UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
***
BRIEFING ON OPERATING REACTORS
AND FUEL FACILITIES
***
PUBLIC MEETING
***

U.S. Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Tuesday, June 25, 1996

The Commission met in open session, pursuant to notice, at 10:00 a.m., Shirley A. Jackson, Chairman, presiding.

COMMISSIONERS PRESENT:
SHIRLEY A. JACKSON, Chairman of the Commission
KENNETH C. ROGERS, Member of the Commission
GRETA J. DICUS, Member of the Commission

STAFF SEATED AT THE COMMISSION TABLE:
JOHN HOYLE, Secretary of the Commission
KAREN D. CYR, General Counsel
JAMES TAYLOR, EDO
WILLIAM RUSSELL, Director, NRR
DR. CARL PAPERIELLO, Director, NMSS
THOMAS MARTIN, Region I Administrator
HUBERT MILLER, Region III Administrator
STEWART EBNETER, Region II Administrator
JOE CALLAN, Region IV Administrator

P R O C E E D I N G S
[10:00 a.m.]

CHAIRMAN JACKSON: Good morning, ladies and gentlemen -- maybe I should say gentlemen here at the table but we have a few ladies. I am pleased to have the Headquarters Staff and the Regional Administrators here this morning to brief the Commission on the results of the recent NRC Senior Management review of performance at operating reactors and field facilities.

The senior management meetings are conducted semi-annually to ensure that the NRC is properly focusing its resources on facilities that need the most regulatory attention based on licensee performance and on related issues of greatest safety significance.

I understand that copies of the slide presentation are available at the entrances to the meeting room.

Do my fellow Commissioners have any comments at this time?

[No response.]

CHAIRMAN JACKSON: If not, then Mr. Taylor, please proceed.

MR. TAYLOR: Good morning. With me at the table are the four Regional Administrators and the Directors of the Office of NRR and NMSS.

As the Commission knows, the senior management

meeting process was initiated in 1986 in response to the loss of feedwater event at the Davis Besse plant which had occurred that previous June. This was the 21st such meeting of NRC senior managers. Although we have refined the

process and the analysis used in support of the meetings, the discussions have continued to focus on the safety of operational performance of selected plants across all regions.

I'll ask Bill Russell to continue with a formal presentation.

MR. RUSSELL: Thank you, Jim, Commissioners.

Senior management meeting process has two principal objectives as it relates to nuclear power plant performance. First is to identify potential problem performance and adverse trends before they become actual safety events, and secondly is to effectively utilize agency resources in overseeing operating reactor safety.

An integrated review of plant safety performance is conducted using objective information such as plant specific inspection results, operating experience, probabilistic risk insights, systematic assessment of licensee performance reports, performance indicators, and enforcement history.

Special attention is given to the effectiveness of licensee self-assessments and the effectiveness of

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corrective actions taken for problems identified by licensees.

Our objective is to identify facilities early that have negative performance trends or those that have performance problems which require agency-wide close monitoring and oversight.

We also discuss for each of these facilities plant inspection activities, NRC management oversight, and allocation of resources for each of the plants discussed.

I'll summarize the overall results of this recent senior management meeting after which the Regional Administrators will discuss the facilities in turn that are in need of agency-wide monitoring and attention.

May I have the first slide, please?

COMMISSIONER ROGERS: Mr. Russell, just before you go into that, are there any standard criteria that you use to determine what plants are going to be discussed at the senior management meeting? You can't discuss every plant, obviously, or you'd still be there, and so do we have a fixed set of criteria or is this a choice that is made by individual Regional Administrators?

MR. RUSSELL: The process that's used is that I conduct meetings prior to the senior management meeting approximately six to eight weeks before the senior management meeting occurs with each Regional Administrator

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at which we discuss each of the plants in the region, such that all the plants in the U.S. are reviewed and discussed.

At that meeting we have representatives from NRR, from AEOD, as well as the region, and we go over the specific information that is collected to support the plant performance reviews which are conducted by the regions so that we have the site issues, matrices for each of the plants. We have the results of the plant performance reviews. We also have the agency-wide performance indicators where we look for trends.

We look at enforcement history.

I must mention that Jim Lieberman also participates in those meetings.

We go through with a discussion for each facility.

We typically identify more facilities for discussion at the senior management meeting than actually are identified as potential problem facilities because there may be some other aspect of that particular plant's performance which should be shared amongst other Regional Administrators so that we can collectively reach judgments on what are the appropriate actions to take.

We don't have numerical or explicit criteria to use. It's essentially a judgment between the Regional Administrator and myself as to whether this is an appropriate facility to bring forward to discuss, so we err

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on the side of having a lower threshold for discussion such that we can share experiences but it is intended to be a systematic review of all facilities.

We then go the next step and develop the detailed information to support the senior management meeting review following those meetings so we identify candidate facilities and then the Staff prepares all the information to support the senior management meeting process --

COMMISSIONER ROGERS: Excuse me --

MR. RUSSELL: I'm sorry --

COMMISSIONER ROGERS: -- what I am trying to get at is whether you have any sense of the numbers of plants that should be discussed in everybody's opinion at a senior management meeting, whether that is kind of stable, increasing, decreasing. If you don't have a fixed set of criteria, it may be difficult to, you know, get any numbers.

MR. RUSSELL: We can get you the actual numbers but I would expect that for -- by sites it's probably on the order of eight to ten sites that are discussed each time and probably on the order of 18 to 22 plants, although at the most recent meeting was a longer meeting than some of the past ones. We had more facilities to discuss at this last one.

COMMISSIONER ROGERS: So we really don't have a feeling that there is a trend in either going up or down in

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the number of plants you feel should be discussed?

MR. RUSSELL: Not in the context of discussing to exchange information amongst the senior managers as it relates to plants for which we take action and conclude that they are problem facilities and warrant agency-wide monitoring.

We do trend those and that's one of the indicators that we use each year in our regulatory information conference.

CHAIRMAN JACKSON: I think Commissioner Dicus has a comment.

COMMISSIONER DICUS: I get a sense from your comment that perhaps you don't think there should be set criteria or the process somewhat formalized. Would that be a fair statement?

MR. RUSSELL: That is correct. At this point I believe it is appropriate to err on the side of discussing a plant, sharing the information about that plant.

The impact is essentially one on the Staff to develop the information, to go through, collect it, synthesize it, and put it together so there is some resource burden but I believe the value of having had the discussion amongst the other Regional Administrators, sharing that information, and bringing the senior management perspectives to bear on a particular facility are worth the additional

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Staff effort, so at this point in time we are leaving it more as a judgmental and we have generally reached agreement, although there have been some cases where we have had some close calls and then we have erred on the side of going ahead with the discussion rather than not discussing.

COMMISSIONER DICUS: I guess I would have a little bit of concern, and I think you make a good point -- I would have a little bit of concern over time, over years of some consistency on how we're looking at plants without some values that are set.

CHAIRMAN JACKSON: Well, in fact, I think, following on the previous meeting on the senior management meeting process, the Commission specifically asked the Staff to come back to the Commission with a methodology that showed more objectivity and that would ensure consistency among the regions with respect to the criteria for judging the placement of plants.

That doesn't get to, you know, which plants are discussed, but once the plants are being discussed how in fact the determination is made as to which ones should be on the problem plant list, and in fact I reinforced that recently relative to the most recent one that by the next senior management meeting the managers are to come back to the Commission with these issues in fact addressed.

MR. RUSSELL: If I could have Slide Number 2,

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please?

Category 1 is for plants that are being removed from the problem plant list where they have shown sustained performance improvement and no longer warrant agencywide monitoring and can revert back to the routine monitoring by the region.

We have one facility in this category and that is Browns Ferry Unit 3.

CHAIRMAN JACKSON: That means that all the other plants that we don't give more than the routine monitoring to are, by definition, in Category 1; is that correct?

MR. RUSSELL: That's correct.

CHAIRMAN JACKSON: Okay.

MR. RUSSELL: The reason we carry it as a Category

1 is we also, as an internal procedure, continue to monitor the performance of that facility for the next two senior management meetings to ensure that the performance is in fact sustained and that the judgments were correct when we took the action to remove the facility from the list. So Browns Ferry Unit 3 will be discussed at the next two senior management meetings with the information developed and it will be a status plan so that we keep our eye on the facilities after they have been taken off to continue to trend their performance.

If I can have Slide Number 3, please?

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Category 2 facilities are those plants whose operation is closely monitored by the NRC. These facilities are Indian Point 3, Millstone 1, 2 and 3 and Dresden 2 and 3. Tim Martin will discuss Indian Point 3 and Millstone and Hub Miller will discuss Dresden when we come to the discussion of the actual facilities.

Next slide, please.

CHAIRMAN JACKSON: When you do that, and this is preempting the next slide to some extent, I would appreciate a discussion about Millstone in terms of its being Category 2 and not Category 3, since all of the Millstone units are shut down and that we are minimally requiring certain information in response to the 50.54(f) letter before they can restart and there would be a list of issues. I think you are going to be treating them in a particular way, so I am interested in how that categorization has been done.

MR. RUSSELL: Okay.

Category 3 facilities are plants which are shut down and require Commission authorization to operate. There are no plants in this category and the distinction is a formal Commission vote prior to restart of a facility. Our intention is to clearly keep the Commission informed of the Staff's activities associated with monitoring, preparation for restart and the appropriateness of restart, would expect that there would be briefings of the Commission. But we did

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not propose to make this a Category 3 facility.

Obviously, if the Commission wishes to formally vote on restart of these matters, we could certainly change to reflect that. This was intended to provide both oversight and some flexibility in the process, depending upon what the time schedules are for restart. The intent is not to let any of the facilities restart until such time as they have adequately responded to the 50.54(f) letters, have identified the particular issues that need to be addressed and we have reached agreement on which ones are necessary for restart and which ones may be deferred. That process is ongoing and Tim will be talking about some of those elements in his briefing.

The next slide, please?

This is a new change for our process. Browns Ferry 1 is the only remaining Category 3 plant before this last senior management meeting. We chose to remove it from the Category 3 listing because it is defueled and it is in long-term lay-up.

The Tennessee Valley Authority currently has no plan for equipment refurbishment or recovery activities for Unit 1-specific equipment. They are maintaining equipment at Unit 1, which supports Unit 2 and 3 operations. Should TVA decide to restart this unit in the future, Commission approval would be required prior to plant startup.

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Stu Ebneter will discuss Browns Ferry 1 and Browns Ferry 3 and I will ask him to start the briefing. Then I will go to Region One with Tim discussing Indian Point and Millstone followed by Hub Miller discussing Dresden 2 and 3.

CHAIRMAN JACKSON: Just a point of information for my edification. How then are you going to be categorizing Browns Ferry 1? I understand the point here, because it is basically in long-term lay-up. But how do you carry it on the books?

MR. TAYLOR: We won't categorize it. We have a commitment from TVA that, should they change plans, they will tell us and at that time we would come to the Commission and say -- we will restore it to that category and come to the Commission and for formal approval. It is almost putting it in abeyance rather than just carrying it. That's the idea.

MR. RUSSELL: Rather than reporting on the status each month.

We would follow the Agency's Manual Chapter 350

process for restart of a plant that is in an extended shutdown. We would go through the same approaches, make sure that the plans and procedures which we have found to be successful in restart of Units 2 and 3 are, in fact, implemented so there should not be new licensing or technical issues. It is more a matter of executing those

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plans and there are significant resource implications for the company and it is really a financial decision that they have based their deferral on at this point in time.

CHAIRMAN JACKSON: Right, and that is why I bring you back to if you are going to be discussing the Region One plants, the Millstone plants because my understanding is that the Staff has determined that the restart of all of the Millstone units should be evaluated under Manual Chapter 350.

MR. RUSSELL: That is correct.

CHAIRMAN JACKSON: And in addition, each unit is required to respond to a 50.54(f) letter and so it seems to me that you, de facto, characterized it as Category 3 except for leaving out the specific Commission approval requirement which we can discuss.

MR. RUSSELL: That's correct. That's basically correct. We wanted to provide that flexibility to the Commission to decide how they wished to handle the specifics on Millstone.

With that, Stu, if you could proceed.

MR. EBNETER: All right. Good morning.

Browns Ferry. Browns Ferry is a three-unit boiling water reactor owned and operated by Tennessee Valley Authority. All three units were placed on the Problem Plant List as Category 3 units in October of 1986. Unit 2 was

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restarted in May of 1991 and has run well since then. Unit 3 had been in recovery, based on the successful recovery plan of Unit 2, and it was authorized by the Commission to restart on November 15, 1995. The restart and power ascension program was conducted in a deliberate, methodical manner. No major problems were encountered and it was successfully concluded in mid-December of 1995.

Unit 3 was reclassified to a watch list Category 2 plant at the January 1996 senior management meeting. Browns Ferry operations since January has included dual unit operation with Units 2 and 3 operating simultaneously at power and a Unit 2 outage concurrent with Unit 3 operations. TVA has successfully demonstrated the ability to operate the integrated station with a minimum of unit interactions. The transition from recovery to operations has been successfully completed for Unit 3.

Dual unit operations can be characterized as effective management involvement in all phases of operation and a proactive self-assessment program which identifies potential problems early. Corrective actions have been prompt and extensive in nature. The TVA staff demonstrated the effectiveness of the training program and exhibited a good safety attitude.

Procedure adherence was relatively good. Unit-to-unit communications has minimized interface problems and

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response to transients was good.

Engineering and maintenance support to operations has been effective and were a major contributor to operational performance and achieving low backlogs in these areas. A lower threshold for problems is apparent at the station. Attention to evaluation reports has increased sensitivity to problems and ownership of problems is now apparent in maintenance and engineering.

Browns Ferry operations are good but performance is not completely free of equipment failures and personnel errors. For example, the equipment failures include some wear-related malfunctions of swing check valves and balance of plant systems. Although TVA's response to the failures were prompt and effective, the problems should have been anticipated based on industry operational experience.

The number of personnel errors has not been excessive and consequences have not been severe but the causes of these errors indicate the need for additional focus on configuration control and communication to achieve further performance improvements.

Our conclusion with regard to Unit 3 is that station performance is at a level where NRC oversight can be accomplished at the current regional level. Thus, Browns Ferry 3 has been classified as Category 1 on the watch list.

Let me briefly discuss Unit 1.

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Unit 1 is shut down and defueled and has been a Category 3 unit since October of 1986. It is noted in a TVA letter dated April 16, 1966, TVA does not have a formal schedule or plan for returning Unit 1 to service. Most of the Unit 1 systems are in lay-up and are being preserved adequately. There are a few that support Units 2 and 3 operations as a result of the design flexibility of the station. TVA stated in their letter that it would maintain these Unit 1 systems in service commensurate with their importance to safety, even though there are no current plans for Unit 1 recovery activities.

The senior managers decided not to identify Unit 1 as a Category 3 because of TVA's uncertainty with regard to the future of the unit. However, the removal from the watch list is conditioned on receiving Commission approval prior to resumption if TVA decides to resume restart activities. If TVA decides at some future time to restart recovery, they have committed in the April 16th letter to implement the same programs used for the recovery and restart of Unit 3.

The Unit 1 would not restart, again, they have a commitment, without prior Commission approval. They further committed to follow applicable NRC regulations governing decommissioning activities should they decide to pursue decommissioning. And that's the extent of my presentation.

CHAIRMAN JACKSON: The question I have for you,

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Mr. Ebneter, is the following:

We have had circumstances in the past where plants have been on the watch list, have come off, and have gone back on, and we have given Browns Ferry 3, you know, very close scrutiny, obviously, for a long time, and so I guess the question I -- the only question, really, is I guess it was given permission to restart in November and this is June, about 7 seven months later, and so it is your judgment and the judgment of the senior managers collectively that it has operated long enough that and you have enough signs for a longer period of time, long enough period of time, that we can feel comfortable doing this? That we don't think there will be a slip-back?

MR. EBNETER: Yes, I believe so. Unit 1 has operated for several years. I think we needed a little more assurance and confidence that they could operate two units simultaneously, but that has been well accomplished.

MR. RUSSELL: You said Unit 1; you mean Unit 2.

MR. EBNETER: Excuse me. Unit 2 and Unit 3.

So I think we have adequate confidence in that area.

I might add I said good morning to Mr. Kingsley this morning, and he seemed to be quite happy. He said he believes that this is his very last meeting at the Commission.

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[Laughter.]

CHAIRMAN JACKSON: Then I would say that Mr. Kingsley doesn't plan to come back to see us any more?

MR. EBNETER: That's right. And I have taken that as a commitment on the record that he will not be back. Well, he is going to voluntarily come and see us, we are sure.

[Laughter.]

MR. RUSSELL: Dr. Jackson, also, as I mentioned earlier, we will continue to monitor at the senior manager level the performance of the Browns Ferry Station for the next two senior management meetings so that it will continue to receive senior management oversight, even though the resources and the planning activities will be conducted by the region.

CHAIRMAN JACKSON: Okay. You mentioned that procedural adherence was relatively good. What did that qualification mean?

MR. EBNETER: Well, it means relative to -- relatively good. Good is, you know, in the SALP 2 type category; lots of room for improvement; not especially bad, but they clearly can do much better at it. We have had numerous examples of valve line-up switch placement and some of that is contributed to by inadequate procedures. So they can work both on the procedural aspect and the human

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performance together. But it's not -- not really bad.

CHAIRMAN JACKSON: Okay. Well, I have gotten used to seeing Mr. Kingsley, but I would just as soon not see

him.

[Laughter.]

CHAIRMAN JACKSON: Mr. Rogers, any questions?

COMMISSIONER ROGERS: No.

CHAIRMAN JACKSON: Okay.

MR. RUSSELL: I assume then we can proceed with Indian Point.

MR. MARTIN: Chairman, Commissioners.

The New York Power Authority Indian Point 3 nuclear power plant was first discussed during the June 1992 senior management meeting. Concerns were identified in the area of procedural adherence and attention to detail, surveillance testing and corrective action programs, engineering tech support, information flow, facilities, and site and corporate management guidance, oversight and control.

In February '93, the New York Power Authority shut the plant down in response to concerns of the operability of their anticipated transient without scram system. Subsequently, NYPA, the New York Power Authority, took the plant to cold shutdown and committed to not restart the unit until the plant had been resolved and NRC agreed to plant

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restart.

Indian Point 3 was placed on the NRC's watch list in June of '93. After the February '93 shutdown, NYPA expended significant effort and resources on equipment maintenance modifications, process improvements and management changes. NYPA restarted the plant in June '95, after the NRC agreed that Indian Point 3 was ready to restart.

In September of '95, in response to an electric generator cooling system leak, the plant was shut down. The plant has remained shut down until early April of this year to repair an evolving list of identified equipment problems and performance deficiencies, the latter principally associated with three operational events.

The list of equipment problems reflects in part NYPA's improved threshold for identifying and resolving issues, and includes the residual heat removal system check valves, residual heat removal pump seals, the Appendix R emergency diesel generator, well channel and containment pressurization system, and containment fan cooler service water system.

The three events of concern evidence weakness in operation, department staff performance, and included the July operation that reduced pressure, the October heat-up with inoperable equipment, and the December component

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cooling water leak inside containment.

The underlying performance deficiencies revealed by these three events demonstrated continuing weaknesses in the team work and communications, operations staff knowledge of the licensing basis, procedural adherence, attention to detail, and a questioning attitude.

These continuing weaknesses illustrate the mixed effectiveness of past corrective actions.

Finally, the volume of emergent work activities during the outage appeared to hamper NYPA's ability to focus on implementing the planned process and procedural improvements and address the longer term issues that could enhance equipment reliability and organizational performance.

In response, I wrote to NYPA in December '95, requesting that they describe their actions, planned or taken, to address these concerns. I also requested the basis that they would use to determine that these actions were sufficient to arrest the performance weaknesses and assure the material condition of the facility and staff performance were sufficient to support safe restart of the facility.

Since the last senior management meeting, NYPA implemented extensive equipment maintenance activities and staff performance enhancements, made several senior

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management changes, and revitalized their operations procedure upgrade program.

Management also undertook significant additional effort to better communicate performance expectations, particularly in the area of procedural adherence, and enhanced observation and assessment of the shift crew performance using oversight personnel and outside shift mentors, as was done during the earlier successful restart

program.

In late January '96, a loss of offsite power event occurred as a result of the failure of a transformer lightning arrestor. Operators generally responded well to the event and pursued a conservative approach to restoring power to the facility. The event also revealed a diesel generator breaker that failed to close because of a loose wire and a ventilation damper that did not operate properly on a separate diesel.

The licensee responded appropriately to both material problems.

The NRC has been concerned about the decline of the material condition of the facility since the restart in June of '95. There has been a growing maintenance backlog and a number of material failures that challenged the plant operators. Some of the more notable equipment failures include the failures discussed in the January loss of

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offsite power, a steam generator handhold steam leak, and a charging line leak that required operators to cool down the facility in March '96.

Additionally, one auxiliary feedwater pump motor required replacement. It is worthy to note that as material problems have occurred, the licensee has taken a comprehensive approach to repairing the specific failure as well as performing extensive reviews of the extent of condition to prevent similar problems in other places in the plant.

Also the licensee has recently made progress in reducing the backlog of the maintenance of the plant.

In response to the equipment and staff performance concerns, the NRC conducted a special inspection starting in late January to verify the implementation of licensee corrective actions and to assess their effectiveness.

The NRC also reviewed the resolution of recent equipment problems, including the loss of offsite power event, as well as observing operator activities over a five-week period.

The team concluded that operation performance was improved and satisfactory to support safe restart of the plant. Improvements were observed in the area of shift turnover, logkeeping, adherence to plant procedures, and training. Some self-assessment activities, such as the

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shift mentor program and the integrated assessment of plant deficiencies, were considered a strength.

However, weaknesses were also identified in several areas, including adherence to administrative procedures and the identification and resolution of material condition deficiencies.

After completing all required maintenance and training, the licensee restarted the facility in early April '96. The NRC conducted augmented, around-the-clock inspection coverage during the restart and power ascension process.

The inspection activities, coupled with the resident inspection findings during the power operations in April and May, noted that overall performance during the start-up and return to service was good, with generally good operator rounds, procedural adherence, communications and conservation decision-making.

However, several examples of failing to adhere to procedural requirements indicated the need for continued emphasis in this area.

A manual reactor trip was initiated during the start-up due to the inadequate venting of a generator hydrogen cooler. Extensive corrective actions for preventing a recurrence of this problem were implemented, and the start-up recommenced several days later.

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Since the restart of the plant in early April, operations has been characterized as conservative and well controlled. Engineering support to the plant in response to several emerging technical issues has been good. The plant has operated at full power since early April, with the exception of a rapid plant shutdown on May 20th when a fitting on an air line to an actuator for one of the main steam isolation valves broke as it was being tightened to repair a control air leak.

While NYPA management and NRC question the control and conduct of maintenance work at power, operator and maintenance performance during the shutdown was good. The plant was subsequently returned to power two days later

without any major equipment problems emerging, a sharp contrast to the long series of equipment problems experienced during the previous forced outage.

On June 9th, the control panel door for the 32 hydrogen dryer blew off due to a small hydrogen explosion. No one was injured in the event, which occurred in the non-nuclear side of the plant in the main turbine building. An investigation into the cause for the hydrogen leak is continuing. Plant operations was not impacted by the explosion, and the licensee intends to replace both hydrogen dryer units.

In summary, the facility was successfully

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restarted in April '96 and was subsequently operated in a generally safe and conservative manner. However, continued strong NYPA senior management involvement, support and oversight is warranted to sustain the improving trend in personnel performance and plant material conditions.

Therefore, the NRC will continue to closely monitor the programs and activities at the facility and Indian Point 3 will remain on the watch list as a Category 2 facility.

Any questions?

CHAIRMAN JACKSON: Yes. I have recently visited this particular facility, and what I always say -- I'm drawing on a popular movie -- you know, excellence is as excellence does. And so many licensees talk about various programs for excellence, but you in a sense have given us a litany of events and problems. And so the question becomes net, net, are they really getting their hands around the panoply of issues, particularly as they relate to material condition and equipment reliability. Are they being successful in identifying non self-revealing problems; that is, to what extent are they really identifying problems that aren't event or incident driven.

You mentioned that when there have been problems, they've jumped on those problems and thought about the implications more broadly; but the real question becomes

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getting ahead of the curve.

So perhaps you could make a few comments relative to that.

MR. MARTIN: Chairman, you've focused on the two principal questions that are at root to our concerns at Indian Point.

First of all, you are absolutely correct that when a problem is identified, they seem to deal with that problem well and to expand the scope of their investigation to cover like situations where they have identified some other problems and have fixed them.

Since the June '95 startup, the amount of emergent work that has come on their plate has delayed looking at more longer term items that would focus on equipment reliability. I'll give you some examples.

The system engineering group, which is largely responsible for trending performance that would give you indications it's time to intercede really haven't been able to focus on those activities; and as a result, we're having a meeting with them tomorrow on how they intend to move into the maintenance rule and how they intend to assure the equipment reliability can support plant operations.

They have some, I think it's ten systems that are A1 systems that have not met their reliability goals, and that's, you know, early information. At the same time, we

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do not see a robust predictive maintenance program in place.

So at this point, the frequency of new challenges is dropping off, but each week seems to reveal something that a more robust trending program or a predictive maintenance program might have identified and allowed them to find it, things like the loose wire on the diesel generators, the problems we've seen with the dampers, the hydrogen dryer. I mean, there are things that could have been done that could have intercepted those earlier.

Now, they have that on their plate, they understand it's on their plate, they intend to deal with it, but we're concerned about the challenges to operators, and this is clearly something that is going to have to be done before we're ready to take them off the problem plant list.

CHAIRMAN JACKSON: Well, you know, they were shut down for an extended period, and the question then becomes, to me, how many of these things are things that could have or should have been identified at that point, or how many of

them require operation at power to reveal themselves, and even if it is operation at power, how many of them might you expect to be identified before there is an incident that they trigger?

MR. MARTIN: During some background, when they went into the outage in '93, they regarded it as a human performance outage. That was the principal thing that they

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needed to do, and they didn't expect the outage to be very long. As a result, they didn't do any comprehensive lay-up of equipment to assure that the equipment could survive long periods of shutdown, and they did not invest in a great deal of predictive, preventive maintenance. They did a lot of maintenance items. They significantly raised or significantly improved the threshold for identification of problems. And there was a period there where the plant was just peppered with problem identification tags, that things that had not been identified in the past were identified and worked; but these were things that were known to the staff or just hadn't been dealt with in the past.

The ability to identify things without operating the equipment was not one of their strengths, and so they went through that outage, which was much longer than they anticipated it was going to be, without surfacing a number of these unrevealed problems. As a result, they expected, and we did too, with the restart to have a number of problems surface, and they certainly did.

The licensee now has recognized that problem, they are devoting additional effort in that area, and tomorrow's meeting in the regional office will be one of the first cuts at what their plans are to deal with this on a longer-term basis.

CHAIRMAN JACKSON: Commissioner Rogers, do you

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have any questions?

COMMISSIONER ROGERS: Yes. A couple of things.

I wondered if you could just say a little bit about the shift mentor use. Can you tell me just a little bit about that? What's involved there?

MR. MARTIN: What's involved is taking some individuals who have had previous quality shift experience from another utility and they are teamed one on one with the individual new shift manager. And that's a new role. They used to have a senior manager, a shift supervisor, but did not give him the breadth of responsibilities that they now assign to that position.

To upgrade that individual's safety perspective, to really manage what goes on at the facility, they provided the shift managers who coach; also provide reports to senior management on what they're seeing; and we regard and the licensee regards this as a positive initiative.

An example: After the restart that occurred last June, they allowed, unfortunately, the contract to lapse, and there was a period there where the shift managers did not have this advice function, and we saw some problems where they still had not evolved to this higher level of performance. So they're both counselors, overseers and advisors to senior managers on how the transition is going.

COMMISSIONER ROGERS: It sounds like a rather good

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idea.

There is a feature of our examination that I have a little bit of question about, and that is, how do you measure the effectiveness of corrective action programs for a plant that's not running?

Now, obviously there are some types of activities that have been deficient that one might be able to identify and, through a procedural change or something like that, correct; but when a plant isn't running, it seems to me there are certain kinds of problems that will only reveal themselves when it's running and corrective actions to deal with those may be in place, but if the question is measuring the effectiveness of the corrective actions, and that's -- it's like the second derivative that you've got to take here, and how do you deal with that?

You mentioned that during the time they were down, that you had some concerns about the effectiveness of their corrective actions. What did you look at and how do you look at it?

MR. MARTIN: Okay. First, in response to what you look at, principal, you've got to be identifying the problems. So you look at what is the articulation of the threshold for identifying problems, what is the

encouragement, how easy is it to get those problems into the system, and then you look at who's identifying them? Is it
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NRC, is it quality assurance, or is it the line organization who is identifying those?

So you look at the identification process to make sure that it has been optimized; then you look at, having identified it, how is it evaluated, how is it prioritized for corrective action, and then how is it implemented and what checks do they make sure that the corrective action implemented really was successful?

So you look at the robustness of the process.

Now, it is true that a lot of things won't reveal themselves until you run the equipment, but if you know you're going to be down for a while, there are ways to bring steam into the plant. For instance, a BWR basically can heat up the plant using reactor coolant -- that's the way they normally do heat up before they go critical -- and can actually draw steam to be able to test out the equipment in that way. They can also have a house-heating boiler where they can bring in steam that way.

So it depends on how much you want to ferret out these problems, and if you put together a robust startup program, you can actually find most of these before the plant is ready. That was not done in this case. They counted on the heat-up. And the heat-up did, by the way, identify a large number of issues, and they stayed down a long time after heating up. When they -- as problems were
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found, and they were confident, and we were too, that when they were ready to restart, that the major issues had been identified and had been dealt with.

MR. RUSSELL: Let me comment generically, because this really goes to the root of the whole 350 process.

We clearly want to understand what are the problems that are the reason for the shutdown and track those through to ensure that those technical issues are adequately resolved and retested to the extent they can be with the plant in the condition it's in.

We also look at conduct of activities and, in fact, operator control and awareness of plant status. It turns out that during outages, you have as much concern about conduct of activities, configuration control, the pace of activities are actually greater. So you can get quite a bit of insight into conduct of activities even though it's not operational activities.

In addition, we have the ability to observe simulator performance and crews and how they would respond to emergencies and raise questions about how frequently they have been trained, and have they, in fact, gone through some of the evolutions proposed for the power ascension program on the simulator, et cetera. So you get insights.

But the reality is you still have to operate the plant in order to see how effectively the balance of plant
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equipment is going to operate. There are some systems that you just cannot test until you have power: feedwater systems, feedwater heating, some of the control systems associated with power conversion.

That's why also we typically have as a part of that process continued oversight with round-the-clock observation following a decision to allow restart. In fact, preceding a decision to allow restart, there is often an operational readiness team inspection that does a comprehensive review to look at all the pieces and make sure that all the pieces add up together to support a decision. And then you continue to monitor the performance of the plant and observe how they respond to events which do occur. So you do the best you can to address the issues.

Most safety equipment, standby equipment, can be tested because it's normally on standby and you can evaluate it. The more difficult area is in the balance of plant power conversion systems, which really cannot be tested until you're operating.

So challenges from the secondary side typically reveal themselves in a power ascension, and that's why you go through a gradual ascension, studying the plant out, evaluating and proceeding on. That's broadly the process that's laid out in the Manual Chapter 350, which we execute for any facility that's in an extended shutdown period where
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you have concerns about control of material equipment, material condition and preparation for startup.

CHAIRMAN JACKSON: We obviously are not the ones who do the categorization but that there is some delineation and that is what the two of you have posited between things that clearly can be identified and a shutdown condition and should be and those that perhaps cannot be, but it strikes me that once a plant has come out of a shutdown, that there should not be a plethora of issues and particularly related to equipment that could have and should have been identified beforehand and that we need to be fairly vigilant and aggressive with respect to those.

MR. RUSSELL: I agree with the Chairman.

COMMISSIONER ROGERS: Well, I totally support that. I think it's absolutely right. But it does seem to me that if one is looking at the effectiveness of a corrective actions program as a condition for restart, there is a little bit of a problem there. I mean, there is a gap that you've got to jump across.

MR. RUSSELL: You are projecting based upon what you've seen during shutdown to how they are going to perform during operation.

COMMISSIONER ROGERS: And you won't have it to hypothesize.

MR. RUSSELL: You won't have total assurance as to

the effectiveness of that program.

COMMISSIONER ROGERS: No, you won't.

CHAIRMAN JACKSON: What you have to be sure of is the appropriate delineation has been made and that anything relative to those things that can be identified in a shutdown condition or by some way of testing the equipment in that shutdown has been dealt with. That's a minimal standard.

The other then is a follow-on standard having to do with what Commissioner Rogers likes to call the second derivative which then is a monitoring as the plant is going through a power ascension. But it seems to me that there should not be issues that are follow-on issues that can be identified ahead of time.

MR. RUSSELL: Clearly, there should not be any repetitive problems that you previously thought you had resolved and revealed themselves to not have been resolved. So repetitiveness of problems are very significant. That is why we are going to continue to monitor this facility closely because we have not seen a sustained period of operation free of problems.

CHAIRMAN JACKSON: Okay.

MR. RUSSELL: Millstone Station, Tim?

MR. MARTIN: Millstone. Performance at the Millstone Nuclear Power Station has been discussed during 10

senior management meetings since June of '91. Following the January '95 senior management meeting, NRC senior managers met with NU's board of trustees in March '95 to communicate NRC's concerns for the lingering performance problems at the Millstone facility. Despite a number of initiatives, NU has had limited success in resolving significant performance concerns with procedural adherence, work control and tagging, untimely operability and reportability determinations, ineffective corrective action processes, poor operational focus, weak communications and teamwork between organizations, inadequate handling of employee safety concerns and poor self-assessment and quality verification.

Since the January '96 senior management meeting, Unit 1 has remained shut down in a refueling outage that began on November 4, '95. Fuel movement and overall refueling activities were generally well controlled with good supervision. The quality of maintenance and work control remains a concern despite the fact that very little maintenance is occurring.

Engineering support for operations has improved, particularly in areas of focused management attention. Efforts to resolve longstanding rad waste facility material deficiencies have been noteworthy. However, additional performance concerns were identified with operability and

reportability determinations, corrective action timeliness and effectiveness, procedural quality and adherence and licensing basis understanding and implementation.

Unit 2 operated until February 20, '96, when it was proactively shut down for a mid-cycle maintenance surveillance outage to address licensee concerns for potential plugging of the high-pressure safety injection

flow control valves by containment sump debris able to pass through suction screening, the potential for which had been identified at another licensee's facility.

Operator performance and control and ownership of facility activities have improved however the licensee was slow in establishing alternative sources of power to emergency buses following internal damage of one of two emergency diesel generators during a surveillance test. Although maintenance procedures and performance have improved, problems with procedural adherence and weaknesses in work control remain to be resolved.

Engineering continues to identify significant deviations from design in facility construction, process description and surveillance test attributes. Plant support functions generally remain a strength. Although some performance improvements have been noted, operability, reportability determinations and corrective action timeliness and effectiveness remain a concern.

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Unit 3 operated until March 30, '96, when it entered a tech spec required shutdown following discovery that the turbine-driven auxiliary feedwater containment isolation valves would not seal against design pressure coming from the containment side. Subsequently, the licensee reported the discovery that the recirculation spray system design maximum temperature of 150 degrees Fahrenheit would be exceeded by containment sump water temperature following a design basis accident and an assumed single failure of the service water to the recirc spray system heat exchanger.

Operator performance has been generally good including conduct of routine activities, response to identified problems and sequencing of control room construction activities counterbalanced by several examples of inattention to detail and inadequate corrective action for earlier problems.

Efforts to improve maintenance effectiveness continue and have met with some success. Engineering performance has also improved with better responsiveness to operations, increased scope of problem resolution and identification of a large volume of historic design implementation deficiencies.

In January '96, Northeast Utilities initiated a corporate reengineering effort resulting in the layoff of

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approximately 100 individuals and the assignment of corporate vice presidents for utility operations, engineering, work services, technical services and safety and oversight. Subsequent to the January reengineering changes, the vice president of operations resigned and this important position is still vacant. A replacement is being sought.

In May '96, Northeast Utilities announced the Nuclear Excellence Plan, which includes the licensee's year-old Improving Station Performance Program plan and the individual Unit Configuration Management plans. In a parallel action, the board of trustees established a nuclear committee to provide oversight of the management of nuclear activities. The committee has established a nuclear committee advisory team to perform assessments and report results to the committee. The advisory team is currently engaged in developing a fundamental cause assessment.

The NRC remains concerned about the volume of allegations received and the continuing evidence of unresolved employee concerns at Millstone. The licensee has enhanced training for managers and supervisors, replaced a number of supervisors and established a new employee concerns program reporting to the vice president of safety and oversight. Despite these changes, NRC received 39 new allegations containing over 80 concerns since January '96.

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In addition to individual inspection or investigation of each allegation, the NRC is conducting a broad review of Northeast Utilities' January layoff and an independent lessons-learned review of the licensee's and NRC's historic handling of Millstone allegations.

The NRC's level of involvement in assessing the Millstone activities has been substantially heightened over the past 9 months. Each of the three units has been assigned a senior resident inspector and resident inspector and an SAS manager has been placed in charge of overseeing Millstone Station activities. Due to the utility's failure to achieve a sustained level of performance improvements and

continuing concerns for its effectiveness involving safety concerns, Millstone Station was placed on the watchlist during the January '96 senior management meeting.

Additionally, a significant level of investigation and inspection activity was initiated as a result of concerns associated with the Unit 1 core offloading practices and an evolving list of concerns with failure to maintain conformance with their licensing bases. In December '95, NRC issued the first of a series of demand-for-information letters to Northeast Utilities, in this case requiring the licensee to describe what actions the licensee had taken to ensure future operations of Unit 1 would be in accordance with the terms and conditions of their license.

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Subsequently, Northeast Utilities initiated an internal license review that was highly critical of the integrity of the Unit 1 licensing and design basis and speculated that similar problems likely existed at the other units.

Following receipt of the licensee's report of these findings, NRC issued additional demand-for-information letters for the remaining Millstone units. The latest demand-for-information letters for each of the three units requires the licensee to affirm compliance with the terms and conditions of its operating license, regulations and its updated final safety analysis report prior to the unit's restart.

During the month of March and May '96, NRC conducted a special team inspection of engineering and licensing activities for Millstone's Units 2 and 3, concluding the most significant concern was the ineffective action process for previously identified engineering and licensing problems.

Examples include but are not limited to, one, a concern that the turbine-driven auxiliary feedwater pump discharge piping was not designed to high-energy line break requirements, so the licensee closed the pump discharge valves in violation of tech specs.

Two, an Appendix R operability concern for the service water booster pump discharge valves was resolved by

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installing jumpers that ended up disabling one of the auto-start features of the pump.

Three, a seismic response concern for the reactor building closed cooling water surge tank led to the design and installation of a temporary modification involving slings, beam clamps, chain falls and come-alongs that not only appeared inadequate but was not implemented as it was designed.

CHAIRMAN JACKSON: You mean rubber bands and tape?

MR. MARTIN: I don't want to overstate my case.

Four, a single failure concern for post-accident hydrogen monitor containment isolation valves was dispositioned by developing contingency instructions for operators to install jumpers following a loss-of-coolant accident. The team also identified multiple examples as both units of deficient installation of design modifications, inadequate safety evaluations for modifications, failure to translate design and licensing basis information into procedures, practices and drawings, and errors in the updated final safety analysis report and description. The report of this inspection is now being developed.

Recently, NU provided a detailed description of their plans to complete work to respond to the latest demand for information for Unit 3. The document describes their

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effort to identify and correct Millstone 3 design and configuration management deficiencies and provides an initial list of 881 deficiencies in meeting their design and licensing basis that have been identified since February '96, of which about 300 they identified as requiring resolution prior to restart.

The licensee further indicates their plans to submit an operational readiness plan in July '96 and to delay announcing a restart schedule until sufficient improvement in personnel, culture, processes, programs and hardware are achieved. Based on my discussion with the licensee, I understand the licensee will supplement their response in the near future to include additional identified deficiencies, possibly some 400 to 500 additional items, and to detail how and when each deficiency was identified.

The NRC has begun the process of assessing the licensee's efforts to assure the acceptability of the

licensee's approach. In parallel with these efforts, NRC is developing an independent restart assessment plan to guide inspection activities that must be completed prior to any restart decision.

In summary, previous Millstone performance concerns remain to be resolved and recent inspection findings have disclosed significant problems with licensee compliance with the requirements of their licenses.

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Therefore, the NRC plans to closely monitor the programs and performance of the Millstone station to assure the development and implementation of effective corrective action programs. The NRC has determined that the restart of all three units will be evaluated and managed under the requirements of NRC Manual Chapter 350, Staff Guidelines for Restart Approval. Further, the senior managers concluded that Millstone station should remain on the watch list as a Category 2 facility.

Are there any questions?

COMMISSIONER ROGERS: Well, there's a lot you could ask, but just what is the status of the documentation of the reports to management that are required, documentation and reports to management, appropriate levels of management, that are required under Appendix C of corrective action programs of -- significant adverse to corrective actions to conditions -- significant conditions adverse to quality, those that are to be documented and reported to management? What is the status of that? Has that gone on, or is this something that's been another weakness?

MR. MARTIN: Commissioner, the nonconformance reports, those things required by Appendix B, the specific reports that you speak of, have not been generated in all cases, and in fact, they have recently developed a sitewide

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process they call their adverse condition report which they are trying to collapse all their adverse condition -- all their deficiency reporting into this one process.

Unfortunately, this is but another example of where they have not addressed their previous commitments.

Now on Unit 1, the plant manager sent out a message to his staff saying that the nonconformance reporting system, which is the Appendix B system, should be abandoned in place, and that all things should be put into the ACR process. Unfortunately, the Appendix B program is still docketed and has not been changed. So there was not the type of respect for that system.

They had a reportability evaluation process that was one set of reports. They had a number of informal systems that were going on, but these formal systems to report to senior management the significant issues, we did not see that being robustly maintained.

MR. RUSSELL: I might comment that this is explicitly the reason that we asked in the demand for information that they identify the specific issues. We understand when they were identified -- for example, if they had been known for some time but in some other system and process and had not been acted upon, that might have implications both technically for the scope of what needs to be done to ensure all of the problems are identified and it

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may also have implications for failure to report or meet regulatory requirements in the past. So there are two elements to it. One is to provide information to allow us to be confident that the total scope of problems necessary to be addressed for restart have been identified so that you can go through and say yes, these need to be addressed before restart and those do not.

But it is going to be an extensive process --

CHAIRMAN JACKSON: But let me make sure you clarify a point. But the identification of the when has not been done?

MR. RUSSELL: That is correct. Well, there are a few.

MR. MARTIN: Let me correct that. Based upon my discussion with Ted Feigenbaum, they had intended to -- they had scheduled a complete response to the DFI in the early July time frame. When we sent out our letter in May that asked for their response and identification of issues within 30 days, they made an overt decision not to put something down that they hadn't yet confirmed. Although they have some of that information, they did not feel sufficiently confident and did not want to send forward false

information. They did have this identification of 881 issues. They expect that number to expand to twelve to 1300. They expect ultimately probably 50 percent of them
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--that's their estimate -- will be restart issues, and they still intend in the early July time frame, according to Mr. Feigenbaum, to identify the nature, the when, the how, of identification of these problems in the past, and why they have not been dealt with.

Mr. Feigenbaum also indicates that they intend to provide some assessment of how they got themselves into this situation in that early July document. That was their intent. He says they were very concerned that they not send forward information that they would later have to retract because they determined that it was not correct.

As a result, they only put the bare bones of the information. They believed this is an interim report, they intend to supplement it several times over, but the next major one and the one they had really planned on was the July report.

MR. RUSSELL: But your observation is correct, we need to understand how these have been handled in the past so we can make judgments about the effectiveness of the corrective actions being taken, and also to ensure the completeness of identification of the issues that need to be addressed before restart and then those which may be able to done longer term.

COMMISSIONER ROGERS: What actions did we take routinely in the past to look to see whether there was
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documentation and reporting to appropriate levels of management of conditions adverse to quality?

Is this something that we just assumed was happening, or did we actually do some spot-checks to see whether the file was documented, filed and sent to management?

MR. RUSSELL: We did conduct inspections related to program requirements for the quality programs in some of the other areas. There are mechanisms which were used by the company which resulted in either memoranda or other informal types of communications between operations and engineering or licensing which did not get into the formally required NRC programs, and so unless an inspector were aware that such documentation existed, if he wanted to do sampling inspection of the quality program, they'd go in and they'd look at the quality program reporting, tracking, follow-up.

COMMISSIONER ROGERS: Tom, do you want to --

MR. MARTIN: Yes, I do want to add.

Commissioners, as you are aware, in the late '80s we shifted to a very performance-based inspection. We stopped doing the programmatic deep probes where we'd look at multiple examples of where the program was implemented. So when problems were identified and we were aware of those problems, we would then trace those to see that they were appropriately dealt with, documented, communicated, et
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cetera.

Unfortunately, one of the ills we find is that there was a lot of very informal communications within the organization of significant safety issues, and they would only come to light when they finally had a solution, to be able to be articulated.

So when we looked at the things that we became aware of, we found that, yes, the right milestones, the right reports had been made. But we did not see a generic problem in this area. What we failed to be aware of was a number of other issues that were being handled informally within the system that were not in tracking systems, and so we were not looking to see -- we didn't have the information to find that they had not reported those to senior management.

COMMISSIONER ROGERS: Well, I think it illustrates, I think, the difficulty of interpreting what we mean by performance-based regulation because it's got to be more than just how much electricity goes out on the grid, and it has to relate how the internal performance of the organization is working, and if corrective actions are not adequately documented and passed on to the appropriate levels of management as required by our rules, that is a lack of performance in its own right. It's a different kind of performance from, you know, the numbers that you measure,
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but it's a measure of how internally they are performing,

and when we don't have any way to assess that, I think we have to be a little bit careful, I think we have to be a little worried about whether we are too limited in our interpretation of what we mean by performance-based regulations.

MR. TAYLOR: That certainly has been demonstrated here.

MR. MARTIN: Commissioner, don't let me misstate the situation. When I say performance-based inspection, we were looking at what occurred, what events came to light. What we were not tapped into was the informal grapevine and were not appreciative of how much, what volume and significance of things was being handled in that informal grapevine.

Lacking that intelligence, we didn't have a clue to whether the reports were being made to the right levels, because we weren't aware of the specific issues.

CHAIRMAN JACKSON: But Commissioner Rogers is citing a regulatory requirement that is meant -- and obviously there is a lot in that universe -- but it is meant to get at safety-significant issues, and that they are being dealt with appropriately. And there is a performance relative to those regulatory requirements that I think he is underscoring here in terms of definition of performance.

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MR. RUSSELL: For example, as I briefed you back in May, we have pretty explicit reporting requirements for notifying us of conditions which may be outside the design of the licensing basis. Some of these examples, which have been identified, which were in informal systems which were not reported, may fall into enforcement and there are a number of investigations going on to determine the circumstances about why they were not reported.

So it may be that the systems were broken and the informal processes were such that they would not come to light, but we need to run those to ground to understand whether there was some intentional putting it in informal systems so it would not be exposed to regulatory oversight. Those questions are still under review and are part of some of the investigations that are ongoing.

CHAIRMAN JACKSON: All right. Because performance-based regulation can't be whether we happened -- whether an inspector happens to see whether a pump is working today or not. It goes well beyond that.

Commissioner Dicus?

COMMISSIONER DICUS: No questions.

CHAIRMAN JACKSON: Any other questions? Okay.

MR. RUSSELL: Dresden.

MR. MILLER: Chairman, Commissioners.

Dresden was placed on the watch list for the first

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time in June 1987. Con Ed responded with the Dresden Station improvement plan, and following a period of improved performance, the plant was removed from the watch list in December 1988.

Performance problems surfaced again and the plant was returned to the watch list in January 1992. Since that time efforts have been underway to address problems that exist with respect to both human performance and plant material conditions.

Since the last senior management meeting, Unit 3 has operated at power most of the time. Unit 2 restarted from an extended refueling outage in April. Both units were shut down about a month ago to address various equipment failures in the main feedwater system.

Shortly after repairs and restart of Unit 3 on June 11th, failure of a 4 kV circuit breaker led to another shutdown of Unit 3.

The station is currently addressing the broad issue of 4 kV breaker reliability on both Units 2 and 3.

Shifting now to a more broad assessment of performance over the last six months, management of control room activities has continued to be good. A conservative approach to decision-making and plant operations has generally been taken. A low threshold for identifying problems has been established.

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Major plant evolutions have been performed in a deliberate, well-controlled manner. For example, the numerous startups and shutdowns over the past six months or so have been virtually error-free and the operators have reacted well and conservatively to plant transients.

Overall, progress has been made in reducing the

number of personnel errors at the station but problems with plant equipment lineups and the station's out of service program reflects some continuing weaknesses in the execution of field activities.

Some of these problems should have been identified during Unit 2 pre-startup readiness reviews that were performed in the March-April timeframe, indicating continued effort is needed to effectively communicate management's standards and expectations to station personnel.

Continued slow improvement in plant material condition has been observed. Efforts to address operator work-arounds have been positive, for example.

Strong steps were taken to test systems before restart of Unit 2 from its refueling outage. However, the potential impact of equipment problem backlogs which remain large was revealed by the recent Unit 3 scram and safety system actuation caused by failure of a feedwater control valve and by current electrical breaker issues.

Steps taken to improve work control processes and

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worker skill levels have begun to show some results but long-term trends are not yet clear.

In the engineering area, we note the systems engineers are more consistently identifying and following up on discrepant conditions. However, engineering backlogs are large.

Also, some significant weaknesses in design control are reflected by a failure to resolve known problems with reactor building structural steel which did not meet seismic design criteria.

Continued significant management attention is needed to assure improvement efforts are sustained and effective at Dresden. Closely monitoring Units 2 and 3 as they are operated together for a period of time and monitoring the Unit 3 outage to be conducted in the Fall of this year will be important in determining if lasting change is being made.

In addition to continuing Region III inspection and oversight activities, plans are underway to conduct an extensive team inspection staffed by personnel outside the region. This inspection will independently assess progress in correcting performance problems and sample compliance with licensing and design basis requirements. This inspection will be timed to among other things assess performance during the Fall refueling outage.

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Dresden will remain a Category II plant.

Are there any question? Thank you.

CHAIRMAN JACKSON: Any questions?

COMMISSIONER DICUS: I want to ask a very general question to kind of help me understand this whole process a little bit better and it's to the senior managers as a group.

What process do you use or how do you determine that a plant is no longer safe to operate? How do you go about that?

MR. TAYLOR: We have had occasion -- I can start with Davis Besse. The event was so significant we didn't issue a shutdown order. One wasn't really necessary. The plant was actually kept down for something more than two years.

We had -- it was very clear there were deep problems at Davis Besse. I just take that example. That was a -- that became what we call a Category III plant.

There were others where significant operational events -- Peach Bottom, issues of operator performance; there were some at Rancho Seco; and indeed I would use those as examples where our concern about safe performance was so deep that the licensees themselves knew they had to keep the plant down and we of course agreed and ultimately to restart the plant rather extensive programs were executed over

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sometimes a couple of years and then the Commission, having been briefed both by licensees and Staff, could conclude that the plant had been reasonably correct and of course was allowed to restart.

Then we watched them even in a monitoring mode. They sort of went from a Category III to a Category II.

There were many more of these types of events in the mid to late '80s than there have been in the last four or five years.

I could identify other plants but that has been the methodology

If we had an immediate situation of course the Agency has the authority to shut a plant down immediately, to issue immediately an effective order. Correct, counsel?

CHAIRMAN JACKSON: I think, if I may expand a little on the Commissioner's question, in some sense one could argue that the response by the NRC has been good if there's an event that clearly shows that there's a problem. The issue is one, and I think this relates to what you have already been asked to do by the Commission following on the previous meeting, is how do you get to a point that you can evaluate when there's been a significant enough erosion of the safety margin that maybe could make you jump out ahead of the Davis Besse -- or when you can identify that there is enough of a pervasiveness in terms of how regulatory

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requirements are dealt with that would allow us to get out ahead of some situations we are dealing with at the moment.

MR. TAYLOR: Of course Category II was established principally to do that -- I mean to say, wait a minute, performance isn't good; we don't want to see it deteriorate therefore we increase their operational oversight.

In fact, that has been the predominant category as we have been in this now about 10 years or so, where we say wait a minute, we really want to watch things -- we want to put extra resources, extra time -- excuse me, Chairman --

CHAIRMAN JACKSON: No, no, no, that's fine.

MR. TAYLOR: That is indeed how plants have become Category II. Those that weren't really by some judgment, as I think has to be applied, because no two set of circumstances are identical, then the Commission several years ago urged us to point a trending and that became another wait a minute, we see some adverse movement, it's not quite at a point where we need to put a great deal of extra resources but we would like to send a notice of trending, and I think Cooper is an example of that and there have been several others.

MR. RUSSELL: Start with Perry.

MR. TAYLOR: Perry -- and so that is how we have evolved into trying to preclude somebody getting into a case where there's such a serious safety event that it -- as

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Davis Besse and some of the others were.

CHAIRMAN JACKSON: I think this relates to the issue of plants that linger on the watch list and then hopefully Indian Point 3 is not trending in that direction where one has to ask the question that if a plant is kind of limping along and one has to interpret it as a limp if it remains on the watch list for an extended period.

What then do we do? And I think we are taking a deeper look at Dresden, even though there are some indications of improvements in certain areas.

I think that in a sense we are asking you a question that we know you can't totally answer today but is the nub of the issue in some sense.

But I didn't mean to take off --

MR. TAYLOR: If I could just -- your comment is correct. In general in the past plants which were shut down were shut down outside of the senior management review process. That is, an event occurred or circumstances occurred. A confirmation of event letter was initiated. In the Peach Bottom case an order was issued. These were done in real time and they were based upon conditions that existed at the time that were so egregious that there was not a lot of judgment as to whether the plant should or shouldn't operate.

The chronic marginal performance problem and

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whether a company has sufficient resources to improve performance at the same time as addressing fundamental issues with plant material condition, et cetera -- that is a more difficult issue.

Some facilities have responded to that by shutting their plants down, addressing the material condition, getting the material condition taken care of, and then addressing operation and some of the operational issues.

We have had some cases where plants have continued to discover problems while operating where they had not appreciated the full scope of the magnitude of the problem, and absent some kind of defining event, it becomes a judgmental process as to how do you use all these indicators of concern, recognizing that NRC also carries a burden to articulate clearly why an action is necessary in a formal regulatory, legalistic sense.

So when you are in this gray area in between, the approach has been to discuss the issues with the company. Do they understand the issues? Are they addressing them? We have had some cases where it has taken a longer time to address, and I think a clear lesson learned from the Millstone situation is that we should have been more forceful in identifying these issues earlier, doing it in a more visible way and getting management to address these much earlier than was ultimately the case.

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CHAIRMAN JACKSON: Well, it strikes me that some of what you are talking about has to do with how do you develop let us call it a preponderance of evidence?

MR. TAYLOR: Yes.

CHAIRMAN JACKSON: And a regulatory escalation chain that is hooked to that -- and I think in the end that is what we want to come out with, and I am going to be making some remarks at the end along that line.

Let me ask you about two specific things

You now have started using this plant issues list. Are you finding that that is actually -- and I am particularly asking the Regional Administrators -- is it a useful tool and then how do you ensure consistency in the preparation and use of this list, you know, across the universe of plants within your regions and across the regions? What is the feedback mechanism? How does that

fold into the daisy chain of how the plants are assessed?

I am going to come back and ask about IPAPs but I am interested in your answers to those questions.

MR. RUSSELL: Why don't we start with Joe since he has not had a chance to address some of these issues.

CHAIRMAN JACKSON: Yes. I was going to give Joe a chance so he wouldn't feel he'd travelled all the way up here for nothing.

MR. CALLAN: Chairman, I personally find that the

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plant issues list has been very useful. That opinion may not be shared by all my staff. I think, as in all new things, there's a degree of skepticism or resistance.

The big issue is the one that you touched on, which is consistency, not only amongst the regions, but within the regions, and we're working on that. The program office is working with the staffs of all four regions to come up with criteria to help with that issue.

MR. EBNETER: Well, we in Region II have used that list for over two years, and I find it very effective. It's a little bit burdensome on the staff. But there is a danger of making that list too consistent, and there is a danger of making that list a little bit too constricted.

What the list does for me in Region II, it gives me a bigger sample size to look at rather than reportable events, which are very, very restrictive, and, if used properly, it can give you some indication of which way the plant is going. But it has to be maintained current and it has to be at a fairly low threshold.

We've used it -- we first used it on the St. Lucie plant two years ago in Region II, and we fined it, and then we used it on Crystal River to identify some problems, and we have successfully used it on Cataba station to see things early.

In each case, we would meet with -- take that

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output from that PIL -- we call it the PIL now; we used to call it the site integration matrix -- but we would use that as the output to compare our findings with licensees' self-assessment and then reach an agreement on where the problems -- we thought the problems were. It hasn't always worked 100 percent, but it has been very beneficial to us in early identification.

Bill Russell commented on Millstone. That struck me as this issue -- he said maybe we should have dealt in a more visible way. In every case of these plants that I've mentioned, we have a bi-monthly management meeting open to the public.

I recently went to one at one of our facilities where the press came in about five minutes late, and the press said, can I have a handout, and the licensee says, well, gee, we don't have any left, they're all gone. And I told them they could get one of ours, but I would suggest that this utility give them copies of this handout, and this is public, and they did. And the press treated them pretty fair, but this visibility, handling these problems in a

visible manner, certainly has a very big lever in this business. But we use the --

MR. RUSSELL: That's one of the reasons that we've required that every item identified on the plant issues list be referenced to a publicly available document and that we

not analyze information that is not in the public docket. So we want to make sure that the written record, whether it is an inspection report, a licensee event report, it's a performance indicator from the NRC's performance indicator, whatever the source of the information is that's being used, it is on the docket and is publicly available.

I would like to have the other two regional administrators comment and then I'd like to come back.

MR. MARTIN: Chairman, we just recently shifted to the plant issues matrix, and I probably have the least experience with it. I will also say, though, that in preparation for each senior management meeting, I was going through the same process of developing such a list, because you have to extract that information.

I have found that the lists that have been created do help you very quickly focus on the problems that need to be addressed and it certainly helped me in my preparation for meetings with licensees, in preparation for SALP meetings, and certainly the PPRs seem to much smoother in the process because we have a common set of events, discoveries that we're all able to review and we see what the significance of it is.

Now, you asked about how do we assure uniformity. Well, obviously within the region, since the same people participate in the PPRs and process them, we're able to see

differences and to give on-the-spot counselling. Those same documents then go with us to the senior management pre-briefs with the NRR staff, who are able to comment then upon the differences, and they then also provide the guidance which then establishes some uniform criteria for them.

So we do have a feedback mechanism, and, to be quite frank, they're not uniform right now. We're moving toward that, we're adjusting the thresholds between the regions so that they do it in the same way.

But I do find them useful. It is consistent with the way I've had to analyze data in the past. It makes it a lot easier now that they're culled out as individuals and then sorted according to function and kinds of problems. So I find it useful.

CHAIRMAN JACKSON: Mr. Miller.

MR. MILLER: Well, the real struggle in this business is to get out ahead of issues and to identify the precursors. And I find this tool very useful in that regard. I mean, with the low threshold, which is well below an LER threshold, for example, you can develop a sense by looking at numerous things reported, both good and bad, a sense for things that you really can't get any other way that I know of, frankly. So I look at it as a way to get a handle on precursors of problems.

As far as consistency, I agree with the others.

We're still sorting that out, and I think that we're resolved and we have been working with Bill Russell's people and comparing notes. I suspect it will take some time to come to a better level of consistency among regions. And even within the region, frankly, we're still struggling with that.

MR. CALLAN: Chairman, since I was the first, I didn't have a chance to get my thoughts in order. But it's been my experience one of the greatest dangers of any assessment activity is a tendency to be anecdotal in the way we go about it, and the biggest impact that this list has had on my region, Region IV, has been a tendency to counteract that proclivity to be anecdotal because you have all the anecdotes now in a systematic fashion before you, and it's served as sort of a reality check to our assessment function.

CHAIRMAN JACKSON: Is it being used in a consistent way in terms of its use in the PPR as well as in the preliminary discussions leading up to the senior management meeting?

MR. RUSSELL: Before I answer that question, let me give a broad overview of what this is we're talking about, because while some around the table understand it, there may be others that don't. And it's really a rather straightforward process.

Each document, whether it be a licensee event report, inspection report, or other, if you were to consider going through with a yellow highlighter and picking out the important issues, and if they're important, whether it be positive or negative with respect to performance, putting those in a matrix, identifying how the issue was discovered -- was it self-revealing, was it found by a licensee quality assessment program, et cetera, was it found by the NRC, does it relate to maintenance performance, does it relate to operations, does it relate to engineering, is it related to plant supports, a remarks column associated with it, and then included the specific reference that's available in the public document for that information. It's in a relational database.

We're using a trade name, but it's a text relational database; so if you want to pull out the information associated with operations, you can see what had been the strengths and the weaknesses and a short description of what the problem was. If you need more information about the problem, you can go to the publicly available document.

That's the concept. Keep that in a reverse chronological order, focusing on the last six months first and going through and using that information, along with other tools we have, such as the master inspection plan and

some of the other tools to look at what are your inspection planning activities.

That's then used for the plant performance review that's conducted and you look at what has been the evidence in the operations area of performance issues, what has come out of our inspection findings, et cetera, do we need to increase inspection, maintain about the same, reduce, in what areas, and why.

That's the concept. Then use that same raw data for input to the senior management screening process, where you may bring other perspectives, such as risk significance, any case studies done by AEOD, et cetera.

The same background information, we want to get to the point where we're using it and we'll be attaching it to senior management meeting background material in the future so that not only will the few examples that are illustrated in the senior management meeting documentation be available, but others will be there so that you would have that hard data.

The intent is to get consistency between plants within a region and between regions. One of the approaches we're considering is that when I conduct the screening meetings for the next set of senior management meetings, we'll do it so we do two regions on the same day. That way, you can have the regional administrator and the senior

regional staff observe what's being discussed for plants outside their region, how the process works, and we can get some cross-communications through that vehicle as well.

CHAIRMAN JACKSON: You say by the next senior management meeting.

MR. RUSSELL: That's correct.

CHAIRMAN JACKSON: Okay. So that's a commitment.

MR. RUSSELL: That's a commitment. We're looking at how we're doing. These are some of the issues we're going to be identifying when we come back to you in the August timeframe, because this is key, this is our approach to try and ensure that we are using objective, factual data, and that when we make statements about performance, we can illustrate with a number of examples a chain of citation type.

We intend that these be maintained on site, current, and then updated by way of management reviews, either through the plant performance review process, used as input to the SALP process, used as input to the screening process, used as input to the senior management meeting process. That gets to the point where you have digested and extracted from the record the important information.

Your question about the relation of this to IPAP and some of the processes -- I recall that the IPAP process was a direct result of the surprises we had associated with

South Texas, Quad Cities and some other stations, where we had information on the record that we had not fully integrated to understand.

With this process working, I'm hopeful that we

will no longer have a need to conduct an IPAP to understand what's in the record, analyze the information. It would be available for others outside of those that are just doing the inspection to see and analyze. So this is part of the process to make factual information available on the record which is public, and this is the tool by which we would use for our internal analysis for allocation of resources.

CHAIRMAN JACKSON: So, in fact, then, are you saying that -- so let me make sure we understand, that you plan to continue with the present program for IPAPs as you evolve this PIL mechanism, or are you basically migrating to the use of the plant issues list with the rest of your process and migrating away from the IPAPs?

MR. RUSSELL: It's a little bit of both. We discussed this in our meeting with the regional administrations and we also discussed it at the senior management meeting. The bottom line, where we're coming out is that we believe the IPAPs provide a very useful tool for inspections that are led by headquarters, where you're looking at program implementation as well as licensee performance, and we're looking at issues as it relates to

consistency of inspection reports with various program requirements.

That would probably mean we'd only be doing one or two in a region per year, depending upon what needs are; so it would be less resource-intensive. We're also looking at modifying those that are done by headquarters to include a vertical slice inspection to also look into licensing and design basis kinds of information so that you could exchange information records. So if you look at licensee events reports and other information, if it's raising issues about design, you could go further into design in those areas.

So we are, in fact, looking at modifying it. We don't believe it's necessary to continue it as a region based inspection for all facilities, and we'll be coming back to the Commission and identifying an alternative approach that will be led by teams essentially managed out of headquarters with fairly substantial support from people who have experience in architect engineering types of --

CHAIRMAN JACKSON: Would it include this vertical slice?

MR. RUSSELL: It would include the vertical slice. We would expect to have a number of teams that can do that, on the order of three or four teams to be able to do three or four facilities per year throughout the United States. To ensure consistency in quality of licensing basis and

design basis information.

MR. TAYLOR: We have to come back to --

MR. RUSSELL: We are coming back to --

CHAIRMAN JACKSON: Yes, because the current question I have was that in view of the ongoing lessons learned activities with the operating reactors, you believe it will be necessary to adjust resources presently used to perform inspections and plan assessments going forward and that is going to be part of what you --

MR. TAYLOR: We are looking for some outside help, too.

MR. RUSSELL: That is also why we are balancing to reduce the IPAP inspections to substitute those resources for some other types of inspections.

CHAIRMAN JACKSON: Let me ask you a question about the maintenance rule, since that is becoming effective in a fairly short period of time. Is the Staff ready to begin inspection and assessment of the licensee's implementation of the rule and, you know, is there consistency between the understanding of licensees and even among our own people with respect to, you know, the language, the categorizations, particularly what the performance program is and where are we with respect to Staff training and guidance in these areas?

MR. RUSSELL: Broadly, following the issuance of

the regulatory guide, which was about three years ago, the Staff started working on developing inspection guidance. We went through a process of developing draft inspection guidance, conducted a number of pilot inspections, refined the guidance and then promulgated that through workshops and other vehicles. There have recently been some comments on the inspection guidance. We made some additional changes to make sure it is consistent with the regulatory guidance. There were some concerns particularly as related to scope of

monitoring that may be required at a component level if something were being evaluated from a performance standpoint at a plant performance level. So if you are evaluating plant trips, is it necessary to monitor components? And we agreed with industry in two areas and we made revisions to the inspection guidance.

As it relates to training, we have conducted training. We started it first for all the senior residents and we did that through the senior resident counterpart meeting that we had here in Washington. Then we have done specific training in each region. All of that training has been completed. The first team inspection after July will have observers from each of the regions and it's made up of a team using people from each of the regions being led by headquarters to do the first implementation. Following that, there will be subsequent implementation in each of the

regions and we have required that in the initial phases all of the findings potentially involving enforcement be coordinated through headquarters so that any enforcement actions will be reviewed for consistency in headquarters.

So we have done a number of things. We have completed the training. We believe that we are ready to implement at this point in time and we don't see a need for further regulatory guidance.

CHAIRMAN JACKSON: You are saying there is clarity with respect to the following two things. One is categorization of the SSCs, the structure, systems and components, particularly with respect to those that are the nonsafety-related ones that are included within the scope of the rule.

MR. RUSSELL: That is correct.

CHAIRMAN JACKSON: There have not been difficulties in terms of the clear understanding between the NRC and licensees as to what is meant?

MR. RUSSELL: There has been some dialogue in the context of the phrase, "could cause a trip" and how that is being implemented. The approach that the Staff is taking is if it has cause to trip at that facility or operating experience from like facilities shows that it has cause to trip or if your analysis of record such as your submitted updated final safety analysis report or your IPE indicates

that that is a potential cause of a trip, that that should be the scope of what is within coverage.

If, on the other hand, you are monitoring at the balance of plant level, say reactor trips, and you have a system that is fault-tolerant, that is you have four trains of cooling water for your main condenser and you can tolerate the failure of a cooling water pump for your main condenser and not have a trip, then that would not necessarily be within scope.

If, however, you later through operating experience have one, it certainly would be something you would have to monitor as a result of it having caused the plant trip, determine the corrective actions, et cetera.

So there has been some debate which has been along the lines of the esoteric of how far do you go down --

CHAIRMAN JACKSON: Is there clarity today?

MR. RUSSELL: I believe we are getting there. It is going to be a challenge to make sure it is consistently understood throughout the inspection ranks.

CHAIRMAN JACKSON: Will there be clarity on July 10?

MR. RUSSELL: My view is I believe we have provided clear guidance. Whether it is fully understood in all cases, when it has come down to the specifics of what systems or components should be monitored, we have not had

significant debate.

CHAIRMAN JACKSON: Is it clear to our people?

MR. RUSSELL: Yes.

CHAIRMAN JACKSON: And then I would like to know from each of the regional -- I have the same questions and I would like each of the regional administrators to comment.

MR. MILLER: There has been training of several kinds. There has been training that has been multiple days of the individuals who will specifically be out doing these inspections and then there has been the other training which was the training provided to all of the inspectors who need to have general knowledge and so I think the training that has been provided has been very good, very complete.

CHAIRMAN JACKSON: And there is clarity in terms

of what the performance standards are, I mean what we are monitoring against?

MR. MILLER: I am not an expert but as best as it has been described to me, I understand.

MR. MARTIN: Madam Chairman, there has been very good training. But training does not give me the confidence to say there is clarity in everybody's mind.

As a result, we have been very selective in who are going to be the first individuals involved in these inspections, there is going to be a lot of work with the headquarters organization and the other regions to make sure

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they have a consistent understanding and then, with that nucleus of individuals who have a consistent understanding, it will then be brought. We have trained more people than that, but we have selected the first few teams who are going to be doing the inspections.

I am confident that we have provided the kinds of training. We have not tested that and that testing is going to happen in the field with supervisory oversight and we're going to get feedback. I am sure there are going to be some course corrections we need to make to establish that clarity and consistency across my region and other regions.

CHAIRMAN JACKSON: That supervisory oversight is going to be provided?

MR. MARTIN: The first teams are going to be led by headquarters.

MR. EBNETER: Well, I agree there has been good training. The NRR Staff has done well on it. I think that Staff needs more training in concepts of reliability-centered maintenance. I have maintained that for several years.

With regard to clarity, no, I don't think so. Let me -- the maintenance rules --

CHAIRMAN JACKSON: You don't think what?

MR. EBNETER: No, there is not much clarity.

The maintenance rule is a performance-based rule.

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That opens the door and gets you out of one size fits all. That gives each licensee lots of options and when the inspectors start going out, we'll get some idea how much clarity there is there.

CHAIRMAN JACKSON: Is there clarity within the minds of our own people?

MR. EBNETER: I think as Tim and Bill and everybody has commented, I think we are converging on clarity but the inspection process is where we are going to see how much there is and I can tell you, dealing with licensees, each one has developed his own program around some umbrella type rule. The inspectors when they start looking at these differences somebody will have to reconcile these differences. Part of it will come from what Bill talked about.

If you have violations, they will go through this headquarter process of an overview but it's -- I don't think that full implementation of the maintenance program is going to be as easy as we may think. That's my view.

MR. CALLAN: I think Stu stole some of my thunder, Chairman. I think the industry is collectively holding its breath on this. The feedback I get is there is a lot of skepticism about whether or not primarily the regions can do it. I think the Program Office has done a good job. We just had training last week, three days of it, for our

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regional staff. I sat in on some of it. I thought the training was quite good, very little to complain about there.

I think the challenge is going to be in the implementation. We are going to unleash dozens of inspectors eventually who serve their apprenticeship under different rules, different structures and that's going to be -- I think that is analogous to the challenge the agency faced a few years ago with the implementation of the Quality Management Rule in the medical arena and I think --

COMMISSIONER ROGERS: Oh, boy.

[Laughter.]

MR. CALLAN: I think we are learning from that and I think this decision to run all enforcement issues through a central clearinghouse that Bill Russell mentioned is a direct offshoot of that experience. But it is going to be a challenge for us.

MR. RUSSELL: The aspect is going to be more of a challenge as it relates to clarity. It is my understanding

that it is the licensee that sets the performance goals and then monitors against those goals. So issues with respect to whether they have established appropriate goals --

CHAIRMAN JACKSON: Right.

MR. RUSSELL: -- or not will be an issue that will be debated. The fact that they have to have a goal and

monitor against the goals and they have to identify systems within the scope, those mechanics are straightforward. That's where the clarity --

CHAIRMAN JACKSON: Where the rubber meets the road.

MR. RUSSELL: Where the rubber meets the road. Is it performing consistent with your goal, and if it isn't --

CHAIRMAN JACKSON: And is the goal appropriate.

MR. EBNETER: The devil is in the details.

MR. RUSSELL: We've got several cases where the performance assumed, for example, in IPE is not consistent with the actual performance and so the question becomes, what are you doing to improve equipment performance or are you just going to go in and recalculate the goal and say something less is appropriate? That is going to be where we are going to get into difficulty. That is going to be, in my view, further down the road.

The first step is going to be to make sure that they've got appropriate coverage of scope, they've got the systems in there collecting the information, they have the hard data to understand what has been the performance. The harder part is did the performance match the expectation and, if not, what's being done to fix it.

CHAIRMAN JACKSON: Okay. Let me just ask one other question.

Let's go back to the issue of lack of regard for regulatory compliance that has come out with respect to certain circumstances we have been dealing with. Do we have sufficient data to answer the questions of how pervasive a problem there may be and for how long at this stage?

MR. RUSSELL: That's really back to some similar questions you asked me at the end of May.

CHAIRMAN JACKSON: Yes, but I'll ask you every time.

MR. RUSSELL: We believe that we have a few facilities where we have a pervasive problem and we have a number of actions under way at other facilities where we have some concerns but we have not yet done sufficient work to describe the scope of the problem so there will be a number of additional team inspections and inspection activities where we have prioritized not just for the few that have been discussed at the table today but for other facilities where we have some concerns to gather information.

As well, we are continuing our process of documenting in every inspection report conformance to the FSER so that database is continuing to grow.

CHAIRMAN JACKSON: So you want me to let you work your plan?

MR. RUSSELL: Yes, and get back to you in the

August time frame.

CHAIRMAN JACKSON: I'm willing to do that. Because we have your commitment.

Commissioner Rogers?

COMMISSIONER ROGERS: Nothing, thank you.

COMMISSIONER DICUS: I have one more question. I want to shift course a bit and ask a question regarding materials licensees. Do you have criteria to categorize licensees much in the same fashion as we are doing them with the plants?

DR. PAPERIELLO: Actually, yes. I initiated a program for fuel facilities. I discussed it at this senior management meeting to systematically review fuel facility performance along the same line as similarly is done for reactors and so if we would have a problem facility, we would be able to bring it to the attention of the senior managers.

I kind of characterized my program as different. Reactors are -- you have relatively low probability events, I mean big events, with very high consequences. Or I have a program that is characterized by much higher probability of the events. So you actually have actual events, you have overexposures, you have medical misadministrations, you have lost material that winds up in the public domain and exposes

people.
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But the consequences are lower. So now you have an issue whether or not the risk is comparable on the material side as the reactor side. My guess is, insofar as one believes the linear dose model, in fact the consequences are comparable but it's a different sort of thing. Of course, public reaction is different. People accept accidents which have low consequences versus those which have very high consequences, even though the overall risk in the low consequence may be higher.

COMMISSIONER DICUS: When you used the term "low consequence," you're talking about in terms of the number of people who may be involved or the --

DR. PAPERIELLO: Or the overall dose. In other words, we are talking about doses of millirems to small numbers of people or, in some case, rem. But, you know, a reactor accident is characterized by potentially giving people hundreds of rem, affecting areas comparable to a county in size, I mean, versus a materials accident that just can't create the same kind of a consequence but you have more of them.

COMMISSIONER DICUS: Okay, so the only type of licensee that you have done this for are the fuel cycles, you haven't done this for other types of licensees?

DR. PAPERIELLO: No.

CHAIRMAN JACKSON: Any other questions?
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[No response.]

CHAIRMAN JACKSON: Well, I would like to thank the Staff, all of you, for a very informative and comprehensive briefing. And in closing, I would like to make a few comments on the plant evaluation process.

The Staff had been previously asked by the Commission to improve first the way you perform integrated assessments of information obtained from NRC inspections and licensing activities so that problem plants will be identified earlier and, secondly, that you improve consistency in regulation among between headquarters and the regions and among the regions as well as the objectivity of the senior management meeting process.

I had requested that you identify what supplemental actions the NRC should consider when a plant remains on the watch list for an extended period and since the last senior management meeting, you have sent to the Commission draft management directives for the plant evaluation processes and as well as for the senior management meeting and in these documents you've done a good job of describing the senior management meeting process and the other plant evaluation processes used by the agency. And when finalized and made publicly available, I believe this documentation will make the process more transparent to licensees and the public.
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The new senior management meeting nuclear power plant performance evaluation template contributes to providing structure and consistency to the decisionmaking process at the senior management meeting and the standardization of the plant performance reviews through the guidance to the regions contributes to consistency among the regions in evaluating plants and in inspection planning, as well as in providing input to the senior management meeting. As we have discussed, the newly developed plant issues list will clearly help to identify objective data to be used and considered.

The Staff has also identified actions for plants that remain on the watch list for extended periods. Much of that seems to be pulling into one place and codifying what already exists and there are two statements to be made about this. One is that NRC management as one draws together these various measures in a more objective manner should exercise its regulatory authority in a timely manner. Timeliness is the issue here. And I have also requested a methodology be developed which I know you are working on to address sustained poor performance but with trigger points now for NRC action, including special inspections, including vertical slice ones or reviews if warranted.

The point being that there have to be consequences for a plant continuing to be on the watch list. Either the
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plant should come off the watch list if it really has improved or if it does not improve, it must be closely examined and closely examined to find out what the root of

the problem is and, if it's bad enough, for possible shutdown after an extended period of poor performance if we made an assessment that safety margins have been eroded sufficiently.

An area that I would particularly like the Staff to continue to evaluate is the development of indicators. That is a difficult area which will tell us whether a plant should be discussed or placed on or deleted from the watch list. Now, the use of the senior management meeting plant performance evaluation template and the standardization of the plant performance reviews in conjunction with the expanded use of the plant issues list should allow the development of such indicators.

And to further accomplish this and to enhance our efforts to address problem plants, the starting point should be focusing on those dominant and recurring characteristics that have been placed on the problem plant list and these seem to include three characteristics. That is a high rate of operational events; second, inadequate engineering and technical support; and, third, management ineffectiveness. Each of these have been characterized by some fairly objective data.

The last two comments I have are that we have to work hard to see that the maintenance rule is as effective as we would like it to be. And that where there -- that there is real clarity in the minds of our own people as to what the rule means and what is expected of them relative to the rule and we also have to work the issue of clarity between us and licensees in areas where there still are questions and that as enforcement issues are tracked through a central clearinghouse that you spoke of, but more broadly that the enforcement actions and the risk significance of what the enforcement is being taken with respect to track with each other.

The only final comment relates to Millstone and that is that since the Millstone -- because of the pervasiveness of the issues here and the significance for the NRC and the fact that the restart at any rate is being done under NRC Manual Chapter 350, as well as in response to the 50.54 letter, I believe it is appropriate that you come back to the Commission before that restart occurs.

So do any of my fellow commissioners have any closing comments?

COMMISSIONER ROGERS: No, thank you.

CHAIRMAN JACKSON: If not, thank you.

We stand adjourned.

[Whereupon, at 12:02 p.m., the meeting was

concluded.]