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Meeting Title: Briefing on Improvements in the Reactor Oversight Process

Meeting Date: 3/7/00

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON IMPROVEMENTS IN THE REACTOR OVERSIGHT PROCESS PUBLIC MEETING

Location: Rockville, Maryland

Date: Tuesday, March 7, 2000

Pages: 1 - 148

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PARTICIPANTS:

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SAMUEL COLLINS, DIRECTOR, NRR

WILLIAM TRAVERS, EDO

WILLIAM DEAN, PROGRAM INSPECTION BRANCH, NRR

ALAN MADISON, TASK LEADER, NRR

MICHAEL JOHNSON, CHIEF PERFORMANCE EVALUATION & ASSESSMENT SECTION, NRR

PANEL II:

RALPH BEEDLE, SR. VP, NUCLEAR GENERATION AND CHIEF NUCLEAR OFFICER, NEI

DAVID GARCHOW, VP TECHNICAL SUPPORT, PUBLIC SERVICE ELECTRIC AND GAS

DAVID LOCHBAUM, NUCLEAR SAFETY ENGINEER, UNION OF CONCERNED SCIENTISTS

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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BRIEFING ON IMPROVEMENTS IN THE

REACTOR OVERSIGHT PROCESS

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PUBLIC MEETING

Room 1F-16

White Flint Building 1

11555 Rockville Pike

Rockville, Maryland

Tuesday, March 7, 2000

The Commission met in open session, pursuant to notice, at 1:00 p.m., the Honorable RICHARD A. MESERVE, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

RICHARD A. MESERVE, Chairman of the Commission

GRETA J. DICUS, Member of the Commission

NILS J. DIAZ, Member of the Commission

EDWARD McGAFFIGAN, JR., Member of the Commission

JEFFREY S. MERRIFIELD, Member of the Commission

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P R O C E E D I N G S

[1:00 p.m.]

CHAIRMAN MESERVE: Good afternoon. We are meeting this afternoon to have a briefing on the revised reactor oversight process and the lessons that have been learned from the pilot effort that was underway to test that process.

As all of you know, the aim has been to revise the oversight process to provide an oversight mechanism that is more risk-informed, more objective and more focused.

It had, after some extensive efforts by the Commission before I arrived, been launched with a pilot program at over six months at nine plants. I know that, not only from the materials that have been presented to us, but also from my conversations with the staff over the few months that I've been here, that there has been an enormous effort by the staff to pull this together and before we get to the substance, I did want to express my appreciation to you, on behalf of my colleagues, as well, for your diligence in pursuing this so aggressively.

The original plan was that we would commence with the initial implementation of the oversight process in April and we look forward to your discussion today about your plans for implementation, as well as your efforts to assess what you have learned as a result of your pilot activities.

Let me turn to my colleagues and see if they have any comments they wish to make. If not, Mr. Travers, would you proceed?

DR. TRAVERS: Thank you, Chairman. Good afternoon. Certainly the development and pilot testing of the revised reactor oversight process has been a significant priority for the agency and I'm glad to tell you that, from my perspective, the Commission will have to be the judge, but from my perspective, the NRC staff have, working as a team across offices and the regions, been extremely successful in this effort.

Importantly, we have benefited from significant contributions from many of our external stakeholders throughout the process. As indicated in our recent SECY paper, 00-0049, we have now completed the six-month pilot of the revised process and have analyzed the results and lessons learned.

Although issues remain, and we will discuss those this afternoon, we are recommending Commission approval for initial implementation at all operating nuclear power plants. We think the new process is sound and that initial implementation will provide opportunities to further refine it.

With me at the table today are, starting from my left, Mike Johnson and Alan Madison, both from the

Inspection Program Branch, NRR; Bill Dean, who is the Chief of that Inspection Program Branch; Sam Collins, the Director of NRR; and, Jim Dyer, Region III Administrator.

Sam is going to continue with the briefing.

MR. COLLINS: Thank you, Bill. Good afternoon, Chairman, Commissioners. I'll just make a few brief remarks. As Bill indicated, we are here today as a result of much work and experience in the pilot program, in the development of the process itself. I would like to acknowledge, briefly, contributors to the process, which include not only the regions, who have contributed FTE for defining the process, writing the inspection procedures and implementing the pilot program; the Office of Research, in the risk area; the Office of General Counsel; and, many of the stakeholders that will make presentations for you today.

It's important to note this process, not only in piloting an oversight program, also piloted a new era, if you will, in the office's way of doing business, and that's in public form and with stakeholder involvement and stakeholder influence.

Having said that, it is a work in progress, so to speak. There will be further refinements. We'll talk about those today during the course of the presentation, particularly in the area of those challenges that have been brought to us by our external stakeholders, and I anticipate

that you'll hear those not only from the staff, but also from the other participants.

We believe we have a viable process identified, as indicated in the SECY paper. We will focus at the end of the briefing on the recommendations and the go-forward manner and we will identify some of the future initiatives that are presently identified, but also acknowledge a caveat that through the initial implementation period, we expect to refine the process and identify other areas where the process can be made more viable and more effective.

With that, I will turn the briefing over to Bill Dean.

MR. DEAN: Thank you, Sam. Good afternoon, Chairman and Commissioners. If I could have the first slide, please.

What we intend to cover today is basically described in SECY 0049, which is a very detailed document that describes the results of a pilot program. It also talks about both near and long-term activities that will address many of these lessons learned.

We will cover highlights of that Commission paper today in our presentation. First, we want to spend a few minutes addressing where we are in our efforts to implement the revised reactor oversight process and review the key lessons learned, including the positive aspects of the

process, that resulted from the pilot program.

At the end, we will discuss some of the major long-term activities associated with ongoing process improvements and summarize our recommendations regarding implementation of the revised reactor oversight process.

Before we get started, I do want to recognize Mike. Alan and I were actually charter members of the IRAP way back when several years ago, and I must say that for us to be here before the Commission to discuss with you basically the fruits of a long labor is very rewarding for us to be able to be here with you today.

Next slide, please.

This is really just a brief historical review of the major events and the history of the development of the revised reactor oversight process, and it finds us in the mid-point of this chart; that is, we have developed and refined the process through the pilot program such that we're at the point where the Commission can consider whether we should begin initial implementation.

Of particular note is the last bullet on this slide, which underscores that initial implementation, really is a natural extension of the pilot program; that we need to come back before the Commission in a year after we begin initial implementation and report on the results of that process and the further refinements that we will make and

the lessons that we have learned.

Next slide, please. It's important in any discussion regarding the revised reactor oversight process to revisit the main objectives behind taking on substantial change. There certainly is a tremendous record of Commission direction regarding the NRC's assessment process over the years, which led to the IRAP effort I described earlier, and it embodies the characteristics described on this slide.

The NRC's four performance goals provide an overarching set of goals for this new process, while the four specific objectives -- that is, making the process more risk-informed, objective, predictable and understandable -- were specifically provided in Commission direction to the staff and were described in detail in SECY 99-007 last year.

Next slide, please.

The major part of our presentation this afternoon is going to regard the key issues and actions taken as a result of the pilot program lessons learned. This slide basically describes how we got that point.

We conducted a six-month pilot program and were able to meet all the purposes described here. There's two items of note that I want to point out regarding this slide and those are the last two bullets. Since the pilot program ended in November, we have continued to utilize the revised

reactor oversight process at those nine sites at which we conducted the pilot program and have continued to gather additional lessons learned and insights from continuing the process at those sites.

Then lastly, the pilot program encompassed an extensive amount of internal and external feedback activities. We had a wide range of activities to get feedback from both our public, state, industry and internal stakeholders, and that included the pilot program evaluation panel, which is the Federal Advisory Committee Act type committee, an independent advisory committee, as you will.

We had sometimes diverse and certainly considerable feedback and it was a tremendous challenge on our part to accommodate all this feedback, while keeping the performance goals and objectives in mind from the previous slide.

But this led us a number of near-term refinements, some that we made during the pilot program and some that we've made since the program has ended, as well as issues to consider during initial implementation, and we will discuss those in more detail later this afternoon.

Next slide, please.

Before we get into some of the key issues, it's important to note that we learned much about the revised reactor oversight process that supports the general

observations from almost all of our stakeholders that this is an improved process for many measures from our current oversight methodologies, and these are listed on this slide and described in detail in the Commission paper 0049.

We recognize it is not a perfect process, but clearly an improvement that warrants implementation at all sites to further expand lessons learned and improve its efficacy.

Before I move on, I would like to offer, we have Jim Dyer, the Regional Administrator from Region III here. I'd like to offer Jim the opportunity, if he has any comments regarding the results of the pilot program from his regional perspective.

MR. DYER: Overall, the views of the four Regional Administrators, based on the pilot plant results and the changes to the program that are outlined in the Commission paper, we feel very comfortable moving forward with initial implementation of the revised reactor oversight program, any refinements that are going to be made in the future and that are appropriate during the initial implementation phase.

MR. DEAN: Thank you, Jim. We would now like to discuss some of the specific lessons learned as a result of the pilot program. First, I'll turn it over to Alan Madison, who will discuss with you lessons learned out of the performance indicators and the inspection program, and

then Mike Johnson will address the significance determination process, assessment and enforcement processes.

Alan?

MR. MADISON: Thank you, Bill, and good afternoon. Lessons learned throughout the pilot identified the need to further develop and refine the guidance provided in NEI-9902 for reporting of PIs. Most inconsistencies in reporting could be traced to misinterpretation issues and, consequently, four major revisions to the guidance were issued during the pilot to address these concerns.

NEI is in the process of issuing Revision 0 of the guidance and we will endorse this revision for data collection purposes beginning April 1.

We will continue to assess the adequacy of reporting guidance and collect feedback from the licensees and inspectors through a formal process involving an industry working group. In developing the PIs, the role of the barrier cornerstone PIs was intended to be fundamentally different from the other indicators.

Unlike other PIs, their thresholds were set as percentages of technical specification limits instead of relying on historical data analysis. In actual practice, plants operate very far below these limits and would rarely, if ever, exceed them. Consequently, these indicators serve primarily a public competence role to indicate how much

margin these barriers provide to release of radioactive materials, as opposed to most of the other indicators, where the green-white thresholds were set to indicate deviations or outliers from nominal industry performance.

Some stakeholders have raised the concern that these PIs are, therefore, not meaningful. Also, several specific concerns regarding varied collection methods and different tech spec requirements associated with the containment leakage PI were raised. In addition, this lack of consistent information was exacerbated by infrequent data collection issues.

When combined, these concerns prompted the staff to eliminate the use of the containment leakage PI from the program. We will continue to closely monitor the remaining barrier PIs and assess their efficacy during initial implementation, while awaiting results of the effort by the Office of Research to develop indicators that may be more meaningful.

During the pilot program, all pilot plants were able to comply with the 14-day reporting requirement. However, significant industry feedback indicated this placed a large burden on licensees and contributed to occurrences of inaccurate reporting. The staff reconsidered this requirement in an attempt to balance the directive for gathering timely data to support the assessment process and

public dissemination of information.

With concerns regarding unnecessary regulatory burden and accuracy of data, we determined that increasing this requirement to 21 days would better achieve this balance.

As we indicated we would do in SECY 99-007, we have reevaluated all performance indicator thresholds using the pilot program data and the historical data provided by non-pilot licensees on January 21 of this year. Consequently, we have made changes to about half the PIs. Almost all the changes affect the green-white threshold. We have reduced this threshold for six of the PIs and raised the threshold for two others.

For example, several of the safety system unavailability green-white thresholds have been changed back to those proposed in SECY 99-007. These original settings were based on a review of historical data from 1995 to mid-1998. We had agreed with NEI's proposal to change these thresholds for the pilot program to take into consideration industry goals established by INPO and longer risk-informed allowed outage times that existed at some plants.

However, our ongoing analysis shows that our original settings more accurately reflected current industry performance.

This will be an area we will continue to monitor

and some future adjustments may be necessary to take into consideration continuing efforts to risk-informed regulations and site-specific requirements.

We also recognize that industry has concerns regarding the manual scrams performance indicator and the unplanned scram performance indicator, with regard to unintended consequences with these performance indicators. We're exploring potential changes to these PIs and we'll closely monitor these issues during initial implementation.

We also learned from the pilot program that several policy issues needed to be strengthened and these are being addressed. For example, we will incorporate a process for major changes to the performance indicators in the overall program guidance. This process will mirror what was done for the development of the original performance indicators and will provide for rigorous review and testing prior to implementation.

Next slide, please.

One of the key internal issues that arose from our review of lessons learned during the pilot was that our inspectors were unsure what to document in an inspection report and questioned whether we had established an appropriate threshold. Previous guidance given to inspectors under the current oversight program already discourage documenting minor violations, except in rare

circumstances.

The Office of Enforcement has recently reissued extensive guidance in this area in the form of examples. The revised reactor oversight process incorporated this guidance and made it the threshold for documenting inspection findings. We also extended the guidance to include issues outside the normal regulatory framework. The intent of this change was to remove from the report subjective discussion, both positive and negative, of aspects of licensees' activities that could not be used in objectively assessing performance.

This essentially raised the threshold for what was discussed in inspection reports, commensurate with the philosophy of the new oversight program, that there exists a band of performance for which licensees should be responsible, with minimum NRC interaction.

Many inspectors and regional managers were uncomfortable with removing the capability to document these observations and insights. Some licensees also express their concern with not having access to these insights from inspectors. Therefore, early in the pilot program, clarification was provided that reinforced the expectation that inspectors were encouraged to share their observations and insights with licensees, as they always have.

We have also allowed inspectors some leeway to

document substantial observations that relate to important cross-cutting areas. However, there continues to be a distinct change in the inspection reports, such that the primary focus is on those issues that have some risk significance.

Balancing the scope, depth and frequency of inspections with the resources necessary to accomplish them is an area in which we gained a number of insights from the pilot program and which will be an area of great emphasis during initial implementation.

The Commission directed the staff not to establish specific efficiency goals for the new oversight process, but to determine what effort it took to implement the new process. Much of the feedback from inspectors has been that a number of the initial estimates were too low.

As the procedures were revised to reflect lessons learned, adjustments were made to some of the estimates. Additionally, we recently met with regional management to establish a better overall estimate for initial implementation to support planning activities. Of note is that the pilot program showed a distinct increase in the level of preparation needed, which can be attributed to the risk-informed nature of the program, as well as learning curve considerations.

We are collecting a substantial amount of

information during initial implementation so that we can more accurately measure the resources needed to execute the program.

One of the major changes from the current program is the shift in emphasis on engineering activities. This is the result of our review of past significant events and inspection findings. This may alter the skill set required of our inspectors. Several regions are already pursuing hiring additional staff with engineering expertise.

In addition, to our experienced staff, we will use contractor resources to facilitate execution of the inspection program. This will be an area that we will assess during initial implementation and report back to the Commission next year.

Additional attention has also been focused on fire protection expertise and we are considering training needs for regional staff to support conducting these inspections. We will also evaluate this area during initial implementation and adjust our actions accordingly.

Finally, as in other program areas of the revised oversight program, we have identified the need to develop a more formal program change process. The objective is to provide a deliberate process which will consider the risk significance of proposed changes to the inspection program and performance indicators, and this process will take into

consideration the effect of the proposed changes on the cornerstone attributes and their relationship to the important areas to measure within each cornerstone. We expect this process to be in place sometime next year.

This concludes my remarks. Next is Mike Johnson.

MR. JOHNSON: Thanks, Alan. Good afternoon. The significance determination process provides a major advance in making our process more risk-informed, objective and predictable by providing a set of tools by which inspectors and others can characterize the significance of inspection findings.

While we believe the pilot program demonstrated the potential of the SDP, issues identified highlight the need for continued improvements.

Let me first describe several improvements we've made or will make to the reactor SDP, reactor safety SDP. When we began the pilot, we noted that the SDP for fire protection, containment and shutdown needed to be developed. Initial development of the fire protection SDP was completed and the SDP was exercised during the pilot program. We identified lessons learned and are refining the SDP to make it easier to use.

We developed a shutdown screening tool that will enable inspectors to screen out lesser significant issues and raise issues of potentially greater risk significance

for a more complete analysis. We've also developed a containment SDP. We will perform a feasibility review for both the containment SDP and the shutdown screening tool prior to April and expect to have them available shortly thereafter.

The reactor safety SDP was developed to determine the significance of issues based on their impact on core damage frequency and large early release frequency. The potential impact of external events, such as flooding and fires, are not reflected in the SDPs. For some plants where the influence of external events is notable, this will introduce potential non-conservatism into the SDP analysis.

I should point out that the agency's own simplified plant analysis of risk fire models have yet to be updated to incorporate external events. For initial implementation, the staff will develop the screening tool to help identify those issues that should receive further evaluation to specifically account for increased risk contribution due to external events.

To support implementation of the reactor SDP during the pilot, we developed site-specific worksheets. We visited pilot sites to verify the plant equipment considered in the SDP as providing mitigation capability is, in fact, present.

We also ran several scenarios through the SDP and

the licensees' PRA to ensure the results are appropriate. We plan to finish issuing worksheets for all plants in the next several weeks and conduct visits to all sites within the next few months.

As a related matter, during the pilot, we compared the plant-specific reactor SDP to two pilot plant licensees' PRAs for several hypothetical findings. We found, in some instances, the SDPs underestimated risk due to the emission of certain core damage sequences. These sequences related to initiating events that consequently removed mitigation capability and, therefore, had a greater effect on the risk than the SDP had previously estimated.

We refer to these as special initiators. An example of a special initiator could be a loss of an electrical bus or a cooling water system that simultaneously causes a trip and removes mitigation equipment.

We will supplement the basic SDP worksheets to address special initiators. Draft special initiator worksheets are expected to be available before the end of May. Site visits by the NRC risk analysis will confirm or modify these worksheets and in the interim, the SDP screening tool will be used to identify potentially significant findings for analysis by risk experts.

I've spoken a lot about the reactor SDP, but I'd also like to point out that during the pilot, we exercised

the other SDPs, the emergency preparedness, the radiological protection, and the safeguards SDPs, and have subsequently improved them based on lessons learned.

In addition to improving the SDP tools, we found that process improvements were needed. We found that the time expended in completing the technical evaluation of issues that progress beyond initial screening, the time spent documenting the results, and allowing an opportunity for licensees to provide any additional information to the NRC before a final decision was reached on a decision made timely resolution difficult.

We will clarify and modify the process for handling these issues to improve our efficiency and timeliness, while not sacrificing allowing an opportunity for licensees to provide input. We will assess the efficacy of the entire SDP process as we go forward.

Finally, the process increases the importance of the staff's ability to understand and use risk insights. We will continue to explore ways to provide additional risk knowledge and capability by increasing the number of risk analysts, but also by increasing the overall ability of the staff to make greater use of risk insights.

Relatedly, we are relooking at our risk training to ensure it meets our expectations.

Next slide.

Two major issues were identified related to assessment. First, feedback indicated that there remain fundamentally differing views regarding how cross-cutting issues should be handled in the oversight process. One prevalent view was that declining performance in cross-cutting areas will be reflected in performance indicators and inspection results that cross thresholds. Absent such performance, the NRC should not engage. This view is one of the fundamental tenets of the original program.

Others share a very different view; namely, that it's possible to have programmatic breakdowns in cross-cutting areas that do not necessarily manifest themselves in issues of sufficient significance that trip thresholds in a timely manner.

Historically, plants that experience significant performance problems evidence early problems in cross-cutting areas. Given the concerns regarding treatment of cross-cutting issues, we modified the guidance to allow for qualitative discussion of substantial cross-cutting issues in the mid-cycle and end-of-cycle assessment letters. However, the procedure provides that actions will not be taken for these cross-cutting concerns absent a PI or inspection finding outside the licensee response band.

A working group is being established to continue

the dialogue and the work on better addressing concerns related to treatment of cross-cutting issues. This work will continue into the first year of implementation and in the interim, we plan to proceed with the existing policy that I've just mentioned.

Secondly, feedback indicated that stakeholders recognize that deviations from the action matrix will need to occur. However, there was a widespread belief that when deviations do occur, they be rare, that they should be made in accordance with an established process, and that the deviation, along with the rationale, be clearly documented for all stakeholders to see.

We have modified our guidance to establish these expectations.

One last area related to assessment reflects the realization that the revised reactor oversight process doesn't distinguish between findings involving regulatory non-compliance and those findings that don't involve a non-compliance, but represent an increase in plant risk as a result of deficient performance.

If such an issue were to achieve sufficient risk significance to meet the regulatory guidelines for a backfit, the staff would consider a backfit. However, it's possible for issues to cross thresholds for the oversight process, but that do not achieve the threshold for backfit.

The staff believes that consideration of issues based on their safety significance and not just whether non-compliance is involved is consistent with taking a risk-informed approach to regulation.

Therefore, we plan to apply the action matrix accordingly. However, we will ensure that all requirements for backfitting are met prior to implementing new regulatory requirements on licensees.

Next slide, please.

A primary aim of the revised oversight process was to better integrate enforcement with our other oversight activities and make it a process outcome and not a driver. During the pilot program, we specifically looked to ensure that enforcement outcomes were consistent with the SDP results and the enforcement policy, as revised, for plants participating in the pilot program.

They were and the feedback received was generally supportive of the changes made. However, significant concerns were raised by the industry regarding the staff's application of 50.9, completeness and accuracy of information, related to PI reporting inaccuracies. We are revising the enforcement policy to address these concerns and to incorporate the remaining interim enforcement guidance used for the pilot plants and to the body of enforcement policy that will be applicable to all plants.

The draft Commission paper that forwards this policy is in concurrence.

Bill?

MR. DEAN: Thank you, Michael. Next slide, please.

As a result of SECY 99-007 and 007A and the pertinent Commission briefings, the Commission issued an SRM on June 18, 1999, which approved the implementation of the pilot program. In that SRM, the Commission also asked the staff to address a number of issues.

This slide summarizes four of the key issues that were discussed in that SRM and these are described in much more detail in SECY 00-0049, including the results of stakeholder feedback that we solicited on these issues in a Federal Register notice.

The first issue, Mike has just spent some time talking about the issue of programmatic breakdowns and the influence of cross-cutting issues and the fact that there is a distinct difference of opinion between what's described in the regulation framework and what may be true in application, and Mike described what we intend to do on that on an ongoing basis.

With respect to the next two issues, in terms of overall assessment of cornerstones and inclusion of positive inspection findings, the feedback that we've received from

our stakeholders, as well as ongoing review with the staff, indicates that we believe the position that we described in SECY 99-007 and 007A and as reiterated in SECY 99-0049 support the fact that no changes are planned in what we intend to do in the oversight process.

Finally, the issue of SALP, which has been suspended for several years now as we've gone through the development of this process, that we would recommend the termination of the SALP process and implementation of the revised reactor oversight process.

Next slide, please.

As I mentioned earlier, in executing the pilot program, we developed and executed a number of significant and time-consuming external and internal communication activities. We believe that we need to continue this level of communication through initial implementation.

Some of the methodologies by which we intend to continue to do this include continued public outreach activities; for example, the regions are planning, are over the course of the next six months, to visit all the non-pilot sites, much as we did the pilot sites, to communicate this new oversight process to the constituents in the local vicinities of the plant.

Our external web page has been a very valuable tool in providing information to the public and other

interested stakeholders. We've gotten a lot of feedback over the course of the last year about that web site and we are undertaking a number of changes and revisions to make that a more clear and understandable and more easily navigable web page.

One of the initiatives that the Office of Public Affairs provided us great assistance in was in developing a plain language description of the oversight process. We are in the process now of revising and rewriting that NUREG, NUREG-1649, and we will be issuing that in the very near future, so that the public will have a plain language description of the new oversight process.

We will continue our regular public meetings with NEI and industry. We had these meetings on approximately a biweekly basis to discuss ongoing issues in the spirit of cooperation that surrounded the development of the revised reactor oversight process and we will continue those public forum interactions with industry and NEI.

Then we would look, much like we did at the end of the pilot program, where we conducted a lessons learned workshop which brought together NRC, industry and public stakeholders, into one forum to discuss the major lessons learned, and describe potential approaches for dealing with those, we would intend to have a similar workshop during initial implementation, probably close to the end, to once

again revisit the lessons learned that came out of initial implementation and, once again, get all stakeholder input as to where we should go forward.

Next slide, please.

In addition to working very closely with our external stakeholders, moving into initial implementation will also require continuing the substantial level of interaction that we've had with the NRC staff, both in the regions and in headquarters. We were at the point in our change management process that where the regional staff is educated about the new process and ready to go, albeit with some level of skepticism.

In addition to regional initiatives to manage his change, we will conduct a variety of activities to continue to move both our regional and headquarters staff forward in embracing this major process change and these activities are listed on this slide.

Next slide, please.

I mentioned earlier, and I think there is a general agreement among all stakeholders, that the process is not perfect. Alan and Mike described some of the key near and long-term activities in place to refine the revised reactor oversight process based on the lessons learned from the pilot program.

This slide lists some of the more broad activities

that may proceed over the course of the next several years, in which we would utilize expertise not only from outside the Inspection Program Branch to accomplish some of these initiatives, but also, in some cases, utilize the input from external stakeholders.

The first issue there is developing additional performance indicators; for example, a containment performance indicator. This has been described over the past year in research user need memos from the Office of NRR and these are encompassed, in part, by the research effort to develop risk-based performance indicators and we intend to continue our dialogue with the Office of Research on the efficacy of that risk-based performance indicator program and where we might be able to glean some additional performance indicators that would support the revised reactor oversight process.

The next item with regard to industry-wide assessment and trend evaluation, once again, we are soliciting the Office of Research's assistance in this regard. What we envision here is having a process that would provide essentially a check-and-balance of the revised reactor oversight process to give us assurance of the capabilities and continued efficiency of that process to maintain safety.

This would include utilizing such ongoing programs

as the accident sequence precursor program, initiating event studies and so on, and we're in the process of working with the Office of Research to better define how we would go about continuing this industry-wide assessment process.

The third bullet there, the oversight process self-assessment, is in the spirit of having a continuous process improvement philosophy with the revised reactor oversight process. We would envision that on an annual basis, that we would accumulate insights about the efficacy of the program and come back to the basic framework and implementing documentation for the revised reactor oversight process and review that and make appropriate changes as necessary.

Finally, we would see all of those aforementioned items come together in an annual forum, where we would have our annual agency action review meeting and Commission briefing that we would consider to be a three-phased approach.

One piece of that briefing would be a discussion of individual plant licensee performance, where we had plants that warranted agency level attention. We would also have a portion of the briefing that would discuss industry-wide performance, assessment and trends, that we would get from our overall assessment of industry-wide performance. And finally, the oversight process performance

and improvements based on the self-assessment conducted by the staff.

The Commission should see future correspondence on these issues over the course of the next six months or so in various SECY papers.

Next slide, please.

As Bill Travers mentioned at the outset of this presentation, the staff is ready to proceed with trial implementation. As we have just noted, there certainly are issues that we continue to work on and we know that there will be additional refinements that will be necessarily as we go through initial implementation.

As a practical matter, in order to meet the direction provided by the Commission in its June 1999 SRM, and as we described in SECY 0049, the staff has poised itself, through substantial training and planning activities, to begin initial implementation in April.

Of particular note is the ongoing efforts right now where the regions are performing their annual plant performance reviews and developing inspection plans based on the utilization of the new baseline inspection program.

I think this might be a good point maybe to ask Jim to possibly weigh in again with respect to the planning phase that the regions are undergoing for implementing the new process.

MR. DYER: I think right now, in fact, in Region III, this week, we're undergoing the plant PPR process and outlining the proposed inspections and reviewing the performance indicators and preparing to move forward into it.

Last week, we held our final training session for the staff in Region III, which I found to be excellent.

One thing I wanted to pass on, a credit to NRR, was the quality of training and the developments made in explaining areas such as the significance determination process have improved substantially from the initial efforts when we were briefed going into the pilot program.

So it's really evolved and I think it's helped to prepare the regional staff for implementation.

MR. DEAN: Thank you, Jim. The other two items here are discussed in some detail in SECY 0049 and that is the recommendation, as I mentioned earlier, to terminate the SALP process and also to solicit feedback from the Commission on three issues of note that Mike and Alan just described, that being the role of the barrier performance indicators, the issues where we have issues that might be identified that are outside licensing basis, design basis activities, but which still result in some risk insights, and the area of cross-cutting issues, which we are continuing to review.

These are highlighted in SECY 0049 and we would ask any Commission input if they believe that the staff approach creates any concerns, certainly we would appreciate and ask for feedback in those areas.

With that, the staff has concluded its briefing of the Commission on its recommendations regarding the revised reactor oversight process and initial implementation and we sit here ready to respond to your questions.

CHAIRMAN MESERVE: Thank you very much for a very helpful briefing.

I think the point that several of you have mentioned, that what you envision for April is initial implementation, which obviously reflects an expectation that this will be some period of months to get everything fully operating and there will be lots of learning and changing that may well be required as we go forward.

Nonetheless, I am rather struck by the presentation, by the number of areas in which you have uncertainty. You indicated that there are performance indicators under development and some needing further assessment. The thresholds are changing. The process for changing performance indicators is only now being worked out. The resources that would be required to undertake the inspection is something that's under continuing evaluation.

You have some concerns about the expertise in fire

protection engineering that may be necessarily to fully implement the program. You have additional SDPs that you need to develop for fire protection, shutdown and containment. You're working on screening tools for external events and for what you're calling special initiators, you have some of the whole SDP process timeliness issues that you need to resolve, and on top of that, you have training.

It is an incredibly ambitious agenda to get all of that pulled together and it seems to me a substantial portion of it or some parts of it at least really have to be in place by April.

Are you ready?

MR. DEAN: Let me take the first shot at that. A number of the areas that you described, Chairman, are things that we have been working on over the course -- these aren't brand new issues. These are things that we've been aware of for quite some time and we've had a number of efforts in place to develop these.

For example, I'll point to the significance determination processes associated with containment. That is something that has been worked on over the course of the last nine months or so and earlier this month, we received a product from Brookhaven National Labs that has been working on it that we believe is a very substantial product that will be very useful and we intend to do a feasibility review

of the containment SDP next week, as a matter of fact, and share that SDP with industry and allow industry to run similar scenarios through that significance determination process.

So for example, a lot of those things you described are things that we believe we will have in place.

One of the purposes of the pilot program was, of course, to shake out what I would consider to be major issues, major flaws or potential flaws with the process. We were successful in doing that, but we also identified areas where we need to continue to refine and by expanding the sample set, as you will, from nine sites to the 68 sites across the country, will certainly engender a lot more information and will allow the staff to more fully, I think, flesh out or fully define all the areas that need to be to make this process a solid process going forward.

We think, based on what we got from the pilot program, that we have developed those key lessons learned and we've fixed those or they will be fixed in the very near term. But certainly there is a clear recognition that we're going to learn additional information, which is why the whole concept of initial implementation is what it is. It's an extension, it's the next natural step from the pilot program, to now let's get all plants under the same umbrella of oversight, so we can fully explore and learn how this

program is going to work with all sites under that same program and process.

CHAIRMAN MESERVE: So you really view this exercise as one that's an extension of the pilot effort and that there's going to be changes that will be undertaken, will have to be undertaken over the months of going forward.

MR. DEAN: Correct.

MR. COLLINS: Chairman, I would just like to respond also to that, because it's going to be me and my counterparts in the regions that are going to go forward with implementing this. I think the pilot program results showed us we're not all the way there, but we would prefer to implement and recognize that we have these changes coming than to continue two processes with a few pilot plants and try to refine everything to be completely done.

I think the activities and the changes recently made to the program to accommodate some of our concerns and these holes that are in the program are acceptable for ensuring that we can implement the program.

So I'm comfortable with it.

CHAIRMAN MESERVE: One of the concerns that's been expressed about the program is a fear that we will not get advanced enough notice of declining safety performance and, therefore, will not have the capacity to step in in a timely fashion.

Ms. Lipoti, who is on the second panel, has characterized the indicators, for example, as lagging indicators, as she will speak to us about when she gets here.

Is that a fair evaluation of the situation or are you comfortable that you're going to be able to get on top of the situations in a timely fashion before things have deteriorated significantly?

MR. DYER: Yes. I believe that that concern still exists. I believe the anxiety level from when originally reported in the GAO report and more recently in our internal surveys has been reduced because of the training and some of the experience that we have and some of the recent changes that allow cross-cutting issues to be addressed in inspection reports and commented on in the PPR letters.

I think with respect to the performance indicators, a lot of the questions were taken considering the performance indicators alone and considering the inspection program alone, would they be able, in and of themselves, to identify this declining trend.

I think one of the things we've been working with, at least in Region III and the other regions, is that it's a package deal. So we've still got a fairly robust inspection program that's accompanying these performance indicators.

My discussions with some of the inspectors last

week during the training is they're concern about turning things over to the licensees' corrective action program once they've identified them; in other words, we can't pursue resolution to our schedule, that we have to rely on the licensees' corrective action program. That still causes us some concerns about whether or not their programs are going to be robust.

But I believe we can still engage them in the current climate, it will be acceptable.

CHAIRMAN MESERVE: Won't you inspect their program to assure yourself that it's adequate?

MR. DYER: Yes, sir. We'll have a problem identification and resolution inspection on an annual basis. That's a rather significant program review. The other thing we will do is the residents and the ongoing inspections, as they go month to month, will -- a part of their review of the surveillance program or the maintenance program also will include the effectiveness of corrective actions.

But in the past, where an inspector would identify an issue, then it would become the inspector's issue and it would drive through with the licensee. Now, it's once they put it in their corrective action program, we let their corrective action program -- and there is some reluctance and skepticism on that, on the ability of that to do, to be successful.

DR. TRAVERS: Our experience in addressing performance issues has been pretty minimal, though, in the course of this pilot. We really have had no significant experience with the need to identify, in a timely way, declining performance.

We think -- we hope that stays true for all plants at all times. Nevertheless, a healthy program has to be one that demonstrates its effectiveness for declining performance, as well as good performance.

This is not a program and we're certainly not selling it as one that recognizes the increased level of performance on the part of the industry. Certainly, that's a fact, but we have to be able to demonstrate that what we have in place is a program that will, in fact, recognize declining performance in a timely way.

We think we've got that. We think, in large measure, the cross-cutting issues and the insights associated with the inspection program are the key to that, because of, as you point out, rightfully, the lagging nature of some of the performance indicators and some of the inspection findings, as well.

Many of the cross-cutting issues, in my mind, and the insights that we glean from those are going to be key to the roll-up thinking that we do on identifying declining performance.

CHAIRMAN MESERVE: Mr. Dyer, you had mentioned the skepticism of the staff and I think one of the comments had been also the skepticism of the staff resonates with the GAO evaluation.

MR. DYER: Yes, sir.

CHAIRMAN MESERVE: What is your sense of the current attitude among inspection staff of this program? Has the acceptance rate grown as people have learned more about it? Are people more comfortable with it. What is your sense? I realize you don't have a survey, but what is your sense of the current impressions of this activity, from the inspector's point of view?

MR. DYER: In particular, I talked to a lot of the Region III staff about that very subject and I believe it is improving, the acceptance is improving. I think if you go back to the GAO, the timing of the GAO report, which is about March of last year, and the reason it's improving, I think, is, one, the training and the experience with the pilot program, and the third thing is improved industry performance.

Particularly in Region III, it was about a year ago at the time of the survey, when I was just getting to Region III, and we had between a third and a half of our plants on the problem plant list, multiple 0350 oversight panels.

So if you're talking about improved performance over the past ten years, particularly in Region III, I don't think that was a saleable feature at the time a year ago.

Since that time, I think the industry performance in Region III has improved and that helps alleviate some of the staff's concerns, although they're still there because we're not that far away from some poor performance, as well as, again, the training and the experience that this program can identify issues.

CHAIRMAN MESERVE: There is a sort of a hook in your answer, in that there has been improved performance, but it's under the -- for the most part, under the former oversight program. I think the question has been that the staff, the inspectors have been comfortable with that program, it's what they know, and they're expressing some concern as to whether they would be able to have achieved the same improvement with the new program.

And I was trying to get at the point of whether you think that that concern of the inspectors has been alleviated. You mentioned the training has been helping.

MR. DYER: It has been reduced. It hasn't gone away. And I would be concerned if they weren't skeptical and weren't concerned about going to a new program and were they able to identify problems.

CHAIRMAN MESERVE: Commissioner Dicus.

COMMISSIONER DICUS: Thank you, Mr. Chairman. First of all, on slide three, on these milestones, where you suggest that in June of 2001, you will report on the revised reactor oversight program, its initial implementation. I'm assuming that is a report. You're not going to come back and say -- with a recommendation we continue it or may you came back with a recommendation to not continue it, or am I asking you to look into a crystal ball?

MR. COLLINS: I think the obligation we have to the Commission, at the Commission's direction, is to target full implementation as opposed to pilot or initial implementation at that date.

The staff believes that a report back of an appropriate type to the Commission would be useful to address these areas, as well as to also be sure there is a clear understanding of the areas that Bill mentioned as far as the periodic reviews and the Commission's desired role in the annual meeting.

It can take whatever form the Commission desires.

COMMISSIONER DICUS: Thank you. Slide seven. My question goes somewhat to what we've all dealt with, the performance indicators, are they where they should be, are they not where they should be, and I'll have a couple more questions about that.

But particularly the issue of reevaluating the

thresholds as we go down the road and you -- they're based upon some historical information and some of our own feeling that what we have learned from past performance.

Do you qualify them beyond that or is this in the going forward part of our program?

MR. DEAN: In terms of -- I'm not sure if I fully understand. Are you talking about in terms of we continue to assess and analyze the performance indicators on an ongoing basis for efficacy?

COMMISSIONER DICUS: Right. And do you qualify it beyond that? Do you have some other concern that you have that you haven't expressed to us?

MR. MADISON: I think the performance indicator program is an -- we're always trying to refine that and we're always looking for a better performance indicator, a better guidance, trying to refine the guidance, collecting feedback so that we can get better guidance out, that we can -- as I mentioned earlier, we're looking at performance indicators to replace the barrier performance indicators.

We're looking for performance indicators that may not have unintended consequence concerns regarding scrams, counting manual scrams, for instance.

So we're trying to refine it. It's not that we have a major concern with the existing performance indicators, as they are.

COMMISSIONER DICUS: Okay.

MR. COLLINS: Commissioner, I think you asked a very good question. The challenge to the industry and to the NRC for quite a period of time has been what to focus on as far as indicators of industry performance and are they leading or are they lagging.

There was a time, I believe, when we were using indicators that were developed by NRC, the old office of AEOD had that role. At the same time, we were using SALP senior management meeting inspection report messages. There were INPO indicators, there were WANO indicators.

Part of the goal with this program is to try to stabilize our process so that it's predictable. It can be improved, but it still needs to be predictable. So there are two messages here. One is that using the cornerstones, and indicators are the cornerstones themselves, we'll continue to search for a refined indicator that's meaningful and agreed upon and then we'll implement it in a way that doesn't create instability in the process.

That's the real message here. The other is that we want to try to collect information and the Office of Research is working with the industry to do this, to understand better, perhaps even at a component level, how the plants are performing, so that we can look at overall trends below that of the oversight process, and, therefore,

be more far-reaching as far as indicators are concerned.

So that process will continue. We won't do it in isolation. We're going to have to do it with stakeholder and industry input. So there is a balance here with the Chairman's concern over the work that's in front of us and completing that work and implementing it in a way that doesn't create these discontinuities or instabilities in the process.

The inspectors are the ones who are primarily affected by this. They have to know what to focus on and we have to train them in a way they feel confident that they can discharge their duties in a meaningful way and they have to have a forum by which they can articulate those concerns and be heard.

I think if we stick to those mandates, then we'll be fine.

MR. DEAN: Sam, if I could add one other thing, Commissioner Dicus, is that with respect to changing thresholds, we don't intend to put in place a process by which we're evaluating all the thresholds on an annual basis and continuing to change them in response to industry performance.

We want to establish a stable set of performance indicators and if all of industry gets below those thresholds, then that's great. Okay. Now, that may spur us

to look at other areas to look at that a suitable performance indicator would be recognized, but we don't intend to be in a situation where we continue to ratchet industry to continue to improve by changing the thresholds.

COMMISSIONER DICUS: Good response, which leads me into my next question, which happens to be on slide nine. First of all, I think we all recognize this is a work in progress. We've said that repeatedly when we met with the ACRS last week, et cetera. So we recognize that.

I also want to congratulate the staff on what I think was a very succinct and carefully done briefing, very, very well. I think you rehearsed it. It was very good.

I have a couple of questions on slide nine, which is good. I think it's a good idea, ask your own questions.

I think this would go to Mr. Johnson. You indicated that consideration of external events has not been reflected in the SDPs, but needs to be incorporated. Did I hear that correctly?

MR. JOHNSON: That's correct.

COMMISSIONER DICUS: Okay. And the other thing, you know, obviously, I'm from the south and I not only speak a little slower, but I listen a little slower. You indicated that there were some non-reactor safety SDPs. I got emergency preparedness, but I didn't get the other two.

MR. JOHNSON: Containment -- I'm sorry. Emergency

preparedness, safeguards, and radiological protection.

COMMISSIONER DICUS: Okay. I thought it was the rad health that I was wanting to take a look at. And you're working on those. Do you think you might incorporate those or you think this is one of the things you're going to have to deal with?

MR. JOHNSON: We actually have done a bunch of work on those. We were able to get to a point where we could exercise them during the pilot program. We've learned lessons from them and we're at a good spot on all of those SDPs. So it should be ready to go.

MR. DEAN: They're all in place and have been tested out and we've run certain scenarios through them and we've refined them based on lessons learned. So we feel we're in pretty good shape on those SDPs to go forward.

COMMISSIONER DICUS: All right. Cross-cutting issues. It's not so much -- maybe slide ten and slide 12, not so much the slide, as I'd just like to ask the question, because this came up as a question I asked at the ACRS briefing.

The importance of the cross-cutting issues and I know even the staff, our internal staff has expressed some concern, have we really gotten our hands around the cross-cutting issues. In response to one of the Chairman's questions, you indicated that one of the problems we may

have, and Dr. Lipoti will bring this up, on the lagging/leading performance indicators, how important cross-cutting may be to get a handle around these things.

Do you want to give me a little more feedback? Have we identified what we think are all the cross-cutting issues? And I may ask Dr. Lipoti to address that question, as well, so Ill give her a heads-up for that.

But do you feel that we're there or we're still -- is that going to be a part of this learning process?

MR. JOHNSON: I'll talk to that just a little bit. One of the things that we did on the external lessons learned workshop was talk about that very issue, whether or not we've captured what people believe are, in general, the cross-cutting issues, and there was a good sense among all of the stakeholders, the internal stakeholders and the external stakeholders, that in general, the cross-cutting issues that we were talking about, problem identification and resolution, human performance and safety conscious work environment, those do, in fact, capture what it is most folks are concerned with with respect to cross-cutting issues.

I tried to illustrate in my prepared words that there really were two camps and there wasn't just an NRC camp and an external stakeholder camp. There were mixed folks from among those camps in terms of their perspective

on how we ought to treat cross-cutting issues, and it really did come down to, in some people's views, you really do need to have a good early indication of cross-cutting issues as an indicator of where performance has gone bad.

Again, from the other perspective, it's hard to know. Someone said, one of the Region I inspectors said we predicted 21 of the last watch list plants. It's tough to know if the issue that you find as a cross-cutting issue is, in fact, going to end up being, for that plant, a predictor of performance, and we tend to be conservative.

So we want to make sure that we've got the right cross-cutting issues and we've got thresholds set appropriately and we have an avenue to handle those cross-cutting issues when they arise, so that we can take the appropriate response.

MR. DEAN: And I think to add on to what Mike says, I think that the baseline inspection program recognizes the degree of import and the degree of comfort, I think, as to how much we inspect the various cross-cutting issues.

There's a substantial amount of effort looking at problem identification and resolution activities which we believe to be a very important process.

One of the things that this program clearly does is it -- there is a distinct burden shift from the NRC to

the licensee in terms of pursuing and resolving issues and the issue of do we have the cross-cutting issues captured right, are we looking at them through the inspection program in enough depth and frequency is a good question and I tell a lot of our regional staff, when I'm asked this question, that in some respects, time will tell.

We think we've established a good framework. We think we've got it captured the right way, but it may take some time before we get a situation where we see a substantial cross-cutting issue result in PIs crossing thresholds and risk significant inspection findings.

So this is going to be one of the things that we're going to have to continue to do an ongoing assessment and evaluation of.

COMMISSIONER DICUS: Okay. And the local skepticism, just -- and we all understand we do have that and we have various areas, but you have a comfort level, as the Regional Administrators are your counterparts, together with Sam, that we have the program in place to address this.

MR. DYER: Yes, ma'am.

COMMISSIONER DICUS: Okay. And then one --

MR. COLLINS: If I can comment on that, Commissioner Dicus.

COMMISSIONER DICUS: Okay.

MR. COLLINS: I think our roles are compatible,

but perhaps separable. The Program Office's role is to define the program and provide the resources and this good will and access for the region to go forward and implement the program.

This is where you get into the stability issue and the change issue. We've been working with the regions to identify the appropriate budget. We have benchmarked that and met with each region. We know what qualifications and we anticipate what qualifications it will take to do the inspections.

We know we have an interim period where we have to supplement three out of the four regions at least in the area of fire protection and engineering and we have contractors to do that. That's an identified issue, that's a transitional issue.

Jim's challenge is to take the tools that we provide for Jim and communicate back to the program office and to the arena manager, Frank Miraglia, Jim is comfortable that the program achieves the goals of the agency and those goals are identified in the SECY paper.

We anticipate that there will be skepticism and if I was an inspector, which I used to be, I would anticipate that that's true. These issues are interrelated, the issue of being able to communicate findings, be able to acknowledge the subjective inspector instincts, to be able

to write it down in an inspection report, the ability to follow your nose, if you will, as an inspector, the ability to communicate on cross-cutting issues are all interrelated to the overall goal of ensuring that this program is predictable to identify declining trends.

I think we can take those in series with the changes we have already manifested and provide a viable process. It needs to be proofed and then we need to get the feedback from Jim's staff and his counterparts.

COMMISSIONER DICUS: That will be very valuable. I'm about to take up more -- I have taken up more than my fair share of the time, but one more question, Mr. Chairman.

CHAIRMAN MESERVE: Please.

COMMISSIONER DICUS: Thank you. Is the industry ready?

MR. COLLINS: I always hesitate to speak for the industry.

COMMISSIONER MERRIFIELD: As you should.

COMMISSIONER DICUS: In your opinion, is the industry ready?

MR. COLLINS: The industry has met their milestones that have been put forth by the tasking team in order to provide for this process to go forward. That includes submitting the performance indicators. That includes providing the expertise and the resources necessary

to support the program, both in a defining way and in producing documents.

I think Mr. Beedle probably will be able to speak for NEI.

COMMISSIONER DICUS: Yes. Mr. Beedle, you can expect the same question. You've got a heads-up.

DR. TRAVERS: But in fairness to what we have been doing, we have been asking that question in just about every forum we've had the opportunity to ask it, and the answer is yes.

COMMISSIONER DICUS: Actually, I may ask the same question of Mr. Lochbaum, so he can get prepared for it, as well. All right. And if we have areas of local skepticism in the industry, are we prepared to recognize that?

MR. COLLINS: I think we have recognized that and I think the answer is yes, there are areas and those areas are fairly well identified. I think some of the performance indicators could have potential unintended consequences. Will an operator hesitate to scram a plant manually if he knows that's being counted as an initiating event? Will there be the hesitation to embark on immediate corrective maintenance if you can wait 72 hours and call it preventive maintenance?

There are subtleties like that in the program that I think we have to evaluate as we go forward, receive the

industry input and be sure the program is getting us to where we want to go, without these unintended influences, or ensure that training and education is the key to that.

DR. TRAVERS: Another -- if I can just add to that, for a moment. Another issue that we've heard from the industry that's been on their minds is a concern as to whether or not this sort of program or this program is going to result in the communication of the sorts of insights that they are used to getting from NRC, from the resident inspector, from the region-based inspectors, from the branch chief, all the way up to the regional administrator.

And much of the dialogue we've had in many of our workshops has been focused on discussing that issue and why we believe those sorts of insights, in fact, will still be communicated in this new process.

COMMISSIONER DICUS: Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Commissioner Diaz.

COMMISSIONER DIAZ: Thank you, Mr. Chairman. I'd like to first make a short statement. I always try to say whether I'm making a statement or a question, although you're always wondering which one I'm making.

I really have no problem with the program as it's being proposed. I think it is as good as it can be today. That frames my impressions to it.

Having said that, I do have a small concern, the

fact that some of the last parts of the interactions and questions and answers with Commissioner Dicus boiled down to this single issue that I'm going to try to address, and that single issue, just not to keep you waiting, is the value of self-assessment and the corrective action program.

Now, let me just start with putting some tricky questions in here. Mr. Dyer, if you are a power plant and you're the senior resident inspector and you're day to day to day doing things and you have to deal with what is happening in the power plant, which of the three cross-cutting issues comes every day into your life? Is it the human performance, is it the safety conscious work environment, or is it the corrective actin program?

MR. DYER: Actually, all three would come in every day probably; human performance on the day-to-day conduct of operations, safety conscious work environment in the nature of the kinds of problems that are being raised, minor action with the staff -- I mean, the licensee staff, and certainly the corrective action program just in the day-to-day review of the condition reports and things that are identified, the interface with what's being fixed.

COMMISSIONER DIAZ: So you deal with them on an equal basis as far as priorities.

MR. DYER: As far as priorities go, I think the corrective action program is -- of the cross-cutting issues

-- that's the most important.

COMMISSIONER DIAZ: Okay. All right. I tend to agree with you. This is a statement now. When this program was started, fundamentally it was started as a data gathering and processing program that essentially was going to go horizontal across the issues that occurred in a power plant every day and the very first thing that was happening was that this transparent, open data processing program was going to enhance our ability to know what was happening at the power plant.

That was really the fundamental thing, what is happening, not only us, but everybody. It was to be an open, horizontal program without multiple levels. And to me, that always ended up as a very robust corrective action program.

Whatever you do with any of the things, it has to end up in the corrective action program. The thing that we change is that the corrective action program, like you well said, there was, let's say, a transfer of responsibility, somewhat a transfer of responsibility, not a complete transfer of responsibility, between us and the licensee, in which they would actually take more responsibility of what goes into the corrective action program, how they get dispositioned.

But we always have the capability to go into. It

is always, every day, the corrective action program is, to me, more than a cross-cutting issue. It's an every day cross-cutting issue and it's an every instant cross-cutting issue. It's the one that is the beginning and is the end of everything that we try to do in a power plant.

And if I have a concern, it's how we have packaged this oversight program, and my concern was clearly highlighted last week when the ACRS, which is an expert body, says the oversight program consists of two things, and those two things are the performance indicators and the baseline inspections.

I take objection to that, because I think that's the problem that you're hearing from inspectors and I have been hearing. The problem is that there is a robust underlying structure to the performance indicators and to the baseline programs and that very robust structure is a strong self-assessment, corrective action program, and that is at the very front.

To me, this process has three components. The first one and foremost is a data processing ending in a very strong corrective action program, followed by the performance indicators and the baseline and the corrective action program should cross-cut into the performance indicators and vice versa. They should all go back.

I think we are really not expressing the

importance of the first phase and the last phase of the program, which is a corrective action program underlies everything that we do.

And by the way, you know, I hate to admit that INPO can make a shorter statement than I can, but I'm going to read you from INPO today, this is probably a first right now. INPO's reviews today, self-assessment corrective action, and let me quote, Mr. Chairman.

It says, "Self-assessment and corrective action programs are vehicles for identifying and successfully implementing change." I agree. As such, these programs are important contributors to safe and reliable plant operation. They are also an essential element, and I fully agree with this, in the revised reactor oversight process being put in place by the Nuclear Regulatory Commission.

My statement is that I think that we're doing the right things. I think we're in the right place. But I believe that we cannot put the emphasis only on the fact that we have very new models with performance indicators and baseline inspection, that there is a very new powerful, open self-assessment and corrective action program that will make our oversight better.

In fact, I will go on the limb and say if that's all we do, if that's the only thing that we do, we'll be better off than we were before.

Therefore, I'd like to get some comments back on the relative importance of our inspectors and the industry to value the new self-assessment and corrective action program as a major cross-cutting issue that will go into the performance indicators.

My drive, you know, baseline inspections will go back and reinforce what we're doing. That was a statement, Mr. Chairman.

MR. DEAN: I have a response, Commissioner Diaz. I have to say that in terms of the importance of having a strong, robust self-assessment and corrective action program really is an underlying concept with this revised reactor oversight process and we have been, I think, fairly aggressive in publicizing that issue with our stakeholders and telling licensees that this is a key element of this -- we called it a responsibility transfer, but it really has a direct implication of the capability of them to have that appropriate self-assessment and corrective action program and it's recognized.

Mike talked about the whole issue surrounding cross-cutting issues and the fact that there's two camps. Embedded into our process is that recognition that if you do not have a robust self-assessment and corrective action program, then we would expect to see, over time, PIs crossing thresholds. We would expect to see

risk-significant inspection findings emanating from our baseline inspection program, and those are the types of things that we have been promoting on an ongoing basis.

There is not a total buying on that concept yet and that's why we had a discussion earlier about there is still some skepticism about that as being an integrated part of this oversight process.

COMMISSIONER DIAZ: But wouldn't a well analyzed corrective action program be the precursor to declining performance?

MR. DEAN: I think that you could certainly look at the corrective action program as being a font of potential information that would give you leading information, and that's, I think, what we have embedded in the program, the whole concept of having the risk-informed thresholds that we have, that would allow us to integrate or to provide a greater regulatory response as licensees cross performance thresholds.

I think there is a recognition of that, that there is a band of performance where what we call the licensee response band, that a licensee is responsible for their own issues within that band, and it's only when we start seeing things that emanate, that cross thresholds do we have to engage at a level beyond the baseline inspection program, and that's a defined philosophy intended of the oversight

process.

MR. MADISON: I'd like to add to that. We also -- I'm sorry, Sam. We have recognized this in the baseline inspection program. Ten to 15 percent of all inspection activity is focused on the corrective action program, problem identification and resolution.

We have a major inspection, annual inspection at every site focused on a problem identification and resolution program. We've begun to establish an internal and we'll eventually get both an internal and external working group asking the question what more -- what different areas do we need to look at in the problem identification and resolution program, what are the issues, what are the standards and the criteria we need to judge good programs on, and INPO has begun that work in developing their principals document, which we're going to incorporate into that effort.

CHAIRMAN MESERVE: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: Let me start by complimenting the staff. I think given all the boundary conditions under which you work, you've done a tremendous job to this point. I don't know, I wasn't around and I wasn't paying attention to the NRC in the mid '80s or early '80s when SALP was put into place, but I can't imagine that when we put that process into place, we went through

anything like the process we've gone through this time, interacting with stakeholders, and I firmly am of the conclusion that this is better than SALP, which isn't much of a standard, as David Lochbaum would say.

Let me ask a process question to start. Given all of the issues that the Chairman talked about that are going to have to continue to be worked, and I'm going to ask some questions about them.

Is there an advantage in continuing the FACA committee, as well as the other activities you have underway? There's a lot of -- on one of the slides, and I won't try to find it, there's a lot of talk about ongoing interactions with the industry, but it seems to me that there was some real advantage in the FACA process during the pilot process and in some sense, we're now piloting with 103 plants, or 101 until Cook catches up.

And so what is your answer on that?

MR. DEAN: The goal of the pilot program evaluation panel, the FACA committee, was, I think, very valuable in the fact that it brought together a wide variety of stakeholders and, matter of fact, probably the pertinent spectrum of stakeholders, to look at the oversight process and come to some consensus about what did all the information that came out of the pilot program tell us about readiness to go forward, and I know that Frank Gillespie

will talk to you later today about the efforts of the PPEP, the pilot program evaluation panel.

We've discussed, as we go into initial implementation, the potential for having a similar endeavor and I think our current thinking right now is that probably towards the latter half of the first year of initial implementation, after we've had a couple quarters of getting information out and we can develop at least some sort of trends or patterns about the new -- about implementing this at all 103 plants, is that it would probably be a good time to revisit having such a body come together and provide an independent assessment, as you will, of what are the results telling us about the efficacy of the oversight process.

COMMISSIONER McGAFFIGAN: My reaction to that is, partly, that I would think that having them involved the entire way through the process, as you're learning, not just so that they -- you just don't pull them back at the end and get another report card, it might be better to keep them -- PPEP would become IIEP, but we'd have to think of a better acronym, initial implementation evaluation plan.

But it strikes me, just off the top of my head, that given all these issues that are going to be worked and you have various timeframes to work them, some in April, some in May, some in June, some in July, and they're going to worked all the way through, they won't be working off of

data, but they can be working off of the various issues.

So that's just a reaction.

The significance determination process, when we started this effort, I thought there was only one, so forgive me, but we now have multiple significance determination processes. One issue is going to be do they -- and I remember the conversation we had about there would be 100 things, 100 inspection findings a year, you guys may want to back out of this, but I think it.'s on the record, you'd have about 100 a year that would truly enter the SDP process and about ten big ones would pop out and move an indicator from green to white or yellow or red.

I don't know what the numbers are today, but if you have multiple processes, you have an issue of consistency across the processes, and how is that being handled?

MR. MADISON: That was one of the major questions and concerns raised at the lessons learned meeting, that and do we have the same input, were the inputs equal going into the significance determination process, and we did an awful lot of looking at each of these significance determination processes, both the reactor and the non-reactor, and comparing findings, level of significance, to assure ourselves that we -- a red finding in safeguards had the same level of weight as a red finding in a reactor SDP.

We do feel that there is consistency across those.

MR. DEAN: And in fact, I would add to Alan, I think that in the effort to achieve consistency in our process, the significance determination processes are perhaps the greatest advance that we have made in developing the revised reactor oversight process, to try and assure consistency, because what it does is it forces inspectors to take their findings and then lay down what are the assumptions that they're making with respect to that finding, so that the licensee, his management, his or her peers, can look at those assumptions and judge the risk characterization of that inspection finding with those assumptions in front of him.

So it lays out the playing field, as you will, for discussing the characterization of the issue.

COMMISSIONER McGAFFIGAN: Now, the way the SDP process works, there are a lot of findings out there, many of them are going to be green findings. But what a resident needs is a mechanism for quickly screening out the green from the potential hundred or the ten.

My understanding is that you're trying to have screening tools for the residents. They will probably initially test those tools a lot, so that's the learning curve you talked about.

Once you enter into the hundred space, I'm using

the number you guys gave, I'm begging for you guys to correct me, but once you enter the hundred space, it really becomes the senior reactor analyst or somebody who is more into heavy lifting on PRAs that is going to work that with the licensee.

Is that correct?

MR. MADISON: Initially, there's going to be an awful lot of involvement from the SRAs, we think, but we're also trying to focus attention on the training and educating the resident and senior resident inspectors so that they can begin that conversation early.

We expect during the phase two that that will be the inspector talking to the licensee to gather that information, to further refine that at the latter part of the phase two and into the phase three review, yes. The senior risk analyst will probably be involved in that.

COMMISSIONER McGAFFIGAN: But if you're going to get timeliness, isn't it important that things get kicked into the -- you talked about -- and Jill will talk later, Dr. Lipoti, about this being a long negotiation, you have to improve timeliness, quicker, it gets kicked out of the resident's world into the detailed process of trying to decide whether this is a truly, truly significant finding that's going to move an indicator, is the better.

So how do you make that -- if I'm a resident, I'm

a resident here and I'm trying to screen this, I think it may be one of the hundred, so I'm going to pass it on. Do you want him to err in the direction of documenting and getting quickly onto the more detailed process, that he's probably not going to do, or do you want him to err on the side of not passing things on? Where is the err going to be in the initial implementation?

MR. JOHNSON: Let me try to talk to that. Initially, the resident will find an issue. They'll apply that every early screening that you talked about. It takes very little time to do that. If they got at the issue as one of the ones that pass through, I'm not sure the hundred is a right number, but it's one of the ones that you pass through.

In addition, there is a phase two part that I didn't talk about in the SDP that is the actual plant-specific worksheet that, as Alan indicated, we really want the resident to be able to apply that phase two screening, and we think you can do that, you can work on that during the inspection, the regular interval of the inspection, and, in fact, we really want to be able to get to a point where, at the end of the inspection, that period, and the report that gets issued, we can talk about a finding that is a potentially risk significant finding, so we can right away begin to engage the licensee in terms of their

understanding of the significance of the issue.

So the process that we're setting up really does try to drive towards getting sort of a timely presentation of our concerns that are potentially risk significant, again, gone through that initial screening, gone into that second screening and had the SRA look at it, had us in headquarters take a look at it, and then be on the docket so that there can be response.

COMMISSIONER McGAFFIGAN: So that's part of -- I'll ask Jim Dyer. I'm listening to this, I can understand some of the trepidation in the resident core, because there's a lot that we're asking them to do that they haven't had to do in the past, have they? I understand the initial screening, but during this inspection, they're going to be simultaneously talking to the senior reactor analyst, filling out some of the flesh on whether this is a significant risk.

MR. DYER: I think it will be initially, Commissioner, but I think the true value of the SDP process lies in the phase two worksheets and those are still being validated for the plant-specific characteristics, and that is where I see, as a result of the training I had last week, as really the link to save our SRAs from being completely overrun with consultant activities to the resident inspectors for everything that comes up, a risk-informing

training tool for the resident inspectors and the inspectors.

This phase two worksheet, I was very favorably impressed with the logic breakdown that it took you through, that an inspector or a branch chief could follow through based on their site specific knowledge and come to a decision as to whether or not the finding or the event needed to pass on to phase three of the SDP.

MR. JOHNSON: And if I could add on to that. The value, I've said this a number of times, the value of the SDP is in the process as much as it is in the result, and that's what Jim is talking about.

We could perhaps build a computer system where you could enter the finding and have it kick out a color at the back end, but the value is in the exercise that the inspector goes through and using that, applying that phase two worksheet to see what the significance of the issue is.

COMMISSIONER McGAFFIGAN: Let me ask -- I have lots of questions. I'll ask one more. Dr. Lipoti, in her prepared testimony, says something that I think isn't true and you've already addressed, but I'll just -- the new program is prescriptive in preventing NRC inspectors from getting involved in non-safety-significant issues.

You've already said that you have -- I think there was some misimpression early on that residents were -- there

were some exit meetings that lasted ten seconds or whatever, because they didn't find anything.

That's all changed, right? You've made clear to the resident core that -- I don't know what a non-safety-significant issue is, but if it's no level four, which I think we defined as non-safety-significant, it goes into the CAP, it goes into the corrective action program and gets dealt with by the licensee, but it's still something they should talk about.

Furthermore, they can even talk about, as you said earlier, cross-cutting issues, where they have something in the pit of their stomach telling them that there's something wrong or whatever.

So this is a problem that has been fixed, hasn't it?

MR. DEAN: We've made adjustments to the process to try and address those concerns. You're correct, Commissioner, in that early in the process, there were some situations where residents felt they had to restrict their ability to communicate with the licensee and we were made aware of those early and got the expectation out there that we're not trying to do anything to truncate their communication.

What we're trying to do is make sure that our inspection reports capture issues at the appropriate

threshold.

I do want to add one other thing in talking about -- to try and help you with the numbers, at least give you an update on the number of issues, based on the pilot program. We had -- and these are approximations. We had about 100 or so green issues that were identified during the pilot process and about three white issues that emerged or were originally characterized as white issues.

So if you were to take that and multiply that by about nine or so to indicate the full number of sites and then the number two to indicate it from a six month to an annual, you're probably talking on the order of anywhere from 50 to 75 issues that we might deal with on an annual basis that are more than a green issue.

COMMISSIONER McGAFFIGAN: So that's more. That's more than you expected once. Based on the pilot, there could be 75 issues. That also helps explain why you're asking for more screening at the plants, because if there were only 100 in four regions, I mean, 100 things that have to go through the screening process in some elaborate way resulting in ten findings a year, then that's not that big a burden on -- you know, there would be 25 per region, that would be two a month.

But if you're talking these numbers, then it gets to be a more significant burden.

MR. DEAN: One of the things that we did in terms of trying to estimate resource planning for initial implementation to help the regions out is that we came up with an estimate that for each site, we would have about one and a half white issues per year that we would have to deal with, and we used that as kind of a planning assumption.

So at least we could go forward with having -- and that was based on the pilot program results.

COMMISSIONER McGAFFIGAN: I've gone over my time, so I quit.

MR. COLLINS: Commissioner, let me respond to one of your questions. I think Bill did it partially. The issue of does the program -- is it prescriptive, does it limit the inspectors. The answer to that is yes and it's an intended issue. The goal of this program was to be able to focus limited resources towards those risk and safety significant issues.

The value here is that the processes you mentioned have the tendency to do that. That means we have to change the shift in focus and be able to let go of those issues that historically we did place some focus on, whether they be level five or four violations, that unintendedly drove licensee resources, because they were NRC findings.

Even though they weren't safety significant or risk significant, the licensee had to respond to them.

COMMISSIONER McGAFFIGAN: But we still -- unfortunately, a level four violation was a violation of something.

MR. COLLINS: Yes.

COMMISSIONER McGAFFIGAN: We're not going to not find violations.

MR. COLLINS: The difference is that the licensee's corrective action program will then determine the priority and the licensee's resources will be focused on the overall prioritization of that issue, along with the backlog. If there is a risk significant issue, we would expect the licensee's program to acknowledge that, based on the type of work that you mentioned with the SDP.

The priority of that would become greater, would be agreed upon, and the resolution of that issue would become the priority.

COMMISSIONER McGAFFIGAN: Maybe the word non-safety significant, but in the past, I think we have defined in the enforcement policy level fours as being non-safety or risk significant, yet they are level four violations and they are currently put into the corrective action program. So it may be semantic, but I would hope those things are still being found according to the corrective action program.

MR. COLLINS: Yes, sir, I'm sure that is the case.

CHAIRMAN MESERVE: Commissioner Merrifield.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman. I want to add my comments about the staff, as well. We've come a long way on this program. There's obviously a further way to go, but I think certainly I want to add my appreciation and congratulations to the staff for, I think, a very large amount of work done in a relatively short amount of time.

The first question I have, we did have the meeting last week with ACRS and there were a couple issues that they raised that I'd like to have you all make a brief comment on.

The first one is that the performance indicator thresholds may be so high, that it serves a disincentive to improve plant performance. That's the first issue. I think Dr. Lipoti has a similar concern.

The second one is that the significance determination process is cumbersome and will bog down our inspectors. Mr. Lochbaum stated he believes the SDP, as it currently stands, is unworkable and SECY 00-0049 has raised similar concerns. So I'm wondering if you have any comments about either one of those issues.

MR. DEAN: I will address the PI threshold question first, Commissioner Merrifield. Some of the experiences that we've gotten from the pilot program, and

Mr. Beedle might be able to reiterate or talk to this further, is that a number of licensees have looked at trending their performance within the green band. In other words, they want to assure that they're not going to get their performance close to that threshold, where they can risk going into a green-white and get it enhanced during increased regulatory action.

And so I guess my own personal belief is that we have seen nothing in the pilot program and from our discussions with industry that would give us an indication that those thresholds serve as a disincentive.

Now, we talked earlier, Alan talked about the effort that we took to try and adjust those performance indicator thresholds based on the pilot program information, as well as historical information, and balancing that against the original thresholds that were established in SECY 99-007, but we think that those actually serve as good guide posts for what we believe to be appropriate licensee performance and we think that just by having those thresholds out there and having the public observation of how licensees are doing against those thresholds serve as a tremendous motivator for licensees to perform and be low within the green band.

MR. COLLINS: Commissioner, I think there is a theme that runs through the ACRS presentation which is

valid, but it's looking down the road a little bit perhaps, and that would be that if the performance indicators could be more risk-informed and plant-specific, then they would acknowledge the differences in plants, and, at that point in time, the plants would acknowledge, based on real indicators, where the value is in reducing those risks.

We acknowledge that and that is perhaps a future vision that we're working with the Office of Research in a pilot way to determine if that's feasible.

In the interim period, we are where we are and we're just not at that point yet. Although the process is risk-informed, the specific indicators are not.

DR. TRAVERS: The only thing I would add to the question of disincentive or not is that we've been fairly strident about not equating green with good. In that respect, we recognize green as an area within which additional NRC attention is probably not warranted, based on the risk significance. It doesn't mean that we are trying to transmit that this is a good thing.

When I talk to licensees, various other factors, business factors really drive them to make gains in performance that transcend the green zone even. They can trend based on issues being identified.

So I don't necessarily agree with what ACRS said relative to not being able to trend.

But we're very careful about characterizing green in the acceptable zone of not entailing any further NRC interaction as opposed to anything else.

COMMISSIONER MERRIFIELD: In that meeting, I indicated my belief, as well, that that was not -- that that particular theory that the licensee would track the performance indicators was not at all -- didn't correlate at all with the discussions I had with the licensees.

I also asked about the significance determination process. Any comments about that one?

MR. DYER: I think, Commissioner, I would just re-echo what I said two weeks ago. I think I would have had that same understanding, the results of -- since I was -- I went to the training and particularly saw how the phase two SDP worksheets are being implemented or are intended to be implemented when we get them validated, and I'm optimistic now.

COMMISSIONER MERRIFIELD: In her testimony, Dr. Lipoti refers to our new oversight process as a voluntary program. Mr. Lochbaum indicates that there is a perception of self-regulation. Obviously, these are concerns we ought to address.

For the record, could you discuss what our response as an agency would be if a licensee withdrew from the process by not providing performance data?

MR. MADISON: We have developed an inspection procedure that would provide guidance to the region and the inspector in what to do if, for various reasons, the performance indicator data is either not provided or we have determined that because of inaccuracy problems, that the PI has become invalid, and we would direct them to either -- depending upon the performance indicator, either go out and collect the data ourselves, if it's easy, and if not, go back to the original documents, the diagrams that describe the attributes, important attributes and important areas to measure in each of the cornerstones, and focus the inspection on those activities that the performance indicator was trying to provide information on.

So we would replace the performance indicator with inspection activities.

COMMISSIONER MERRIFIELD: As a follow-up to that, are there any circumstances -- I mean, it would be hard for me to believe that a utility would withdraw from this program and providing that information given the extreme reaction from stakeholders and the financial community. Would you disagree with that characterization?

MR. DEAN: No.

MR. COLLINS: I think I agree with it. However, I believe that the program has to play out and demonstrate value. We can differ on how we define value.

Some of that would depend on what is the overall inspection effort that's necessary as the process is refined and can the agency legitimately substantiate that level of inspection effort given varied plant performance.

Are we going to credit industry initiatives or industry audits, self-assessments, for those plants that perform in the higher areas, for example? Do we stay coupled with our stakeholders so that the performance indicators have validity and, therefore, credibility?

Those areas, as Commissioner McGaffigan mentioned, I think, are going to be ongoing activities, so the program stays at a level where people have confidence in them.

If that's true, I think the answer will be we will not encounter that problem.

COMMISSIONER MERRIFIELD: Okay. Getting back to the significance determination process, Dr. Lipoti made what I believe is quite a damning statement, and she states that the SDP turns regulating into negotiating.

Now, we haven't heard her testimony yet and she may flesh that out, but at least the impression that we have turned some of our regulatory responsibilities over to licensees, would you like to respond to that?

MR. DEAN: I'd like to try first. I do take some exception to that. I think that the significance determination process, as I mentioned earlier, does an

outstanding job of laying out in front of both the licensee and the agency what are the issues that contribute to the potential risk significance of an identified inspection finding.

I think what she refers to in terms of negotiation is exactly as Michael described earlier, that we want to get to a point where we describe that issue, its potential significance, and what surrounds our assessment of that significance, and then share that with the licensee, so they can provide a response to us.

I hate to compare it to the enforcement process, but there's a certain amount of due process --

COMMISSIONER MERRIFIELD: I was going to try that very same analogy.

DR. TRAVERS: It's really just a tool and the best way this tool works is with full information brought to bear on how you process the information.

COMMISSIONER MERRIFIELD: But ultimately, we have the choice and we make the call.

DR. TRAVERS: That's right.

MR. COLLINS: I think the difference is, between the old process and this process, that in the past, when we engaged the licensees, the first order of business was disagreement on the process, are we a SALP-1, are we a SALP-2, why am I a problem plant, why am I not a problem

plant, is this or is this not risk significant, why is it a level three if it doesn't have risk.

The purpose of this process, as it's defined currently, is to take that off the table and engage on the issues and not on the process and once there is an agreement on what the issue is and what is risk and safety significant, then it becomes a matter of corrective action.

COMMISSIONER MERRIFIELD: My final question. We are moving away from the SALP program, which was noted for, among other things, its subjectivity and unpredictability. Those were two of the more significant charges against it.

In reading the paper SECY 0049, one of the things that the staff intends to do is to deviate from the specified action in the action matrix when it deems it to be appropriate.

That strikes me as adding a level of subjectivity and unpredictability, which is precisely what we're trying to get away from.

I think that puts us on a slippery slope and I'm wondering if you can outline your intentions about that. I also was wondering, if you feel strongly about that, how you would react to having the notion that the Commission should approve any deviations from that matrix.

MR. DEAN: If I can take a first shot at that. One of the lessons, we actually had an actual experience in

the pilot program that provides some credence as to why there certainly needs to be in the process a consideration of situations where a deviation from the action matrix may be warranted, and I'll describe the situation.

At Fitzpatrick plant, they had an issue with their high pressure coolant injection pump that resulted in the pump being declared inoperable and in going back and trying to figure out how long the pump had been inoperable since the last time that they tested. It resulted in a substantial unavailability time period that caused the performance indicator threshold for safety system unavailability to from a green to a white performance indicator.

In inspecting this issue, our inspectors determined that there were some performance issues associated with the cause of that pump being inoperable for that time period. So basically what you had was you had -- and it ended up being characterized as a white inspection finding.

So that basically what you had was that for the same root cause, for the same reason, you had both a performance indicator crossing a threshold and you had an inspection finding that was characterized as white. So you had two issues crossing thresholds for essentially the same underlying cause.

MR. COLLINS: Double jeopardy issue.

MR. DEAN: Basically a double jeopardy issue. And so if you were to follow the action matrix explicitly, it would tell you that you had two white issues in the same cornerstone, you had a degraded cornerstone, and that would result in a more substantial NRC interaction and regulatory response than was probably warranted by that singular issue.

COMMISSIONER MERRIFIELD: That may be a fair example. I'm just generally concerned about our tinkering with that action matrix. To the extent that there are suggestions to do that, I think we need to work with our stakeholders and Mr. Lochbaum raised significant concerns about this in his testimony, and make sure that that is scrutable, understandable and clear up front, so that everyone is comfortable about that kind of a circumstance and not lead us to a place where it would be an ad hoc subjective determination.

DR. TRAVERS: I think you're exactly right. Of course, the intention is to have in place a process, Regional Administrator, Director of NRR, that would set into motion a review and deliberate decisions on what is expected to be rare instances where we would deviate.

So in that sense, we fully agree that we need a structured process and we need to explain it and it's really our burden, we think, when we go outside that matrix.

MR. COLLINS: I think the intent of providing stability has actually created this need to have a kickout. The stability is that the process should handle the vast majority of the cases, but it can't be so refined and so complex that it handles them all.

So where there is an exception, there needs to be a defined process by which high levels are engaged to deal with that exception and, therefore, leave the process stable. That's a little bit of a tradeoff here.

COMMISSIONER MERRIFIELD: Thank you.

CHAIRMAN MESERVE: I'd like to thank the staff for a very helpful briefing. We much appreciate obviously the huge amount of effort that's gone into this and it's very helpful.

We are going to be hearing from another panel. Let me suggest, however, that we take a very short recess and return with the second panel.

[Recess.]

CHAIRMAN MESERVE: Why don't we get underway. Before our second panel begins, let me introduce them. Our second panel is constituted of Mr. Ralph Beedle, who is the Senior Vice President and Chief Nuclear Officer for the Nuclear Energy Institute. I believe Mr. David Garchow is intending to be here, who is the Vice President of Technical Services for Public Service Electric and Gas. Mr. David

Lochbaum, who is a Nuclear Safety Engineer and who is with the Union of Concerned Scientists. Dr. Jill Lipoti, who has been mentioned several times here, is the Assistant Director of Radiation Protection Programs at New Jersey's Department of Environmental Protection. And Mr. Frank Gillespie, who is a manager here at the NRC, but is appearing before us today in his capacity as Chairman of the pilot plan evaluation panel, about which Mr. McGaffigan asked some questions.

Why don't we get underway and just proceed along the table. Mr. Beedle, would you like to start?

MR. BEEDLE: Thank you, Mr. Chairman and Commissioners. Before I start, I would like to go back to July of 1998 and a quote by a Commissioner by the name of Mr. Nils Diaz, when he said that the need to change the regulatory process is not an indictment of the past, but is a requirement of the future.

That kind of went through my mind as you quizzed the staff on the development of this new oversight process and a lot of questions, and I thought they were good penetrating questions, good food for thought. I'm convinced that the staff has given a lot of thought to many of the questions that you asked, but I think your questions will spur them on in a number of areas.

But the process that we're looking at is one that,

while it's not perfect, it just seems to me a whole lot better than what we had in the past with the SALP and the watch list process. So I think it gives the staff, the licensees and the public a much better view of plant performance from the safety point of view and focuses the resources of the agency and the licensees on those things that are significant.

So with that, if we could have the first slide, lessons learned from this pilot process that we've just completed. As I indicated, it's not perfect, but I think we've seen a significant improvement in our ability to measure the -- there was quite a bit of discussion on the self-assessment and corrective action program, one of the three key cross-cutting issues, and that is one in which INPO has taken a major step in providing some guidelines for the industry, such that we could have some consistency.

And as the agency focuses more on the self-assessment and corrective action programs, I think consistency is an important part of that evolutionary process and INPO has, I think, done a good job in developing that.

While you're looking at a guideline that was issued by INPO that is not particularly voluminous, underpinning that guideline is a tremendous inspection evaluation effort on the part of the staff at INPO, regular

inspections, one that look at all facets of the corrective action program, and I might add they have been doing that for a number of years.

This is not a new area of evaluation for the Institute of Nuclear Power Operations.

The third area, greater management oversight needed on data collection, and I think that is one that has been evident as we went about the development of the performance indicators for the reactor oversight process.

We collect, in the industry, thousands of data points every month. We collect them for FERC, we collect them for INPO, we collect them for WANO, we collect them for EUCG and NUMARC and everybody else, and it becomes almost a routine kind of process to go collect data.

When you're collecting data to support a regulatory process, it places a great deal of significance on it that wasn't there before, and we're finding that a greater deal of fidelity is necessary to deal with that. So I think all in all, that's good. It will probably improve our overall performance indicator data as a result of that.

And then the process is more risk-informed and provides for improved safety focus. As mentioned earlier by the staff, one of the major outcomes of this process over the ones that we've had in the past in trying to assess performance has been the significance determination process.

It asks the question, is the situation and the condition that you're looking at today one of safety significance and if it is, you appropriately place resources on it to deal with it. If it isn't, although it may be a violation of regulation, if it has no safety significance, then perhaps it's one that's deserving of correction ultimately, but not with the same level of intensity that you would place on one that had safety significance.

Another way of saying that is that given two violations, which one would you put the most significance on, and the answer is the one that's safety significant. So I think that's really where our benefit is.

The fact that there is a wide range of safety determination or significance determination processes I don't think is particularly disturbing and in many respects, to be expected, because of the different significance of some of our programs. Fire protection, reactor systems, security programs, they all have a different nexus to safety. We need to determine what that is and I think that's been well worked out and we'll continue to refine the process for the significance determination process.

Next slide, please.

Now, industry concerns. Before I start this series of concerns, let me preface it by saying the industry is in full support of this process and is ready to go

forward with the next phase of the program. So we'll start that out.

Now, does that mean that everything is perfect? No. And so we'll talk a little bit about the performance indicators.

To digress just a bit, Commissioner Merrifield asked the question about these performance thresholds and performance indicators and how do they work. I have never envisioned that the PIs for this oversight process represented goals for the industry. However, I would tell you that if you set a green threshold at four, the industry is going to try and stay above four or less than four. If you set one at two, I assure that you they will try and get into the two range.

So to that extent, they do represent goals that could ultimately and will cause industry performance to change. Let me just give you an example. In the area of emergency preparedness, we had a goal that talked to the number of people that were trained in our emergency response teams and had you taken a snapshot a year ago, I'm sure that you would not find that they're all green.

But having defined a threshold at which green and white would occur, there isn't one plant that wants to be white on that particular area, so they're going to go do more training in order to make sure that they satisfy that

what is perceived to be a goal on their part.

We also talked about the gradation within the green area, where the plants have established internal thresholds to keep their performance well above the break point between the green and white, because they don't want to be white.

There is a clear perception on the part of the industry that white invites more attention. They don't need more attention, and so they're going to try and keep it green.

I think the public is going to view this the same way. Regardless of how much margin to safety you have in the white area, if the plant goes into the white, the public is going to react to it.

So with regard to the PI thresholds, I think we need to recognize that they do have the potential for ratcheting, and I'll use that term, since the staff used it earlier, they do have the potential for ratcheting the behavior of the plants, and I think we need to look at that behavior and ask whether or not it's the kind of behavior we want.

Need for more stakeholder and review comment. I would encourage you to continue the engagement of stakeholders, not only NEI, industry, but David Lochbaum has been a major contributor to it, other stakeholders have been

involved in this thing that bring a different perspective, and I think it's been healthy and is a major change in the way the agency has gone about this.

I think the admonition from one of the Commissioners in the past has been that the earlier you engage the stakeholders, the better the product turns out to be, and I think that's borne out in this case, as well.

Consistency with other regulatory requirements. One of the problems that I think we're going to face is that as we try and establish thresholds, we're going to cross some of the boundaries with other programs that we have in place, and let me just give you an example.

In our technical specifications, we have an emergency AC power system allowed outage of about 3.8. We have a maintenance rule acceptable outage of 4.1 and then we come in with a PI threshold of 2.5. So the utility sits here and looks and says, well, what's the right answer, where do I have to be; well, I've got to be 4.1 for the maintenance rule, but I've got about 3.8 for the tech specs, and a 2.5 for the PIs to satisfy that requirement.

They look at that and say, well, what is the requirement, where does the rubber meet the road on this thing, and I think we need to be careful as we set these PIs that we don't set unnecessary restrictions on the operation of the plant for which other programs have already evaluated

and determined acceptable levels of performance.

The last one on this slide is sufficient data to justify changes. Current definitions for some of these PIs truly represented historical performance, others did not. So we need to make sure that as we go about the process of establishing these thresholds, we do it with full knowledge of the performance and the historical behavior of that particular performance indicator.

Next slide, please.

Need for continued checks and balances to ensure consistency across the industry. I think that's been one of the major objectives in this process, is to try and get a consistent application of the process to all the utilities, from region to region and within the regions.

I think that having the suggestion earlier to have a group of stakeholders that continue to look at the process, I think would be very helpful, and I think that brought together the regions in a way that they hadn't been brought together in the past when we had those meetings. So very helpful.

And then the NRC process for future changes in the program. The issue of continually increasing the thresholds is one that is of concern to us. I will not back away from that. We need to make sure that we are in a position where consistency over time is something that's relatively assured

in this process.

Now, that doesn't mean that we are reluctant to see change or that we're reluctant to see new and viable performance indicators, but we've got to make sure that we don't take the performance indicators we have and try and use that as a means of driving the performance of the industry. We need to continue to keep our focus on those things that are necessary for safety and assurance of public health and safety.

The next is overreaction to the white inputs, and I think Commissioner Merrifield, in his discussion on the action matrix, was -- that's a good point. All of this falls by the wayside if not only the NRC's reaction to the action matrix or the licensee's reaction to the action matrix or the public's reaction to that action matrix, all of those things play together, and if we don't try and keep this in perspective and continually preach the lessons of the green is an acceptable band of performance, it doesn't mean good or bad, it's an acceptable band of performance, and white means that you've departed from the margins slightly, that you deviate from the industry's normal performance, and that perhaps some more investigation on the part of the NRC is warranted does not mean that you're an unsafe plant.

We've got to continue to remind the public of

that, as well as ourselves.

Next slide, please.

Industry implementation. As I indicated, we are ready to implement the next phase of this program. I think the characterization as an initial implementation with the clear notion that we're in a continuing process of change and revision and refinement, that we will have a continued feedback and dialogue to understand how those changes take place, get feedback from the various stakeholders in the process, I think is all a good and positive indication of the vibrance of this program.

Enhancement is a disciplined process. I think I just talked about that. I think that is an essential element of it. And then the use of senior NRC and perhaps chief nuclear officers meeting on a regular basis to discuss the development of the program I think is almost crucial to its success.

Overall benefits of the program. I do think it's far more objective than our SALP process. I think it's predictable, certainly provides safety focus through that significance determination process. I think it's understandable. I use my son as kind of a test on some of these and I say go to the NRC web site and what do you think, and he says, oh, wow, that's pretty neat, you know, graphs and charts and things like that, and it's fairly

easily navigable, although I think it could be refined a tad. But it's pretty clear. He seems to understand that well.

Better use of industry and NRC resources. I think that's really the bottom line. We're not embarking on this program to try and make the nuclear plant operation cheaper, but we're trying to use our resources more effectively, and from the regulator's point of view, it has to be a focus on safety. I think that's really the point that many of our chief nuclear officers involved in the pilot program would make is that this program gives me the ability to focus on the things that truly represent safety for my plant and I don't have to worry about some of the less significant issues.

And that's not to say that regulations aren't significant, but they don't all carry the same safety significance, and that gives them the ability to differentiate.

So yes, the industry is ready and hopefully we've answered that question, Commissioner Dicus.

CHAIRMAN MESERVE: Good. Thank you very much, Mr. Beedle. Mr. Garchow.

MR. GARCHOW: Good afternoon, Commissioners and Chairman. My background in this process is I had the opportunity to get sent to attend the initial workshop and

it's been sort of a gift that has kept giving all the way up to today. So I was on the NEI senior management task force.

Our utility was committed to this process through NEI and I was volunteered as a senior management rep to work with the NEI and the rest of the industry, spending several days a week and a month in Washington, DC over the last year, year and a half, and I happen to be on the pilot plant evaluation panel, which I thought had an end, but in deference to Commissioner McGaffigan, that may be a gift that continues to keep giving.

So I am giving my comments as a representative of the pilot plants. I represent Salem and Hope Creek Station, and we were two -- we were one site that actually had three units in the pilot process reporting indicator data for Salem Unit 1 and 2, as well as Hope Creek.

So we found the new process to be an improvement over SALP, as has been mentioned, and it actually shows us some objective safety performance measures, both by inspections and PIs focusing on those issues that truly are important to safety.

And in the deregulated environment, it is very clear that our focus has to be on safety or we're not going to get the reliability out of the plants, nor are we going to be economically viable. So the new oversight process is exactly consistent with the strategy we need to do to

competitively and safely run nuclear power plants.

We will continue at PSEG to support this process and its implementation as we go forward. We accept our responsibility to create the healthy work environment in our plant that does allow us to find and fix our own problems. That is consistent with our safety theme of focusing on safety, and I agree with Commissioner Merrifield's view on the corrective action program that a low threshold, high volume programs have screening to screen out risk is important for us to be able to operate our plants safely, and as Mr. Beedle said, we have incentive to try to stay in the green, as it were.

We also need to focus on the communication for the process and we challenge implementation with continued feedback with NEI, the industry and the NRC is crucial. The interactions have been very positive to this point in time. We need to continue that positive vein as we go forward to initial implementation.

Relative to the performance indicators, we see those as positive. The objectives, I think they are tied to the cornerstones appropriately, and they do include, especially at the white-yellow and yellow-red thresholds, they are risk-informed.

I guess the danger would be as we continue the trend of improving industry performance, I think the

discussion of whether to reset the green-white thresholds along the way as the industry performs will need to be looked at carefully to make sure that, in fact, doesn't cause some unintended consequences as we keep tightening up the green band relative to the issues Mr. Beedle talked about on the public perception of going into white, because I don't believe the public would understand that five years from now, we've raised the threshold and what was white five years from now might have been green today, and I think we have some confusion.

So I think we need to be very careful on adjustments to the green-white threshold, while continuing to do the research on the white-yellow threshold to make those as performance-based as we possibly can and make sure that there is an appropriate band as licensee performance goes from green to white and white to yellow. So I would add that caution.

PI accuracy, we've had some learnings at Salem and Hope Creek, and I believe that the industry, as well as us, the senior management team at the facility, need to continue our vigilance in defining the process to make sure that the PI data is reasonably accurate as we can provide.

I think we need to clarify and really come to some grips of what an honest mistake that has no impact at all in crossing a green-white threshold means relative to 50.9. So

that is still an open issue, in my mind, and we need to work through the resolution of that, because I'm not sure it's in the NRC's, the public's or the utility's best interest to be having extended discussions over 12 minutes of unavailability of a safety system, and there are examples out there where there are differences of whether it was unavailable or available for ten minutes and in the whole scheme of things, I'm not sure that's an appropriate level of discussion that we would need to have for something that's really in the green.

That being said, we need to strive to get our data collection as accurate as we possibly can.

Next slide.

The inspections during the pilot at Salem and Hope Creek we found to be very thorough and we saw the significance determination process as very well done. There were differences of opinion throughout the industry on the SDP. We had an opportunity to exercise the fire protection SDP and we found that to be very thorough, focused on risk, and I would agree, I believe with Mr. Collins, who said that during the interaction with the NRC, the focus was not on the process, the focus was on the true defense-in-depth that existed relative to the issues that were being discussed. So we moved it away from the process and on to the actual issue, as Mr. Collins said.

We believe that the new process does reduce unnecessary burden and focuses both the NRC and the utilities towards safety, while recognizing that we still have an obligation to comply with the regulations, and, as Mr. Beedle said, it does provide a good screen on any given day, we have our resources working on any number of things. This gives a good filter to make sure that we're working on those items that have the most safety significance when they come out through our corrective action program.

So in summary, we are committed to continue to address the areas for improvement. We've heard from many stakeholders and you'll hear more this afternoon there are areas to improve as we go into initial implementation, and we need to, like I stressed, keep the open dialogue between the stakeholders and the NRC through initial implementation, so that we don't get misperceptions or misconceptions about some of the changes that are going to occur as we roll this out and so that we an stay on fairly consistent.

So I appreciate the opportunity to address the Commission, and I can answer any questions during this proceeding.

CHAIRMAN MESERVE: Thank you very much. We'll come back at the end with questions. Mr. Lochbaum.

MR. LOCHBAUM: Good afternoon. Slide two, please. I wanted to start with the bottom line, but first I wanted

to point out that the dotted line by no means implies any uncertainty or anything like that. That's just a standard header that we use.

We recommend that the Commission adopt the revised oversight process as it is today. Industry-wide, in April of 2000, or soon thereafter as possible. Having said that, we recognize that various stakeholders, including UCS, have concerns that should be resolved after implementation. We're not ready to give up on our concerns so far, but we don't think any of our concerns would prevent industry-wide implementation.

Slide three, please.

The reasons we like the new process are longer than this list, but I want to hit the top four, the first being that the performance in the new program is assessed in 27, roughly, areas instead of four broad categories. In addition, performance is assessed 30 days, roughly, after a 92 day period instead of 180 days after a 730 day period. So it's more timely.

In addition, the NRC response to declining performance is predefined instead of being ad hoc or arbitrary and lastly, or at least on this list, we think a big benefit is that the performance information on all plants is made available on the internet instead of some information being available for some of the plants.

Slide four, please.

Some of the concerns we have about the new process kind of fall into five categories. One is the perception of self-regulation by the industry. The second is concerns with the significance determination process. The third is what we call the missing link. The fourth is the deviations from the action matrix. The fifth is cross-cutting areas.

I'd like to point out, again, that despite our concerns in these areas, we don't think any of these issues would prevent industry-wide implementation. I guess I can't stress that enough.

Slide five, please.

Dealing with the issue --

COMMISSIONER MERRIFIELD: Mr. Chairman? What do you mean by missing link?

MR. LOCHBAUM: I'll get to that. It's a slide coming.

COMMISSIONER MERRIFIELD: Okay. Sorry.

MR. LOCHBAUM: The first issue is the perception of self-regulation by the industry and we see a number of problems that give us evidence or suggest the impression of that. The first is that the new process depends heavily on plant owner cooperation, both for performance indicator data and also for the significance determination process.

The plant owner can voluntarily decide not to

submit performance indicator data or can slow down or virtually stop the significance determination process, and that doesn't seem to be good, from a public perception standpoint.

The second problem we've found is that throughout the program, although the involvement of the public and various stakeholders, including UCS, has been better than in the past, we still have the view that the NRC's primary stakeholder is the nuclear industry and we and other public stakeholders are treated as second-class stakeholders.

It could be a step up from third world treatment, but I guess we're aiming for separate, but equal.

The last concern is we feel that to date, the NRC's public communication's haven't been very good. The issues -- the reports that have been issued haven't been in plain language or plain English.

I heard the previous panel, the NRC panel talk about going out and scheduling regional talks and also revising NUREG-1649. It would be good if the NUREG were out prior to the meetings with the public, because otherwise the public has very little to look at and prepare for before these meetings.

I think that was a problem during the pilot program, that information wasn't made available to the public when they were asked to come in and provide their

views.

Slide six, please.

The significance determination process, or what we call pick a color, any color, as long as it's green, we felt, as a member of the pilot program evaluation panel, basically that the pilot did not show that the significance determination process worked, because none of the findings that were determined to be potentially not green were ever resolved in the lifetime of the pilot program evaluation panel.

We felt also because of the heavy reliance on plant owner negotiation or participation, it would be better not to use that input. Instead, use SPAR models or other means that the NRC controls to determine if something is significant or not.

Also, the significance determination process itself is fundamentally flawed, because it looks at core damage frequency and large early release F, and I forget what the F stands for. There are other things that can cause harm to plant workers and the public and that would be spent fuel pool accidents, whether criticality or loss of water, leading to overheating.

There's also a lot of tanks on-site that contain a large amount of radioactive material; if they were to be vented straight to the atmosphere, it could cause a lot of

concern.

The significance determination process ranks all those as nothing, basically, and any process that -- anything that's called risk-informed that omits any significance on those issues seems to be flawed.

We also look at the significance determination process for physical protection and in our view, that's more of a measure of terrorist performance than it is of plant owner performance. If the NRC determines or finds, an NRC inspector finds a bomb taped to the reactor vessel, but it hasn't gone off yet, the significance determination process will rank that, at worst, a white, perhaps a green.

Also, if a bomb gets inside and goes off, but blows up a warehouse or something not very important, the significance determination will, again, rank that, at worst, a white and perhaps a green. That, in our view, is a measure of how successful the terrorist is and not how successful the licensee is preventing the bomb from getting inside the plant. So we think that's totally messed up.

As totally messed up as it is, it's better than the old process, so we don't think it should prevent industry-wide implementation.

COMMISSIONER McGAFFIGAN: As he repeats this, I'm not sure of the depth of --

MR. LOCHBAUM: It's sincere. I practiced all last

week. Slide seven deals with what we call the missing link. There's been some -- as we attended some of the workshops and meetings over the last year, the industry has wanted to try to use the significance determination process for all NRC findings and when you apply that to findings in the physical protection area, the security area, it simply doesn't work, because PRAs and IPEs don't consider any threats from sabotage or terrorist acts. So therefore, because the risk assessments don't include that, you can't apply the results from those processes to evaluate the significance of problems in those areas.

So we think until you do or anybody does risk assessments that account for terrorist and sabotage acts, then you have to, by definition, consider physical protection cornerstone problems separately from risk-informed situations.

Slide eight, please.

I guess as I get older, my counting isn't as good, because the previous panel, Mr. Dean said there was one deviation from the action matrix during the pilot program, and I counted three. There were two involving -- it was Fort Calhoun, Quad Cities and then the final event involving Fitzpatrick, and yet three deviations, at least that I know of, from the action matrix over a six month period over a limited number of plants, that seemed far from rare and the

reasons might have been very well justified, but they weren't open because they weren't very clear or well documented.

So I think there is a problem in this area. We think that any deviations from the action matrix, as Commissioner Merrifield pointed out, could be subjective and are, therefore, potential threats to safety and in any event, they are tangible threats to public confidence.

Anytime a regulatory agency says they're going to do one thing and does something else, the public confidence has to be eroded. It cannot be -- at best, it's going to be held the same. At worst, it's going to be eroded. So the NRC must take safety warnings from this while process seriously and not deviate from the action matrix. That defies the whole purpose of it.

Slide nine is the cross-cutting areas. As important as the cross-cutting areas were, and I kind of forgot which camp I was in throughout the process so far, I think I understand, I believe, the fundamental tenet that the cross-cutting areas will manifest themselves in one of the PIs or inspection findings.

But regardless of which camp I'm in, we think it's important that NRC not handle findings in cross-cutting areas via the significance determination process, because that could improperly downplay safety problems.

If an NRC inspector finds that the corrective action program is totally out to lunch on non-safety-related systems, we think that requires an extent of condition evaluation to determine if that program is broken across the board or if that was the isolated example.

That extent of condition could be done by the licensee or could be done by the NRC, but simply to dismiss the issue because it's a non-safety-related system is wrong.

Perhaps with the risk-informed guidance, the NRC inspectors won't be looking in non-safety-related systems for those things, but be that as it may, if the findings are there, you have to -- we think that there's a possible -- it's responsible to pull the string and follow up on them.

Slide ten, I go back to that bottom line and basically I repeat we think despite these problems, which we feel need to be fixed, but not necessarily before industry-wide implementation, we think this new program can and should be extended nationwide.

Our view is that the current program, which we call the bride program, because it's something old, something new, something borrowed and something blue, hasn't been tested, either in a pilot or anything else. SALP and watch list have been suspended. We're operating on an interim program that's not the old, not the new. If the honeymoon ends on what we call the bride program and there

is an event or a serious near miss at a plant, the public is not going to be real happy about this.

If this is the best oversight tool that we have, we ought to start using it at every plant as soon as we can, and our view is that this is the best we have and we should use it starting next month.

Thank you.

CHAIRMAN MESERVE: Thank you. Dr. Lipoti.

DR. LIPOTI: I am reminded of the story about the Emperor's new clothes and I like the material, I like the cut of the suit, and I like the style, but like the little boy in the story, I'm not afraid to say that the Emperor is in the parade in his underwear.

The theory of this oversight process, with its risk relationship, its quarterly reports, its predictability, the web site, the visibility of the program, which brings accountability, that's all wonderful. But the practice, as we have seen in the pilot, needs work and I really don't want to see NRC in your underwear, so I'm going to give you some comments that I think should improve the program.

Poor Sam Collins and Bill Dean kept having to say almost all stakeholder support, and I'm that hold-out. And I'm so pleased that all of you have read the comments.

One of the main problems I have with declaring the

new oversight program an absolute triumph of the existing program is that you have decided that there is a good enough level for nuclear power plants.

The threshold between the green and the white is the ad hoc good enough level and your regulatory system no longer encourages continuous improvement.

You're willing, maybe for the sake of economic competition and in this era of deregulation, to accept a good enough level. Now, my value system says that continuous improvement should be encouraged and that the good enough threshold combined with the economic pressure to produce power at a competitive rate will instead encourage the nuclear power plants to strive for the lowest green parameters they can without passing in the white zone.

Maybe the reason I feel so strongly about this is because I've been faced with the same decision to set a good enough level for X-ray programs and I haven't been able to bring myself to do that. I know that there's plenty of differences between regulating X-ray systems and regulating nuclear power plants, but when it comes to setting performance standards, performance indicators, what's good enough? Is 95 percent of the X-ray images that attained the quality standard good enough? What if that still leads to a physician missing a diagnosis?

So why not encourage continuous improvement? Your

direction to staff was to set the good enough thresholds and even that, the staff has only partially fulfilled. The performance indicators need to be a way to be a leading indicator, as you indicated, and so far the PIs chosen are lagging indicators.

Certainly there are criteria for good performance indicators, whether they correlate to safety, equate to a risk number, be anticipatory, predict safety in the future, and accurately portray the need for additional inspection resources beyond the baseline.

The thorough inspection identifies problems before they escalate, but you need the resources to perform those thorough inspections. That green to white threshold has emerged as the most important, as Mr. Beedle as stated, even though it's defined as just department from the margin.

The nuclear power industry has decided that a white finding is so detrimental to their image, that it's always contested. When the white threshold is crossed, rather than really searching through their nuclear power plant for what might be an early warning that operations need some additional scrutiny, during the pilot, utility management has instead attacked a system that led to the white finding and said go back, let's change the SDP process, it must be wrong; go back, let's look at the PIs, they must be wrong.

The SDP process has been evolving at a tremendous rate. I learned just today about this Brookhaven report that's going to influence the SDP process, it will be out in two weeks. The definitions of PIs have been refined and what has happened with all of this change, this tremendous fast change, is that the unnecessary regulatory burden which has been lifted has turned into an unnecessary negotiating burden, where the oversight process becomes more negotiation and less regulation.

Is that a function of the pilot? Perhaps it was. But in allowing the oversight process to be applied to all the nuclear power plants in the United States, calling it initial implementation instead of full implementation, you've kind of opened the door to negotiation in the regulation of all 103 plants.

Now, maybe in those negotiations, as Sam Collins said, you'll engage on the issues and not on the process and maybe that will be a good thing. I just don't know.

To make this new oversight process really useful, it will have to be made more rigid and less subject to these lengthy arguments and substantial changes. Yet, at the same time, we know that the program, as set forth, needs improvement.

It must be understood what the performance indicators and the inspection program that fit together and

the thresholds stand for and how much uncertainty there is in that number. Right now, the thresholds are chosen by a variety of different schemes and I know the Office of Research is working on a white paper.

In that white paper, the risk level has to be well defined, and the rationale thoroughly explained, and an uncertainty analysis performed that addresses the uncertainty in the risk assumptions and the propagation of uncertainty through the whole process.

That's going to require the balance between the generic PRA and the plant-specific IPE.

My last point has to do with a thorough explanation of the rationale for the thresholds. That explanation, that rationale has to be viewed not only as a regulatory tool, but as a communication tool to make your regulation understandable to the public.

The public will look for the explanation of your indicators as their leading indicator, the public's leading indicator for their concern or lack thereof about nuclear power. Excellence in regulation is what can change public perception about nuclear power, allowing it to be part of the energy mix for the nation.

So don't allow your agency to abandon a continuous improvement approach for regulation and settle for a good enough approach, and continue to communicate your rationale

and your philosophy to the public.

I know there were a lot of questions that were asked about my testimony provided and I'll try to answer a few of them, if you'd like me to now, or if you'd like to wait for questions.

CHAIRMAN MESERVE: Have you completed your statement?

DR. LIPOTI: My statement is over.

CHAIRMAN MESERVE: Okay. Why don't we come back later? Mr. Gillespie.

MR. GILLESPIE: Good afternoon. My presence on the second panel, representing the pilot program evaluation panel rather than speaking as part of the staff, I think represents kind of a unique approach to stakeholder participation in this development effort.

I would like to thank all the participants and we kind of a microcosm of the group here because the two Daves were both on the panel.

I think the strength of this effort was in the time and I'll say even emotional involvement on the part of the members through the whole process. We were established as a Federal advisory panel, with all the various bells and whistles, we kept transcripts, we kept notes, and even beyond the final report, which was -- we really focused on, it was supplied actually in December and I think the

Commission was supplied a copy in December. So it was kind of a forerunner.

We actually supplied the staff with the individual members' views, packaged with that final report, and asked the staff to deal with those individual views, also. The panel was chartered to actually use the same criteria that the staff established that they would measure the performance of the program against and which Bill Dean went through in great detail and it's included in the paper, so I'm not going to repeat each one of those.

But in our first meeting, we rapidly adapted and went through and went through a review with the staff of those criteria and I do have to say that from stage one, the staff was reasonably responsive to our comments on the criteria and we did have a consensus letter report that we sent to the staff to make some adjustments to the criteria and virtually every recommendation was taken.

So that set the stage for both the panel and the staff to be using basically the same yardstick as we went through this process of information collection.

The panel recognized in what it was doing and I'm going to stay away from any personal views, I will say that right now, because I know Commissioner Diaz knows me, we've talked before, and I'm representing kind of a consensus view, and so I'm going to focus strictly on the view of the

panel.

But the panel saw itself needing to supplement its views, so we actually invited five states, in addition to Gary Wright, from Illinois, who was a permanent member of the panel, to come in and give us some additional state insights, New Jersey, Ms. Lipoti's staff came in. So we did get extra insights from them. Mr. Riccio from Public Citizen came in.

And we had a meeting where we allowed these people to actually almost participate as panel members and ask the panel itself questions, so the panel allowed itself to be subjected to why are you thinking this way processes. So I think we had a very open process and we went outside where the personal views or the personal insights and experience of the panel might have actually been kind of limiting. So we did try to expand, but we expanded only in those areas where we felt we needed to bring extra insights in.

We also had an inspector come in, a regional branch chief, and we deliberately picked people who had expressed fairly vocal opinions during the process, and so we were very open with those opinions.

And even through all that, let me focus on not the details, because everyone has kind of gone through the same details, but just on the final conclusion to reinforce what

David has kind of really already said and he kind of repeated this panel's conclusion, and we sent this to the Commission in December.

That the overall conclusion of the panel is that the framework provides a more objective, clear and risk-informed approach to oversight of nuclear reactors.

The program should proceed to industry-wide implementation. The panel has identified several areas that need refinement before industry implementation. In addition, industry-wide implementation will be needed to gather data to judge the effectiveness of the program and to allow further improvements.

And this was done in the context of this program really does appear significantly better and using a significant larger volume of information than our old program was based on, and that was the context of our recommendation.

Let me just cover the membership of the panel just a little bit. Deputy Regional Administrator was on the panel, three Regional Division Directors from three of the regions, all the regional views were considered, the State of Illinois, David Lochbaum, four of pilot plant representatives, all managers from those pilot plants, and I think it really did represent a synthesis of views and was kind of the unique part of the process where these views

were kind of put at a single table with a single vision to come out with a consensus on things we could come to a consensus on, and that was the nature of our final report.

And with that, I think that's really kind of covered the essence. It was a unique process and people had a lot of time invested in it. And the success of the process was from the first day, we had a vision of an end product and an end date, and to maximize the usefulness of the information, we set out, I think, right from the beginning, saying in December of this year, and this was starting in about June was our first meeting, in December of this year, we are going to have a report, even if we have to lock ourselves in a hotel room, to get it to the staff, to make maximum usefulness, given the staff's schedule.

And people did a lot of homework, a lot of extra reading, and while the State of New Jersey wasn't on the panel officially, Jill's staff showed up for every single meeting and we let them speak up at every single meeting. So they were kind of like almost like de facto members.

I think the strength of the report was in the consensus process and the strength of the views was in the delivery of those consensus views in a timely way, and those views have now been overcome with corrective actions or things that the staff has done to address them. So I think going through those again at this point would not be all

that beneficial.

With that, I'll just end my statement.

CHAIRMAN MESERVE: I'd like to thank you all very much. Mr. McGaffigan is going to have to depart, so he's asked if he could have an opportunity to first crack at the questions.

COMMISSIONER McGAFFIGAN: Thank you, Mr. Chairman. I guess I'll start with the last statement and ask other members of the panel, I think Mr. Gillespie has essentially -- I've come up with a better acronym rather than IIEP -- IMPEP, implementation evaluation panel, and we already have an integrated materials performance evaluation panel. So it would be NRR IMPEP and NMSS IMPEP.

But do the others have a view as to whether having an ongoing activity, Mr. Beedle mentioned the value of having the regions involved in the ongoing activity, as this is initially implemented, whether we should wait, as the staff suggested earlier, till towards the end of the year, maybe January 2001, or whether having a panel that involves the states, involves the regions, involves the public interest groups, involves these additional people who can come?

It's just a place to vent, even if you don't reach consensus, and also a place to keep things on track. Is that worthwhile? David, do you have a view?

MR. LOCHBAUM: I guess it did have value. I'm in DC anyway, so I could have gone to the meetings. So the PPEP was a nice opportunity for me, but I had access anyway.

I think what I gained most from that was hearing the resident inspectors and the regional inspectors, what their views were. Sometimes I had concerns that went away after they explained why that wasn't a problem and I thought that hearing that face to face was something I couldn't have gotten any other way, I don't think.

So from that standpoint, I think it was beneficial. The one thing I'd like -- I kind of represented the public, but I don't speak for all the public.

COMMISSIONER McGAFFIGAN: I understand.

MR. LOCHBAUM: In fact, I disagree with most of the people I work with in this issue, which puts me in an awkward position. So I think the frequently asked questions system that the staff had for the industry, if something like that were set up for the public side, it was developed very late, I think in January, after the comment period ended.

If something like that were set up for other public stakeholders, I think that would supplement anything that was done in terms of an advisory panel.

COMMISSIONER McGAFFIGAN: How about you, Dr. Lipoti, do you have any view about the value of having an

ongoing evaluation, a formal ongoing evaluation process as opposed to waiting till next January?

DR. LIPOTI: There's a lot of value in listening to the staff's views and what the inspectors themselves are finding when they try and take the theory that is beautiful and apply it to inspecting a real plant.

COMMISSIONER McGAFFIGAN: That's my view. I'd almost love to go and watch some of this stuff play out myself. I think Commissioner Diaz is nodding his head, too.

In some sense, the advisory panel is a proxy for playing out some of those issues.

How about Mr. Beedle or Mr. Garchow?

MR. BEEDLE: I think there is tremendous value in being able to come together and air your concerns. I'm not suggesting we do this on a daily basis, but I think a year is probably too long. You need to do it at an interval that gives you the ability to take the input and do something with it that makes some sense in terms of the program's development. So it's kind of an ongoing lessons learned process. Now, I know Dave --

COMMISSIONER McGAFFIGAN: Dave does not have to keep on giving. We could get a different --

MR. BEEDLE: I think he'd probably volunteer.

COMMISSIONER McGAFFIGAN: Okay.

MR. GARCHOW: One suggestion I'd have,

Commissioner McGaffigan, is I've never been on a Federal panel before, so I wasn't sure of all the rules, and in some respects, getting through some of the formality limited, to some extent, some of the dialogue.

So I think there is value of getting the right people together and having and being able to hear from the NRC staff and the inspectors and the regional folks and even some of the industry folks from some of the plants that are just picking this up, so we've heard from the pilot plants, but there's now a whole other category of plants that could surface even some issues that had never come up before.

So I would say there s probably a benefit to have that not be a year. Whether the FACA process is the right vehicle for that I guess would be worthy of some discussion that Frank can carry on for the NRC, that I think we can accomplish the same way through some workshops scheduled at the right times, where people have an opportunity to provide input and still get to the same gain without some of the formality that was around the -- what you call the PPEP process.

MR. BEEDLE: I think one of the things that we need to continually remind ourselves of is that this oversight process is the NRC's policy mechanism for dealing with oversight and assessment of the plant performance. We haven't changed any of the regulations yet.

In fact, I don't know of one regulation that was changed as a result of this. So all those regulations that were in place two years ago are still there today and we have to abide by them, we're still governed by them.

And the value that we bring here, I think, is comment and critique on a process that affects us profoundly and one that I think we can add a dimension from an assessment point of view, because the NRC has caused us to be very conscious of our own self-assessment.

So I think we've got a lot of history that we bring to bear in this process of assessment. So I think that's probably the value added from the licensees.

COMMISSIONER McGAFFIGAN: I think part of the deal of going first is I won't prolong this very long. The value that I'm trying to get, and I don't know whether a formal FACA process is needed or not, but some sort of ongoing evaluation and involvement of the people that David talked about as being second or third class citizens, making sure that -- and I think we have some in our own internal stakeholders, making sure the regions and the inspectors and whatever get to speak frankly their views and the public stakeholders get to speak frankly their views, the states, so that it doesn't appear and it isn't and it hasn't been an industry and NEI thing.

One last question. I want to pick up on David's

notion of the bride program and the Emperor having no clothes that Dr. Lipoti talked about.

It strikes me that if the child were looking at the SALP/watch list process, he'd say the Emperor is buck naked. So underwear may be a significant improvement and maybe someday we'll have cloaks and look like real emperors.

But I think that David has it right when he talks about the bride program. We have this interim program that is -- we don't have anything. We have SALP, which is gone; we have the bride program, which is something good, something old, whatever.

So I do want to put in a plug that I do think it's an improvement. We may be in our underwear, but it's a step up.

CHAIRMAN MESERVE: Thank you, Mr. McGaffigan, I think. I was really struck in the juxtaposition of the comments by the two Davids here, that one characterized the significance determination process as enormously valuable and David Garchow talked about having gone through it in fire protection and how that was a very helpful process, got to the crux of the issues, rather than fighting over the process, and how useful it was.

Whereas your slide six, David Lochbaum, was basically -- said it doesn't work at all and we ought to try something different.

I'm trying to reconcile those two statements and I'm also wondering, the staff has admitted that there are some failings in the significance determination process and they have discussed today a whole variety of things they have underway to try to strengthen it, and I'm curious as to whether you are comfortable with that aspect of the process, David, and how it's evolving.

MR. LOCHBAUM: Yes. I think so, because even with the process the way it is today, which we can say is not perfect, the information is reported in the inspection reports and it comes out fairly quickly thereafter.

So from our role as a monitor, we can see the information and we can see the problem. We would probably have a different significance determination process that we use than the staff is using. So at least it gets us -- if it's -- we believe it's a concern, we can engage either the region or whatever the right direction that needs to be taken, so we get the information and we can respond on it.

So it's helpful to us. The coloration means very little. The example that I go back to, what's wrong with the significance determination process, is an event at Quad Cities. They had a problem with calibration of diesel generators, I forget the exact mechanical problem, but it impaired the performance of all the diesel generators at the plant and it existed for roughly an 18 month period and it

was -- the significance determination process looked at that and it came out green because there wasn't a loss of off-site power during that 18 month period, which is splendid, but that doesn't address whether that's --

As Mr. Beedle said earlier, if you had two findings, one where the diesel generators, all the ones at the plant were broken or impaired for an 18 month period is a little bit more than some of the other things that came out.

And if the SDP allows those kind of end results to be presented, there is something wrong with it. But even with that problem, I saw the data that said that diesel generator is broken, so we can do what we need to do.

So from our standpoint, we're given the information we need to get engaged and to follow safety issues.

CHAIRMAN MESERVE: And I would take from the staff's comments that they recognize that there were some problems in it and they're trying to address them.

Mr. Gillespie, you mentioned in passing that the report had a whole series of issues that it thought should -- of your group -- that it thought should be addressed before implementation. I realize you can't speak for the group, because they haven't reassembled yet, but I'm curious as to whether, from your personal view, those issues have

been satisfactorily enough addressed so that implementation in April is appropriate.

MR. GILLESPIE: Yes, I believe they have and I think Dave and Dave could reinforce that. In our report, there was about a two-page summary which tried to iterate what was pre-April, what was kind of post-April.

There is one important document that has come up, it's a post-April document that I would say the staff has committed to, and that's a basis document and it's come up in several forums, to try to articulate all the whys, because this program has been moving so fast that we haven't necessarily kept pace with recording, in a very orderly way, why is this indicator exactly the way it is, why is that one, why did the inspection program come out this way.

And it's not the how to implementation inspection procedure document, it's literally the basis. And we had a basis document when we started, but it didn't get kind of maintained up to date, and that's become a very kind of, in many discussions, including with ACRS, an important document to focus on over the course of next year, and also before we change the program a long after the next year, I think it's important we need to write down, and the committee found this, write down that basis -- before you change your basis, write the first basis down.

But that was a more extended IOU, because

basically we have all those people participating in the program today, so we haven't lost that insight. So that was an okay to start in April, but, boy, let's keep an eye on it over the next year, because we do need to get that reported.

So I think all the near term things have been addressed by the staff.

CHAIRMAN MESERVE: Good. Thank you. Dr. Lipoti, you had made a whole series of forceful comments about the program, but nearly everyone else has told us it's an improvement and it's something that we should go forward with.

You haven't given us a comment as to whether you agree with that.

DR. LIPOTI: I hear a train. I think it's going forward. I may be a naysayer that says, well, I think you should fix a few things before it goes forward. There is really no point in my saying that. It's going forward.

So now what I want to do is just offer constructive criticism for improving it as it goes forward.

CHAIRMAN MESERVE: Thank you. Commissioner Dicus.

COMMISSIONER DICUS: Thank you. Let me start with Mr. Beedle. I appreciate your answering the question that the industry is ready to go forward and so forth, but I think you also recognize that you do have some pockets of skepticism. Are you prepared to deal with those?

MR. BEEDLE: I think that both the industry, as a body, and the agency reflect the effect of change and just as the agency is dealing with some apprehension and concern and how do I fit into this and what do I do and what's my role, I think the industry has the same concerns.

We've got concerns over the 72 hours, we've got concerns over the 4.1 versus the 2.5 versus the 3.2 and all those things bubble up into anxiety on somebody's part.

If I were to wait until everybody was absolutely satisfied that everything was perfect, we'd all be dead. We just would never get there.

So somewhere along the line, we've got to, as my dad used to say, fish or cut bait, and I think we've already been told today that you don't have a process I place today. We've got kind of one foot in never never land and the other foot is in this new assessment process.

So I think for the sake of your sanity on the part of your staff, you need to make a decision one way or the other. Either go back and reinvent the SALP process or move ahead with this oversight process. I think we've already heard enough about the characterization of the SALP process, that we probably don't want to go there.

So I think this offers the best chance of giving the agency the ability to effectively assess the performance of the plant in an objective, predictable manner that's

visible to the public, to the agency, and the licensees.

COMMISSIONER DICUS: Okay. PSE&G, in your summary statement, you say continue to address the areas for improvement, but you didn't go into them, but we've heard where there are problems. Is there anything you would add to or subtract from all the concerns that we have heard today?

MR. GARCHOW: Specifically, for PSEG, we found no issues that were different than what had led up to the PPEP or the NEI process, because we were involved in both. So we had to opportunity to hold any issues we had specifically to the pilot implementation at Salem and Hope Creek into both of those forums and they were adequately addressed to our satisfaction. Same as Mr. Lochbaum, sine we're apparently now forever going to be the two Daves. I'm still thinking of what that means.

But I think that we have the same -- we need to move forward and address the issues, as we've described.

COMMISSIONER DICUS: Okay. And, Mr. Lochbaum, you had indicated that we need to do some more plain English communication with the public and you did mention in your comments that, for example, some of the documents going forward into the meetings, so the public had those and could better understand them.

That helped a little bit, because some of the

reports that we send back and forth to the licensee are technical reports, from techies to techies, if you will.

Were you referring to those reports, as well, that some of those needed to be put in plain English for the public's consumption?

MR. LOCHBAUM: I think, in my mind, there is a distinction between reports. Inspection reports are more meant for vehicles between the NRC staff and the licensee, and the responses are also in that category.

There's a separate category of documents that are meant for a broader audience, for other than the licensee. I think the plant performance reviews are now being used in that category, but they're not written in that style, and I think the six month -- I forget what the thing is called, every six months, a letter goes out that says here is what we're going to do for the next six months to you.

That letter is very difficult for people to understand. So I think there could be an improvement.

When I first joined UCS, our director of communications sat down with me at the very first meeting and said I know you're an engineer, but when you talk to people, pretend like you're talking to your grandmother, and I'm not saying I do that today, but that was some of the best advice I had since joining the UCS.

COMMISSIONER DICUS: We appreciate that. Okay.

And would you care to make a comment on whether you think the industry is ready to go forward?

MR. LOCHBAUM: I talked to Mr. Beedle at the break and he said they were. He's never let me down so far.

COMMISSIONER DICUS: Okay. And, Dr. Lipoti, even though you have a lot of reservations about this program, I notice you are wearing green. I don't have any further questions.

CHAIRMAN MESERVE: Commissioner Diaz.

COMMISSIONER DIAZ: Thank you, Mr. Chairman. I'd like to observe that although I'm normally one track minded, I'm more one track minded when I have the flu. So I have one question for everybody, it's the same question, and I would like to start from Mr. Gillespie.

Mr. Gillespie, you must realize that although you come here as a Chairman of PPEP, in reality, we know you better than that. We are going to go back and ask you for some of your early knowledge of the program.

The question is going back to the same thing. It is the fact that I believe there is an underlying set of rules and regulations that haven't changed. There are underlying value in the way we do inspections and we relate them to plant performance.

There is a lot of things that really have not changed significantly. There is a new dimension added.

Everybody looks at performance indicators. Since everybody looks at them, I don't anymore. I just let everybody look at them and I look at something else. It's just my contrary nature.

The issue becomes if the performance indicators are no good, do we have other things that really happen every day, that happen every week, that take place in the plant that provides the confidence level.

So the question is, from your perspective, can you quickly tell me what the role and value of the open data gathering and processing is, the fact that this data gathering and processing has a periodicity that never existed before, and its value to a robust corrective action program?

Do you want me to repeat the question? No, you got it. I thought so.

MR. GILLESPIE: I think the value is much in the structure and many questions have been asked. Have we got the perfect set of PIs, and I think the real question is do we have a good enough set of PIs to reflect across a profile of performance, and I mean a profile that we have basically 18 performance indicators.

And if we had turned those into one weighted indicator, we, I think, have a flaw, because one could outweigh the other.

COMMISSIONER DIAZ: I'm sorry. That's really not the question. Let me ask it again. You have to go back to the very fundamental level of what happens every day, how people put data into their plants, how they collect it, how that data has a periodicity, how it's upgraded, how people look at it, how it goes into the corrective action program, how that can impact on a performance indicator, how can performance indicators go back to it.

So it is at the level of data gathering, processing, going into the corrective action program. What is the role and value of this? Will it get better? Will it give us more information than we had before? Will it interact on a day to day basis with the safety assessment of the plant?

MR. GILLESPIE: I think that that structure, from the collection of the data all the way through, and the fact that the data then gets publicized, with visibility comes accountability, all the way down to the person who is recording that number, who is doing the maintenance, who is putting it into the system.

So I think with that accountability, and I think that has some bearing on, in fact, the INPO initiatives that you heard briefly on corrective action programs, that this is one of the more significant impacts on safety that's coming out of this program.

Given that structure and visibility, and it goes across everything in the plant, if we've picked our PIs right. So the exact PI isn't important as the fact that the breadth of the PIs and the fact that it goes down to the person doing the work and then rolls up to the visibility of the utility.

So I think we have a tremendous safety benefit from this structure.

COMMISSIONER DIAZ: And our role in that, an every day role?

MR. GILLESPIE: Our role is verifying that the data is correct, that it represents what we think it represents, and that's the role of inspection. The role of inspection is to verify and to also provide independent looks at the same processes and equipment and systems to say that the PIs are telling us what they're supposed to be telling us.

So that it's a checks and balance in the whole process. The PIs do take on a visible role, though.

COMMISSIONER DIAZ: All right. Thank you. Ms. Lipoti?

DR. LIPOTI: The performance indicators help you to prioritize your inspection resources. There's no question that you don't want to spend time inspecting something which is already in good shape. You want to spend

your inspection oversight in those places where there could be a problem.

But to me, one of the issues which is not measured by PI is the cross-cutting issue of the corrective action program and Bill Dean said earlier that time will tell. My definition of time is inspection time and I think you need to put additional time on the cross-cutting issues, like the corrective action program, like human performance, like safety consciousness.

And I think that in your inspection guidance that you write for your inspectors, that it needs to be written by NRC and be a NUREG and not an NEI guidance.

I think you have to look at statistically significant issues from the whole corrective action program and the corrective action program that was part of the pilot at Salem, they have 30,000 issues that are in the corrective action program and they add them at 3,000 a month.

The inspection, which was an in-depth inspection, picked out 20 to look at. That's not a statistically significant number. Now, I know that there's additional inspection resources that's provided by the resident inspector and that their presence and that they look at corrective actions. But I think that the guidance in inspection for corrective action is not yet ready.

COMMISSIONER DIAZ: Thank you.

MR. LOCHBAUM: I think my answer would be based on my experience working as a consultant at good performing utilities and plants that weren't in that category.

I think the performance indicator, the value of the performance indicators is instilling the right culture or approach to safety or approach to business, because if you're doing business right on the performance indicators, you're not going to operate 180 degrees out on other areas.

So that gives the plant owner and the NRC and the public an insight into how performance at the plant is proceeding, if performance is in the green or the acceptable category, there is a higher confidence that other areas are being handled well, whereas if performance is not in those categories, doubts are raised.

So I think that's the importance we place on the performance indicators and the reason we like so many, not too many, but a larger category rather than four big categories of SALP, was that you can detect declining performance hopefully sooner.

So I think that's the purpose of it and we think the NRC's role is to step in and when performance declines are detected, remind the licensee of the necessity of promptness in turning that around.

MR. GARCHOW: I guess I'll take an action item here to show the difference between notification and that

which goes in our corrective action program as an Appendix B issue. We have a low threshold, high volume system, of which any deficiency, discrepancy, good idea, gets written up in a notification.

I'm not sure we even have quite 3,000 of those, but that's probably close. Out of that, there are several hundred of those that we track, that typically run in the three to 400 a month that actually make the screen into our corrective action program.

I can share that with you in one of our regular interface meetings what that is. But I think that you did -- Jill actually hits on the issue, though, and we can debate the number, but the issue that gives me comfort is we do surveying for safety conscious work environment, so we know and I have data to show that our employees feel free to raise safety issues and do, and we have a process that's very low threshold, high volume.

Every day, those get screened by license operators for immediate plant impact and then get screened every day by a team of engineering maintenance and ops folks to determine what is the significance, what is the time we want to resolve it and who is the appropriate group to resolve it.

So that process is a living, dynamic process and the only way that we are going to get to excellent performance over the long term is to really encourage people

to identify every good idea, some of those may or may not be in the quality program, but they're still -- we don't put the burden on the employee to make that determination. We want it written up and submitted and I can tell you that the improvements that we've made at our facility were driven by the corrective action program and our self-assessment program and we have room to grow in that area as we continue our climb at PSE&G to raise the performance of Salem and Hope Creek.

So I'm convinced that the direct answer to your question, the corrective action program is the key and we put the issues in wherever they come from. So in our routine interactions with the NRC inspector, if the NRC has a concern in an area, we'll document it in our corrective action program to go pull the string on it. It may turn out to be something significant, it may not, but the value is in the dialogue and in getting it in our program.

We saw in the pilot where every single inspection module that comes into the plant, whether it be a team inspection in an area or whether it be the routine resident inspector, has a portion of time, upwards of ten to 15 percent, where they are pulling the string on corrective actions in every area on an ongoing basis, with the risk -- with a risk significant screening.

So I think it's wroth reviewing that. Whether

that's appropriate, the pilot program did test and we were able to see as the recipient of the program the fact that the inspectors were in the corrective action program continually with every inspection, as well as the team inspection for corrective action, which happened to be done at Hope Creek for the pilot.

So we did get to see that and there were probably some areas for improvement that the NRC captured in their ability to do that inspection better. That was one of the first corrective action inspections that was done as part of the pilot and I think there were several improvement areas that were learned as a result of that inspection at Hope Creek.

MR. BEEDLE: Commissioner, I'd like to approach it from two different levels. One, and I think it has been covered by Dr. Lipoti, where she talks about the data, raw data and performance indicators and how that gives you some sense of performance in an area and where you aren't covered with a performance indicator, you do inspection.

But I think I'd like to take your question to a different level and you talk about the day to day activity. These plants collect data of all sorts moment by moment and it starts with the watch standards and the reports that they make on the performance of their equipment. It goes to the management reviews. It's the plant oversight reviews. It's

the off-site reviews. It's the self-assessments, it's condition reports, extent of condition, and all of those things roll up into the corrective action program, but they're all driven by the safety conscious work environment that's created by the management team at that facility.

So when we look at these three cross-cutting issues, I think they fall into kind of two categories. There's the process issue that we're calling self-assessment and corrective action and then there's the safety conscious work environment and the human performance issue, and both of those two areas are driven more by the attitude of the managers than anything else.

I don't think you can regulate a safety conscious work environment. I think you can, though, see the evidence of that and the viability of that work environment in the way the corrective action program functions and that's reflected in the way the plant behaves.

So I think we're -- a lot of data that's collected, it all ends up in that corrective action program and that's what drives the performance of the facility.

COMMISSIONER DIAZ: And is the disposition of that corrective action program important to safety?

MR. BEEDLE: Absolutely. I don't think anybody would argue that it's not an important element in this process of managing the facilities.

COMMISSIONER DIAZ: Thank you, Mr. Chairman.

CHAIRMAN MESERVE: Commissioner Merrifield.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman. I guess, first, I want to say I appreciate the thoughtful testimony that our witnesses have had today. I think it's very helpful for moving forward and improving this program.

Also, I would want Mr. Gillespie to transmit my appreciation to the other members of the panel who are not here today, but we obviously appreciate the strong work that they've put and perhaps will be a continuing effort in that regard.

Dr. Lipoti, I want to follow up on the line of where the Chairman was going. I was reminded of the testimony we had last week from the ACRS and they raised a number of areas where they thought the program had some gaps and as we got down into that level, I was reminded at that time and made a comment that one has to strive with the perfect being the enemy of the good.

I was reviewing your testimony and in it you say the question to be answered now -- this is on the first page -- the question to be answered now is not whether the new program -- new oversight process is perfect, it is not. The question is not whether the new oversight program has merit, it certainly does.

But it is whether the new oversight program is

better than the existing oversight program. I think the Chairman was trying to get that out of you and I couldn't get it out of your testimony and I was wondering if you could give me an answer to that.

DR. LIPOTI: Well, page two of the testimony compares the two and the comparison with the existing oversight program and certainly the existing oversight program has little linkage to risk significance and the new oversight program has a great deal of risk significance.

And it helps to focus your resources, and that's a good thing. But I worry a little bit about the incredible cooperation that has developed this program between NEI and NRC. I think that's unique in terms of a relationship between a regulator and the regulated community.

I wonder if that kind of cooperation really inspires public confidence. After all, you have several milestones or key milestones that you are using for a measure of whether the new oversight program is good. One of them is public confidence and that one I don't think has been adequately measured.

Certainly the existing oversight program with the SALP comes out every 18 months. The new one has quarterly results that are put on the web site and the web site is visible and with visibility comes accountability. Those are all good things.

But there are still some issues that give me pause.

COMMISSIONER MERRIFIELD: What about you have sitting next to you David Lochbaum, who is one of our -- clearly one of our most significant public interest group participants. He talks a lot about the public. Mr. Lochbaum has come before us at least as long as I've been a Commissioner, and probably ten or 15 times in the last 15 months, and there isn't a single statement he doesn't make where he talks about the public interest.

His bottom line was that we ought to move forward with it.

DR. LIPOTI: And he also qualified It by saying that he's not sure he does represent the public. And I certainly wouldn't stand before you and say I represent the public. But I have had inspectors that have gone on the inspections at -- and I've expended more resources on looking at this new oversight process than almost anything else in my program in the past nine months. And we have said that where the rubber meets the road, where the inspector is out there trying to apply this process, there are still very significant problems, and I'm not sure that you can see them from the level of the management and the theory of the new oversight program.

And I just want to warn you that inside this

program, the devil is in the details and the details are very difficult and there remain many, many things that need resolution and they may not pop up to the level that comes before the Commission again. They'll be resolved at staff level.

But think about how this program, this new oversight program, does it give you the comfort level that you will know where to spend the NRC resources on inspecting the right plants and in the right areas.

Do you feel that it really will? And that's the question that you have to ask yourself as a Commissioner.

COMMISSIONER MERRIFIELD: Thank you.

DR. LIPOTI: But I do want to go on to say one more thing.

COMMISSIONER MERRIFIELD: I've got some other questions I've got for some other witnesses.

DR. LIPOTI: Sorry.

COMMISSIONER MERRIFIELD: Mr. Beedle, one of the questions that was raised earlier today was that the new oversight process is a voluntary program. I'd like to get your thoughts on that assertion and whether you think it is possible a licensee may elect not to participate in the new program.

MR. BEEDLE: The voluntary nature of this program really goes to the production of the performance indicators

and the submission of those indicators to the NRC. And I would remind everybody here that there is more to this program than the performance indicators.

It's the performance indicators, balanced with the inspection process, which is the dominant element of it, along with an assessment mechanism that helps the inspectors and the licensees understand where the inspection process is going.

So the voluntary nature of this is in the submission of the data. I don't think that any utility has balked at providing data. They all get that data in on time in January for the historical look. I have no indication or belief that anybody is going to not submit the data.

Personally, I would think that anybody that sat there and said I'm not going to provide this data to assist the NRC in determining where they're going to allocate resources for inspection would run the risk of having an awful lot of inspection to cover those areas that the performance indicators would normally cover.

I don't think that's in their planning. So I would expect that all of them would provide that.

COMMISSIONER MERRIFIELD: Mr. Lochbaum, could you give us your perspective on two comments made by ACRS in the March 2 meeting? The first one being that the performance indicator thresholds may be so high that we and the

licensees will be unable to identify trends and that they are so high that they serve as disincentives to improve plant performance?

MR. LOCHBAUM: I think on the first one, even though you get a color on any of the boxes, you can look at the underlying data and draw trends even within a green box or any box you want to. So I think it's possible to.

I think if the performance indicators -- we had concerns with the containment leakage one, because it would not provide trending because of a lot of the problems that the previous panel talked about.

The remaining performance indicators we think can be trended, even if they're all green. That doesn't necessarily mean you have to react on it, but I think you can.

And could you refresh my memory on the second one?

COMMISSIONER MERRIFIELD: That they are so high as to serve as a disincentive to improving plant performance.

MR. LOCHBAUM: I guess I don't agree with that. I think as many other panelists have said, that if you're white, that's perceived to be bad, even though it's not necessarily unsafe, and there's going to be peer pressure or accountability to try to maintain all the indicators in the green, whether they're performance indicators or NRC inspection findings.

So I think that pressure or accountability is there in the new system. I don't think they're too high, so I guess I don't understand that view.

COMMISSIONER MERRIFIELD: Mr. Garchow, the staff has indicated that they're going to revise the process for documenting inspection findings to allow our inspectors to document observations associated with programmatic deficiencies and cross-cutting issues, even if those don't necessarily raise to a level of being on a performance indicator crossing a threshold or in a significant inspection finding.

Do you think that's a good idea or a bad idea?

MR. GARCHOW: Well, I think the answer is I have no problem with it being documented. We're getting that information as a licensee by virtue of the resident exit meetings and through the pilot process, we saw improvements in the exit meetings for inspections.

They weren't -- as the clarification got down to the inspectors, I think it was Mr. Madison that indicated we saw a marked difference. They weren't perfunctory. They actually were very good dialogues of what areas were looked at and what they saw and any observations or senses that the inspector had. Those started to come out towards the end of the pilot program, and that was beneficial for my staff to here as we're assembled in an exit meeting.

So we were getting the information, I believe, from the inspection exit meetings that are held. Whether those comments show up in a report or not, I see no issue with them being in the report. I got the information from the exit meeting, so I see no issue with them not being in the report.

COMMISSIONER MERRIFIELD: Thank you.

CHAIRMAN MESERVE: I'd like to thank you all very much. It was very helpful to have your insights on this program and appreciate the time you've spent with us this afternoon.

With that, we're adjourned.

[Whereupon, at 4:25 p.m., the briefing was concluded.]

CERTIFICATE

This is to certify that the attached description of a meeting of the U.S. Nuclear Regulatory Commission entitled:

TITLE OF MEETING: BRIEFING ON IMPROVEMENTS IN THE REACTOR OVERSIGHT PROCESS PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Tuesday, March 7, 2000

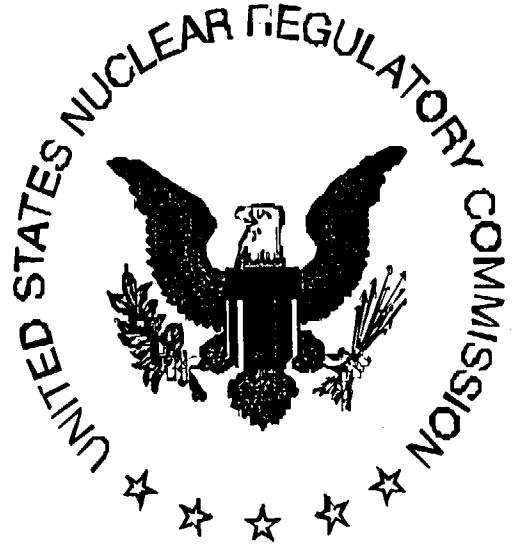
was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company

Transcriber: Natalie Renner

Reporter: Mark Mahoney

COMMISSION BRIEFING

Revised Reactor Oversight Process



Office of Nuclear Reactor Regulation

Nuclear Regulatory Commission

March 7, 2000

WHAT WE'LL COVER . . .

- Brief overview of the revised program
- Results of the pilot program
- Future initiatives
- Recommendations

MAJOR TRANSITION MILESTONES

1999

- Commission presentation — January
- Commission approval for pilot — April
- Pilot program — May to November

2000

- Public Lessons Learned Workshop — January
- Commission Briefing — March
- Commence initial implementation — April

2001

- Commission report on RROP on initial implementation — June

REVISED REACTOR OVERSIGHT PROCESS OBJECTIVES

- **Support agency performance goals of:**
  - ***Maintaining reactor safety***
  - ***Increasing public confidence***
  - ***Increasing effectiveness, efficiency, and realism of key NRC processes***
  - ***Reducing unnecessary regulatory burden***
- **Achieve process improvement objectives:**
  - ***Risk-informed***
  - ***Objective***
  - ***Predictable***
  - ***Understandable***

PILOT PROGRAM OVERVIEW

- **Purpose to:**
  - ***Exercise new process***
  - ***Identify lessons learned***
  - ***Collect stakeholder feedback***
  - ***Revise process before initial implementation***
- **Established criteria to help evaluate/refine program**
- **Conducted at nine plants**
- **Six month program (May-November 1999)**
- **Pilot plants continue under RROP**
- **Extensive internal and external feedback activities**

PILOT PROGRAM RESULTS

- Logical and sound Regulatory Framework
- Demonstrated processes to be more:
  - *risk informed*
  - *objective*
  - *predictable*
  - *understandable*
- Enhanced consistency
- More timely and pertinent information
- Better enforcement integration
- Pilot program provides basis for initial implementation

PERFORMANCE INDICATORS
Issues and Actions

- Improve guidance and definitions
  - *Revising NEI-99-02*
  - *Continue ongoing assessment*
- Barrier PI role
  - *Deleted containment leakage*
  - *Continue ongoing assessment*
- Reporting period
  - *Extended from 14 to 21 days*
- Adequacy of thresholds
  - *Re-evaluating thresholds for initial implementation*
- Related policy issues
  - *Establish change process*
  - *Interpretation issues*
  - *Invalid PI definition*

INSPECTION PROGRAM
Issues and Actions

- **Inspection report documentation**
  - ***Clarified reporting threshold***
  - ***Guidance for documenting significant cross-cutting issues***
- **Balancing scope, depth, frequency with resources**
  - ***Procedure estimate adjustments***
  - ***Engineering expertise***
  - ***Fire protection training provided***
- **Develop program change process**

SIGNIFICANCE DETERMINATION PROCESS
Issues and Actions

- **SDP Improvements**
  - *Additional SDPs*
  - *Consideration of external events*
  - *Site specific worksheets*
  - *Non-reactor safety SDPs*
- **Process Issues**
  - *Improve timeliness*
  - *Assess efficacy*
- **Staff expertise/capability**
  - *Short term support from NRR*
  - *Work with HR on staffing and training issues*

ASSESSMENT PROGRAM
Issues and Actions

- **Assessment Process Improvements**
  - ***Resolve issues regarding treatment of cross-cutting issues***
  - ***Deviations from Action Matrix***
  - ***Issues outside licensing/design basis***

ENFORCEMENT PROGRAM
Issues and Actions

- **Inaccurate reporting of PIs (10 CFR 50.9)**
  - ***Revise interim guidance***
  - ***Incorporate changes in final policy***

KEY ISSUES IN SRM 99-007A
Issues and Recommendations

- **Programmatic Breakdowns**
  - ***Assessment process improvement***
  - ***Working group***
- **Overall assessment of cornerstones**
  - ***Stakeholder feedback supports no overall assessment***
  - ***No changes planned***
- **Inclusion of positive inspection findings**
  - ***Stakeholder feedback supports current process design***
  - ***No changes planned***
- **Suspension of SALP**
  - ***Recommend termination***

ONGOING EXTERNAL COMMUNICATION ACTIVITIES

- Continue Public outreach activities
- External WEB site
- Update plain language NUREG-1649
- Regular public meetings with NEI/industry
- Industry/Public workshop

ONGOING INTERNAL CHANGE MANAGEMENT ACTIVITIES

- Training sessions
- Internal newsletters
- Internal WEB site
- Formalized feedback process
- Meetings/Phone conferences

FUTURE INITIATIVES

- Develop additional Performance Indicators (e.g., containment performance)
- Industry-wide assessment and trend evaluation
- Oversight process self-assessment
- Guidance for annual Agency Action Review Meeting and Commission briefing

RECOMMENDATIONS

- **Commence initial implementation April 2000**
- **Terminate SALP process**
- **Provide appropriate staff guidance on issues of note**

Industry Perspectives on Revised Reactor Oversight Process

Ralph E. Beedle
Senior Vice President and Chief Nuclear Officer
Nuclear Energy Institute

NEI

Lessons Learned From Pilot

- Process is not perfect but is significantly better than previous process
- Effective self assessment and corrective action program essential
- Greater management oversight needed on data collection for performance indicators
- Process is more risk-informed and provides an improved safety focus

NEI

Industry Concerns

- Recent changes to PI thresholds
  - Need for more stakeholder review/comment
  - Must be consistent with other regulatory requirements
  - Insufficient data to justify changes
    - Current definitions of some PIs not represented in historical data

NEI

Industry Concerns (cont.)

- Need for continued checks and balances to ensure consistency across industry
- NRC process for future changes to program
- Potential for over-reaction to "white" inputs -- industry, NRC and external stakeholders

NEI

Industry Implementation

- Process is sufficiently developed to support implementation in April 2000
- Further enhancements should follow a disciplined process for change
- Recommend periodic senior NRC and industry management meetings to identify and discuss implementation issues

NEI

Overall Benefits of New Process

- More objective
- More predictable
- Improved safety focus
- More understandable
- Better use of industry and NRC resources

NEI

PSEG

PILOT PLANT VIEW

David F. Garchow

PSEG

Vice President – Technical Support

PSEG

OVERVIEW

- **The New Process is an Improvement**
- **PSEG is Continuing its Support to Make this Process a Success**
- **We Must Continue to Meet the Challenge of Implementation with Open, Timely Communication**

PSEG

PERFORMANCE INDICATORS

- Use of PIs is a Positive Initiative
- Clear Picture of Safety Performance
- Accuracy of PI Data

PSEG

INSPECTIONS

- Inspections Focused on Risk Significant Areas
- Significance Determination Process – Consistency in Outcomes
- Reduces Unnecessary Regulatory Burden

PSEG

SUMMARY

- **Continue to Address Areas for Improvement**
- **Communications**
- **Don't Delay Start of Implementation**

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SCIENTISTS

Comments on the NRC's Revised Reactor Oversight Process

David Lochbaum

Nuclear Safety Engineer

dlochbaum@ucsusa.org

March 1, 2000

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Bottom Line

We recommend that the Commission implement the revised reactor oversight process industry-wide in April 2000 or as soon thereafter as possible.

Various stakeholders, including UCS, have legitimate concerns that NRC should resolve expeditiously.

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Why We Like the New Process

1) Performance is assessed in ≈27 areas instead of in 4 broad categories

2) Performance is assessed 30 days after 92-day period instead of 180 days after 730-day period

3) NRC response to declining performance is pre-defined instead of ad hoc and arbitrary

4) Performance information on all plants is available on internet instead of some information for some plants

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Why We Worry About the New Process

Perception of Self-Regulation

Significance Determination Process

The Missing Link

Deviations from the Action Matrix

Cross-cutting Areas

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Perception of Self-Regulation

Problem: New oversight process depends heavily on plant owner cooperation

Recommendation: Obtain irrevocable commitment from all plant owners

Problem: NRC's primary stakeholder is the nuclear industry

Recommendation: Stop treating the public as second-class stakeholders

Problem: NRC's public communications are poor

Recommendation: Issue reports in plain English

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SDP (i.e., pick a color)

Problem: Pilot program demonstrated SDP to be unworkable

Recommendation: NRC should use plant-specific worksheets and SPAR models for SDP Phase 2 and 3 instead of plant owner's PRAs

Problem: SDP process for physical protection safety cornerstone is improper

Recommendation: SDP process should reflect plant owner - not terrorist - performance

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The Missing Link

Problem: IPEs/PRAs totally ignore threat from terrorist and sabotage acts

Recommendation: Physical protection cornerstone cannot be risk-informed because the risk information does not exist; thus, this cornerstone must remain prescriptive

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Deviations from the Action Matrix

Problem: Deviations from the responses in the Action Matrix are potential threats to safety and are tangible threats to public confidence

Recommendation: The NRC must take safety warnings seriously and <u>not</u> deviate from the Action Matrix

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Cross-Cutting Areas

Problem: Handling NRC findings in cross-cutting areas via the SDP process will improperly downplay safety problems

Recommendation: NRC findings in cross-cutting areas must prompt extent of condition evaluation either by NRC or by plant owner

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Back to the Bottom Line

We recommend that the Commission implement the revised reactor oversight process industry-wide in April 2000 or as soon thereafter as possible.

Various stakeholders, including UCS, have legitimate concerns that NRC should resolve expeditiously.

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SCIENTISTS

March 1, 2000

Chairman Richard A. Meserve
Commissioner Nils J. Diaz
Commissioner Greta J. Dicus
Commissioner Edward McGaffigan, Jr.
Commissioner Jeffrey S. Merrifield
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REVISED REACTOR OVERSIGHT PROCESS

Dear Chairman and Commissioners:

The revised reactor oversight process can make a large, positive contribution to nuclear power plant safety if it is effectively implemented. The revised process is substantially better than the Systematic Assessment of Licensee Performance (SALP) and Watch List processes in many ways, including:

1. Performance in seven safety cornerstones is monitored using more than two dozen objective indicators. The former process subjectively examined performance in four broad categories.

2. Performance is assessed approximately 30 days after the end of each 92-day period. The former process assessed performance roughly 180 days following each 730-day period.

3. Agency response to declining performance is pre-defined. The former process responded to declining performance on an ad hoc and arbitrary basis.

4. Contemporary information on performance and assessment results for all plants is available to the public via the internet. The former process made it a real chore for the public to access this information.

Monitoring performance in more discrete areas, assessing performance in a much more timely manner, and responding swiftly and consistently to declining performance trends should enable the NRC to reduce, if not eliminate, the substantive erosion of safety margins that occurred in the past decade at FitzPatrick, Indian Point 3, Salem 1& 2, Millstone 1,2&3, Crystal River, LaSalle 1&2, Clinton, and D C Cook 1&2. Being more forthcoming with information on the process of regulating nuclear power plant safety should help the NRC to restore public confidence.

UCS monitored the development and testing of the revised reactor oversight process. We have concerns and problems with aspects of the new process. We are aware that members of the public, state officials, public interest group representatives, NRC staff members, and plant owners also have concerns and problems. All of these issues are genuine and need to be resolved. Nevertheless, we are not aware of any "showstoppers" that would prevent or significantly delay industry-wide implementation of the revised

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reactor oversight process. To the contrary, we feel that it is imperative that the new process be applied to all operating plants as soon as possible. The SALP and Watch List processes were discontinued in April 1999. The interim oversight process is a patchwork quilt of leftovers from the old processes, some temporal activities, and early arrivals from the revised process. **The interim oversight process provides little assurance of public health and safety and must be terminated as soon as possible. We urge the Commission to implement the revised reactor oversight process industry-wide beginning in April 2000, or as soon thereafter as possible.**

By all accounts, there are concerns and problems with the revised reactor oversight process that must be resolved. It is commendable that the NRC recognizes the limitations of the pilot program and plans a formal assessment of the process after about a full year of industry-wide implementation. To facilitate these resolutions and reviews, the NRC's Transition Task Force should be promptly dissolved and its staff returned to the appropriate branches.

Our specific comments and problems are detailed below. While we believe that these issues are serious matters requiring resolution, we do not think that these issues, either individually or collectively, prevent the industry-wide implementation of the existing revised reactor oversight process.

Public Perception: NRC is Allowing Self-Regulation

The overwhelming majority of public interest group representatives, local activists, members of the public, and Congressional staffers that I've talked with feel that the revised reactor oversight process represents the NRC abdicating its role and allowing the nuclear industry to self-regulate. While UCS does not share that view, NRC actions and inactions in the past year have reinforced that perception. Because perception can be as important as reality, **the NRC must take measures to convincingly demonstrate that it will regulate safety at nuclear power plants.** The specific problem areas that must be addressed include:

- NRC overly dependent on nuclear industry cooperation: Throughout the entire revised reactor oversight process, the NRC depends on cooperation from the plant owners. The performance indicator data is collected by the plant owners and voluntarily submitted to the NRC. If a plant owner learns during collection of the data that one or more indicators will reveal troubling performance, that owner can quite simply elect not to submit the information. An owner of multiple plants might elect to withhold submission of performance indicator data for all plants, instead of the single plant having signs of trouble. The NRC would be hard-pressed to cope with such non-cooperation due to ever-increasing reductions in its inspection staff levels. The NRC is equally dependent on cooperation from the plant owners for NRC findings. When an NRC inspector finds a serious safety problem under the revised process, the Phase 2 and Phase 3 assessments in the Significance Determination Process (SDP) require the NRC to obtain input and concurrence from the plant owner. The plant owner can delay responding to the Phase 2 and 3 inquiries indefinitely, thus impeding the issuance of NRC findings. Thus, the NRC's oversight process is totally dependent on the cooperation of the plant owners. **The NRC must appear more authoritative to gain the confidence of the public. The NRC should obtain an irrevocable commitment from all plant owners to participate in the revised reactor oversight process before industry-wide implementation.**

- NRC treating public as second-class stakeholders: Throughout the development of the revised reactor oversight process, the NRC consistently treated the public as second-class stakeholders. The NRC's primary concern was to appease the industry representatives, while the public interface was an

afterthought, at best. Examples of this unacceptable treatment are numerous:

(1) the public comment period for the revised oversight process ended December 31, 1999, but the NRC staff met with industry stakeholders in January 2000 to collect and discuss their concerns,
(2) the NRC inspection results for the pilot plants was not posted on the NRC's website in a timely manner, but was disseminated to the NEI task force on time,
(3) the NRC staff worked with industry stakeholders to develop and maintain a listing of frequently asked questions that was posted on the members-only portion of the NEI website – no comparable listing of frequently asked questions from public stakeholders was made available on the NRC website until after the public comment period ended,
(4) NRC staffers repeatedly answered questions about performance indicators to an NEI document that was not made available on the NRC website until late 1999,
(5) the public did not, and still does not, have access to changes to the performance indicator thresholds and calculation process as extensive revisions were negotiated between the NRC staff and industry representatives, and
(6) the NRC does not plan to issue a plain English description of the revised reactor oversight process, except for a very short and superficial brochure, until mid 2001.

The evolution of the revised reactor oversight process was not transparent or scrutable to non-industry stakeholders. **The NRC must stop treating the public as second-class stakeholders.**

- NRC's 'nukespeak': In general, the information put out by the NRC falls short of the federal government's plain English standard. NRC report PNO-II-00-003 dated January 26, 2000, is a classic example. This NRC report stated:

  "On January 26, 2000, at 6:48 a.m., Hatch Unit 1 tripped from 100% power on low reactor level following a spurious isolation of one of the two main feedwater lines. Following the reactor trip, the High Pressure Coolant Injection (HPCI) and the Reactor Core Isolation Coolant systems (RCIC) automatically started and operated satisfactorily. These systems, combined with the remaining feedwater, restored reactor water level to the high level turbine trip setpoint, at which time the HPCI, RCIC, and the feedwater pumps tripped as designed."

  "In accordance with procedures, the operators manually closed the Main Steam Isolation Valves (MSIVs) to prevent water from entering the main steam lines."

  What is "low reactor level?" Did the reactor core slump or fall?

  Why did the HPCI, RCIC, and feedwater pumps trip as designed when water level was restored to the turbine trip setpoint? [The NRC apparently assumes that all members of the public know and understand that the HPCI, RCIC, and feedwater pumps at Hatch are driven by steam turbines.]

  How could closure of the main steam isolation valves prevent water from entering the main steam lines? [As point of fact, closure of the main steam isolation valves did not, and could not, prevent water from entering the main steam lines – they, in fact, prevent water from *leaving* the main steam lines. This NRC statement is inaccurate.]

  UCS released the enclosed report on this Hatch event that is a better example of plain English communications to the public on nuclear safety issues.

The NRC must issue accurate reports in plain English on nuclear plant safety issues that do not require years of industry experience to understand.

Significance Determination Process:

The pilot program demonstrated that the significance determination process is unworkable. None of the SDP evaluations for non-GREEN findings was completed on time. That's unacceptable. The delays were attributed to the interface between the NRC staff and the plant owner. Even if the SDP evaluations could be performed in a timely manner, the process would still be unworkable. The mere fact that the NRC staff has to negotiate with the plant owner on the coloration of NRC findings is unacceptable. The NRC staff must be able to determine the color of an inspection finding without the review and concurrence of the plant owner. The NRC staff has recognized and documented that the SDP evaluations have problems. For example, in a letter dated January 6, 2000, from NRC staff member Jack Donohew to Garry L. Randolph of Union Electric Company, the NRC staff stated that "site-specific risk data is needed in order to provide a repeatable determination of the significance of an issue." This request also went out to most, if not all, of the other plant owners. Thus, the NRC staff knows that the current SDP process is unworkable.

The best solution to this problem would be to eliminate the need for interactions with the plant owner when the NRC conducts the Phase 3 SDP evaluations. This could be done if the NRC staff simply used the Standardized Plant Analysis of Risk (SPAR) models it has developed and is in the process of refining. Once validated, the SPAR models would allow the NRC to determine the proper color for an inspection finding without the review and concurrence of the plant owner. Eliminating the dependence on plant owner co-operation is also justified because this move reduces the reliance on Individual Plant Examinations and plant-specific risk assessments of uncertain quality. As NRC staff member Gary Holohan told the Commission during a briefing on May 7, 1997: "The IPE was really intended to be a one-time examination of plants." That one-time examination has been used up and cannot be re-used.

The significance determination process for NRC findings in the physical protection safety cornerstone must be corrected. As presently established, an NRC inspector discovering 100 bombs planted inside the facility – for example, taped to the reactor vessel and inside control room panels – would have to classify that finding as WHITE *if* the bombs did not explode. Even if one or more bombs planted inside the facility did explode, the finding would be GREEN or WHITE if the explosion(s) failed to damage emergency equipment. The finding can only be YELLOW or RED when a terrorist smuggles a bomb inside a nuclear plant and detonates it to harm workers or the public. This approach is, in fact, a measure of terrorist performance rather than plant owner performance in this vital safety area. In both cases, the plant owner's performance is totally unacceptable – the terrorist smuggled a bomb into the plant. **The significance determination process for the physical protection cornerstone must be revised to reflect plant owner – not terrorist – performance.**

The Missing Link:

Industry representatives have protested that the performance indicators and NRC findings in the physical protection cornerstone do not have the same risk significance as those in the reactor safety cornerstones and therefore should be downplayed. This claim is unjustified.

The NRC and the nuclear industry from WASH-1400 in the 1970's to the plant-specific risk assessments of the 1990's have deliberately and inexplicably ignored sabotage and terrorist threats in nuclear plant

safety analyses. Consequently, the contribution of physical protection systems to core damage frequencies has never been estimated. Simply because the sabotage and terrorist threat has been repeatedly ignored does not mean that there is no risk involved. Had the probabilistic risk assessments considered sabotage and terrorist threats and shown them to be relatively insignificant, there might be a basis for the industry's claims. But that has not been done and the industry's claims are groundless. **The NRC must consider problems in the physical protection cornerstone differently than those in the reactor safety cornerstones because sabotage and terrorist threats have not been properly considered in risk assessments performed to date.**

Greenwashing:
The main obstacle to federal income tax reform is that everyone wants a process where they get tax breaks. Likewise, it appears that plant owners want the revised reactor oversight process to provide them with all GREEN indicators and findings, or the convenience of having non-GREEN flags discounted by the NRC.

It is our understanding that the GREEN to WHITE threshold for performance indicators was typically set using information on pilot plant performance from 1995 to1997 such that about 95% of the plant would be GREEN and about 5% of the plant would be non-GREEN. It now seems like all the non-pilot plant owners are trying to wrangle the definitions to get their plants to be GREEN all the time. Consequently, thresholds have been lowered. In other cases, the calculation has been revised to toss out negative data. Such 'gaming' or 'greenwashing' undermines public confidence in the process.

There has also been intensive lobbying to get the NRC staff to discount non-GREEN indications. The most blatant measure involves "resetting" non-GREEN performance indicators. The industry wants the NRC staff to allow them to toss out long periods when safety equipment was broken so that the associated performance indicators can be GREEN sooner. The NRC staff is apparently endorsing this scheme under the notion that this scheme will prevent 'masking' of other problems. The staff, for whatever reason, believes that it would be great to turn a WHITE indicator back to GREEN because they would then know when conditions degraded back to the WHITE stage again. Perhaps, but if the fire trucks are there – as they would be when an indicator is non-GREEN – and the firemen are diligently doing their duty, there's no need to reset the fire alarm. **Non-GREEN performance indicators must not be reset prematurely – the NRC's fire trucks must remain onsite until the fire is out and the smoke clears.**

Deviations from the Action Matrix:
One of the key improvements of the revised reactor oversight process over prior processes is the Action Matrix. This matrix outlines NRC responses to declining performance trends. The NRC's responses become more intrusive as performance problems deepen or broaden. The NRC staff wants to set aside safety warnings and permit the agency to refrain from responding as outlined in the matrix. **Deviations from the Action Matrix are potential threats to safety that have direct threats to public confidence. Thus, the NRC should not deviate from the Action Matrix.**

The former SALP and Watch List processes would have worked just fine had not NRC senior management disregarded safety warnings and relied on 'gut' feelings. The safety problems at Salem, Millstone, and D C Cook – which took longer than a year to fix – were not 'surprises.' The warning signs were there long before these plants were finally forced to shut down to restore the safety levels. NRC senior management discounted or downplayed the warnings for too long. The NRC now admits, at least privately, that it issued Confirmatory Action Letters in the past when Orders should have been issued.

There is ample evidence to support our belief that this unfortunate history will be repeated in the future if deviations from the Action Matrix are allowed. For example:

- Three Mile Island Intrusion: The NRC's special inspection following the intrusion into the Three Mile Island nuclear power plant ignored the advise of several security inspectors on the team to assess the truck-bomb threat and the terrorist threat implications of the event. Consequently, the inspection scope was restricted to an examination of the threat posed by a single perpetrator of questionable competence.

- Dresden Diagnostic-like Evaluation: According to two independent sources on the team that evaluated Dresden in late 1996, the team members agreed that both units needed to be shut down immediately so safety problems could be resolved. This input was ignored and the NRC issued an inspection report encouraging the Dresden plant owner to keep up the good work.

- Operational Safeguards Readiness Evaluations: Despite knowledge that OSREs conducted with plenty of advance warning were revealing serious deficiencies in nuclear power plant security measures, the NRC discontinued the OSREs for the remaining facilities in 1998. It took White House intervention to reinstate the OSREs.

We sincerely believe that examples like these reflect the NRC staff setting aside safety warnings to make political decisions. **The NRC must take safety warnings seriously and not deviate from the Action Matrix simply because it has a 'gut feeling' that things are better than they appear.**

NRC Regional Offices:
Numerous interactions with NRC staffers during the past three years have provided me the impression that decisions sometimes become less objective and more politicized the further they are made from the plant sites. In other words, the NRC Resident Inspectors are more likely to render decisions based on the technical merits of an issue than the NRC Regional Staff, which in turn is more likely to base decisions on technical issues than the NRC Headquarters Staff.

My impression is reinforced by the NRC staff culture survey released by the NRC Inspector General in June 1998 (http://www.nrc.gov/NRC/OIG/SURVEY/index.html). Interviews of 91 regional and 82 headquarters staff members conducted by the contractor performing the culture survey revealed a discernable concern: "Employees report that communicating problems results in a 'shoot-the-messenger' syndrome." By nature of their respective roles, NRC regional staffers are more likely to be 'messengers' than 'shooters.' In any case, **NRC staffers in the regional offices must not be afraid to communicate problems.**

Cross-cutting Areas:
At the January 2000 D C Cook Commission briefing, I expressed my opinion that the revised oversight process would have identified D C Cook's problems. During numerous discussions with NRC staffers, industry representations, state officials, and colleagues at public interest groups since that time, I seem to be among a very tiny minority. By all accounts, including those of the current senior plant management, the corrective action, 50.59 safety evaluation, and configuration management programs at D C Cook were totally broken. It seems to me that any one believing that the new oversight process would not have flagged D C Cook's problems is inherently saying that the cross-cutting areas may not be identified via the new process.

Because the critically important cross-cutting areas might not be revealed by the revised oversight process, the NRC must take special precautions. The staff plans to conduct one inspection each year into the corrective action program at each nuclear power plant site. Under the current scheme, any findings from these inspections will be handled under the Significance Determination Process (SDP).

Findings from NRC inspections in the cross-cutting areas must not be handled via the SDP. Using the SDP, any NRC finding of totally incompetent corrective action involving a non-safety system will get a GREEN rating, thus barring NRC from further inquiry to assess extent of condition. The finding of weakness in a cross-cutting area should not be dismissed or downplayed via the SDP. **Instead, such negative findings warrant extent of condition evaluations to determine if the indication is isolated or representative of larger, programmatic problems.** The extent of condition evaluations could be performed by the plant owner or by the NRC staff. The appropriate agency response should be more intrusive when the extent of condition evaluation determines that the weakness was confined to non-safety areas than when it reveals that the weakness is broader.

The very classification of corrective action programs and safety conscious work environments as cross-cutting areas recognizes that weaknesses in these areas can have broader safety implications. Therefore, it is imperative that the NRC respond appropriately to indications of problems in these areas.

Finally, it was apparent during the NRC's workshop in January 2000 that one of the cross-cutting areas is that there is not a consistent listing of cross-cutting areas. UCS feels that the following areas, as a minimum, must be considered cross-cutting: (1) safety conscious work environment, (2) corrective action program, (3) configuration management program, (4) fire protection program, (5) 50.59 safety evaluation process (unless considered a subset of configuration management), and (6) worker training and qualifications.

Specific Performance Indicator Issues

ALERT & NOTIFICATION SYSTEM: This performance indicator is non-conservatively (and non-sensically) based exclusively on test results. It fails to account for sirens that are inoperable and repaired between scheduled tests. **The ALERT & NOTIFICATION SYSTEM performance indicator must be revised to account for alert and notification system failures detected between scheduled tests.**

Examples from the Pilot Program:

- Shearon Harris Nuclear Plant: The ALERT & NOTIFICATION SYSTEM performance indicator stated values of 98.9%, 98.8%, 98.5%, 98.2% and 98.2% for 3Q/98, 4Q/98, 1Q/99, 2Q/99, and 3Q/99 respectively based on simply dividing the number of successful siren tests by the total number of siren tests. NRC Daily Event Report No. 35435 dated March 3, 1999, stated that more than 20% of the sirens remained out of service for at least 3 hours 53 minutes due to severe weather. NRC Daily Event Report No. 35990 dated August 3, 1999, stated that all 28 sirens in Chatham Country were inoperable due to a repeater failure and that this outage lasted 11 hours 15 minutes. NRC Daily Event Report No. 36036 dated August 16, 1999, stated that all seven (7) sirens in Harnett County were inoperable due to a lightning strike and that the outage lasted 42 hours 30 minutes. NRC Daily Event Report No. 36090 dated August 30, 1999, stated that all seven (7) sirens in Harnett County were inoperable for ten (10) minutes due to severe weather. NRC Daily Event Report No. 36170 stated that 22 of 81 sirens were disabled by a loss of power resulting from Hurricane Floyd and that the outage lasted at least 12 hours 5 minutes.

- Hope Creek Generating Station: The ALERT & NOTIFICATION SYSTEM performance indicator stated values of 99.3%, 99.1%, 99.1%, 98.7%, and 99.0% for 3Q/98, 4Q/98, 1Q/99, 2Q/99, and 3Q/99 respectively based on simply dividing the number of successful siren tests by the total number of siren tests. NRC Daily Event Report No. 36183 dated September 16, 1999, stated that 34 of 71 sirens were disabled by a power outage and that this outage lasted at least 1 hour 2 minutes.

- Salem Nuclear Plant: The ALERT & NOTIFICATION SYSTEM performance indicator for Salem Unit 1 stated values of 99.3%, 99.1%, 99.1%, 98.7%, and 99.0% for 3Q/98, 4Q/98, 1Q/99, 2Q/99, and 3Q/99 respectively based on simply dividing the number of successful siren tests by the total number of siren tests. NRC Daily Event Report No. 36182 dated September 16, 1999, stated that 34 of 71 sirens were disabled by a power outage and that this outage lasted at least 1 hour 2 minutes.

CONTAINMENT LEAKAGE: This performance indicator is defined as "The monthly maximum total Type B and Type C leakage as a percentage of the design basis leak rate (La), as determined in accordance with 10 CFR Part 50, Appendix J." While not defined anywhere in the material provided to the public on performance indicators, Appendix J defines Type B tests as the periodic leak tests of containment isolation devices such as doors, air locks, etc. and Type C tests as the leak tests of containment isolation valves. **The CONTAINMENT LEAKAGE performance indicator is absolutely useless and must be eliminated or replaced with something meaningful.** Chapter 12 in Volume II of NUREG-1560 shows in Figure 12.2 that containment bypass is the tiniest contributor to conditional containment failure frequencies for all nuclear power plants operating in the United States. Since the results from Appendix J Type B and C tests are essentially measures of containment bypass, it seems imprudent in an allegedly risk-informed oversight process to use the least important failure mode as a performance indicator. A more appropriate performance indicator would be safety system unavailability for the systems needed to establish primary containment integrity, including those systems needed for containment cooling. **Safety system unavailability is used in the performance indicators for the mitigating systems cornerstone and should be used for monitoring containment performance.**

SAFETY SYSTEM FUNCTIONAL FAILURES: This performance indicator is defined as "The number of events or conditions that have been reported in Licensee Event Reports that prevented, or could have prevented, the fulfillment of specified safety functions in the previous four quarters." The office formerly known as AEOD used this indicator for years. It originally tracked the failures of either train in a multiple train safety system. It was revised a few years ago to now track failures of all trains in a multiple train system. That redefinition enabled the agency to report improved safety performance to Congress when, in fact, safety levels had not been improved.

Nuclear power plants are designed using a defense-in-depth approach. That's why safety systems have more than a single train. A train can be disabled and the redundant trains allow the required safety function to be performed. The current definition for this performance indicator essentially measures how often the defense-in-depth concept is broken. The prior definition measured how often it was bent. **The NRC must revert to the old definition for SAFETY SYSTEM FUNCTIONAL FAILURES, with appropriate redefinitions of the GREEN-to-WHITE, WHITE-to-YELLOW, and YELLOW-to-RED thresholds.**

Potential Safety Disincentives:
In the past, the NRC was wary about plans by public service commissions to reward nuclear plant owners when they met or exceeded specified performance goals. The NRC was justifiably concerned that financial incentives tied to capacity factor goals might distract plant owners from the proper focus on safety.

This concern has been reincarnated by the revised reactor oversight process, but on a different level. Some plant owners, like Unicom, have instituted bonus plants for supervisors and managers that are directly tied to the performance indicators. While this practice is not inherently unsafe and might actually have safety benefits, it can also cause abuses. For example, this practice creates a tangible bias within a supervisor or manager to downplay the significance of a problem since a higher severity level could prevent the individual from receiving a bonus. **The NRC must be sensitive to financial incentives for plant workers and management that might distract them from the proper focus on safety.**

Accuracy of Performance Indicator Data Submittals (the 50.9 issue)
At the January 2000 workshop, representatives from the NRC Office of Enforcement outlined the following game plan for handling errors in performance indicator data submitted by plant owners:

- Data errors that do not change the coloration of a performance indicator will be handled as minor violations cited in NRC inspection report as non-cited violation

- Data errors that change the coloration of a performance indicator from a higher to a lower risk significance category will not be handled as violations of any sort.

- Data errors that change the coloration of a performance indicator from a lower to a higher risk significance category will be handled as big time violations (or words to that effect).

During the ensuing dialogue, Mr. Borchardt stated words to the effect that the objective of the NRC's enforcement policy relative to PI data errors was to ensure compliance with regulations. The staff's proposed game plan will not and quite simply cannot achieve that objective. The staff cannot ensure compliance with regulations by turning its back on non-compliance, as the staff proposes to do when data errors cause the coloration of a performance indicator to get better (i.e., turn to GREEN from WHITE). The staff cannot ensure compliance by ho-humming a large data error that fails to affect the color of a performance indicator while bringing out its regulatory hammer when a minor data error causes a performance indicator to slip from GREEN to WHITE. The proposed enforcement policy amounts to nothing more than a meaningless echo of the Action Matrix – when a performance indicator changes color in a positive direction, the staff disengages; when a performance indicator remains the same color, the staff's engagement status is unaffected; and when a performance indicator changes color in a negative direction, the staff engages. This 'double jeopardy' does nothing to maintain safety, does nothing to improve public confidence, adversely affects NRC's effectiveness/efficiency, and increases unnecessary regulatory burden. Therefore, this game plan must be abandoned.

Imagine for a moment what could happen if the game plan is not abandoned. Plant XYZ could have a PI data error each and every quarter that always results in a WHITE to GREEN change. None of these recurring data errors would result in NRC sanctions of any kind even though the false WHITE PI might cause the NRC staff to expend more resources on this plant than are necessary. Plant ABC could have zero PI data errors of any kind for many quarters and then have a single mathematical error which, when corrected, causes a GREEN to WHITE change. For Plant ABC to receive more regulatory pressure from

the NRC for a single, one-time minor error than Plant XYZ receives for chronic inaccuracies is unacceptable.

PI data errors, whether identified by NRC or plant owner, should be handled by corrective action process. Such errors are truly problem identification and resolution matters. When an error is entered into the corrective action process and its resolution is successful in preventing recurrence, the NRC, the industry, and the public gets what they want – accurate information on plant performance. If errors persist, even if they fail to change colors, they reflect a deficient corrective action program.

The corrective action process is the best way to handle PI data errors. A successful corrective action process will ascertain the root cause of the error, regardless of its magnitude or timing, and implement measure to prevent recurrence. When PI data errors persist, the NRC should be rightly upset and concerned about the health of the corrective action process.

The game plan proposed by the Office of Enforcement is also inconsistent with how the agency handles virtually all other errors. For example, plant owners were required by NRC letters dated October 9, 1996, to respond under oath or affirmation that design bases information for their plants was both available and adequate. When the NRC subsequently learned, as at D. C. Cook or James A. FitzPatrick or Indian Point 2 for example, that a plant owner had erred, the agency has taken absolutely no action of any kind under 10 CFR 50.9.

In summary, the NRC should treat all non-willful PI data errors the same. At most, a non-willful PI data error should be listed in an NRC inspection report as a non-cited violation when it is discovered by the NRC. A non-willful PI data error identified by the plant owner should be corrected and explained in the licensee comment box provided with the PI.

Summary:
The revised reactor oversight process marks a significant improvement over past programs. The current process has aspects that need to be addressed, but none of these issues rise to the level that prevents industry-wide implementation. To the contrary, the revised reactor oversight process needs to be expanded to cover every operating plant as soon as possible because the interim process being used by the NRC is not durable.

UCS appreciated the opportunity to represent the public on the Pilot Program Evaluation Panel and to present our views to the Commission today and during prior briefings.

Sincerely,

David A. Lochbaum
Nuclear Safety Engineer
Union of Concerned Scientists

Comments to the Nuclear Regulatory Commission on Improvements in the Reactor Oversight Process

March 1, 2000

Jill Lipoti, Ph.D., Assistant Director
NJ Department of Environmental Protection
Radiation Protection Programs

Recently, I've had the opportunity to provide comments – both written and oral – on the new oversight process for nuclear power plants. There are three letters from the Radiation Protection Program in New Jersey on the record: May 20, 1999, August 26, 1999, and December 31, 1999. Additionally, I spoke at the State Liaison Officer's meeting December 1, 1999, the Lessons Learned Workshop, January 10, 2000, and participated in a roundtable near Salem on January 26, 2000. I was surprised to read about myself in several trade publications. I think I need to make some clarifying statements.

I have offered the criticisms of the new oversight process but this should not be taken as a criticism of the NRC or the staff. I have a great deal of respect for the Commission's creativity in reinventing the oversight process and the staff's efforts to design the new process and pilot test it. Additionally, I am not criticizing the operation of the Salem nuclear generating stations that participated in the pilot program. For instance, I have offered comments that were critical of the way the new inspection procedure for the corrective action program was conducted at Salem, but these should not be interpreted as critical of the way that PSEG management conducts its corrective action program.

There is value to all of us in having the oversight program be the best that it can be. These comments are offered in the spirit of constructive criticism to make improvements that increase public confidence (and my confidence). The ideal oversight program doesn't waste resources inspecting things that are already in compliance. It only expends inspection resources (above the baseline) on plants that need increased scrutiny. Therefore, a system that makes it possible to detect the signs that show a nuclear power plant needs additional oversight before an incident occurs is the common goal.

The theory behind the new oversight program is excellent. The four key NRC outcome measures are exemplary. It is when this theory is tested practically, that a gap is seen between the application and the theory.

The question to be answered now is not whether the new oversight process is perfect. It is not. The question is not whether the new oversight program has merit. It certainly does. But it is whether the new oversight program is better than the existing oversight program and whether it should be applied to all nuclear power plants as an improvement over the current oversight

program. And this must be seen as the huge decision that it is – to apply a voluntary program in lieu of a regulatory program for oversight of nuclear power plants in the United States.

Comparison with existing oversight program

The existing program contains little linkage to risk-significance. The findings by NRC inspectors under the existing oversight program could detract from safety by focussing licensee attention to issues of low risk significance, while other issues remain unaddressed. The new oversight process forces consideration of risk-significance of any potential finding, and thereby is an improvement.

The existing oversight program is based on regulations. A regulatory program is developed over a period of many years, where improvements to regulations are proposed, public comment is invited and formal responses are developed, and then the regulations are finalized. There is a measure of public confidence that arises from the use of the standard government system. However, it is cumbersome and time-consuming. The new oversight program is a reinvention of government oversight. It was drafted and piloted on a small sample of nuclear power plants for a short period with the full voluntary cooperation of the nuclear industry. If it is approved for use throughout the US, it will be with the voluntary cooperation of all of the nuclear power plants. It remains to be seen whether a voluntary program rather than a regulatory program can "enhance public confidence" in nuclear power plant oversight.

The reason that the nuclear power industry has been so cooperative is because they wish to reduce the burden of a regulatory program. In a deregulated industry environment, it is important to reduce costs to make nuclear power competitive. If the regulatory burden is not really necessary to maintain safety, it is unnecessary. The examination of the existing program has shown that there are areas of unnecessarily burdensome regulations. The new program is prescriptive in preventing the NRC inspectors from getting involved in non-safety significant issues.

The cooperation between the industry and the regulators seems unique with the relationship of NEI and NRC. Are there other examples of federal agencies whose guidance documents are written and published by the organization which represents the community that they regulate? My experience is limited, but even in the medical field, the American College of Radiology's (ACR) recommended quality assurance standards for mammography were not "adopted by reference". The standards were adopted through a regulatory process subsequent to enactment of the Mammography Quality Standards Act. The ACR's relationship with the regulator, the Food and Drug Administration, could be described as cordial, but the amount of influence the ACR had in developing inspection procedures and enforcement actions was minimal compared to the NEI influence on NRC's processes. There certainly could be value in this type of cooperative relationship exhibited by NEI/ NRC, but does it inspire public confidence?

The existing program only comes out with public conclusions about licensee performance every 18 months in a SALP. The new program updates the performance indicators every quarter, with information available to anyone with a computer and a modem. And, just to make sure that everyone can ascribe the correct interpretation to the numbers that come out, the colors are

shown. Surely, that is a dramatic improvement over the existing system, and is a possible reason to proceed with the rollout. Public information inspires public confidence. With visibility comes accountability. Every licensee knows that if they have anything other than green indicators and green inspections they will be challenged publicly. The value of the new system is that it will be recorded on the website, highly visible.

Performance Indicators

The theory of the performance indicators is that they will provide a way for the NRC to determine if a particular nuclear power plant needs additional oversight resources due to a declining trend in performance. The NRC is using the performance indicators as a way of determining which plants could have a problem if not watched closely. So the NRC needs leading indicators – predictive indicators. What the NRC has adopted so far are lagging indicators – those that demonstrate past performance and make no prediction of future performance.

It is a struggle to find the right indicators. New Jersey has been working on a project to identify environmental indicators so that we can measure trends in the environment and demonstrate progress or redirect resources if some environmental strategies are not working. The environmental indicators are linked to other indicators such as economic indicators in a sustainable state strategy. Taking an example from NJ's experience, one environmental indicator is "beach closings". Beaches are closed if the bacterial level exceeds a standard. Looking at beach closings over the years is an indicator of ocean water cleanliness. Tourism is influenced by the previous year's beach closings. Beach closings are a leading indicator for tourism. However, in terms of environmental strategies, it is a lagging indicator. Once the beach is closed, the strategy failed. So to get to the leading indicator for beach closings, the capacity of shore sewage treatment plants, the prevention of storm water runoff, or the prevention of non-point sources of pollution can be tracked. Even the enactment of "pooper scooper" laws that decreases the biological loading on the rivers and streams due to storm water runoff can be tracked and would be a leading indicator for the cleanliness of beaches.

At any nuclear power plant, there is a suite of indicators that are used to track performance. Different indicators are chosen based on what management emphasizes at any given time. There are detailed indicators on particular systems that allow lower level managers to track certain parameters, and there are overarching indicators that allow higher level managers to track the "big picture".

There are several criteria for determining whether the NRC's chosen performance indicators are the right ones.

1. Do they correlate to safety? Can they be equated to a risk number?
2. Are they anticipatory? Do they predict safety in the future?
3. Do they accurately portray the need for inspection (above baseline)?

It is NRC's challenge to defend the suite of indicators to prove that they are the leading indicators for safety, correlate to some risk number, and accurately portray the need for additional scrutiny.

Thresholds

The thresholds are extremely important. If they are not set properly, they will not give the NRC the information that is needed to prioritize the inspection resources.

The thresholds for the color bands are being marketed as the decision point for "adequate margin of safety" without the need for additional NRC attention. How were the thresholds set? Are they a 95th percentile based on past performance? What is the technical basis? What is the risk analysis that supports the choice? Is the risk the same at all nuclear power plants? Or is it different based on the individual plant examination? Does green at one plant mean something different than green at another plant? What is the range of uncertainty around the thresholds? Does the uncertainty for the green threshold overlap with the uncertainty around the white to yellow threshold?

Making the decision to have thresholds is momentous. In New Jersey, we have been changing our oversight process for x-ray machines to put more of the burden on the owners for detecting and correcting problems between inspections. Based on experience with mammography, we are establishing standards for quality assurance for all other types of x-ray machines that will be codified in regulations. We have chosen two indicators that will be measured and tracked on a statewide basis. They are patient dose and image quality. Individual doctors will be given their x-ray machine results in comparison to the statewide results. We discussed having thresholds for performance that would require the doctors to bring their machines into a certain acceptable band of dose and image quality. However, we decided against having thresholds because of the tendency to correct problems to just inside the threshold, rather than strive for continuous improvement. So we have chosen, for now, not to define thresholds.

It is the NRC's challenge to explain the underpinnings of the color criteria and the thresholds. If the thresholds present a barrier for a plant to strive for continuous improvement, then NRC must be ready to defend the threshold as "good enough" or "adequate" based on the risk allowed. The economic pressure due to deregulation will be continuously exerted as an incentive for plants to operate right at the threshold for green to white. The additional color bands are probably unnecessary – there is only a two-color system given the attention and importance ascribed to a white finding.

The assignment of colors was an attempt to simplify the characterization of plant performance by avoiding actual numerical risk values and other complexities. While making great strides in improving understandability for the public, the NRC cannot renege on its promise to relate the thresholds to risk.

What criteria will the NRC use to decide to reexamine its thresholds for the color codes? Is one problem at one plant that was not detected by the threshold enough to make NRC go back and examine its assumptions?

During the pilot, there were attempts made by licensees to redefine the threshold, invariably to move the licensee from white to green. The thresholds must be fixed. Certainly, an appeal process can be defined to account for some special circumstances, but the threshold should not be moved up or down based on arguments from a licensee.

Pilot

There was only one pilot of this new oversight program. There was only one hypothesis to test – whether THIS NEW OVERSIGHT PROCESS worked versus the existing process. There was no testing of several versions of a new oversight process to see if some process parameters were superior. Based on the feedback from NRC staff, ACRS, and utility participants, there have been a lot of changes to the program prior to full implementation, and there is no proposal to test these new enhancements prior to full implementation. No one can be sure whether the changes made are the right ones and how effective they are. Meetings are still taking place to address fire protection, reactor safety, cross cutting issues, human performance, emergency preparedness, radiation safety, enforcement, and data collection. There are still process issues like inspection reporting that need to be settled.

Licensees and NRC staff are convinced that they discovered no fatal flaws to the new oversight program during the pilot. From the ACRS transcript, the staff is pointing to the "stakeholders" as the basis for the statement of "no fatal flaws". The opinions of the stakeholders, while an important guidepost, should be seen as judgements, made from the particular bias of the "stake" that each person has in the outcome. However, objective criteria are needed for deciding on what is a fatal flaw and what is a refinement.

Cross-cutting Issues

The NRC has made a significant assumption that issues related to cross-cutting issues would manifest themselves in some of the indicators chosen so they can be detected. How will this be tracked during the initial implementation?

Licensee corrective actions are the subject of NRC's scrutiny in a baseline inspection as well as monitoring by the resident inspector. The NRC has already made the decision to cut the resident inspectors at multi-plant sites. The old guideline was n+1 inspectors, and now the guideline is n. That looks like a baseline inspection program cut. If the PIs don't show anything other than green, there will not be additional resources put in from the Region in special inspections. How will the NRC know if corrective actions are prioritized properly? Are the inspectors required to draw a sample throughout the year? On what statistical basis? With fewer resident inspectors and more for them to monitor, will they be able to identify an adverse trend?

Inspections

Inspections remain the foundation of any oversight program. The inspection hour estimates were low and unrealistic. The scope of the inspections seemed to approximate the current scope, but the depth was lacking, partly because there was limited time to perform the inspection, and

management approvals were needed to go beyond the prescribed scope in the inspection procedure.

Significance Determination Process

The SDP process entails putting inspection findings through a kind of flow diagram that is supposed to surface any significant accident scenarios. These flow diagrams were derived from the Individual Plant Examinations. These IPEs were never designed for significance determination, they were never reviewed for this new purpose, and they have been criticized in the past for not being representative of plants and not being kept up to date. There are uncertainties involved in the IPEs, but these uncertainties have not been carried forward to quantify the uncertainty involved in the SDP process or the threshold decisions.

Honestly, the SDP has been in such flux; I don't know how to comment on it. Some SDP processes are still under development, and have never been seen by industry or the public. The existing ones are not thoroughly used or understood. They are complex and time consuming to use, which translates to "burdensome", something the NRC was trying to reduce. And, from the pilot experience, they turn regulating into negotiating.

Conclusion

As I said at the "Lessons Learned" conference, "I hear that train a'comin'!" You may have changed the words for what will happen on April 2 from "implementation" to "initial implementation", but it has been made abundantly clear that the new oversight process is going forward regardless of the number and complexity of issues yet to be resolved. What would add a comfort level to the initial implementation is if you would set milestones for resolving some of the issues, and objective criteria for when the milestone is reached.

It is extremely important to involve your Office of Research in the evaluation of the performance indicators, particularly in evaluating the risk basis for both PIs and SDP. An uncertainty analysis must be performed, particularly with regard to the thresholds. The uncertainty analysis should address the uncertainties associated with the risk assumptions and all other uncertainties that propagate through the application.

Feedback from the public on their understanding of the new oversight process is essential for success. To amplify the importance of constructive feedback at a state level, in New Jersey, our Division of Science and Research had a small contract with Rutgers University to get feedback from the public on our environmental indicators. (Copy provided.) The researchers selected 10 of our 130 indicators for their study. The researchers collected information on both the visual display of data and on the use of text to summarize the graphic. Stakeholders' expressed a variety of concerns. They questioned the labels on axes of graphs, asked for interpretive text, asked for explanation of trends by causes and strategies, and complained about obscuring the message through use of jargon. But their main concern about indicators was that they were being used to portray environmental progress in overly optimistic terms. Respondents used terms like "spin" and "propaganda". Obviously, the feedback was not terribly complimentary of our hard work, but was extremely valuable.

The "roundtable" meetings that NRC held to discuss the new oversight process at each of the pilot plant locations did not elicit that level of discussion. Bringing this kind of feedback into the process, along with the risk analysis and uncertainty analysis would begin to demonstrate that the new oversight process is a viable improvement over the existing regulatory oversight.

Communicating Environmental Indicators:

Results of Exploratory Research

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Environmental indicators are selected measures that represent trends in significant aspects of environmental quality. New Jersey's Department of Environmental Protection (NJDEP) has developed more than 130 indicators to represent conditions of the environment. This report summarises qualitative research exploring representations of environmental indicators with key stakeholders, including journalists, environmentalists and legislative staff in New Jersey. CEC interviewed stakeholders about their impressions of the graphical representation and the associated text of 10 indicators. Research results provide *preliminary* practical guidance on how these might be improved. This project is funded through a contract with NJDEP, Division of Science and Research.

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