DRAWBRIDGE: We plan to replace two

bundles on those particular heat exchangers. The problem that we have seen there is a flow impingement, high velocity flow impingement type problem.

MR. FEIGENBAUM: In addition --

CHAIRMAN CARR: When do you plan to do that?

MR. FEIGENBAUM: In addition to changing the heat exchanger bundles, we also plan to make changes to the channel head and the inlet arrangement. Unfortunately, it's not the best arrangement. The flow that comes in has to make a sharp turn and there is impingement and some cavitation at the inlet of the tube sheath. And as a result of that, we will, at the first refueling outage, we're looking at changing out the tube material and changing the piping arrangement in the channel head design and make it deeper.

CHAIRMAN CARR: So that's after the first cycle?

MR. DRAWBRIDGE: That's correct.

CHAIRMAN CARR: First outage.

MR. DRAWBRIDGE: First refueling outage.

CHAIRMAN CARR: Okay. Can you tell me the age of the oldest maintenance item in your corrective maintenance backlog? Give me a guess.

MR. DRAWBRIDGE: I would -- it would be a guesstimate. I would think that there would be items

that would probably be about four months old, a few items.

CHAIRMAN CARR: How about sending me the real dope for the record?

MR. DRAWBRIDGE: Okay.

CHAIRMAN CARR: All right. If there are no other questions, thank you very much.

We'll now hear from the staff.

Mr. Taylor, you may proceed.

MR. TAYLOR: Good morning. With me at the table, to my right, Doctor Murley, the Director of NRR, and to his right Vic Nerses, the Project Manager for Seabrook from NRR. To my left, Bill Russell, Regional Administrator, Region I, and to his left, Tony Cerne, Senior Resident during the construction period at Seabrook.

As usual, the staff's briefing today will include presentations from Headquarters and region staff. To begin, I'll ask Doctor Murley to start.

DOCTOR MURLEY: Thank you.

Mr. Chairman, Commissioners, we will summarize the staff's findings on the readiness of the plant and the licensee to operate Seabrook at full power. Mr. Nerses, the Project Manager, will talk about the background and license conditions. Mr.

Russell will talk about the construction adequacy, low power testing program, the readiness to operate and also the status of some late filed allegations that we have received. Mr. Cerne is here to answer any questions you might have.

I'll cover emergency preparedness and I should mention that there are FEMA representatives in the audience, in particular Mr. Richard Donovan, who is Chairman of the Regional Assistance Committee, if there are any questions.

Mr. Nerses?

MR. NERSES: Good morning, Chairman Carr and Commissioner Roberts and Rogers. My name is Victor Nerses and I am the Seabrook Project Manager from Project Directorate 1-3 of the Office of Nuclear Reactor Regulation.

I thought I would begin our briefing by pointing out a few facts about Seabrook and Seabrook licensing matters.

(Slide) In my first slide, certain distances -- may I have the next slide, please? Thank you.

In this slide, certain distances from nearby cities are shown. However, what is not shown, perhaps of interest, is that Seabrook is located about two

miles inland from the Atlantic Ocean. It is surrounded by a salt marsh and you can get an idea of the setting for this from the photograph on your briefing book.

The primary source for heat dissipation during normal operations and accident conditions is the Atlantic Ocean. Ocean water gets into the plant through an intake tunnel 19 feet in diameter and about three miles long. This tunnel is located about 260 below the station. A similar tunnel is provided for the discharge.

The large dry containment is the primary containment structure and this structure is enclosed in a secondary containment with about a five foot wide annulus. This secondary containment collects potential leakage in the event of an accident and filters the leakage through a cleanup system to reduce off-site dosage.

(Slide) My next slide is licensing milestones. As you can see, Seabrook has had a lengthy licensing process. To be more specific, it has been more than 16 years since the application for a CP had been docketed.

(Slide) In my next slide on licensing conditions and exemptions, if Seabrook should get a

full power license, it will have a few license conditions. The condition on safety parameter display system results from an Atomic Safety Licensing Board decision. The other conditions are standard ones we have been placing in nuclear power plant licenses.

Seabrook will also have a few exemptions that have been common to licenses the Agency has issued on nuclear power plants, although I understand not all licensees in fuel facilities have the criticality monitoring exemptions.

This completes my remarks. If there are no questions, then I'll turn it over Doctor Murley.

CHAIRMAN CARR: Let's proceed.

DOCTOR MURLEY: On emergency preparedness, I will limit my comments to the staff activity and the staff recommendations.

Over the years, the NRC staff has reviewed and continues to review the emergency plans. We have observed both on-site and off-site exercises and we have inspected both on-site and off-site facilities. For example, the staff has conducted some 14 inspections and appraisals of the on-site response capability, including evaluation of the utility performance in four exercises.

The Federal Emergency Management Agency,

FEMA, in coordination with the NRC, has performed an extensive and detailed review of the off-site plans and preparedness for Seabrook. The FEMA evaluation included a review of the off-site emergency plans by the FEMA Regional Assistance Committee, the RAC. Numerous assistance and assessment visits to verify resources, training and support programs have been done and they have observed two exercises of off-site preparedness, a February 1986 New Hampshire exercise, and the June 28th to 29th, 1988 graded full participation exercise involving the State of New Hampshire, the utility off-site organization from Massachusetts and the State of Maine.

The Seabrook June 28th and 29th, 1988 exercise was one of the most extensive exercise evaluations conducted by FEMA. During the two days of the exercise, 1,525 persons --

MR. PARLER: Mr. Chairman, one of the matters that is on appeal are the appeals from the licensing board's decision on the adequacy of the Seabrook plan for the Massachusetts communities and the results of the 1988 FEMA-rated exercise. That's in LBP-89-32. That's on appeal. Again, beyond very general descriptive material --

CHAIRMAN CARR: I agree.

MR. PARLER: -- we should stay away from that, sir. The parties differ on the conclusions that have been reached about the adequacy of --

DOCTOR MURLEY: Okay. During -- with regard to this exercise, no deficiencies were observed by FEMA during the graded exercise. FEMA has documented in reports to the NRC that the off-site plans and preparedness for Seabrook are adequate.

MR. PARLER: The bottom line discussions about the adequacy of emergency planning is not appropriate at this meeting. Excuse me.

CHAIRMAN CARR: Anything left to say there, Doctor Murley?

DOCTOR MURLEY: Mr. Chairman, I thought I was presenting factual material that's in the record. On advice of counsel, this is what I have been told is factual material.

MR. PARLER: The parties to this proceeding differ about the judgment that should be reached on the facts that are in the material. That's what the appeals are all about.

CHAIRMAN CARR: If it's in the record, we'll get to take a look at it.

MR. PARLER: The adjudicatory record is available to the Commission.

DOCTOR MURLEY: During the February 1986 New Hampshire exercise, the NRC participated as an organizational player in the exercise, in addition to observing it. As the regional administrator at the time, I participated as NRC's Director of Site Operations and was therefore able to observe at first hand the activities in the emergency operations facility and the communications among the licensee, the State of New Hampshire, the local New Hampshire communities and the NRC.

Last week, with other staff, I listened to a detailed description of the emergency response plan and we inspected some of the important off-site facilities. In early December, the licensee submitted to NRC revisions to the emergency plans. We believe these revisions should have been provided to the Commission, to the boards, and to the parties. Since that was not done, the staff will provide copies of the revisions to the Commission, to the boards and to the parties as soon as possible.

FEMA has reviewed the revised plans and has assured us that the changes in these revised documents do not change their findings. Therefore, the revisions do not alter the staff conclusions in the safety evaluation report on adequacy of emergency

preparedness at Seabrook. Based on the staff's review of the Seabrook on-site plans and preparedness, FEMA's assessment of off-site plans and preparedness, as well as the licensing board's decisions on contested matters, the staff concludes that the overall state of on-site and off-site emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Seabrook and therefore emergency preparedness at Seabrook is adequate to support full power operations.

Bill Russell will continue.

MR. RUSSELL: I'd like to address issues associated with construction. The last SALP evaluation, during which construction was evaluated, was rated as Category 1. Of the 30,000 direct inspection hours expended, approximately 27,000 have been associated with construction activities prior to the issuance of the low power license. We have approximately 3,000 hours since that low power license.

Our broad conclusion as it relates to construction is that the final safety analysis report and the design of the facility is, in fact, reflected in the as-built plan.

At the time I issued my recommendation regarding full power licensing to Doctor Murley, we had four allegations that we were processing at that time. Those allegations do not constitute any issues which would preclude issuance of a full power license.

That day, the 9th of January, we received two late filed allegations. We have reviewed those in accordance with the Agency's procedures, which is essentially a three part test, first to review the new issues for materiality to the licensing decision, secondly to judge whether new information is contained in them that we had not previously seen, and to judge whether they are significant to safety.

We constituted a group of staff to review those. We essentially had nine staff reviewing the materials received from Senators Kerry, Kennedy and Congressmen Mavroules and Markey, some 255 individual issues. We had another group of three staff that reviewed issues that were received from an individual in the area, a Mr. Anderson.

I'll cover Mr. Anderson's concerns first. They were essentially developed through a tape recording of radio transmissions which were received at Mr. Anderson's residence, some few hundred tape recordings in the course of approximately one year.

He provided the transcripts of some of the more recent recordings and provided his concerns regarding the content of that material.

The staff has reviewed the transcriptions that we have received, including some additional material received on January 15th. We've broadly characterized those into 13 areas and we conclude that none of those areas are material to the decision regarding a recommendation for a full power license. We are continuing to review those and make efforts to obtain the balance of the tape recordings and there are discussions going on at this time with Mr. Anderson as to how to proceed.

The second area of late filed allegations came from the Employees' Legal Project through a consultant that they had hired, QTC Corporation, some 255 items. We have reviewed those. We concluded that some 115 were new information or characterized differently than the staff had seen before and approximately 144 in the earlier screening were concluded to be material. We have reviewed those.

We have work remaining on six technical issues of the new category that are material and potentially relevant. We have received verbal information from the licensee regarding those six

which indicates that the licensee has records or other information which would resolve those issues. We understand what that material is. It's to be provided to the staff by the 24th of January and we do not believe that these issues, based upon the verbal representations made by the licensee, would constitute a bar to licensing.

In addition to the allegations, there are a number of items which were reflected in the readiness report. At the time I forwarded that, there were 17 items identified in the enclosure. We now have four items remaining to be addressed. Two items are associated with testing, which requires plant heatup, the testing of the turbine driven auxiliary feedwater pump, which was described by the licensee. In addition, some check valves need to be tested in the interface between the low pressure emergency core cooling system for leakage across those check valves.

There are two items which are expected to be completed tomorrow associated with the post accident sampling system which relate to training and review of the heat tracing adequacy to preclude condensation in the sampling lines.

In the area of maintenance, I would like to identify one which we consider as a critical path item

related to maintenance. It's work with ASCO valve solenoids, sealing of those solenoids for environmental qualification purposes. That work is going on now. It is not yet complete. With respect to that item itself, as well as the other maintenance items that are ongoing, it's our view that they are adequately controlled by technical specifications and the procedures that the licensee has for assuring operability prior to mode change and no additional license conditions are required.

The items that are necessary to go into mode 4 to commence heatup are running a few days behind schedule. We estimate at this time that the licensee would be ready for mode 4 heatup operations by about the 25th of January.

(Slide) If I could have the next slide, please.

I have combined the preoperational testing and low power testing together to discuss broadly the performance of the licensee in testing. During the preoperational phase following construction, they were rated as a SALP Category I. As it relates to the low power testing in the most recent SALP, we evaluated them as Category 2, as a part of operations. Overall, we have found that the testing has been conducted in a

very methodical manner, that there has not been pressure on schedule, and that, in fact, operations personnel were well integrated into the performance of testing.

The test results have been satisfactory and there have been, in fact, few test exceptions. One test has been deferred. This is the natural circulation test which was the test that was aborted on the 22nd of June. That is proposed to be conducted using decay heat at a later phase in the test sequence rather than conducting it with the reactor critical with the pumps tripped.

The most significant from a regulatory standpoint issue during the low power testing program was the failure to manually scram the reactor on the 22nd of June.

I will not duplicate the items that the license has described, but there are some parts of that that I think are significant.

First, it was a challenge to operators that resulted as a failure to adequately close out maintenance activities. The steam dump to the condenser was not adequately restored or tested following maintenance and the position indicator was not connected. That was certified to be ready for

testing when it was not. That valve then cycled open to close and resulted in an over cooling of the reactor during the test which was the transient-- caused the pressurizer level to drop below the 17 percent reactor trip point.

The actual event itself, that is the period of time the water level was below 17 percent and the transient on the plant was not safety significant. There was, however, a concern with respect to the understanding of termination conditions for testing and the hierarchy of procedures which existed in the minds of some operators between test procedures and operations procedures. Some of the staff members felt that testing procedures belong to the test organization. Operating procedures were the ones the operators operated the plant by.

That understanding of the procedures and the reasons behind the procedures we felt was a key issue associated with conduct of operations. The licensee did develop a comprehensive corrective action plan that did indeed address the root causes of the problems; incorporating some 55 specific actions. The NRC has reviewed those and confirmed their adequacy with respect to readiness to perform operations.

The key areas are associated with management

controls for testing the involvement of managers, the testing operations interface, which has now incorporated the testing procedures into operations procedures so that there is no longer a concern regarding hierarchy of procedures.

There's been extensive work done both by way of training and describing the reasons for test limits, why they exist and what actions are to be taken regarding test termination. That has been observed by the NRC in simulator evaluations where testing was performed, where faults would be inserted in the course of the test, some of which would require test terminations, others of which would not. I also personally observed a mock pre-shift briefing on a test and observed some testing being demonstrated on the simulator.

I concluded that the activities that were necessary for corrective actions following that event have been satisfactorily completed and have released the company under the agreements that were reached to not restart the reactor pending my review and approval.

As it relates to readiness for power operation, you have met some of the key managers of the utility. We have concluded that they do have an

effective site management team. They have six crews that are fully staffed. I only want to focus on one interface issue and that is that they have four crews for the test department. So there's a four crew rotation with the testing organization, with a six crew rotation with the operations organization.

We carefully looked at that to make sure that the procedures for turnover of information, the interfaces and the communications were effective. We looked at that during the briefings, the joint training that was conducted and have concluded that that concept, while it is different, does not create a concern on our part.

With respect to the power ascension program, the licensees described their program. I'd like to briefly touch on what the region plans to do by way of our inspection activity. We do have an inspection plan, should the Commission approve licensing of the facility, which would include, during periods of testing, 24 hour coverage. We will have specialists from the region to augment the resident staff. We would intend to gather information in parallel with the licensee regarding performance and conduct the equivalent of a mini-SALP review at about the 50 percent power point. We would have a public meeting

to review the licensee's formal report on their own self-assessment and would do an end point comparison of the results of our review to the licensee's review and the licensee has agreed to not proceed beyond that point without receiving my approval.

Overall, the region has concluded from our inspection activities, as well as a review of licensee procedures, the facility can be operated safely.

Doctor Murley?

DOCTOR MURLEY: We have summarized then the basis for our conclusions that the plant meets the regulations and that there's reasonable assurance that the plant can and will be operated without endangering the health and safety of the public. Therefore, the staff recommends Commission approval to issue a full power license upon completion of the immediate effectiveness review.

That concludes our remarks.

CHAIRMAN CARR: Any questions, Commissioner Roberts?

COMMISSIONER ROBERTS: On page 7, you indicate that there were 30,000 hours of NRC inspection and you broke that down into 27,000 during construction. Can you give me some general sense of

how that would compare with NRC inspection on other plants, say within the past five years? I don't mean with great precision, but just some idea.

MR. RUSSELL: It's generally in the ballpark. The facilities that have had a longer time in construction have had more hours of inspection activity --

COMMISSIONER ROBERTS: That's reasonable.

MR. RUSSELL: -- as a result. There have been quite a number of inspections related to receipt of allegations related to quality of construction. We've had major teams that have involved upward of a thousand hours or better that were led by the region. But it's not unusual, at least in my view, from what I've seen from other facilities, and Tom, you may be able to comment on others, but it's probably in the upper half from the standpoint of inspection hours of recent NTOLs.

DOCTOR MURLEY: Yes. I would have expected that for a typical, if there is such a thing these days as a typical plant that's coming up for full power licensing, perhaps 20,000 hours would be about average. I don't know if this is the highest or not, but it's certainly among the highest.

COMMISSIONER ROBERTS: That answers my

question. Thank you.

CHAIRMAN CARR: Commissioner Rogers?

COMMISSIONER ROGERS: Well, I was interested in that same point, but also I wonder if you could say a little bit more about the breakdown of inspection activities. You mentioned the 27,000 inspection hours were related to construction. I wonder if you could just say a little bit more about what construction does include in this sense. Just what is the full range of items that are inspected under what you would call a construction category and then what were the other 3,000 hours of inspection related to?

MR. RUSSELL: Well, the break point that I've used is the issuance of the low power license since that license was issued and we've gotten into testing activities with the reactor producing heat last summer. There have been approximately 3,000 hours since that time. Clearly, some of that time has been directed to follow-up on issues or allegations related to construction deficiency, so it's not clear from the standpoint that none of the hours since low power testing relate to construction reviews.

Similarly, activities after the issuance of the fuel load license related in some respects to readiness for operation, looking at operations

procedures and procedures that would be used subsequently in testing. So there's not a clean break. The break is more with calendar time and how we've collected the hours.

Activities associated with construction inspection vary from the one extreme of what I will characterize as independent analysis and review using the NRC nondestructive examination van, which we had go up, that looks at in-service inspection activities performed by the NRC, everything from -- not edicurrent testing, but ultrasonic examination, dipenetrant testing, radiography, looking at welds, to actual observation of construction activities in the field through the resident and specialist program, looking at quality assurance programs. So it's essentially a sampling of all of the activities with which the licensee is engaged during the construction process.

MR. TAYLOR: I might add a personal note. A number of years ago, I led a construction assessment team at that site during one of the breaks in construction. Tony will remember the year. I won't. But at that time, during a halt, we reviewed the full level of construction activities up to that point, reviewed radiographs, did a rather large assessment.

And that inspection report's on the record. Generally, we found the construction work up to that period to be good and to meet standards.

COMMISSIONER ROGERS: Well, I guess what I was really trying to understand a little bit better was exactly how broad that term "construction" is. Where does it cut-off with respect to equipment and things of this sort? When does one say that something is construction and when does one say that this is simply the installation of a prefabricated piece of equipment? I'd just like to understand that a little bit better, if you could.

DOCTOR MURLEY: Could I take a cut at it? Mr. Commissioner, I don't think we collect statistics on that fine a detail in terms of inspection, just equipment, and then inspection of the installation of it. In fact, during some of this construction time there is even pre-op testing that's going on, and we would lump all of those hours into construction.

MR. RUSSELL: Let me give you a more specific example. Through 1986, we had approximately 21,000 hours of inspection activity, which is the time that the licensee concluded they were completed with construction. Since then, there has been maintenance work that has gone on. There have been design

modifications that have been put in. So design modifications fall into construction activities. Maintenance on a plant that hasn't yet operated, is that construction or is that maintenance of an existing plant? So it's difficult to draw that line.

But our activities are field activities associated with observing the practices in the field as well as reviewing engineering records, looking at the quality programs. And we do have extensive inspection modules, guidance which lay out areas to be sampled. One of the standards for those reviews and the fundamental objective is to reach a conclusion regarding the construction of the facility in accordance with the terms and conditions of the application, the final safety analysis report, the construction drawings and other commitments that have been made to the NRC. And there have been, I believe, now -- I think it's three or four supplements from the region regarding an overview of activities and our findings that are necessary in accordance with my recommendation to Doctor Murley regarding the adequacy of construction of the facility.

COMMISSIONER ROGERS: I guess the point is that it covers all of the physical aspects of the plant? Is that correct?

MR. RUSSELL: Yes, sir.

COMMISSIONER ROGERS: It's not limited to concrete and piping, but would include other physical aspects as well?

MR. RUSSELL: Absolutely, everything from installation of cable, cable separation, electrical, INC, observation of pre-op testing, surveillance, as well as the review of the licensee controls which they use to insure that those activities are adequate. So it's a combination of assuring that the licensee does the job properly the first time as well as independent evaluation by the NRC.

COMMISSIONER ROGERS: Well, there has been a criticism of the quality assurance paper trail during the course of construction, and an allegation that it's incomplete and insufficient to establish the necessary assurance that our requirements have been satisfied, and I take it that you don't believe that to be correct. And if you don't, why do you find-- what is your basis for believing that the quality assurance paper is sufficient for our purposes here?

MR. RUSSELL: Broadly, that issue was looked at with a team inspection, looking into a number of allegations. What you described broadly is the recent allegations from QTC Corporation that are in the

package that were forwarded with the Congressional correspondence that we're looking at recently.

We've had two major team inspections. They're documented. One was in 1986, another in 1987. We looked at those allegations. We looked at the actual installed hardware in the field, and we did not conclude that there was a pervasive quality assurance break-down, which is broadly what the allegation is.

There have been some omissions or incompleteness in records, which were subsequently corrected. It's not one that elevates itself to the level where we would conclude that there was a fundamental breakdown. So it's a difference in judgement as to what the findings mean, and we have not found instances of actual quality problems in the field when we've gone out to independently verify them.

DOCTOR MURLEY: I might add to that, since I was the Regional Administrator from 1983 to '87. We received at that time allegations of poor construction practices, mistakes that were being made, and we followed up on all of those that we got. As Bill said, we sent special teams up.

What we found is that frequently the workers making the allegations, there were two kind of

circumstances that they fall into generally.

One is that they did indeed observe a practice that was not good. However, they weren't involved in the subsequent follow-up by the company itself. That is, they didn't know that the company's own quality assurance program comes in behind and corrects many of those problems. When we went in there, we found that the company's own QA program had corrected some of the things that the workers had found to be problems.

And second, another category was where the workers really didn't understand our own regulations and what was needed. So whereas they thought perhaps a crack in the concrete was an indication of not meeting our regulations, that's not the case at all. In fact, we recognize that concrete normally cracks. There are tests that are done to make sure that it is nonetheless adequate throughout its depth. And in fact, our regulations and our practices take into account this behavior of concrete, for example, in specifying margins that must be made in the depth and reinforcing bar and so forth.

So every time we looked at these, we found that there was in many cases a root or a potential problem that the workers were concerned about, but

that the ultimate disposition of it was not, in the final analysis, a safety problem.

COMMISSIONER ROGERS: Well, I don't know that we can pursue it. I don't see any way of pursuing it further, but you feel that there is an adequate documentation to fall back on, which is --

DOCTOR MURLEY: Yes.

COMMISSIONER ROGERS: -- the key element in a quality assurance program?

DOCTOR MURLEY: Yes. If the Commission would like --

COMMISSIONER ROGERS: -- quality control.

DOCTOR MURLEY: -- we could send these special inspection reports that looked at direct allegations and disposition of them. It's well-documented.

MR. RUSSELL: The two inspection reports that we're talking about are 8652 and 8707.

Tony, if you'd like to describe the results from those -- there were only two open items from them, and there were no violations.

MR. CERNE: The two large team inspections, this was again as a result of allegations raised by Employees' Legal Project, many of which, those same allegations, have been re-raised in their body of the

255 new allegations that have just come before us.

At the time the 8652 and 8707 inspections were done, the findings from those reports resulted in two unresolved items, one of which had to do with concrete cracking and water leaking through, ground water leakage through the concrete and the effect on the rebar.

What we basically did was contracted with a technical expert consultant to come in and do the review for us in a task interface agreement with NRR. They reviewed that. That was all made public as an attachment to the inspection report and we resolved that into a closed -- they have no corrective action associated with them, no technical merit in the sense of effect on quality. No violations were issued as a result of those inspections.

COMMISSIONER ROGERS: The five percent low power license provided for about 40 minutes of equivalent full power operating time, and only some 23 minutes or so of that have been used. Were there any tests to be conducted? I guess we did hear about the natural circulation test, which was terminated but is expected, if a license is granted, to be continued using decay heat as the driving force.

Were there any other tests that were

contemplated to be carried out in that 40 minutes of equivalent full-time operation that were not done, despite the fact that only half of that time was used?

MR. RUSSELL: No, sir. The one test that was deferred was the natural circulation test, which was one to be done with the reactor critical with the pumps turned off. They propose to do that test through an alternate manner, and that test proposal is pending with the Office of Nuclear Reactor Regulation now.

COMMISSIONER ROGERS: Thank you.

CHAIRMAN CARR: Has the staff done a maintenance inspection at Seabrook yet?

MR. RUSSELL: We did an operational readiness assessment which looked at maintenance, but we have not yet done the maintenance team inspection.

CHAIRMAN CARR: But you don't know when it's scheduled?

MR. TAYLOR: Do you know, Tom?

DOCTOR MURLEY: No.

MR. TAYLOR: We can provide that for the record.

MR. RUSSELL: We can provide that for the record. Their accreditation procedures and review are scheduled for later this summer.

CHAIRMAN CARR: Which means all of it needs looking at?

MR. RUSSELL: Yes, sir.

CHAIRMAN CARR: My concern, as I mentioned to the licensee, was the maintenance. And I'd like to get your opinion on whether they've solved their problem of post-maintenance testing, maintenance personnel errors, whether they're going to be able to keep up with the maintenance without a lot of overtime. Give me an overview of how their maintenance program looks to you right now.

MR. RUSSELL: The concern that you expressed is one that's also held by the staff. In fact, we highlighted that to the licensee, the concern with overtime, the fact that they're running approximately 60 hours with the craft and maintenance personnel. Some of that's a result of the outage that they're in with an increase in work load, but the issue of staffing and whether there is a need for additional staff or whether the work load will reduce with time and get to be a manageable level is something that we're continuing to monitor. They are adequately controlling the overtime in accordance with their procedures and the Commission's guidance, but it is somewhat higher than what we expect.

The actions that they've taken in response to the June 22nd event, which looked at testing following maintenance and readiness of equipment to support testing, as well as the procedures that they have for closure of maintenance items in general now and control of mode changes, we reviewed specifically as a part of the corrective actions for the June 22nd event. And we've concluded that they are adequate. They may be somewhat cumbersome. They may be a little bit slower, not as efficient, but we conclude that they are appropriate and that we do not expect a recurrence of those types of events.

CHAIRMAN CARR: Any other questions?

Thank you.

We'll now hear from the Commonwealth of Massachusetts, Mr. John Traficonte.

Good morning, sir. You may proceed.

MR. TRAFICONTE: Thank you. Good morning, Mr. Commissioners, and I want to thank you first of all for giving me five minutes to deal or to address plant readiness.

I want to comment first by noting that I have no prepared statement, because it was my understanding of the ground rules this morning that no party, neither the applicants nor the staff, were

going to be permitted to comment on any contested issues.

CHAIRMAN CARR: We're trying to make it that way.

MR. TRAFICONTE: I understand that those were the ground rules, but I want to note first off that I do want to speak for five minutes because I want to go into some detail about how what you just heard over the last hour and 45 minutes went over many of the contested issues. And to the extent that the interveners are not going to be permitted equal time, we think that that would be an unfair way to proceed.

Before I go into those details, I have to note, however, that I puzzled over how the Commission could have a plant readiness briefing without anyone mentioning or discussing or commenting on contested issues for these reasons:

First of all, emergency planning is obviously the critical issue in any Seabrook license. And as the Commission is aware, its own appeal board has identified the legal standard for emergency planning as the "pivotal" issue in any Seabrook licensing. That certified question is before you, and it's not been ruled on. So for Doctor Murley -- with all due respect -- for Doctor Murley to sit here and

assert that the staff has found reasonable assurance that adequate protective measures can and will be taken, we think that obviously addresses head-on a key, if not the key, contested issue.

Equally importantly, however, it appears that the attorneys for the staff and the applicants failed to inform the presenters this morning that the interveners in this case presented serious challenges to the performance of the applicants during low power testing. Indeed, we filed contentions on July 31, 1989, and we followed it up after the staff issued its augmented inspection report in August. We followed those contentions up on August 28 with a very thorough set of contentions. And those contentions included, Mr. Chairman, a concern of yours, maintenance.

We had experts that alleged that -- based on prior performance as well as the performance on June 22nd -- that maintenance problems of a serious nature existed at the plant. We filed a contention. The contention was denied. And it was denied, as you may or may not be aware, because the licensing board applied the Record Reopening Standard, which we thought was improper, and which we think federal law is clear that that constitutes, in fact, bad faith by the Commission.

So, first of all, maintenance and every word you heard about maintenance this morning, as it arises out of or is connected to the June low power testing, was inappropriate. That's a contested issue.

Number two, operator proficiency or operator training or, as it was called here, operator retraining, those issues arise out of the low power testing. And indeed, we had contentions. And again, those were denied and no hearing was held. We had contentions supported by experts that, in fact, the testing revealed that operators were not adequately trained and did not know what they were doing.

Three, one of the themes this morning was the test program, the power ascension program. Are they indeed going to have an adequate power ascension program as they move, if they ever do, from zero power up to 100 percent. This one really amuses me. Because, we filed, again, a contention -- and this one was filed on August 28 -- in which we detailed, based on prior inspection reports and the augmented inspection report, we detailed how the test program and the quality assurance program during testing and power ascension was an absolute disaster on June 22nd.

I'd like to note two points.

First of all, the licensing board outdid

itself when it addressed this issue, because nowhere in its discussion of our contentions -- which, of course, denied every single contention -- nowhere in the opinion which issued in October -- I believe it was October 26 -- nowhere does the licensing board mention this contention. It does not mention it. And again, the contention was supported by facts, facts in the record. It was also supported by expert affidavit and expert testimony.

Last point on this line -- and obviously, I may run over -- but the last point on this line is you heard the applicants and the staff -- and indeed, parenthetically, I'd like to comment. I don't know how else they could have given you a plant readiness briefing without talking about maintenance, without talking about operator proficiency. But again, these are contested issues.

You heard the applicants and staff talk about their judgement on how important what happened at low power was. And I noted -- in fact, I noted in writing what Mr. Russell said. He stated to you that the actual physical events, the hard technical events, were not safety significant, and I don't dispute that. That's to say that that trip did not, in itself -- or was not about to lead to a reactor accident. But then

he said, and I quote, that the staff thought it was a "key issue and a matter of concern as to the events that surrounded the trip."

Well, I'd like to read to you what the staff said in its augmented inspection report dated August 21.

SECRETARY CHILK: Mr. Chairman, if I can interrupt, five minutes.

CHAIRMAN CARR: All right.

Go ahead and -- is this your last point?

MR. TRAFICONTE: I'm sorry. Sure, this will be it.

This is on page 29 of the August 21 augmented inspection report, who's number is available in the record. At this point, this is what the staff's judgement was:

"The failure of the operating crew to trip the reactor when required by the test procedure during the June 22nd test, the failure of test group personnel to recommend tripping of the reactor at that point, and the failure of management present in the control room to exercise their responsibilities in this situation, despite the fact that the plant was being operated under a technical specifications special test exception, is safety significant. Also,

the apparent willingness of management to proceed with testing following the June 22nd occurrence without first completing a thorough review and causal factor assessment is safety significant."

Indeed, it is safety significant. If the Commission would spend a few minutes and look at what the same staff represented to the licensing board in response to our low power contentions, it will find that this word, 'safety significant," disappears. It goes into the Orwellian memory hole. And the only thing left is a "concern" or an "issue," which apparently the staff is now perfectly prepared to say is of no great moment.

So again, I apologize. I have obviously commented on the contested issues. I don't know what else I was supposed to do, and obviously I'd have a lot more I could say if I were given the same 45 minute time that staff and applicants had.

Thank you.

CHAIRMAN CARR: Thank you.

Any questions?

Thank you very much, Mr. Traficonte.

We'll now hear from Mr. Backus, from the Seacoast Anti-Pollution League.

Good morning, sir.

MR. BACKUS: Good morning, Mr. Chairman, members of the Commission.

I am Robert Backus. I represent the Seacoast Anti-Pollution League, which has been a full intervenor in the Seabrook proceeding for many, many years, sir. I have basically two things that I want to do in the time that I have here.

The first is to urge that the Commission address and reach all the contested issues that are before you prior to permitting any licensing of the plant. We know a licensing decision was made on November 9th by the licensing board. It's our understanding that the only thing that stands between that decision sufficing to permit the staff to actually issue the license is your immediate effectiveness review. I presume this may have some relation to that immediate effectiveness review. If it does, we believe the Commission has an obligation to the parties to decide the contested issues prior to permitting that license to go into effect.

As you know, you have before you a certified question from the appeal board in ALAB 922 on the standard to be applied to judging the adequacy of an emergency plan. We believe you must answer that question in a reasoned fashion prior to letting this

licensing decision become effective. We believe you must.

You have, also, knowledge of, and I take it are going to undertake some investigation into the fact that the appeal board on November 7th, a mere two days before the licensing board authorization for full power, reversed and remanded the New Hampshire emergency plan on four issues. And we just had a notice from the licensing board that we are to notify them within a few days of what further proceedings we feel should be undertaken on those four issues.

Well, whatever further proceedings to be undertaken, we say -- and this is before you on the papers that have been filed -- surely that must occur before you authorize any further licensing of the Seabrook plant or any use of a license for the Seabrook plant. We think we are absolutely entitled to that.

Mr. Chairman, some almost ten years ago we brought a case, SAPL versus NRC, which went to the District of Columbia Court of Appeals and resulted in an opinion. And in that case, the Commission through its attorneys promised I think the public, and certainly my client, since we were the moving party, that if emergency planning at Seabrook was infeasible,

no license would issue. The Court adopted that. That language is in their opinion. I think it's not only pertinent, I think it's the law of the case. I think it's binding.

So any suggestion that the licensing board's immediate issuance authorization can be allowed to go into effect without those issues being resolved, I find astounding. And I think it would be not only contrary to the Court of Appeals' decision, I frankly think it would be a breach of faith with the people that have been told to trust the Nuclear Regulatory Commission, which has always said that safety is its first, last, and a permanent consideration in any matter.

So that's the first point I wanted to make, is that we need the Commission's decision on that. We believe we're entitled to it. And we believe that all of these issues that we are supposedly not to comment on here today, but which we have commented on in writing, as you know, must be decided before any action on the licensing authorization. So that involves the matters I've told you about and also the motion before you to vacate the licensing board authorization for licensing. We believe you must act on that.

The second thing I wanted to do has to do with the Employees' Legal Project Report. As we expected and as we heard today, the staff has informed you that they've looked at the more than 200 allegations that are dealt with in the Employees' Legal Project Report. And as I understood them to say, they have concluded that none of them interfere with their conclusion that there is readiness for plant operation.

I've brought down three copies of this report that I'd like to give each of you individually, and I want to do that for one particular reason. And that is that we believe that the heart of this report is really a trenchant criticism of the staff review of the problems. You as the Commissioners not only have the ultimate responsibility for the issuance of the license, but also certainly have the responsibility for oversight of the staff. And in both of those areas it seems to me that this report may be pertinent to you.

The staff cites, as one would expect, their own inspection reports and their action on closing out open items from the June 22 event and things like that. But I think that each of you as Commissioners would want to compare their close-outs with the

allegations as they were dealt with in this report, because there is trenchant criticism, as I say, of the staff in here.

And the staff is quite correct. Many of these allegations were raised years ago, in the 1986, 1987 time period, and this very same staff treated them at that time as either not significant, not substantiated, not involving a serious safety problem. And now some of these have come back and said, yes, essentially they were serious and the staff was in error or did not properly treat these matters.

SECRETARY CHILK: Mr. Chairman --

CHAIRMAN CARR: Thank you.

MR. BACKUS: Five minutes? All right.

So with that, Mr. Chairman, if I could, for your own use and the use of your personal staffs, I'd like to furnish you with copies of the Environmental Legal Project Report.

CHAIRMAN CARR: Thank you. Leave them there with the Secretary. He'll get them to us.

COMMISSIONER ROBERTS: Is that acceptable?

MR. PARLER: That's fine.

COMMISSIONER ROBERTS: Thank you.

MR. BACKUS: If there are any questions, I'd be happy to answer them.

CHAIRMAN CARR: Any questions, Commissioner Roberts?

COMMISSIONER ROBERTS: No.

CHAIRMAN CARR: Commissioner Rogers?

COMMISSIONER ROGERS: No.

CHAIRMAN CARR: Thank you.

COMMISSIONER ROGERS: Thank you.

CHAIRMAN CARR: We'll now hear from Ms. Curran, from the New England Coalition on Nuclear Pollution.

Good morning.

MS. CURRAN: Good morning.

I don't know if you have it yet, but I gave Mr. Chilk copies of a letter that I've written to the Commission on behalf of interveners NECNP, who I represent, the Seacoast Anti-Pollution League, and the Massachusetts Attorney General concerning what we feel are the major issues raised in the EIP report that Mr. Backus was just describing to you. I think they're right over there.

Apparently, the staff has reviewed the allegations in the ELP report and concluded that they're not significant for purposes of licensing review or that they won't stand in the way of issuance of an operating license. And I would just like to

reiterate and emphasis Mr. Backus' statement that one of the key problems that was found by QTC was a lack of adequate staff oversight of quality assurance at Seabrook, and I'd just like to read you a paragraph from the executive summary of the report.

"Many NRC reports list violations of federal regulations, but fail to officially cite the utility. Thus, the utility was not required to investigate root causes, develop corrective actions, or describe the violations' generic applicability. The NRC has also resolutely refused to address questions about QA/QC in connection with document falsification, cheating on cadweld tests, maintenance problems, operator errors, and lack of procedures." And these concerns are detailed in the report.

I think it's absolutely imperative that the Commission undertake an independent evaluation of the quality assurance program at Seabrook, including the adequacy of the staff's evaluation and oversight of that program. As detailed in my letter, many of the concerns, if they are corroborated, could be extremely serious safety problems at Seabrook, including a lack of adequate seismic qualification of reactor coolant pump support legs and potentially inadequate strength Uni-strut bolts installed throughout the plant.

I'd also just like to touch on the letter from Mr. Fred Anderson, which he sent to Mr. Russell, that you should have a copy of. I've made copies for the Commissioners. The staff has reported that Mr. Anderson, who recorded about nine months of control room discussions with Seabrook maintenance staff, has not raised any significant safety issues.

But I would like to point out that some of the problems that Mr. Anderson's transcriptions reflect are maintenance problems, which is one of your chief concerns. And before this plant is licensed to operate, it certainly warrants a further investigation into these tapes and the kind of potentially very serious issues they raise.

You've heard a lot of generalities and, I think, platitudes from the utility this morning about the adequacy of this plant's program for operation maintenance, and yet we have a voluminous record that shows that there are serious problems that need to be addressed before the plant can be licensed. I urge you to begin an investigation of the ELP report and Mr. Anderson's allegations before licensing Seabrook.

Thank you.

CHAIRMAN CARR: Thank you very much.

Any questions?

COMMISSIONER ROGERS: No.

CHAIRMAN CARR: At this point, we will offer the applicant, New Hampshire Yankee, an opportunity for additional remarks. Please limit your remarks to five minutes, if you care to --

MR. FEIGENBAUM: We have no further remarks, Mr. Chairman.

CHAIRMAN CARR: Thank you.

The staff, would you like to make any additional remarks?

MR. TAYLOR: No additional, Mr. Chairman.

CHAIRMAN CARR: No additional remarks.

If there are no additional remarks and no questions from the Commissioners --

COMMISSIONER ROGERS: No.

CHAIRMAN CARR: -- we stand adjourned.

Hold that. I'd like to make a closing statement. Excuse me. I'm really in a hurry to get it over with.

I would like to thank New Hampshire Yankee and the NRC staff, as well as the Commonwealth of Massachusetts, the Seacoast Anti-Pollution League, and the New England Coalition on Nuclear Pollution for providing your views on the readiness of Seabrook Unit 1 to operate at full power. The Commission will take

these views into account in reaching our decisions regarding full power licensing of Seabrook Unit 1.

We are, of course, aware that a number of issues, including adjudicatory items before the Commission, must be resolved before a decision can be made on a license. The Commission expects to conclude its immediate effectiveness review and reach a decision on the pending adjudicatory matters within two to three weeks.

If there are no further comments, we stand adjourned.

(Whereupon, at 11:01 a.m., the above-entitled matter was concluded.)

CERTIFICATE OF TRANSCRIBER

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

TITLE OF MEETING: IMMEDIATE EFFECTIVENESS REVIEW BRIEFING - SEABROOK

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: JANUARY 18, 1990

were transcribed by me. I further certify that said transcription is accurate and complete, to the best of my ability, and that the transcript is a true and accurate record of the foregoing events.

Carol Lynch

Reporter's name: Peter Lynch

1/18/90

SCHEDULING NOTES

Title: Immediate Effectiveness Review Briefing - Seabrook

Scheduled: 9:00 a.m., Thursday, January 18, 1990 (OPEN)

Duration: Approx 2-1/2 hrs

Participants:

New Hampshire Yankee — 45 mins

- Ed Brown
  President and Chief Executive Officer
  Division of Public Service of New Hampshire

- Ted Feigenbaum
  Senior Vice President and
  Chief Operating Officer

- Bruce Drawbridge
  Executive Director of Nuclear Production

- George Gram
  Executive Director of Emergency Preparedness
  and Community Relations

NRC Staff — 30 mins
- James Taylor
- Tom Murley
- Bill Russell
- Vic Nerses

Commonwealth of Massachusetts (if needed) — 5 mins
- John Traficonte, Chief
  Nuclear Safety Unit
  Department of the Attorney General

Seacoast Anti-Pollution League — 5 mins
- Robert A. Backus

New England Coalition on Nuclear Pollution — 5 mins
- Diane Curran

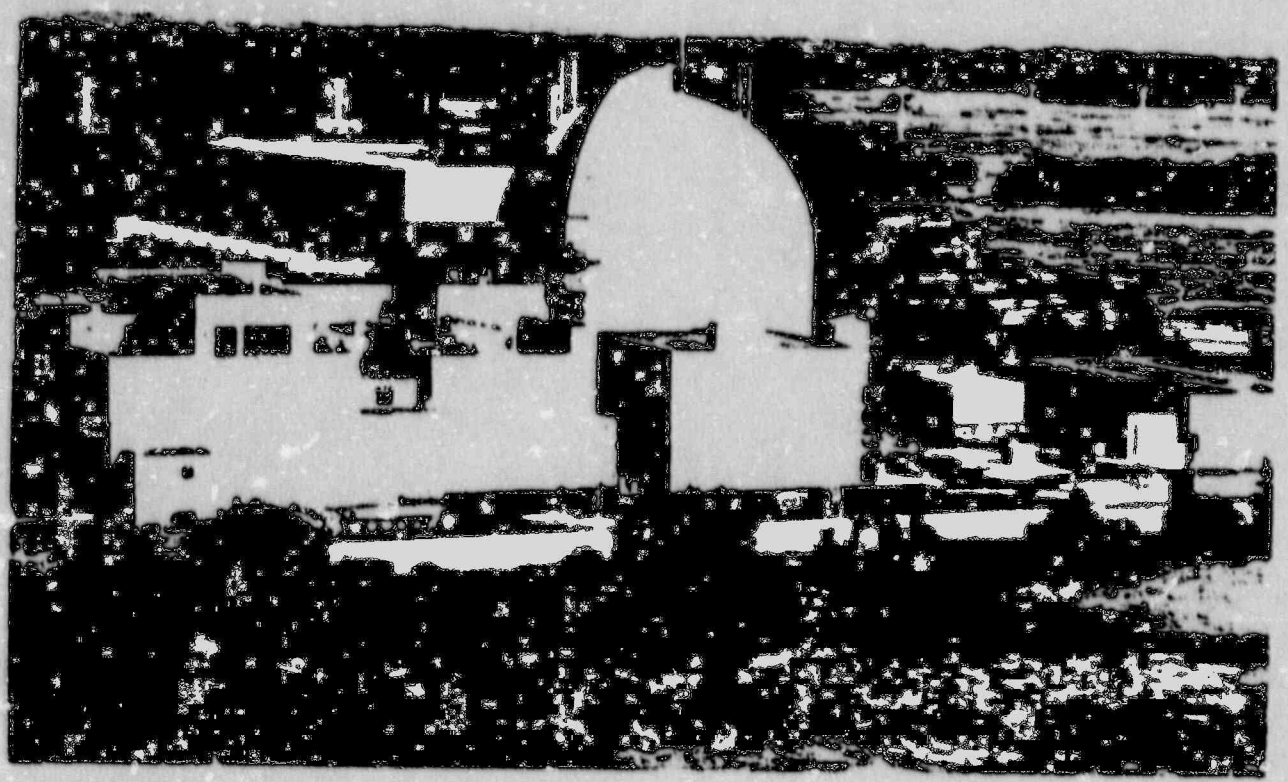
New Hampshire Yankee (rebuttal if needed) — 5 mins

NRC Staff (rebuttal if needed) — 5 mins

Briefing on Full-Power Licensing of Seabrook Station

January 18, 1990

EDWARD A. BROWN
President & CEO
New Hampshire Yankee



New Hampshire Yankee
AGENDA

- TED C. FEIGENBAUM
  Sr. Vice President and Chief Operating Officer
  - -- Organization & Staffing
  - -- Corrective Action Plan
  - -- Self Assessment
- BRUCE L. DRAWBRIDGE
  Executive Director - Nuclear Production
  - -- Operational Readiness
  - -- Power Ascension Test Program
- GEORGE R. GRAM
  Executive Director of Emergency Preparedness and Community Relations
  - -- Emergency Preparedness
  - -- Vehicular Alert & Notification System (VANS)

SAFETY

PROFESSIONALISM

QUALITY

EXCELLENCE

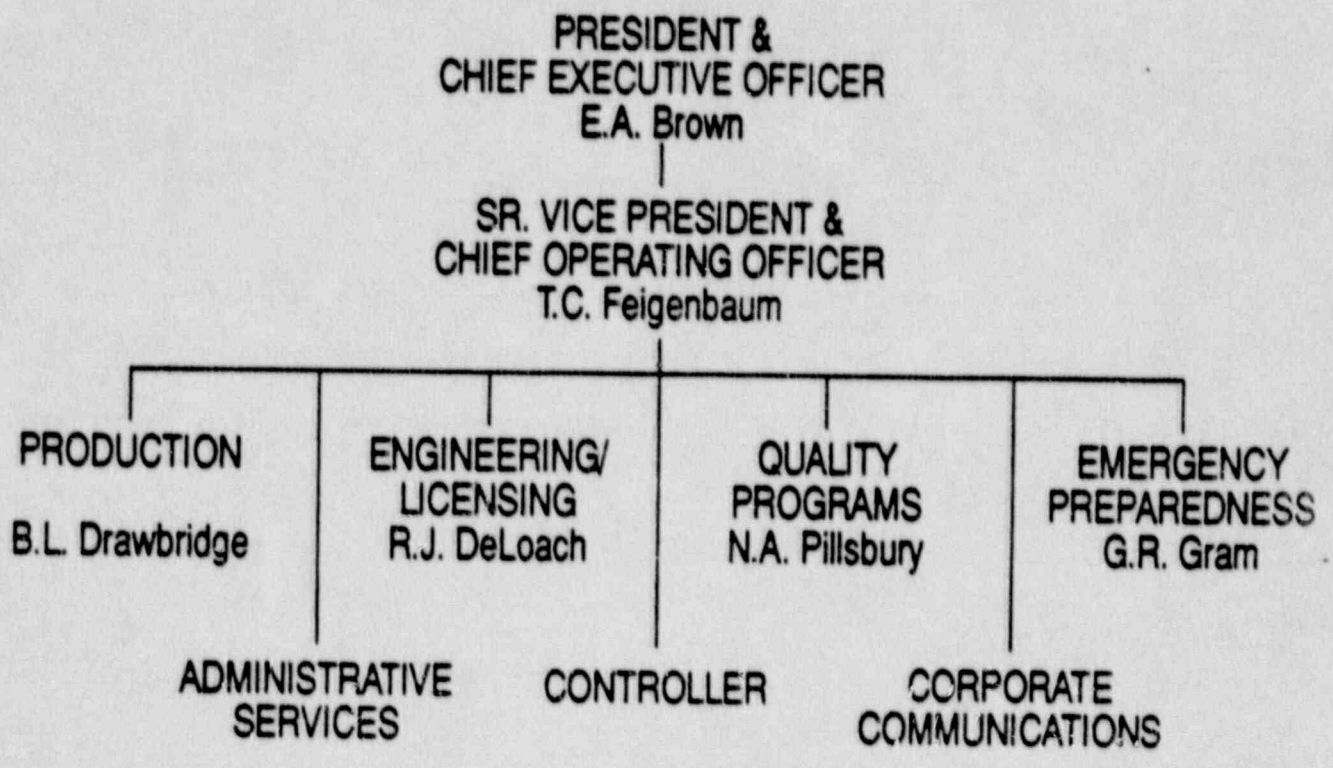
Organization & Staffing

Corrective Action Plan

Self Assessment

TED C. FEIGENBAUM
Senior Vice President
and Chief Operating Officer

New Hampshire Yankee
ORGANIZATION



CONFIRMATORY ACTION LETTER 89-11
CORRECTIVE ACTION PLAN

MAJOR CATEGORIES

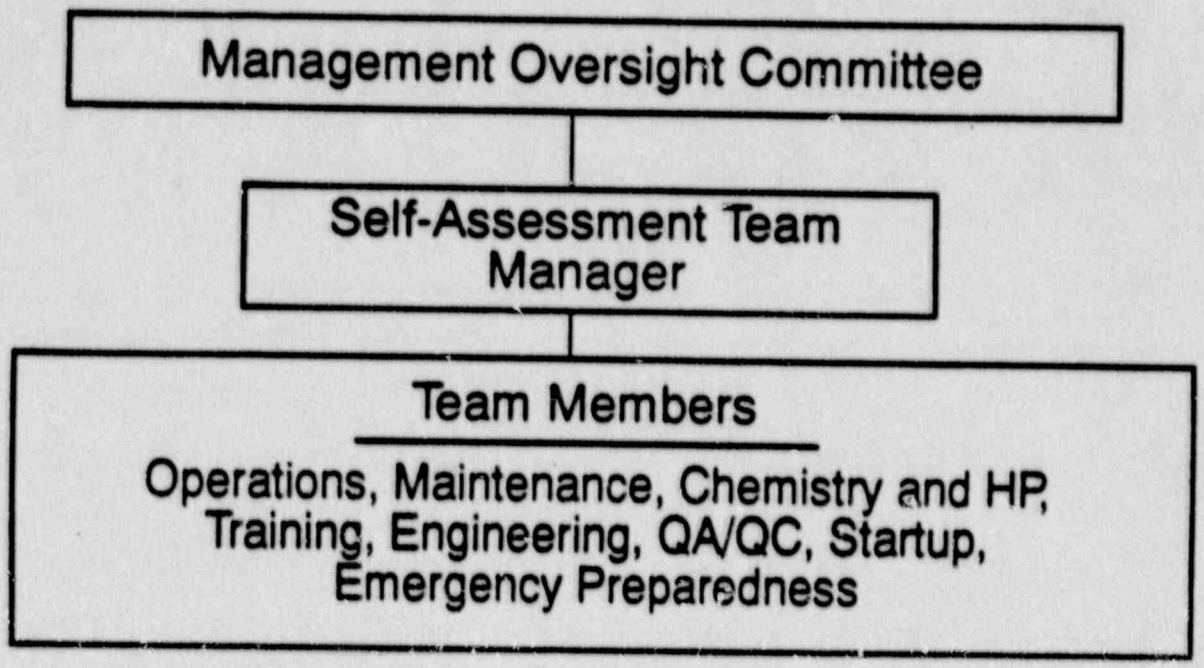
- Procedure Compliance
- Equipment Readiness
- Pre-test Preparation
- Power Ascension Test Program
- Post Event Management
- Operations Management
- Management Oversight

CONFIRMATORY ACTION LETTER 89-11
CORRECTIVE ACTION PLAN

KEY FEATURES

- Improved Procedure Compliance Policy / Training
- Integration of Startup and Operator Crews and Procedures
- Emphasis on Simulator Training
- Dedicated Crews for Complex Tests
- Improved Pre-test Briefings

SELF-ASSESSMENT TEAM ORGANIZATION



NHY SELF-ASSESSMENT OF THE POWER ASCENSION TESTING EVOLUTION

- PHASE 1: Evaluate Preparations For and Readiness To Begin Power Ascension Testing
- PHASE 2: Evaluate Conduct of Activities and Effectiveness of Personnel, Programs and Equipment During The Power Ascension Testing Evolution

MANAGEMENT OVERSIGHT

- OQAP Operational Quality Assurance Program
- NSARC Nuclear Safety Audit Review Committee
- SORC Station Operation Review Committee
- IRT Independent Review Team
- SAT Self-Assessment Team
- ISEG Independent Safety Engineering Group
- HPES Human Performance Evaluation System
- RSC Radiation Safety Committee
- EAR Employee Allegation Resolution Program

Operational Readiness

Power Ascension Test Program

BRUCE L. DRAWBRIDGE
Executive Director - Nuclear Production

MAJOR ACTIVITIES SINCE LOW-POWER TESTING

- Completed ECCS Outage
- Installed Low-Power Testing Design Enhancements
- Completed Containment Integrated Leak Rate Test

CURRENT PLANT STATUS AND SCHEDULE

• Licensing Items	Complete
• Set Containment Integrity	1/18/90
• Complete Surveillance Testing	1/23/90
• Enter Mode 4	1/25/90
• Perform Mode 3 Testing	1/26/90
• Ready to Initiate Power Ascension Test Program	1/31/90

WORK REQUESTS OUTSTANDING

Mode 4, 3, 2, 1	205
Priority 1	1
Priority 2	67
Priority 3	457
Priority 4	127
TOTAL	857

(as of 1/10/90)

TRAINING

- Plant Specific Simulator
- Operator Programs Accredited
- Maintenance Programs - Accreditation Visit - April 1990
- Remaining Programs - Accreditation Visit - July 1990

NRC REACTOR OPERATOR LICENSES

	SRO	RO
Operations	25	8
Training	9	1
TOTAL	34	9

NRC REACTOR OPERATOR LICENSES
OPERATIONS DEPARTMENT

ON-SHIFT

Required by Technical Specifications:		Seabrook Actual
For Each Shift:	For 6 Shifts:	
1 Shift Supt. (SRO)	6 SRO	6 SRO
1 Unit Shift. Supvr. (SRO)	6 SRO	7 SRO
2 Reactor Operators (RO)	12 RO	8 SRO, 8 RO

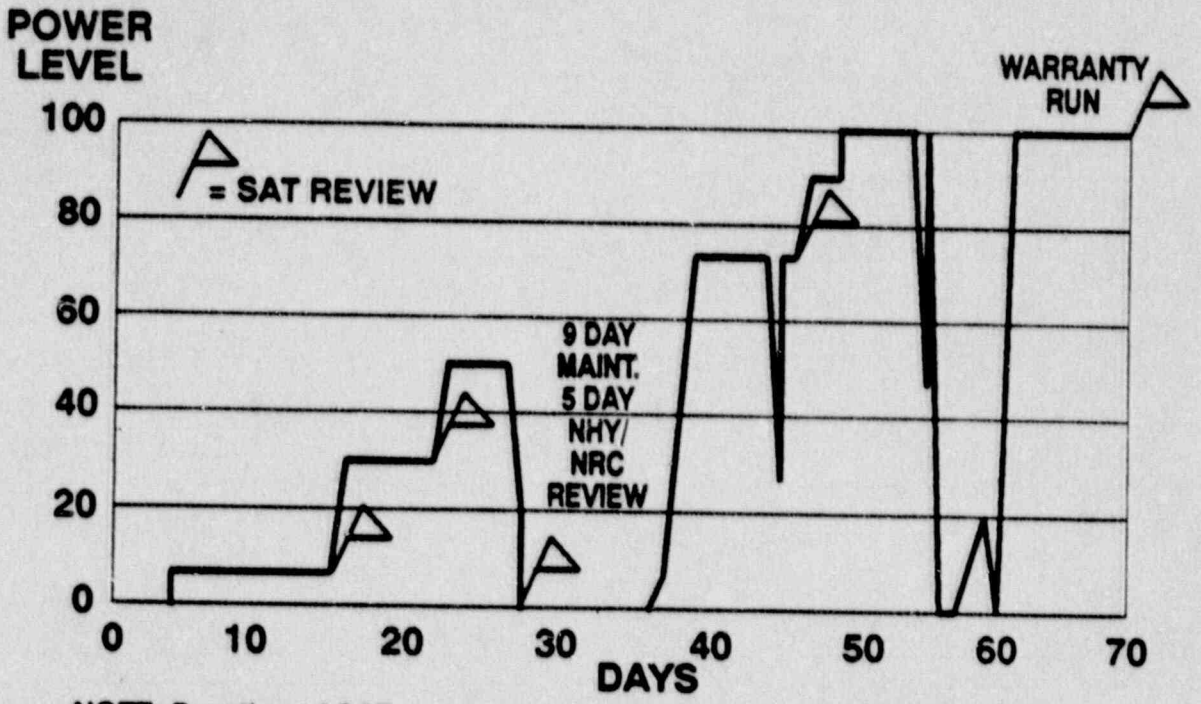
STAFF

None Required	4 SRO

FITNESS FOR DUTY PROGRAM

- In Place - April 1986
- Implemented Revisions For Verification - 12/7/89
- Full Implementation - 1/3/90

POWER ASCENSION TEST SCHEDULE

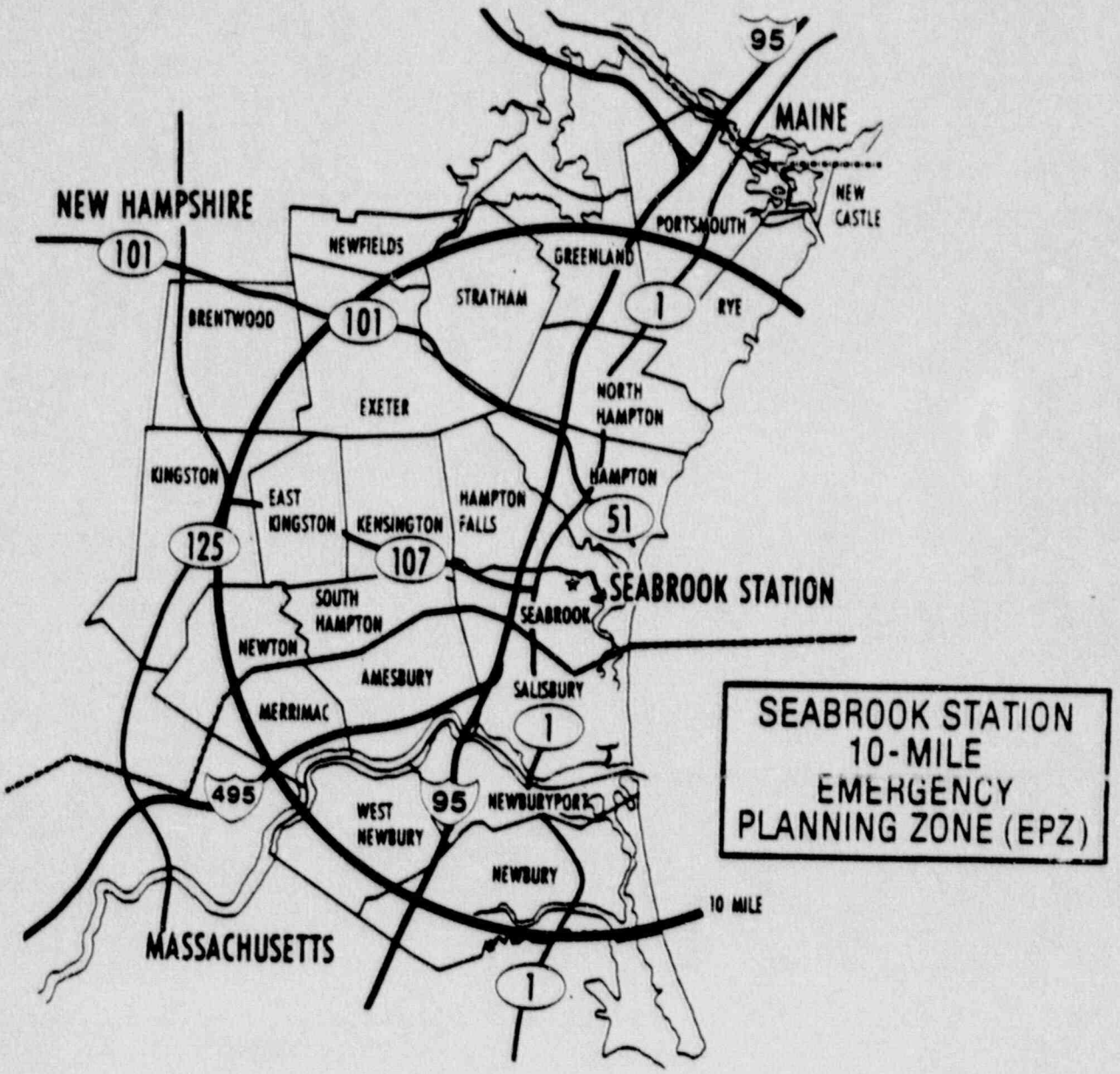


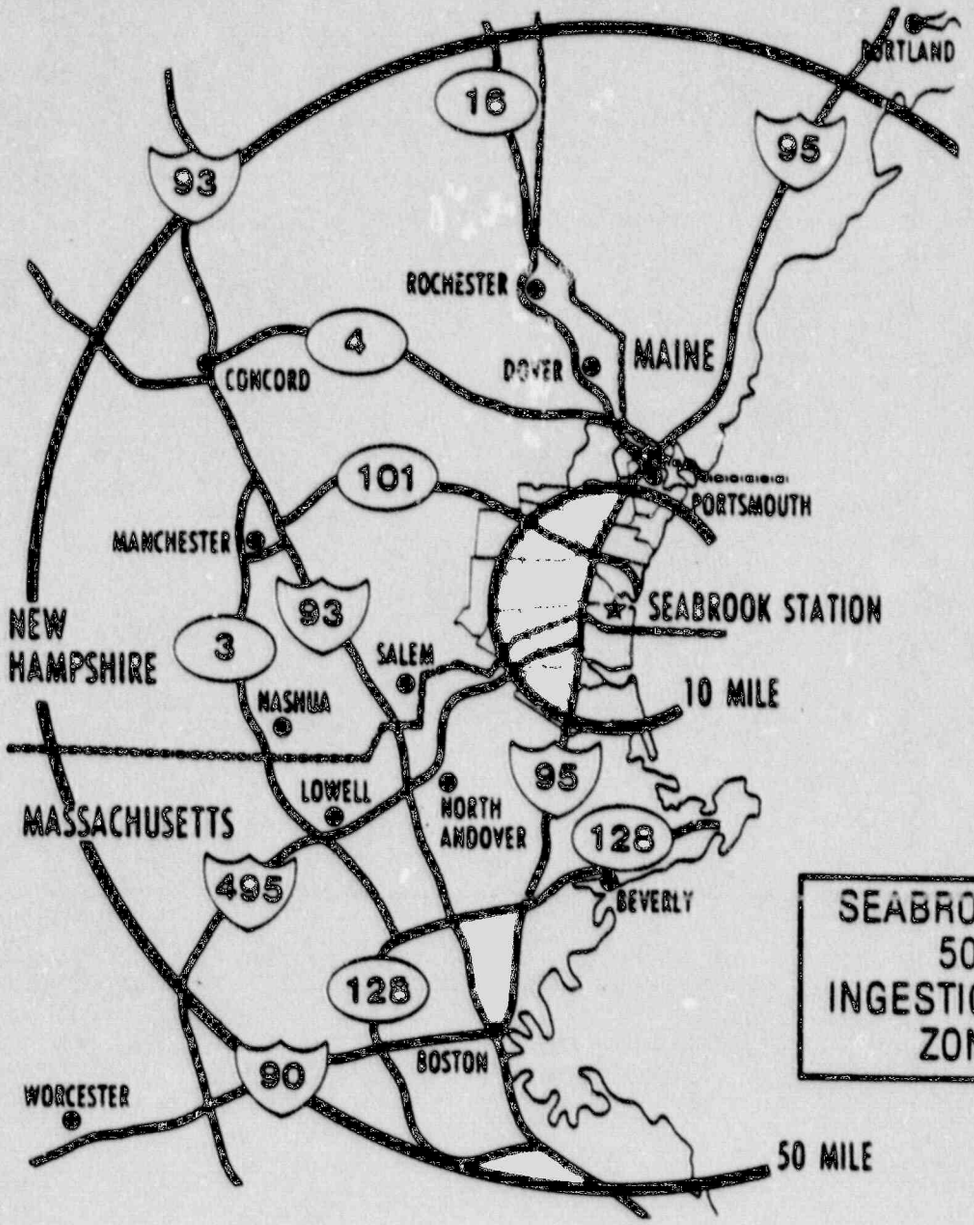
NOTE: Duration of SAT reviews will depend upon the success of the Power Ascension Testing at specified intervals. Management approval is required to proceed to the next power plateau.

Emergency Preparedness

Vehicular Alert and Notification System (VANS)

GEORGE R. GRAM
Executive Director of Emergency Preparedness
and Community Relations

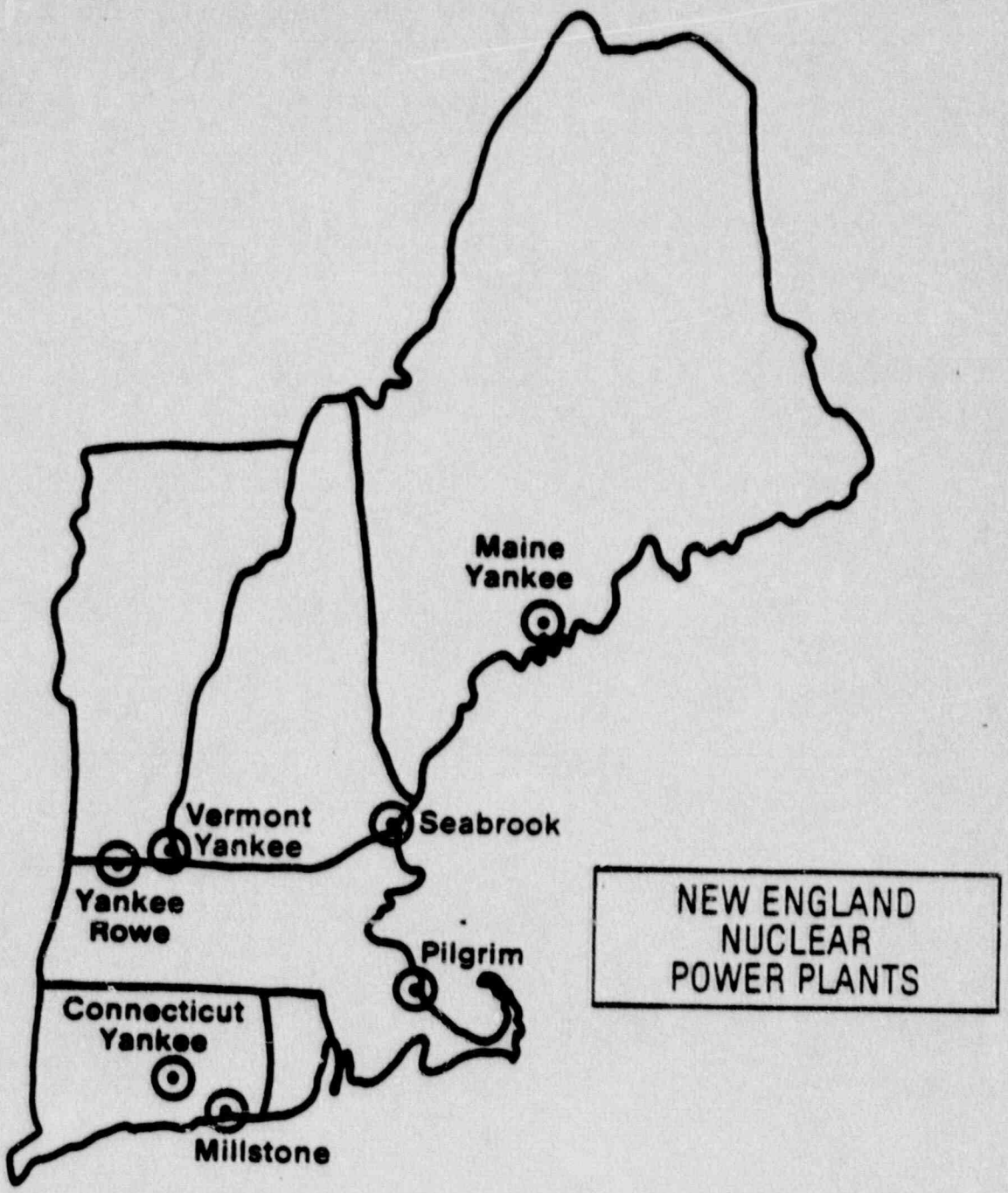

95
MAINE
NEW HAMPSHIRE
NEW CASTLE
101
NEWFIELDS
PORTSMOUTH
GREENLAND
STRATHAM
1
RYE
BRENTWOOD
101
EXETER
NORTH HAMPTON
KINGSTON
EAST KINGSTON
KENSINGTON
HAMPTON FALLS
HAMPTON
51
125
107
SEABROOK STATION
SOUTH HAMPTON
SEABROOK
NEWTON
AMESBURY
SALISBURY
MERRIMAC
1
495
95
WEST NEWBURY
NEWBURYPORT
NEWBURY
10 MILE
MASSACHUSETTS
1
SEABROOK STATION
10-MILE
EMERGENCY
PLANNING ZONE (EPZ)



SEABROOK STATION
50-MILE
INGESTION PATHWAY
ZONE (IPZ)

FOUR MAJOR RESPONSE ORGANIZATIONS

● New Hampshire Yankee (NHY)	Onsite	
● State of New Hampshire	Offsite	10 Mile EPZ 50 Mile IPZ
● State of Maine	Offsite	50 Mile IPZ
● NHY / Massachusetts Offsite Response Organization (ORO)	Offsite	10 Mile EPZ 50 Mile IPZ

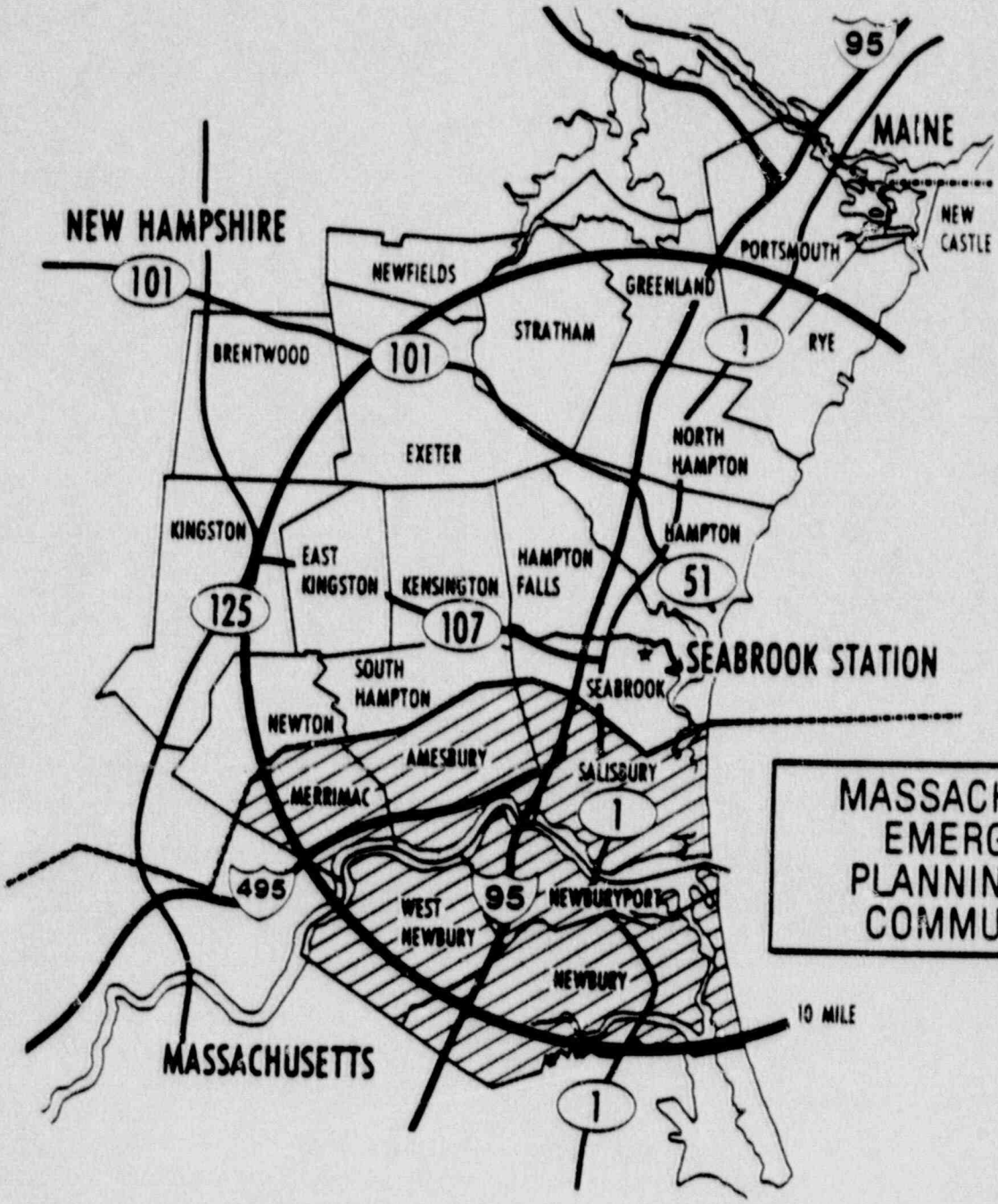

Maine
Yankee
Vermont
Yankee
Seabrook
Yankee
Rowe
Pilgrim
Connecticut
Yankee
Millstone
NEW ENGLAND
NUCLEAR
POWER PLANTS

COMMONWEALTH OF MASSACHUSETTS PLANNING AND RESPONSE

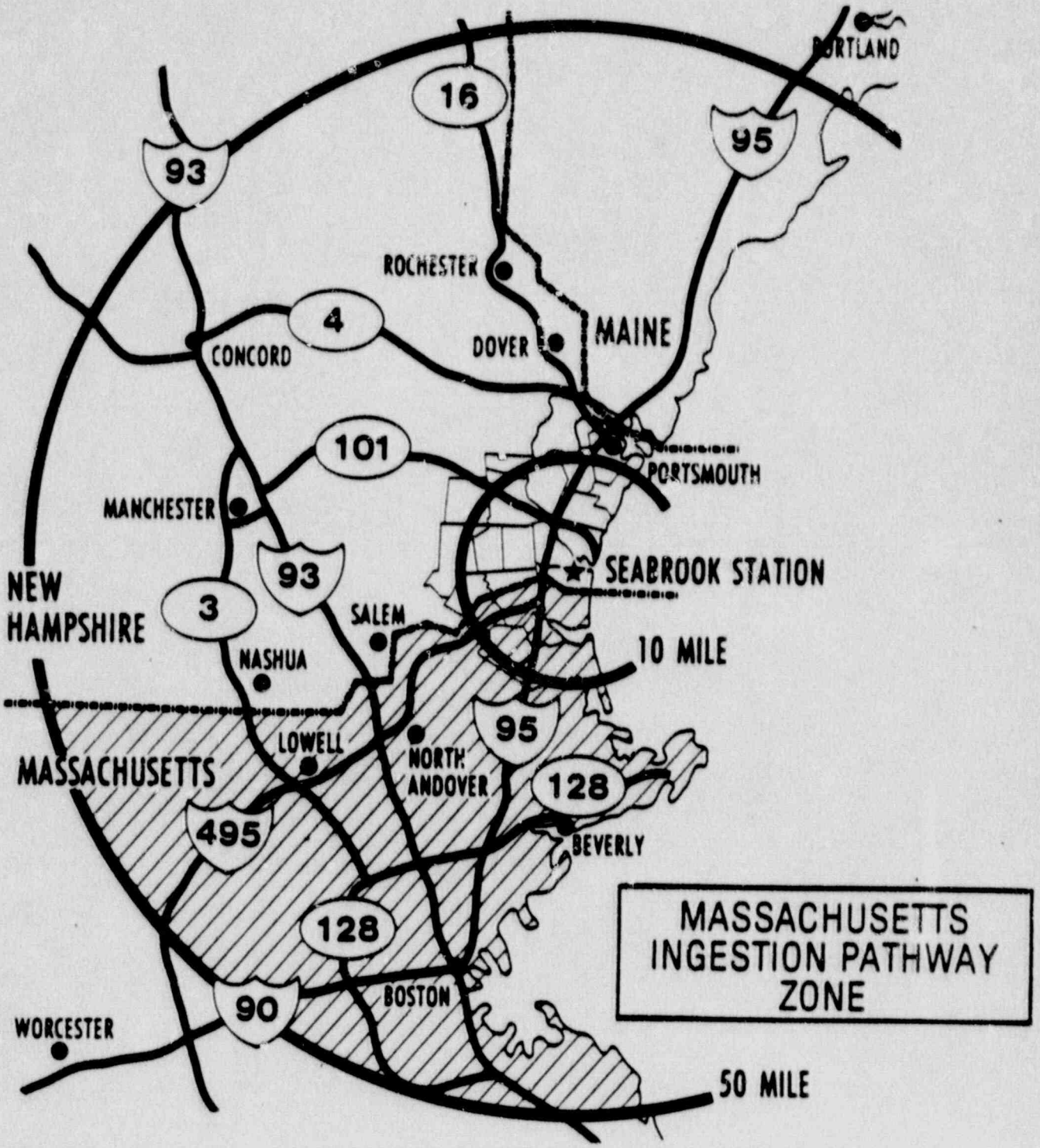
- Utility Developed Plan -- Seabrook Plan for Massachusetts Communities (SPMC)

COMMONWEALTH OF MASSACHUSETTS PLANNING AND RESPONSE

- Utility Developed Plan -- Seabrook Plan for Massachusetts Communities (SPMC)
- Covers 10-Mile EPZ and 50-Mile IPZ



MASSACHUSETTS EMERGENCY PLANNING ZONE COMMUNITIES


PORTLAND
16
95
93
ROCHESTER
4
CONCORD
DOVER
MAINE
101
PORTSMOUTH
MANCHESTER
SEABROOK STATION
NEW HAMPSHIRE
3
93
SALEM
10 MILE
NASHUA
95
LOWELL
NORTH ANDOVER
MASSACHUSETTS
128
495
BEVERLY
128
BOSTON
90
WORCESTER
50 MILE
MASSACHUSETTS INGESTION PATHWAY ZONE

COMMONWEALTH OF MASSACHUSETTS PLANNING AND RESPONSE

- Utility Developed Plan -- Seabrook Plan for Massachusetts Communities (SPMC)
- Covers 10-Mile EPZ and 50-Mile IPZ
- Provides for Full implementation by Utility

SEABROOK PLAN FOR MASSACHUSETTS COMMUNITIES IMPLEMENTATION

- Standby Mode

SEABROOK PLAN FOR MASSACHUSETTS COMMUNITIES IMPLEMENTATION

- Standby Mode
- Supply Resources Only Mode

New Hampshire Yankee ORO
EMERGENCY RESPONSE RESOURCES

Qualified ORO Personnel	Required Per SPMC	Actuals
ORO - Contracted Companies	797	1,221
ORO - Excluding Contracted Companies	831	1,117

(as of January 1990)

New Hampshire Yankee ORO
EMERGENCY RESPONSE RESOURCES

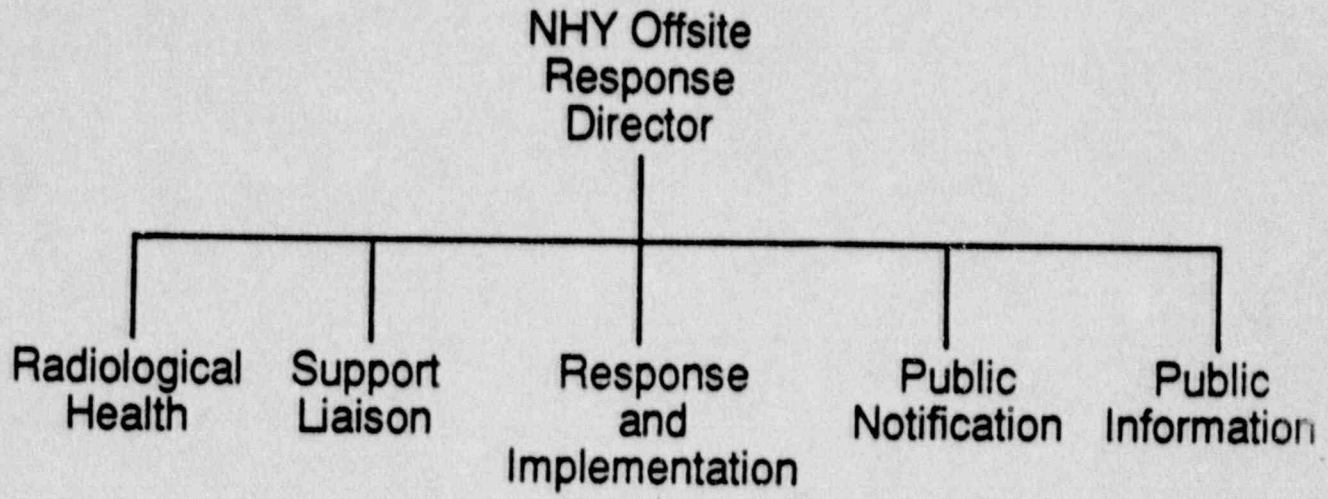
ORO Resources	Required Per SPMC	Actuals
Ambulances	88	93
Buses	403	789
Tow Trucks	12	21
Vans / Wagons / Half Buses	62	273
Wheel Chair Vans	76	112
Congregate Care	684,000 sq. ft	731,000 sq. ft

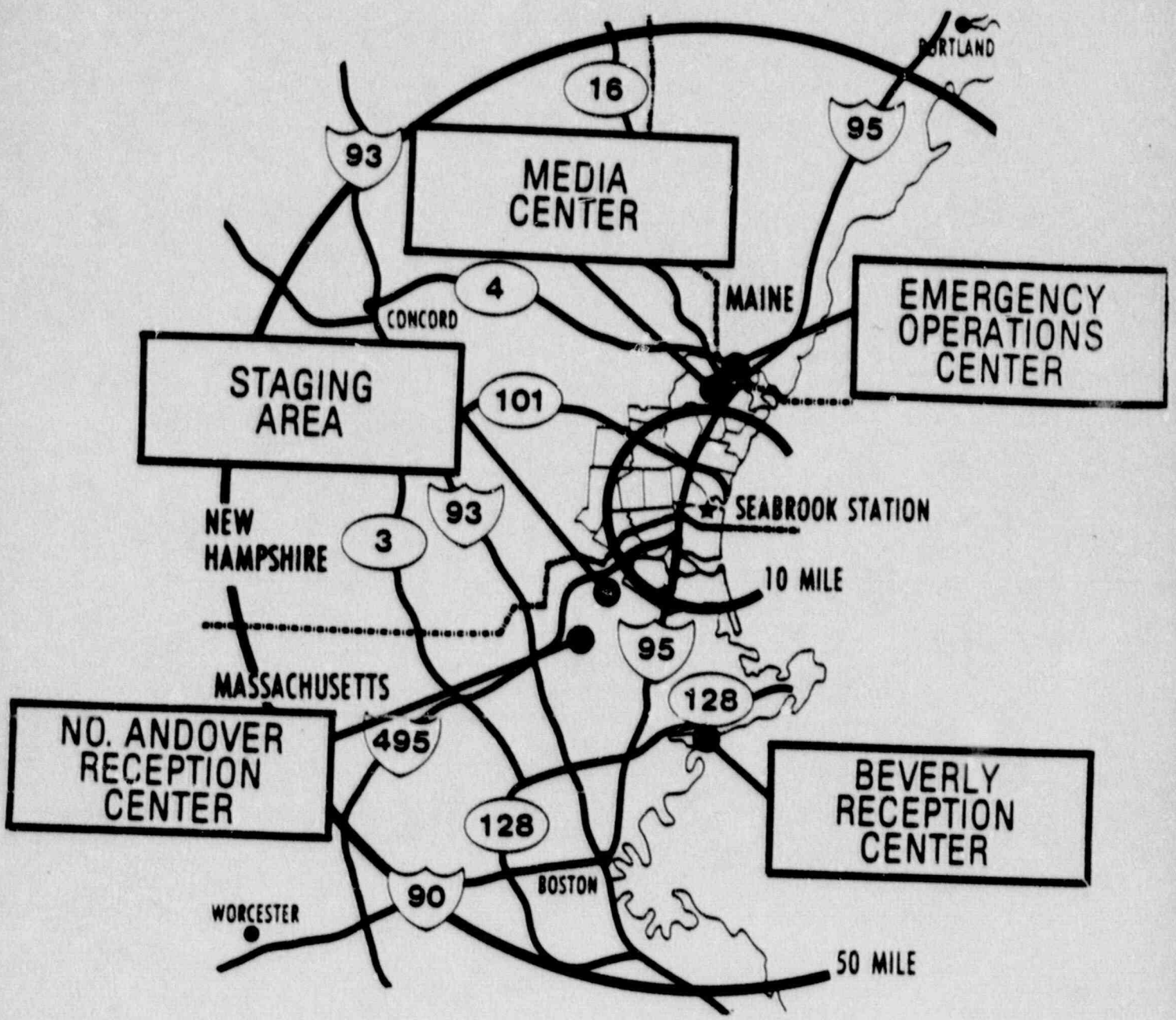
(as of January 1990)

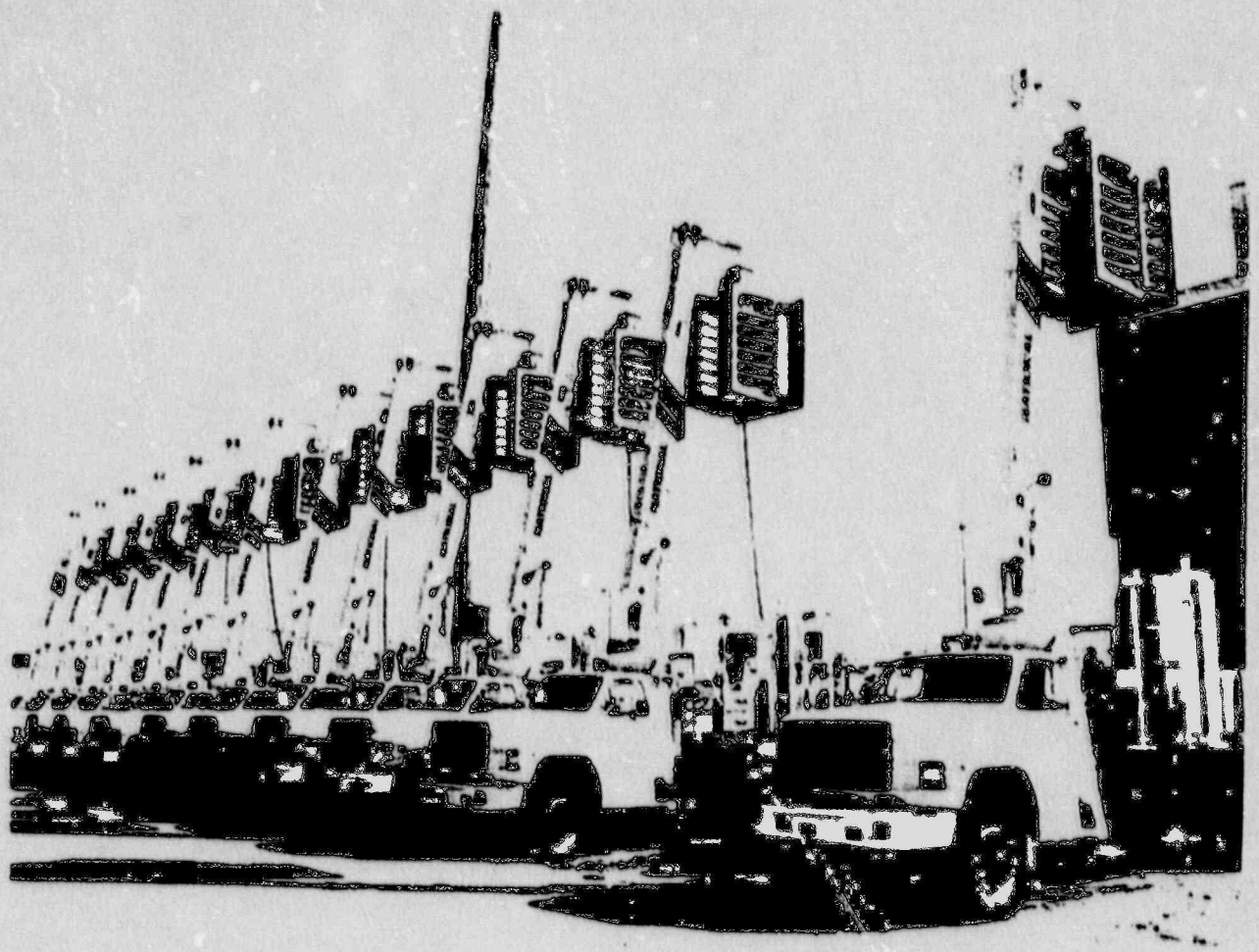
SEABROOK PLAN FOR MASSACHUSETTS COMMUNITIES IMPLEMENTATION

- Standby Mode
- Supply Resources Only Mode
- Full Implementation of SPMC by Utility Offsite Response Organization (ORO)

OFFSITE RESPONSE ORGANIZATION
MAJOR FUNCTIONS




PORTLAND
16
95
93
MEDIA CENTER
4
CONCORD
MAINE
EMERGENCY OPERATIONS CENTER
STAGING AREA
101
93
SEABROOK STATION
NEW HAMPSHIRE
3
10 MILE
95
MASSACHUSETTS
128
NO. ANDOVER RECEPTION CENTER
495
BEVERLY RECEPTION CENTER
128
90
BOSTON
WORCESTER
50 MILE

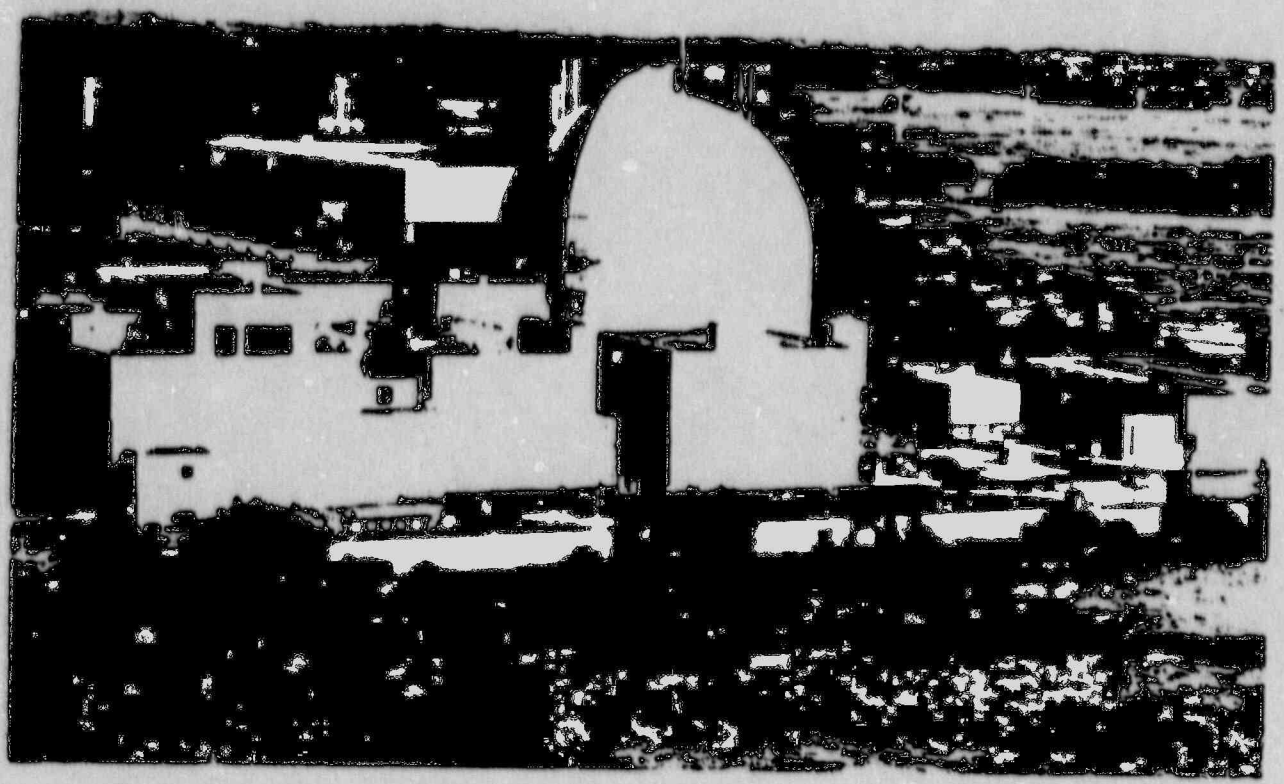


EMERGENCY PREPAREDNESS
KEY FEATURES

- NH/Maine Full Cooperation
- NH, Maine and Massachusetts Experienced in Radiological Emergency Response Planning
- SPMC's Flexible Response
- Massachusetts Response Capabilities
- Precautionary Actions for Nearby Beaches

EMERGENCY PREPAREDNESS
KEY FEATURES
(continued)

- Mutual Assistance Agreements
- Co-Location of Utility, ORO and NH
- FEMA/NRC Review
- Highly Skilled Team



COMMISSION BRIEFING
ON
SEABROOK STATION NUCLEAR POWER PLANT, UNIT 1
FULL POWER LICENSE

JANUARY 18, 1990

THOMAS MURLEY

WILLIAM RUSSELL

VICTOR NERSES

CONTACT: VICTOR NERSES
PHONE: 492-1441

BRIEFING OUTLINE

- BACKGROUND
- LICENSING MILESTONES
- LICENSE CONDITIONS AND EXEMPTIONS
- EMERGENCY PLANNING
- CONSTRUCTION
- PREOPERATIONAL AND LOW POWER TESTING
- FAILURE TO MANUALLY SCRAM ON 6/22/89
- READINESS FOR POWER OPERATION
- STAFF CONCLUSIONS

BACKGROUND

- LOCATION

  - SEABROOK TOWNSHIP, ROCKINGHAM COUNTY, NH
  - 11 MILES SOUTH OF PORTSMOUTH, NH
  - 40 MILES NORTH OF BOSTON, MA

- PLANT

  - WESTINGHOUSE 4 LOOP PWR; 3411 MW_T, 1150 MW_E
  - ARCHITECT ENGINEER: UNITED ENGINEERS
  - GENERAL CONTRACTOR: UNITED ENGINEERS
  - LARGE, DRY CONTAINMENT

LICENSING MILESTONES

APPLICATION FOR CONSTRUCTION PERMIT	7/73
CONSTRUCTION PERMIT ISSUED	7/76
OPERATING LICENSE APPLICATION DOCKETED	10/81
FUEL LOAD LICENSE ISSUED	10/86
LOW POWER LICENSE ISSUED	5/89
INITIAL CRITICALITY	6/89
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS FULL POWER LETTER	9/89
ATOMIC SAFETY LICENSING BOARD (ASLB) DECISION TO AUTHORIZE FULL POWER LICENSE	11/89

LICENSE CONDITIONS AND EXEMPTIONS

- LICENSE CONDITIONS ON SAFETY PARAMETER DISPLAY SYSTEM IMPOSED BY THE ASLB
- STANDARD CONDITIONS ON
  - PHYSICAL SECURITY AND SAFEGUARDS PLANS
  - FIRE PROTECTION PROGRAM
- EXEMPTIONS
  - 10 CFR PART 50 APPENDIX J AIR LOCK TESTING
  - CRITICALITY MONITORING SYSTEM, 10 CFR 70.24

EMERGENCY PLANNING

- ASLB RENDERED FAVORABLE DECISION ON NEW HAMPSHIRE RADIOLOGICAL EMERGENCY RESPONSE PLAN (NHRERP) IN DECEMBER 1988.

- ATOMIC SAFETY & LICENSING APPEAL PANEL REMANDED CERTAIN ISSUES ON THE NHRERP.

- ASLB RENDERED FAVORABLE DECISION ON SEABROOK PLAN FOR MASSACHUSETTS COMMUNITIES AND THE 6/88 FULL PARTICIPATION GRADED EXERCISE IN NOVEMBER 1989. ASLB AUTHORIZED ISSUANCE OF FULL POWER LICENSE.

- FEMA HAS PROVIDED REASONABLE ASSURANCE FINDING IN DECEMBER 1989.

- STAFF INSPECTION HAS CONFIRMED IMPLEMENTATION OF EMERGENCY PREPAREDNESS PLAN.

CONSTRUCTION

- NRC INSPECTION - 30,000 HOURS INCLUDING SEVERAL TEAMS
- FSAR REFLECTS AS-BUILT PLANT
- NO ALLEGATIONS WHICH PRECLUDE ISSUANCE OF A FULL POWER LICENSE
- OPEN ITEMS NEEDED FOR POWER OPERATIONS
  - TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP TEST
  - OTHER MAINTENANCE/TESTING
  - ALL SCHEDULED TO BE COMPLETE BY 1/29/90

PRE-OPERATIONAL & LOW POWER TESTING

- TESTING WELL PLANNED AND EXECUTED
- OPERATIONS INTEGRATED INTO PRE-OPERATIONAL TESTING
- CONSERVATIVE AND CAUTIOUS APPROACH
- TEST RESULTS SATISFACTORY
- FEW TEST EXCEPTIONS
- EXCELLENT OVERALL PERFORMANCE (EXCEPT FOR 6/22/89 EVENT)

FAILURE TO MANUALLY SCRAM ON JUNE 22, 1989

- OVERCOOLING DURING NATURAL CIRCULATION TEST CAUSED PRESSURIZER LEVEL TO DROP BELOW PROCEDURAL LIMIT FOR MANUAL SCRAM
- ACTUAL EVENT WAS NOT SAFETY SIGNIFICANT
- ROOT CAUSE AND COMPREHENSIVE CORRECTIVE PLAN DEVELOPED
- NRC CONFIRMED ADEQUACY OF ALL (55) CORRECTIVE ACTIONS INCLUDING:
  - -- MANAGEMENT CONTROLS FOR TESTING
  - -- TESTING/OPERATIONS INTERFACE
  - -- REASONS FOR TEST LIMITS AND TERMINATION
  - -- EXTENSIVE LICENSEE RETRAINING

READINESS FOR POWER OPERATION

- EXPERIENCED SITE MANAGEMENT
- SIX OPERATING SHIFTS FULLY STAFFED
- POWER ASCENSION SELF-ASSESSMENT PROGRAM IN PLACE AND IMPLEMENTED
- NRC READINESS ASSESSMENTS CONCLUDE LICENSEE CAN OPERATE SEABROOK SAFELY

STAFF CONCLUSIONS

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

TRANSMITTAL TO: X Document Control Desk, 016 Phillips

ADVANCED COPY TO: ____ The Public Document Room

DATE: 2/5/90

FROM: SECY Correspondence & Records Branch

Attached are copies of a Commission meeting transcript and related meeting document(s). They are being forwarded for entry on the Daily Accession List and placement in the Public Document Room. No other distribution is requested or required.

Meeting Title: Immediate Effectiveness Review Briefing - Seabrook

Meeting Date: 1/18/90 Open X Closed ____

Item Description*:	Copies Advanced to PDR	DCS Copy
1. TRANSCRIPT w/Rebed. Rates & Viewgraphs	1	1
2. Letter Curran to Com. dtd 1/18/90	1	1
3. Letter Ostis to Hill dtd 1/17/90	1	1
4.	____	____
5.	____	____
6.	____	____

* PDR is advanced one copy of each document, two of each SECY paper. C&R Branch files the original transcript, with attachments, without SECY papers.

DF02
1/1

4/85

17 Grist Mill Road
Littleton, Ma 01460
January 17, 1990

Bill Hill
Secretariat

Dear Mr. Hill:

As per our phone conversation, I am requesting that the two attached letters be added to the transcript of the NRC hearing on January 18th and be included in the records. Thank you.

Sincerely,

Christine A. Oatis

Christine A. Oatis, Clerk
Amesbury Religious Society of Friends

January 18, 1990

Nuclear Regulatory Commission

Dear Members of the Commission:

As Quakers we are very concerned about the safety of people who live near the Seabrook nuclear power plant. This plant is located in a densely-populated coastal area with predicted seismic activity and inadequate evacuation routes. We are also distressed by reports of safety violations, dismissal of our attempts to meet with top officials, and their subsequent failure to put safety as top priority during the tests last summer. Congress has legislated 1991 as the target date for locating a safe repository for nuclear waste and a site has not been located. This plant should not be licensed.

Sincerely,

Christine A. Oatis

Christine A. Oatis, Clerk
Amesbury Religious Society of Friends

9001170053 JP

17 Grist Mill Road
Littleton, MA 01460
(508) 486-4137

Mr. Samuel Chilk, Secretary
Nuclear Regulatory Commission

Dear Mr. Chilk:

This letter is to request three minutes of time at the hearing on Seabrook, thursday, January eighteenth, to read a letter. As Clerk of the Meeting, I represent a Quaker group, The Amesbury Religious Society of Friends, which is located in the Seabrook area. We have been very concerned about the serious safety issues and location of the Seabrook nuclear power plant in a crowded coastal area. We tried to meet with Seabrook officials last summer to reflect with them on the gravity of these concerns; and were dismayed that there seemed to be an attitude of dismissal in their efforts to get the plant "on line" - no matter what the cost. We feel that, in this all-out approach, many lives are being put at risk. Please allow me one minute of silence so that I might read my letter in the remaining two minutes out of the silence-to express our deep concern which this deliberation deserves.

Sincerely,

Christine A. Oatis

Christine A. Oatis, Clerk
Amesbury Religious Society of Friends

-9-00126-0056 1p

HARMON, CURRAN & TOUSLEY
2001 S STREET, N.W.
SUITE 430
WASHINGTON, D.C. 20009-1125

GAIL McGREEVY HARMON
DIANE CURRAN
DEAN R. TOUSLEY
ANNE SPIELBERG
SANDRA K. PFAU
Of counsel:
JANNE G. GALLAGHER
KATHERINE A. MEYER*
ERIC R. GLITZENSTEIN
*Also admitted in Maryland

TELEPHONE
(202) 328-3500
FAX
(202) 328-6918

January 18, 1990

Kenneth M. Carr, Chairman
Thomas M. Roberts
Kenneth C. Rogers
James R. Curtiss
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Seabrook "readiness" review

Dear Commissioners:

On behalf of Intervenors New England Coalition on Nuclear Pollution, Seacoast Anti-Pollution League, and the Massachusetts Attorney General, I am writing to alert you to a number of serious potential defects in the design and construction of the Seabrook nuclear power plant, which we believe must be addressed and resolved before the Commission can conclude that the Seabrook reactor is ready to operate.

These concerns are based on the report recently filed with you by the Employees Legal Project, concerning Quality Technology Company's ("QTC's") "Investigation of Seabrook Station" (hereinafter "QTC Report"). The report, which is based on QTC's review of Seabrook's construction history, NRC oversight activity, and allegations of concerned Seabrook employees, raises a number of potential safety problems at the plant which, if confirmed, would implicate the safety of the reactor. Intervenors believe that the following major findings of the report warrant the Commission's immediate attention:

1) According to QTC, reactor coolant pump support legs are held in place by 113-inch bolts that are embedded in the concrete floor of the reactor. These bolts, which have a required strength of approximately 115 KPSI, cannot be moved easily.

Sometime after its original installation, an RCP support leg was moved horizontally, either two inches or five inches. There is no indication in publicly available records that the RCP support leg has been re-secured to the appropriate specifications, nor is there any apparent means of doing so. QTC Report at 8-9.

If corroborated, this apparent failure to re-install the RCP support leg in compliance with safety standards raises questions not only about the reliability of the RCPs, but about the overall adequacy of the Applicants' quality assurance program and the NRC Staff's ability to detect serious QA problems through its oversight and inspection program.

2) According to a concerned individual, cadwelders were fired for cheating on required test welds. Although the incident violated several quality assurance requirements and the NRC was aware of this fraudulent activity, it did not issue a violation to the utility. This cheating was discovered by accidents, not through quality inspections. Even so, the NRC did not address, nor did it require the utility to address, the deficiencies which allowed the cheating to occur without detection. The NRC did not require Applicants to identify the root cause of the problem and correct it. QTC Report at 24-35.

3) A quality control inspector was imprisoned for falsifying apprximately 2,400 weld inspections. A concerned individual reported that many other weld inspectors falsified their reports because of management deadlines. A second individual documented falsification on a specific weld inspection, and the NRC reported another such instance. Despite this evidence of widespread weld falsification, the NRC maintains that these are unconnected incidents which do not indicate a pattern needing further investigation. Many of the 2,400 welds were never re-inspected. QTC Report, Appendix B.

4) QTC reports a concern from a Seabrook employee who stated that in 1985, he and many others were required to replace "understrength Uni-strut bolts." He stated that the bolts were replaced in a haphazard fashion, and that bolts in difficult-to-reach places were not replaced. No records were kept of the location of replaced bolts. The only record kept was of the number of new bolts that crews received at the beginning of a shift and the number of old bolts they returned at the end of a shift. QTC Report at 63.

If this whistleblower's account is confirmed, it raises serious questions about the structural integrity of the Seabrook reactor and the adequacy of the Applicants' quality assurance program to generally assure plant safety.

5) In general, QTC found that NRC's oversight of quality assurance at Seabrook was inadequate in that it too often failed to cite Applicants for regulatory violations and did not require Applicants to investigate root causes, develop corrective actions

or describe the violations' generic applicability. The Staff showed a general inclination to treat quality assurance problems as isolated events rather than probe their significance for general plant safety.

In addition to the items discussed above, we refer to you a letter from Fred Anderson, Jr., of Ideas & Information, Inc., to William Russell, NRC Regional Administrator, dated January 9, 1990, which contains partial transcriptions of conversations between control room operators and maintenance personnel at Seabrook. A copy of the letter is attached. While Mr. Anderson has been unable to transcribe all of the conversations that he taped, the excerpts provided in his letter suggest a pattern of incompetence by maintenance personnel, equipment malfunctions, and poor attitudes shown by control room personnel.

This pattern is particularly disturbing in light of Applicants' poor performance during the low power test. Given the utility's troubled history and the problems raised by even a limited airing of Mr. Anderson's tapes, it is imperative that the Commission review Mr. Anderson's tapes and assess their safety significance before approving the Seabrook reactor's readiness to operate.

In conclusion, the Intervenors believe that in addition to the specific design and construction problems raised by QTC, the overall adequacy of the Seabrook quality assurance program has been placed in serious doubt. Before approving operation of the reactor, the Commission should investigate this apparent breakdown in quality assurance and obtain assurances that the plant is indeed safe to operate.

Sincerely,

Diane Curran

Diane Curran

cc: Seabrook service list

Ideas + Information, Inc.
4 Elm Street, Exeter Business Center, Exeter, N.H. 03833 USA (603) 778 7000

Fax to: 1-215-337-5241 (Copy also sent via Federal Express)
Page 1 of 17

January 9, 1990

William Russell
Regional Administrator
U.S. NUCLEAR REGULATORY COMMISSION
475 Allendale Road
King of Prussia PA 19406

Dear Mr. Russell:

Since January 1, 1989 I have been monitoring and taping broadcasts by the control room operators at Seabrook Station. I understand that the NRC staff will be meeting with NH Yankee personnel this Friday (12th) in Seabrook to review open items prior to a recommendation to the full commission regarding full power licensing for Seabrook Station.

I have recently only had time and resources to review a few of the tapes I have made, but I believe these few samples demonstrate that significant safety concerns still need to be resolved before a full power license is granted. You will remember that the plant was shut down during its low power test. If these problem areas are not corrected, I believe that the plant will have many un-planned shutdowns, which could affect public safety.

The areas for concern involve both plant personnel and hardware. The next page outlines specific concerns about Maintenance personnel competence and Control Room Operator attitude: as well as problems with a variety of valves, leaks, and the control room to maintenance personnel communications system (the one I have monitored). The pages that follow provide my own transcript, made today, of these examples.

I would be willing to provide you with copies of any of these tapes so that you might make your own transcripts. As I noted, I have listened to just a few sections of tape in order raise the many areas of concern noted below. I believe the other tapes might disclose other problem areas.

I look forward to hearing from you regarding this information.

Regards,

Fred Anderson, Jr.
President

Letter from Frederick H. Anderson, Jr.,
IDEAS + INFORMATION INC. 1/9/90

SEABROOK CONTROL ROOM TRANSMISSIONS

AREAS OF CONCERN

Personnel:

Maintenance Personnel Competence
- Drinking prior to work -- 11/30/89
- Leaving light bulb on plastic -- 12/1/89
- Accident rate -- 12/20/89 (Several others in December)
- Water treatment or boiler room that was messy -- 12/29/89

Control Room Operator Attitude
- "Hey, what's the worst that can happen. You have to get naked and come on out" -- 12/6/89
- "You're being paid by the hour" -- 12/29/89
- "Your favorite Nitrogen alarm has just come in again" -- 1/6/90

Hardware:

Valve Problems
- "See if we can get the recirc valve to go closed" -- 12/1/89
- "I've got a bad feeling about these valves" -- 12/6/89
- "Brand new valve installed by DCR" -- 12/28/89
- "Favorite nitrogen alarm has just come in" -- 1/6/90

Leaks
- Fan leaking oil in fuel storage building -- 12/29/89

Communications
- Repeated problems hearing maintenance personnel
- See 1/6/90 for one example

Seabrook Control Room

Maintenance Personnel Competence

November 30, 1989 (Thursday)

10PM

Go ahead

326 and 328 Unlocked and shut both valves

Workman control

Keith, How come we unlocked and closed those two RC valves please?

Restoring a partial. What's the tag order number please?

1976 copy

Joe Mayer control room

Yeah Joe give me a call if you get a minute would you please

Mayer control room

10:15PM

Joe I believe Mr. Fanning is your relief tonight. You know he might be more than a little late

"I just looked on their shift rotation and it shows that Rob is the ah late man tonight. We'll get a spare out to you as soon as we can. He's ah been delayed down by the Golden Banana."

Walz control

Seabrook Control Room

Maintenance Personnel Competence
Fire Hazards
Recirc Valve Problems
Nitrogen Valve Problems

December 1, 1989 (Friday)

12:45 AM

Go ahead Hugh

Understand Hugh

Control Room. Go ahead Hugh.

Go for it.

Go ahead Huge.

I like the sound of that Hugh.

Hugh. Rob Fanning was looking for you but I pretty much took care of it.

Control room. Go ahead Hugh

•• You said you had a light bulb explode? ••

Understand. I'll see if I can get him to come out there. You're at the recirc and wet layup pump?

OK Hugh

Go ahead Hugh

Understand Hugh

We have. Everything looks good from up here

Control room. Go ahead Hugh

OK have at it

Tom Thompson Control Room

Hi Tom. I just got a call from Wes Burnham. He was wondering if you could possibly meet him down in the Admin Building cafeteria?

OK thanks Tom

Control room. Go ahead Hugh

Hey Hugh could you go to a phone and give me a call please

Bring something along to write on and with when you go to the phone also

Control room go ahead Hugh

Understand excellent. After you crack it open let it go like that for a couple of minutes.

Tyrell Control Room

Tyrell Control Room

****Steve we found out what the problem was. There was a drop light on some plastic and the plastic was starting to melt. Ah the fire watch has taken care of it.****

Control Room go head Hugh.

Understand I'm going to be very slowly initiating flow to the A generator

Hawkins Control

Yeah Hugh this is uh Skip. I've got to go down the ah vaults so I'll check them out for you and ah check the running RHR pump and stuff to see if everything is OK so you don't have to go down there this set

Dave Carpenko Control Room

Dave

Where you at Dave I'm sorry I didn't hear you

Nevermind

Carpenko Control Room

Skip Morrisey is going to check that valve in the EFW pump house
We'll give you a yell if there was any problems

Taylor Control Room

Mike you doing anything with the Demin water system?

Seabrook Control Room 12/1/89 Page 3

OK the standby pump may have just started. We got a low system pressure alarm in momentarily

OK Hugh I'm up to 55 GPM flow

OK Hugh I'll let you know when I get to 100.

Let me know when the recirc valve goes closed

1:45AM

Hawkins Control Room

How's it looking down there Hugh. I show 105 up here

Understand

****So I'm going to increase flow to see if we can get the recirc valve to go closed****

Control Room. Go ahead Hugh

What were you trying to say about the limit switch Hugh as far as the valve knowing whether or not it should open?

Understand. Rick doesn't think that matters.

The follower connected for the positioner?

Nevermind Hugh that's not that type of valve that would have a follower

OK Hugh I'm continuing to go up on flow. I'm at 130

Hawkins Control Room. What do you show for suction pressure?

And the recirc valve is still open?

OK Hugh I'm at 155 GPM right now. I'm going back down to 100

Understand. Let's go ahead and get Nitrogen on the Generators. You can isolate the two Nitrogen valves to the RCDT and the PRT please

Yes we are. Thank you very much for your persitence Hugh

2AM

OK great

Duty Chemist control room

Hugh Hawkins control room

Rob says fuel storage building temperature 72

Understand

Go ahead Hugh

Understand so all four valves are open on the generators?

(SEE DECEMBER 6TH -- 6:15 AM)

Thank you very much

Carpenko control room

Yeah where are you at?

On your way back in head over towards the Nitrogen regulator station and give us a call when you get there

Seabrook Station Control Room

Nitrogen Valve Problems
Control Room Operator Attitude

December 6, 1989 (Sunday)

6:15 AM

No, were trying to blow the loop seal to the generator

B is isolated. Copy

"Copy Rick. I've got a bad feeling about these valves"

Copy. Rob, did you copy that?

Yeah Rob. Why don't you open up 42 and leave all four of them open

Yeah you're right Rick

Rob open 42 and we'll see what we've got there and then we'll open the Alpha one

Copy

Yeah. Bravo Charlie and Delta Right. We're going to try that X.

Actually Rick I don't think it'll matter. Do you have it boosted up out there to 35 or 40 pounds?

Going too fast. OK I've got you

Rob go ahead and shut 39 please

OK Rick. Why don't you go ahead and boost it up. NGB 39 is closed and when you get it up to 45 let us know and then Rob try to do your thing.

Copy Rick. You seeing a change in pressure?

You said you got it Rob

6:30 AM

Rob I want to open up ah 39 now so we've got all four of them open. Rick will pressurize all four of them up until ah we get each of them to three or four pounds and then we'll put it back on the regulator

Four open right now Rob. Copy. 39 to 42.

Rick I am definetly seeing a rise in A. B and C. D started out negative so it's a little hard to tell but I think that it's come up

OK as soon as I get a couple of pounds on the lowest one we'll put it on the regulator

And Rick the answer to your question is D is definetly coming up now

I'm at 0.1

Rick I'm looking at a half a pound positive now on the Delta generator if you want to slowly go closed on those bypasses and see if the regulator will take it the rest of the way I think you're in good shape

"Let me know when they're closed and I'll watch it more closely"

Hawkins air dryer A trouble

Rob
The logs are more priority

Hugh the dryer trouble has reset

On the regulator, copy Rick

Yes we are Rick

OK A is dropping down toward the others and it looks like it's going to be fine

No thank you Rob. Good job

"Hey, what's the worst that can happen. You have to get naked and come on out. "

6:45AM

You're clear for a round trip

Go ahead Rick

Ah not really. Hold on a minute and let me ask Mike

Mike needs a Chalkman fix

Whatever looks good
7AM

Seabrook Control Room

Maintenance Personnel -- Recent High Accident Rate?

December 20, 1989 (Wednesday)

1:30 PM

Go ahead Rick

Rack in and close the battery breaker for Bus 11 Bravo

Control Bravo

Thank you Rick

Conte control room

Dave Conte control room

Radio check

Sounds good Mike thank you

X with parking lot Delta

(High pitched tone)

Sue Hackney should be on her way

Understand. You are going to need the Seabrook ambulance at the Termination Yard

This is Lavoie in the Control Room. You are going to need the ambulance to go off site
right. Is the victim conscious and breathing?

OK Mike I'm calling Seabrook ambulance right now to meet you at the Termination Yard

1:45 PM

Connors control

The Seabrook ambulance has been requested. Security has been informed

Connors control room. When possible could I please have somebody call me with the name of the injured person please?

Seabrook ambulance on the scene. Copy

Tom go ahead this is Lavoie. No but I didn't copy his name please.

Jay Smithers copy

Find out if you can from him whether he wants anybody notified such as friend or family

Negative copy

Go ahead Russ

The ambulance has the patient and they are transporting to Exeter Hospital copy

Go ahead Mike

Yes I do but thanks for the call. I'm going to lower my flow. I'll see you when you get up here Mike.

Yes

Please do so

Thank you Rick

2 PM

Seabrook Control Room

New Valves Sticking?

December 28, 1989 (Thursday)

9:30 PM

Allright. That's supposedly a locked open valve. Is that true?

Allright. It looks like its a brand new valve installed by DCR. There's a vent downstream of 471 labeled 472. Is that closed?

Go head Chris.

Copy. Go head and open valve 471

Chris O'Connor Control. I'm going to go ahead an reopen the vent and we should flow at this time

9:45 PM

Chris O'Connor control

We definetly look like we're moving water now so ah we're happy. Thanks

Seabrook Control Room

Fire Hazards

December 29, 1989 (Friday)

2:30 AM

Gould control room

We just got a report from the roving fire watch. 21 Elevation in the fuel storage building just when you go inside the door. Apparently there's a fan there that's leaking some oil. Would you get me some information on that please?

Gorsky control

Jeff would you give me a phone call please?

2:45 AM

Seabrook Control Room

Control Room Operator Attitude

December 29, 1989 (Friday)

1PM

He's still playing with it

Ah Shawn do you have problems with the boiler? Is that why you're asking?

No there's every reason. You're being paid by the hour

Control room. Go ahead Keith. OK. Thank you much

1:15 PM

Seabrook Control Room

Lack of Cleanliness

December 29, 1989 (Friday)

3:15 PM

Kennet control

Is that the water treatment or the boilder room that was so messy?

Understand. Thank you

3:30PM

Seabrook Control Room

Communications Problems
Control Room Operator Attitude
Nitrogen Problem

January 6, 1990

12:45 AM

Morrill Control

You got it. Thanks

1 AM

One more time Mark. I didn't get that

76

Morrill control room

Morrill control room

1:15 AM

1:30 AM

Go ahead Chris

Please repeat

That's 6-0?

6-8?

Copy finally

O'Connor control room

Yeah Chris could you please give me a phone call?

1:45 AM

2 AM

Thompson control room

Thompson control room

Mark, could you give me a phone call please?

2:15 AM

Thompson control room go ahead. And security wants me to call them back for you to come back in

Go ahead
Go ahead Mark

(Swings) will do that for us

2:30 AM

2:45 AM

Morrill Control room

Morrill Control room

"Yeah Mike your favorite nitrogen alarm has just come in again"

Thank you

3 AM

Go ahead Mike

Yes Mike the alarm has reset

3:15 AM

Full open Nitrogen is reset

Yeah I'm going to do the B feedwater isolation valve

Copy

X and Nitrogen

Full open Ken but I still got my Nitrogen in

I'll do the A one again

Copy

3:30 AM

Mark, could you give me a phone call please?

2:15 AM

Thompson control room go ahead. And security wants me to call them back for you to come back in

Go ahead
Go ahead Mark

(Swings) will do that for us

2:30 AM

2:45 AM

Morrill Control room

Morrill Control room

"Yeah Mike your favorite nitrogen alarm has just come in again"

Thank you

3 AM

Go ahead Mike

Yes Mike the alarm has reset

3:15 AM

Full open Nitrogen is reset

Yeah I'm going to do the B feedwater isolation valve

Copy

X and Nitrogen

Full open Ken but I still got my Nitrogen up

I'll do the A one again

Copy

3:30 AM