

ORIGINAL

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NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON REACTOR OVERSIGHT PROCESS
IMPROVEMENTS
PUBLIC MEETING

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON
5 REACTOR OVERSIGHT PROCESS IMPROVEMENTS

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7 PUBLIC MEETING

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10 Nuclear Regulatory Commission
11 Commission Hearing Room
12 11555 Rockville Pike
13 Rockville, Maryland

14
15 Monday, November 2, 1998

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17 The Commission met in open session, pursuant to
18 notice, at 2:07p.m., the Honorable Shirley A. Jackson,
19 Chairman, presiding.

20
21 COMMISSIONERS PRESENT:

22 SHIRLEY A. JACKSON, Chairman of the Commission
23 NILS J. DIAZ, Commissioner
24 EDWARD MCGAFFIGAN, JR., Commissioner
25 JEFFREY S. MERRIFIELD, Commissioner

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1 STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

2 JOHN C. HOYLE, Secretary of the Commission

3 KAREN D. CYR, General Counsel

4 WILLIAM D. TRAVERS, EDO

5 SAM COLLINS, NRR

6 FRANK GILLESPIE, NRR

7 MICHAEL JOHNSON, NRR

8 PATRICK BARANOWSKY, AEOD

9 JAMES LIEBERMAN, Office of Enforcement

10 BRUCE MALLET, Div of Reactor Safety,

11 Region II

12 JOHN FLACK, RES

13 RALPH BEEDLE, NEI

14 DAVID LOCHBAUM, UCS

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P R O C E E D I N G S

[2:07 p.m.]

CHAIRMAN JACKSON: Good afternoon, everyone. I am pleased to welcome members of the NRC staff to brief the Commission on the progress of planned improvements to the reactor oversight process and plans for and results of an initiative to improve the NRC assessment, inspection and enforcement processes for operating commercial nuclear reactors.

Before we begin, however, I would like to take a moment to recognize the return of Ms. Greta Dicus to the Commission. While she could not be with us today, we do welcome her back. She was missed this summer.

In addition, I would like to recognize and to welcome and to introduce to you Mr. Jeffrey Merrifield to his first Commission meeting. Commissioner Merrifield, my colleagues and I look forward to working with you. We have a lot to do, as you will get an inkling of this afternoon.

Today's meeting represents a continuation of a dialogue which has existed between the Commission and the NRC staff since 1996 when, due to concerns over the subjectivity involved in the senior management meeting process, I directed the staff's attention toward seeking an external review of that process, which was the Arthur Andersen study.

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1 Since that time and pursuant to Commission
2 direction, the staff has developed proposals to modify and
3 to improve the entire power reactor regulatory oversight
4 process. Not only the senior management meeting process,
5 but power reactor performance assessment, which includes all
6 of the constituent pieces, including SALP, as well as the
7 inspection and enforcement processes.

8 The reactor oversight process is intended to
9 independently assess reactor plant performance, to
10 facilitate the early identification of plants which require
11 increased regulatory attention, and to direct regulatory
12 actions towards such plants before the reasonable assurance
13 of public health and safety is compromised.

14 Our ultimate goal is to attain a clear, coherent
15 picture of performance at operating reactor facilities in a
16 way that leads to objective, consistent and predictable
17 regulatory actions. Through the reduction of subjectivity
18 that can be afforded by the use of performance indicators
19 and through the use of risk information, it is our attention
20 to reduce unnecessary regulatory burden to the extent
21 possible.

22 The staff has quite properly considered the
23 individual components of the reactor oversight process as an
24 integrated whole in which components of the process work
25 synergistically to achieve our objectives. Today the staff

1 will describe its current activities to support these
2 objectives and also should describe any incremental
3 improvements to the process that already have been
4 accomplished.

5 We welcome this update which represents an amalgam
6 of both staff and stakeholder thoughts on the subjects
7 obtained through a number of NRC-stakeholder interactions,
8 culminated in a well attended and, I am told, fruitful
9 workshop conducted during the week of September 28. The
10 workshop was sponsored by the NRC and was attended by
11 numerous representatives of the NRC, licensees, the power
12 reactor industry, public interest groups, and congressional
13 staff.

14 The Commission applauds the cooperative efforts of
15 all involved at the workshop.

16 At the conclusion of the staff's presentations,
17 two stakeholders will provide brief remarks on the NRC
18 efforts concerning the assessment process. To represent the
19 Nuclear Energy Institute (NEI), Mr. Ralph Beedle will
20 present remarks. To represent the Union of Concerned
21 Scientists, Mr. David Lochbaum will provide remarks. And I
22 will call them to the table at the appropriate time.

23 Copies of the slide presentation are available at
24 the entrances to the meeting. So unless my colleagues have
25 any introductory comments, Dr. Travers, please proceed.

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1 MR. TRAVERS: Good afternoon, Chairman Jackson,
2 Commissioner Diaz, Commissioner McGaffigan, Commissioner
3 Merrifield. As the chairman mentioned, we are here today to
4 discuss the status of the staff's efforts to develop
5 improvements in the NRC's inspection, assessment and
6 enforcement processes.

7 With me here at the table are Sam Collins, Frank
8 Gillespie, and Mike Johnson of NRR; Pat Baranowsky of AEOD;
9 Jim Lieberman of the Office of Enforcement; John Flack of
10 the Office of Research; and, of course, Bruce Mallett from
11 Region II.

12 You mentioned an integrated whole, Chairman. I
13 think the example that I would offer you is the kind of
14 cooperative effort that we have internally put together to
15 work on these processes, as demonstrated by the different
16 organizations, regions, and major program offices that are
17 involved in this effort.

18 Since receiving the initial tasking memorandum
19 from Chairman Jackson on August 7th, the staff has given a
20 high priority to furthering changes that are intended to
21 better utilize risk information, clarify NRC requirements
22 and expectations, and improve the predictability,
23 objectivity and timeliness of NRC decisions.

24 Particular emphasis has been placed on addressing
25 specific aspects of the reactor oversight program. The

1 EDO's August 25th memorandum to the Chairman provided the
2 staff's short- and long-term plans, including detailed
3 milestones and deliverables for a number of the most
4 important issues.

5 In the two months since the initial response, the
6 staff has increased its level of effort in order to
7 accelerate ongoing improvements in the performance
8 assessment, inspection and enforcement programs. We remain
9 substantially on track in our efforts.

10 As you know, on September 15th the Commission
11 approved the suspension of the systematic assessment of
12 licensee, or SALP, program, for an interim period until the
13 staff completes a review of its process for assessing
14 licensee performance.

15 The suspension of SALP has freed staff resources
16 to work on this project, and, as a result, region based
17 managers and inspectors have been able to be assigned as
18 dedicated members on each of the teams assigned to develop
19 the technical framework, inspection and assessment models.
20 This is truly an integrated effort.

21 There has been a significant amount of interaction
22 with stakeholders for this effort. Chairman, you mentioned
23 the workshop. At that workshop we were able to achieve our
24 goals for the workshop by obtaining alignment of the
25 participants on the basic framework for the process and its

1 defining principles.

2 Although significant progress has been made, it's
3 really just the first step and a significant amount of work
4 remains to address the details. Between now and the middle
5 of December there are meetings scheduled with stakeholders
6 at the working group level nearly every week to continue to
7 refine and add to the progress we have already made. We
8 view these continued interactions with stakeholders as a
9 critical factor in developing an acceptable overall
10 inspection, assessment and enforcement framework, and these
11 interactions will continue to be a priority for us.

12 As you know, we are working to provide the
13 Commission with the results of our work, including a staff
14 recommendation, by January.

15 At this point, I would like to turn it over to
16 Frank Gillespie, who is going to begin the process of
17 describing what we have been up to.

18 [Slides shown.]

19 MR. GILLESPIE: Good afternoon. We are here this
20 afternoon to present to the Commission a brief background
21 review of the oversight process improvement effort completed
22 to date, a status of current staff activities, near term
23 goals, and to discuss long-term activities required to
24 implement process improvements.

25 While these efforts were originally focused on

1 improvements to the assessment process, the task has evolved
2 to a more broadly based effort involving the close
3 integration of inspection, assessment and enforcement.

4 In addition, there are several other process ties
5 to these efforts which have been recognized, such as the
6 allegation process, licensee reporting process, and
7 risk-informed regulation.

8 We last briefed the Commission on April 2nd on the
9 staff proposal which resulted from the integrated review of
10 the assessment process (IRAP) effort. The objective of the
11 IRAP review was to develop a single integrated assessment
12 process which provided greater objectivity, predictability,
13 and scrutability.

14 The fundamental concepts which formed the basis of
15 the IRAP proposal were that:

16 Inspection results provided the basis for the
17 assessment.

18 Inspection findings would be categorized by
19 performance template areas. Scored based on safety
20 significance, assessment would be accomplished by totalling
21 the scores in each template area and comparing them against
22 thresholds; and NRC actions would be taken based on a
23 decision model.

24 Since the submittal of the IRAP proposal in
25 SECY-98045, the staff has received feedback on a proposal

1 from the ACRS and the Commission.

2 In a letter to the Commission dated March 13th
3 ACRS recommended the staff take a top-down approach to
4 developing improvements in the assessment process.

5 In a staff requirements memorandum dated June 30th
6 the Commission expressed concerns with the use of
7 enforcement as a driving force for the assessment process,
8 the quantitative scoring of PIM entries, and the use of
9 color coding for performance ratings. However, the
10 Commission did approve the solicitation of public comments
11 on the IRAP proposal.

12 In parallel with the development and consideration
13 of the IRAP proposal, the industry developed an independent
14 proposal for improvement of the assessment process. This
15 effort, led and coordinated by the Nuclear Energy Institute,
16 resulted in a proposal that was fundamentally and
17 philosophically different from the IRAP proposal.

18 This proposal took a top-down approach and
19 established tiers of licensee performance based on
20 maintaining barriers to radionuclide release, minimizing
21 events that could challenge these barriers, and ensuring
22 that systems can perform their intended function.
23 Performance in these tiers would be measured through
24 reliance on high level objective indicators with thresholds
25 set for each indicator to form a utility response band, a

1 regulatory response band, and a band of unacceptable
2 performance.

3 So in response to the IRAP SRM, the NEI proposal,
4 input from July 17th Commission meeting with public and
5 industry stakeholders, and the July 31st hearing before the
6 Senate, the staff set out to develop a single recommendation
7 for improvement to the regulatory oversight process which
8 places an appropriate regulatory burden on licensees.

9 This recommendation is intended to preserve the
10 core values of regulatory oversight which are to carry out
11 the agency's mission of protection of the health and safety
12 of the public and to do this in a risk-informed and
13 performance-based manner, and to account for the NRC's
14 principles of good regulation: independence, openness,
15 efficiency, clarity, reliability.

16 This recommendation should further reduce the
17 burden for good performing plants but retain the ability to
18 provide a strong focus on those licensees with significant
19 performance problems.

20 The approach taken by the staff to develop a
21 framework for regulatory oversight which uses a top-down
22 approach. The staff started with the mission of the agency
23 and then worked down to identify those cornerstone areas
24 which provide the foundation for meeting our mission. The
25 staff then identified and addressed those key issues which

1 form the defining principles to be used in the redesign of
2 the regulatory oversight process.

3 For the cornerstones of safety the staff is
4 applying a set of defining principles and a risk-informed,
5 performance-based perspective to identify what is important
6 to measure in each cornerstone and how it can be measured.
7 During this process the staff identified important ties to
8 other key processes such as enforcement, allegations,
9 licensing, which should be addressed in the oversight
10 framework.

11 CHAIRMAN JACKSON: Frank, could you go back to 4.
12 Have you had any discussions about the role or continuing
13 role of what have been the elements of the oversight and
14 assessment process, namely, SALP, PPR, SMM? Have you come
15 to any discussion about whether they would be retained or
16 retained in their current form, or is that premature at this
17 stage of the game?

18 MR. GILLESPIE: I think it would be premature to
19 give you details, but if I could take you back to one of our
20 first presentations on the key attributes, positive and
21 negative, of those processes, some of those positive key
22 attributes definitely are going to affect our assessment
23 process group and how we interface, for example, with the
24 public. Public meetings of some frequency appear to be an
25 important public attribute that we want to retain. This

1 also came up when we suspended SALP. So there are some
2 important positive attributes to what we were doing which we
3 would intend to factor into how we carry out this process.

4 While working through the process to develop the
5 cornerstones to regulatory oversight, the staff recognized
6 the importance of both internal and external input. As
7 directed by the IRAP SRM, a 60 day comment period on the
8 IRAP and cornerstone concept was completed on October 6.
9 The staff received 26 submittals in response to the public
10 comment to the Federal Register notice and is reviewing and
11 evaluating them during the continuing development process.

12 There have been numerous public meetings with the
13 industry, ACRS, regional, headquarters staff, to obtain
14 feedback on development of the cornerstone concepts. These
15 interactions with both internal and external stakeholders
16 are continuing throughout the development of recommendations
17 for improvement in the oversight process.

18 A four day workshop, as was mentioned, was
19 conducted by the staff on September 28 through October 1 to
20 enable the staff to interact with industry, the public, and
21 the NRC itself, our own staff, to obtain and evaluate input
22 on improvements to the regulatory oversight process.

23 Over 300 people attended the workshop, with broad
24 participation from the NRC headquarters and regional staffs,
25 individual licensee representatives, INPO, NEI, and

1 participation from the Union of Concerned Scientists, GAO,
2 state regulatory agencies, foreign regulatory agencies, the
3 Office of the Inspector General, and Senate staff.

4 There were several significant accomplishments
5 achieved at the workshop which have contributed to the
6 continued development of improvements to the regulatory
7 oversight process.

8 I use the next words very carefully and very
9 deliberately, because there is a scaling, as you will see in
10 this viewgraph.

11 Workshop consensus was reached on the overall
12 framework for regulatory oversight and the objective
13 definitions for each cornerstone of safety.

14 Good alignment was achieved on the defining
15 principles for the oversight process, with two significant
16 issues remaining open: the integration of data and the
17 nature of the data reporting program. These issues will be
18 further discussed later.

19 CHAIRMAN JACKSON: Have you had any discussions at
20 all or any preliminary discussions with INPO about data that
21 INPO collects?

22 MR. GILLESPIE: Not to date, but it was one of the
23 agenda items that we just put in. There is an INPO senior
24 management meeting, I think next week, and this is one of
25 the agenda items that we are suggesting.

1 Finally, significant progress was achieved in
2 developing a process for selecting performance indicators,
3 thresholds, and for identifying necessary inspection areas
4 for each cornerstone.

5 CHAIRMAN JACKSON: Maybe you had better back up
6 for a minute. Can you be a little bit more explicit? I
7 think we all know what consensus is. Tell us about
8 alignment and progress. I'm sure we are going to hear from
9 our other stakeholders. I'm interested in their perceptions
10 about where we are in those areas.

11 MR. GILLESPIE: We had set ourselves some
12 objectives before the meeting. Our main objective was to
13 try to develop a consensus on the framework, the highest
14 level. The framework evolved and actually changed at the
15 meeting. The picture, if you would, looks different today
16 than it did before the meeting, and that has evolved.

17 There is a general agreement on what those
18 cornerstones are, and more importantly, a very intense
19 discussion on the objectives that are attached with each
20 cornerstone and what it means. This became very, very
21 important because it takes you to the next step. If you
22 have your objectives stated, what information is needed to
23 say that you have reasonable assurance the objectives is
24 met?

25 Going down to alignment, our next desire was to

1 achieve alignment. You might say that in the simplest sense
2 this was a broad majority. In trying to come up in a
3 plenary session where we summarized each of the working
4 session findings, this in general would represent about an
5 80 percent sense of alignment. We stated on the first day
6 of the meeting that that is about what we were trying to get
7 on this topic. This was an area where it was clear that in
8 a four day workshop you weren't going to achieve the
9 perfection.

10 The defining principles are the basic structure
11 that set the stage for how inspection integrates with
12 assessment, assessment interacts with enforcement, and sets
13 the stage for the basic assumption that you in fact believe
14 you can set thresholds and have performance indicators. So
15 alignment there.

16 Progress was made in discussions -- and now we
17 were on about the last two days of the workshop -- on what
18 are the performance indicators. Generally they are
19 perceived to be more than what is in the INPO indicators or
20 what are indicators today, but clearly some of those are
21 included in the indicators: Where will we inspect? How
22 much will we inspect? That clearly did not get decided, but
23 we made significant progress, and we will be going through
24 that a little later on.

25 What are the kinds of things we should inspect?

1 One of the rules we had coming out of this was there is a
2 minimum risk-informed baseline inspection that would be done
3 everyplace.

4 The last one, how do you select a threshold? What
5 is the logic you use? Is it risk-informed? There are two
6 thresholds in each indicator. There is a threshold which is
7 the operating threshold at the top level, where you would
8 start to get the regulator to come in and start to take a
9 gradually increasing action. Then there is a threshold as
10 might be represented in the NEI paper, a threshold of
11 shutdown, that ultimate regulatory threshold.

12 The focus of this meeting was really on more time
13 was spent on the upper threshold than on the lower
14 threshold.

15 COMMISSIONER MCGAFFIGAN: On the thresholds, I'm
16 trying to understand the concept. We're going to have
17 multiple items that get graded, as I understand the NEI
18 scheme, green, white, red, in utility response space,
19 regulatory response space, unacceptable space. How do you
20 integrate all of the indicators into an overall green?

21 Is it fair for us, if a plant is sailing along in
22 green in most indicators, but, using SALP terms, not doing
23 so well in engineering, for us to take regulatory action in
24 the engineering area or the operational area.

25 I know that isn't the concept anymore; you break

1 these things down differently.

2 Have you talked through in practice how this thing
3 works and where the regulatory threshold is?

4 MR. GILLESPIE: Mike is going to cover that a
5 little bit in assessment. I'm really trying very hard not
6 to prejudge where the teams are going to come out.

7 COMMISSIONER McGAFFIGAN: My concern, and I'll say
8 it to the stakeholders as well, is the idea I think sort of
9 embedded in a lot of our thinking is that this thing is
10 going to be ready to go in January. That's about two months
11 from now. If it's going to be ready to go in January or
12 February or March, you'd already be wanting to train the
13 people out there in the field, right?

14 CHAIRMAN JACKSON: There is a schedule in here.

15 MR. GILLESPIE: I'm going to go over the schedule.
16 This is a very, very important point on expectations. Each
17 task member is going to cover what we hope to have and how
18 far we have gotten to deliver in January. If you look way,
19 way ahead to the schedule, our January deliverable is the
20 concepts that if applied to the inspection program, if
21 applied to the assessment program, would allow us then to
22 move forward and then rewrite the inspection procedures, and
23 then write the procedures on how we are going to do
24 assessment. So everything will not be done by January
25 relative to implementation.

1 CHAIRMAN JACKSON: Actually, his question segues
2 into a question that I have. Do you have other such
3 workshops planned and scheduled that are as robust as the
4 one that happened the week of September the 28th?

5 MR. GILLESPIE: There are none planned right now.
6 There are some under discussion.

7 CHAIRMAN JACKSON: I think that may be a good
8 thing given the Commissioner's question. It's something I
9 think you ought to think about.

10 COMMISSIONER MCGAFFIGAN: I just want to
11 understand where we are going to be in fiscal 1999. We are
12 going to be trying to develop this process -- I did glance
13 ahead at the viewgraph -- but very little of this will
14 actually be being practiced in 1999. So next spring we will
15 have the typical senior management meeting, the roll-up to
16 the senior management meeting. You guys will do whatever
17 you do. Is that the thought?

18 MR. GILLESPIE: Yes. This April there will be the
19 typical senior management meeting, and we are continuing on
20 through the process we currently have in place. The
21 inspection portion would be implemented between January and
22 October, and the assessment process would be going out to
23 June of 2000.

24 I'd like to actually leave until Pat talks. Pat
25 is going to talk where he thinks he will be relative to

1 performance indicators. Otherwise, I will end up giving --

2 CHAIRMAN JACKSON: Stealing his thunder.

3 MR. GILLESPIE: Yes.

4 CHAIRMAN JACKSON: They have it all worked out.

5 MR. GILLESPIE: Then we can come back. I think
6 expectations need to be honest and up front.

7 CHAIRMAN JACKSON: Okay.

8 MR. GILLESPIE: Going on to slide 7, which is our
9 outline, as previously stated, we feel that we have good
10 external and internal stakeholder consensus on the framework
11 for an improved regulatory oversight process.

12 This framework was developed using a top-down
13 approach. It starts at the highest level, with the NRC's
14 overall mission. This mission statement is based on the
15 Atomic Energy Act of 1954, as amended, the Energy
16 Reorganization Act of 1974, as amended. The mission of the
17 NRC as it applies to commercial nuclear power plants is to
18 ensure that these facilities are operated in a manner that
19 provides reasonable assurance of adequate protection of
20 public health and framework and the environment, protects
21 against radiological sabotage, and theft and diversion of
22 special nuclear materials.

23 The mission of protecting the public health and
24 safety is a responsibility that we also share with the
25 licensees.

1 Given this mission, the next step was to identify
2 those aspects of licensee performance that are important and
3 therefore merit regulatory oversight.

4 The NRC's strategic plan identifies the
5 performance goals to meet for nuclear reactor safety and
6 includes:

7 Maintain a low frequency of events that could lead
8 to a reactor accident.

9 Zero-significant radiation exposures resulting
10 from civilian nuclear reactors.

11 No increase in the number of offsite releases of
12 radioactive materials for civilian nuclear reactors that
13 exceed 10 CFR Part 20.

14 No substantial breakdown of physical protection
15 that significantly weakens protection against radiological
16 sabotage or theft or diversion of nuclear materials.

17 These performance goals reflect those areas of
18 licensee performance for which the NRC has regulatory
19 responsibility in support of our overall agency mission.
20 These performance goals were represented in the framework
21 structure as the strategic performance areas of reactor
22 safety, radiation safety, and safeguards, and form the
23 second level of the framework.

24 For each of those strategic performance areas
25 there are many regulatory requirements. However, with a

1 risk-informed perspective, it was possible to identify those
2 most important elements in each strategic performance area
3 which formed the foundation for meeting the overall agency
4 mission.

5 These elements are identified as a cornerstone
6 from the third level of the framework. As an example, the
7 objective of initiating events cornerstone is limit the
8 frequency of events that upset plant equilibrium and
9 challenge critical safety functions.

10 Acceptable licensee performance in this and other
11 cornerstones should provide reasonable assurance that the
12 overall mission of adequate protection of the public health
13 and safety is meet.

14 The cornerstones provide the fundamental building
15 blocks for regulatory oversight process and provide
16 reasonable assurance that the overall safety mission is met.
17 However, there are other aspects of licensee performance
18 such a human performance, safety conscious work environment,
19 problem identification resolution, which are not captured as
20 cornerstones but are equally important to meeting our safety
21 mission.

22 The staff concluded that these items and others
23 generally crosscut the affected areas and manifest
24 themselves as causes of performance problems.

25 Licensee performance in these crosscutting areas

1 should therefore be dealt with in each of the cornerstone
2 areas as contributors to performance as measured by
3 indicators and as observed through inspection.

4 Once the cornerstones and objectives were
5 established, we then had the basis for determining what
6 information was needed to provide reasonable assurance that
7 the objectives were being achieved. This included what
8 performance attributes are in each cornerstone, what is
9 important to measure for each attribute, what aspects of
10 performance can reasonably be measured with objective
11 indicators, what areas of performance should be measured
12 through inspection, and what are the appropriate thresholds
13 for NRC interaction.

14 These cornerstones provide the foundation for
15 improvements in inspection, assessment and the enforcement
16 process.

17 Once the framework was established, key issues
18 were discussed and agreed upon which formed the defining
19 principles for regulatory oversight. These defining
20 principles are essential to the continued development and
21 improvement to the oversight process since they form the
22 rules against which the cornerstone details will be
23 developed.

24 Further, these defining principles also establish
25 the relationship between elements of the oversight process

1 such as enforcement and inspection. These defining
2 principles are:

3 There will be a risk-informed baseline inspection
4 program that establishes the minimum regulatory interaction
5 with licensees.

6 Thresholds can be set for licensee safety
7 performance.

8 Performance indicators, supplemented with some
9 inspection, will form a rebuttable presumption for licensee
10 assessment.

11 A risk-informed baseline inspection program will
12 be performed for all licensees and should cover those
13 risk-significant attributes of licensee performance not
14 adequately covered by performance indicators. The
15 inspection program will also verify the adequacy of the
16 performance indicators and provide for event response.

17 In most cases, inspection observations are
18 expected to complement the performance indicator results.
19 However, when warranted, risk-significant inspection
20 observations can be used to overturn the indicator results
21 when the inspection observations develop a compelling case
22 that the performance indicators are not accurately
23 reflecting licensee performance.

24 Enforcement actions taken should not be an input
25 to the assessment process.

1 CHAIRMAN JACKSON: Frank, can you hold up one
2 second.

3 COMMISSIONER DIAZ: Let's go back to these last
4 two bullets on page 8a. I just want to make sure you are
5 going to eventually add some definition to the term
6 "adequacy." It's a broad term. I don't know whether you
7 mean adequacy in the whole context of what the process is or
8 you are talking about the accuracy of the indicators in
9 predicting, or all of the above.

10 MR. GILLESPIE: It's actually all of the above.
11 Going down to the next, "will verify the adequacy of the
12 performance indicators," which is going to be very
13 important, we are getting consistent information reported
14 consistently with the same definitions from all licensees.

15 The other piece, if I can take a simple example of
16 PI, might be total scrams. Total scrams reflect operators
17 in a control room and generation operation, how they react
18 to, but it might be that total scrams may not reflect what
19 needs to be inspected, and that's operator reaction during
20 an event.

21 We do get to observe that on a simulator. So that
22 might suggest that while the PI as a general oversight does
23 touch upon human and operator performance during a
24 reactivity transient, we have to look at what is the risk
25 significance of observing operators in an accident situation

1 on the simulator. So while we may have a PI that has
2 breadth, it may not have enough depth in an area that is
3 risk significant.

4 COMMISSIONER DIAZ: I just wanted to point out
5 that that word "adequacy" is an extremely important word.
6 It is the definition of adequacy where the process kind of
7 hinges. So it is something that you might not be able to
8 address now, but the Commission will be looking in January
9 at how adequacy is defined.

10 The other word is "compelling," this compelling
11 case, which is kind of the second step. What is a
12 compelling case?

13 COMMISSIONER MERRIFIELD: If I can add, what kind
14 of burden. You are using compelling case. What kind of
15 burden of proof does that put on the person seeking to sort
16 of overturn the indicator results?

17 MR. GILLESPIE: The burden is clearly going to be
18 on the staff to overturn the indicator results, not the
19 licensee. "Compelling" is part of the assessment group that
20 we are still trying to work on. That is going to be a very
21 interesting definition to develop. Developing it may be
22 more interesting than the final definition.

23 COMMISSIONER DIAZ: Yes. I just want to point out
24 that those two words need to be well defined and some kind
25 of boundaries put around it so we can actually know what we

1 are doing.

2 CHAIRMAN JACKSON: Are you going to have
3 thresholds for event response? Have you addressed that at
4 all?

5 MR. GILLESPIE: Yes, we are going to address it.
6 Pat is working on it. Chairman Jackson, I think you mean
7 the kind of event that could happen that is a high risk
8 event might trip whatever PIs we have multiple but not push
9 past the threshold. Clearly we are going to have to have
10 and will have some definition of how we deal with the
11 exception that goes across in a high risk situation like
12 that on multiple items.

13 MR. COLLINS: Commissioner Diaz, what is unique
14 about the process that we are in, which is a little
15 different than perhaps what we are used to historically, is
16 that we expect not only for the indicators to evolve over
17 time with experience, but we expect as the industry matures
18 those indicators might actually change over a period of time
19 in response to either aging considerations, license renewal
20 concerns, or other challenges that are brought forth by a
21 collection of data, which might be different than what we
22 are actually measuring today.

23 The second aspect which would allow that to happen
24 is that all the information is shared. So it is not an
25 instance as perhaps we found ourselves in the past where we

1 are justifying a SALP assessment which has broad subjective
2 statements with very little data and criteria. This
3 information will all be laid out in front of the licensees
4 as well as the staff. It will be scrutable on a mutual
5 basis.

6 In any case, the words "adequacy" and "compelling"
7 will be the subject of joint considerations as far as what
8 is it going to take to make this process work, both for the
9 industry, the NRC, and for the other stakeholders. So we
10 would expect this development not to end when the process is
11 put in place on trial in June of 1999, but for the
12 stakeholder involvement and for the evolution to continue
13 and for it to be a very scrutable process.

14 COMMISSIONER McGAFFIGAN: I'm a little concerned
15 about managing performance indicators and getting overly
16 dependent on just a bunch of numbers because they happen to
17 be what you can measure. Maybe this is an area that is
18 covered by one of these categories where PIs are
19 inadequately covered.

20 We constantly run into cable separation issues,
21 fire protection issues at plants. We went looking at a
22 couple of plants that came out of start-up that had cable
23 separation issues in their cable spreading rooms, and they
24 had to go in and take actions. I don't know how you have a
25 performance indicator for whether they have adequately

1 handled fire protection.

2 Are these indicators so good that you are working
3 with? At this point in the process you should have at least
4 an existence proof. If you had had these indicators in play
5 over the last five years, how good are they predicting NRC
6 regulatory actions?

7 I'm not saying that all of our regulatory actions
8 were perfect and I'm not saying all of our scoring was
9 perfect, but are there SALP 1 plants that are in the red
10 zone, and are there SALP 3 plants that are firmly at the top
11 of the green zone. What do the data tell you when you look
12 at some of these, looking backward at the regulatory actions
13 that we took, whether they were the right actions?

14 MR. GILLESPIE: You asked two questions.

15 The first one is we are still developing specific
16 indicators and thresholds. So we have not taken an
17 independent retrospective look. But NEI has provided us
18 with some insights on some work that they did. So we are
19 going to have to take a retrospective look at these various
20 plants once we get the indicators done.

21 The second question is partially addressed in our
22 thought process on backup slide number 2. If you look at
23 mitigating systems and you through desired result, important
24 attributes -- this was a straw man we kind of used at the
25 meeting --

1 COMMISSIONER MCGAFFIGAN: That's going to be
2 helpful.

3 MR. GILLESPIE: Yes. You're not going to see it
4 up there. You really have to see it on the paper.

5 What we came down is a realization that
6 performance indicators were not going to cover all the
7 blocks. If you look at adequate controls to maintain plant
8 design, you will see on the left-hand side inspection,
9 design programs.

10 So part of our logic is asking the question, how
11 much information do we need about high risk systems and
12 components relative to mitigation systems, and where can
13 that information be made available? It is clearly not all
14 going to be available from performance indicators.

15 This is an illustration of design inspection
16 needed, validation of PIs needed, and potentially some work
17 on licensed operator recall program, which is personnel
18 during accidents.

19 COMMISSIONER MCGAFFIGAN: Where does inspecting
20 adequate fire protection come in?

21 MR. GILLESPIE: In the separation?

22 COMMISSIONER MCGAFFIGAN: Cable separation or
23 other fire issues, where does that come in.

24 MR. GILLESPIE: Pat.

25 MR. BARANOWSKY: The way thing like inspecting

1 risk-significant areas that are associated with the fire
2 program would come in as we go through the indicators and
3 determine what their capabilities are, we are going to
4 identify things that they can't do, and then the
5 risk-informed inspection program is supposed to be focused
6 on the most significant areas that we would do our audit
7 inspections, either ourselves or oversee what the licensee
8 is doing. There is not going to be indicator that can find
9 design flaws or tell you what the implication of design
10 flaws is before send an inspection team out there. I think
11 this is part of the information that has to be integrated
12 with the indicators in order to perform an assessment of the
13 licensee's performance.

14 CHAIRMAN JACKSON: So you are saying that the
15 inspection program really has two purposes. One has to do
16 with what you call the verification or the validation of the
17 PIs, but also separate and apart from that, to get at issues
18 such as what the Commissioner mentioned, that a performance
19 indicator may not so easily pick up per se.

20 MR. BARANOWSKY: For instance, if we take the Quad
21 Cities high risk fire situation, the current regulatory
22 program, without assistance from PRA, didn't find it, and
23 the performance indicators by themselves couldn't indicate
24 it, but it required a risk-informed look in that area to
25 find the issue. Then we took an appropriate regulatory

1 response to that situation. I think we are going to see
2 some of that.

3 COMMISSIONER McGAFFIGAN: So a possible goal is
4 freeing up resources that at the moment may be focused on
5 less risk-significant things and will allow people to do
6 smart sampling in areas that are more risk significant. Is
7 that one of the goals?

8 MR. BARANOWSKY: NRC and licensee resources.

9 COMMISSIONER McGAFFIGAN: You said since you don't
10 have the indicators yet you can run a truth test on them.
11 The world should know that when we had you all in the senior
12 management meeting process adopt some of the Arthur Andersen
13 indicators, and Arthur Andersen had selective ones in their
14 public report without plant names attributed to them, that
15 the Commission at least had all 105 plants. This was not
16 something that would have been outside the reach of NEI
17 probably to replicate either except for one of the
18 indicators. So we could look at hits.

19 The Arthur Andersen model, we could look at it; we
20 could see how well it replicated the past and understand the
21 differences. And the GAO, of course, with the benefit of
22 also seeing what we had seen, could come in and say, as
23 Arthur Andersen said, that there had been, if anything,
24 according to the Arthur Andersen model, a little bit of a
25 bias to pull our punches. Plants were getting hits reaching

1 Andersen thresholds before we took action, with only one or
2 two in the other extreme where we took action and the hits
3 never got very high.

4 I hope that the Commission can have that sort of
5 thing. In this case, since it's a public process involving
6 the stakeholders, you might as well all be working off the
7 same data sheet when you decide whether this new set of
8 indicators, whichever initial set you use, is a good way to
9 go or not. I would hope that we would have a backward
10 looking look at how well these things do.

11 MR. GILLESPIE: Absolutely. In fact, this is one
12 of the reasons we feel, I don't want to say confident, but
13 at least comfortable, and I guess I should say confident,
14 that we can develop a set of performance indicators because
15 of the Arthur Andersen and some of the work, without plant
16 names, that NEI has shared with us in public meetings; that
17 we do have a success path. But we are going to have to
18 select specific indicators and retrospectively look and test
19 those exact indicators.

20 CHAIRMAN JACKSON: I had a question somewhere that
21 was going to ask you that question, about how you were going
22 to go about actually testing the indicators. I think
23 without some algorithm as to how the indicators get folded
24 together to help you reach some decision threshold, you can
25 look at whether they are red, green or blue, or one, two or

1 three until you are blue in the place. So the real question
2 becomes, how do you actually meld them to make some
3 decisions?

4 MR. COLLINS: Chairman, I think in fairness to
5 Commissioner McGaffigan's question, the premise about
6 fitting the data over the new system will have to include
7 the understanding that the new system allows for a response
8 mechanism to kick in when the data starts to trend, which
9 our previous process does not.

10 When we overlay data on to the new window system,
11 if you will, it will show trends, but it will not include
12 what we would expect the licensee's reaction to be if that
13 trend is declining and how that would have gone under the
14 new system, and if it continues into the white, because the
15 assumption would be that there is no licensee action because
16 you are overlaying an old system on to a new system, that
17 the NRC engages, that we engage in a way that creates a
18 turnaround. So we are going to have the same information
19 overlaid on different processes, and I think we need to be
20 fairly careful with that given the fact that there is
21 already an end result, depending on the plants we look at.

22 If we look at the plants which are "problem
23 plants," it may actually be more informative if we pick a
24 case where we know where a licensee picked up a problem
25 early and in fact responded to it, or we picked up a problem

1 early and the licensee responded to it, which is probably
2 not a problem plant situation but maybe a different type of
3 performer, to see whether the curve actually reflects the
4 improvement in performance. So we will have to look at the
5 case study to ensure that we are really proofing the system
6 under the new system, under the new processes.

7 COMMISSIONER MERRIFIELD: At what point in the
8 schedule do you think you will have defined those
9 performance indicators?

10 MR. GILLESPIE: January. And hopefully by January
11 we will have defined at least the process for doing
12 thresholds.

13 COMMISSIONER McGAFFIGAN: I will just interpose a
14 comment if I could. Typically the way this place works, if
15 a paper is due to us in January, you've got a first draft
16 drafted at the moment and it is probably going around in
17 some sort of concurrence. So you are going to have some
18 very fast drafting and some very fast concurring, I assume.

19 CHAIRMAN JACKSON: Bill is working all that out.

20 COMMISSIONER McGAFFIGAN: Okay.

21 MR. TRAVERS: We're going to give you an update
22 every couple of weeks.

23 MR. GILLESPIE: Going on to slide 9. Although
24 there was good alignment on most of the defining principles,
25 there were still two key issues on which consensus was not

1 reached. The first involved how indicator results,
2 inspection observations, and information sources such as
3 FEMA results and LERs will be integrated in the assessment
4 conclusion.

5 Although there was no consensus on this topic,
6 there was good agreement that indicators and other
7 information sources should not be artificially merged.

8 It has also been acknowledge that while current
9 assessment processes such as the semiannual plant
10 performance reviews and annual senior management meetings
11 may be able to accomplish this integration, objectivity and
12 scrutability would then to be a challenge.

13 COMMISSIONER MERRIFIELD: I take it that that
14 integration will also be available in January.

15 MR. GILLESPIE: Yes. We would have a proposal on
16 how the indicators would interact with the inspection
17 results.

18 CHAIRMAN JACKSON: When you say that, you mean
19 that you intend to also be presenting some analysis
20 methodology that would fold in the indicators and the
21 inspection results?

22 MR. GILLESPIE: We are doing our best to present
23 an analysis methodology as part of the assessment task, yes.

24 CHAIRMAN JACKSON: It would also be interesting to
25 know what expected change in licensee regulatory burden you

1 would expect to see due to an improved process in how you
2 arrive at that.

3 MR. GILLESPIE: Yes, Chairman Jackson.

4 MR. COLLINS: We may not have that one.

5 MR. GILLESPIE: We may not have that one for
6 January.

7 CHAIRMAN JACKSON: So you want to be honest.
8 Truth in advertising, right?

9 MR. COLLINS: Right. I think we need to
10 understand a little better once the system is developed, and
11 perhaps it comes with overlaying the information on it from
12 past plants.

13 CHAIRMAN JACKSON: That's why you need at least an
14 analysis methodology.

15 MR. COLLINS: What we hope to have, though, is a
16 connection. Perhaps this is at the root of your question.
17 A connection between how the inspection program interacts
18 with the assessment process.

19 CHAIRMAN JACKSON: Right, but also how they met to
20 arrive at some judgments.

21 MR. COLLINS: Yes.

22 CHAIRMAN JACKSON: That's what I mean by analysis
23 methodology.

24 MR. GILLESPIE: Going to slide 10.

25 COMMISSIONER MCGAFFIGAN: You didn't stop very

1 long on the second bullet on slide 9, voluntary reporting
2 program is preferable to rulemaking. Are we going to have
3 performance indicators for some plants and not have them for
4 others because it's all voluntary as to whether they bother
5 to give them us? What is implied in that sentence?

6 MR. GILLESPIE: This is exactly that. We are
7 going to have to work with our stakeholders. To do
8 something in a very timely fashion is going to require a
9 voluntary program.

10 CHAIRMAN JACKSON: This is not fair to Mr. Beedle,
11 but it would be interesting when you come to the table if
12 you could speak to that issue about how voluntary programs
13 work that would cover the waterfront relative to what the
14 regulator needs to have.

15 MR. BEEDLE: We'll do that.

16 COMMISSIONER MCGAFFIGAN: I'm just perplexed as to
17 how you have a program where say they come up with 18 --
18 I'll just make up a number -- performance indicators, and
19 for 43 plants we have 18; for 21 we have 16; for 22 we have
20 10. I'm sure we have some minimal that we control ourselves
21 that we have the data on. That would be a pretty wild
22 program.

23 MR. GILLESPIE: Clearly that's not the intent.

24 MR. TRAVERS: That's not what is envisioned, of
25 course. So we recognize this question of how you get what

1 you need to do that. We are struggling now with whether we
2 can get it voluntarily.

3 CHAIRMAN JACKSON: I'm going to make an
4 advertisement that even predates myself and my colleagues,
5 but it continued into my tenure, and that had to do with the
6 struggle relative to the need for a reliability data rule,
7 were we going to get the data or not, how were we going to
8 get it, would it be disaggregated or would it be aggregated.
9 It's not clear to me how it ultimately turned out. So we
10 struggled and struggled. When I say we, I mean the agency,
11 for years and years and years. If all of this is going to
12 wreck upon the rocks of not being able to get the data
13 through a voluntary program, then I think we are going to
14 have to grapple with what the implications of that really
15 are.

16 COMMISSIONER DIAZ: Would it be fair to say that
17 the more comprehensive the voluntary program the less
18 prescriptive will our requirements be? Is there a
19 correlation there? If have a very thorough, complete,
20 comprehensive set of indicators, or whatever, I think we
21 could say that the less prescriptive we could be. Is that
22 correct?

23 MR. GILLESPIE: That's correct.

24 COMMISSIONER DIAZ: So in response to Commissioner
25 McGaffigan, there is somebody with a two-by-four sitting

1 around here.

2 MR. COLLINS: We are receiving the full
3 cooperation of the industry at this point. I think there is
4 a mutual appreciation for the goals, as was articulated
5 earlier, of this process, which is to allow the licensees to
6 focus their resources on areas where they believe it's
7 important and less overlaying of the NRC processes on top of
8 that.

9 CHAIRMAN JACKSON: Theoretically, one could say
10 that if one didn't have the indicators that one needed to
11 make a judgment, that might trigger the need for a look
12 before inspection above the baseline.

13 MR. GILLESPIE: It's a tradeoff.

14 MR. TRAVERS: The advantage of it is obvious.
15 It's up-front understanding and agreement; more or less a
16 contract, or who's got the burden and what are these
17 indicators telling us about performance, and how should the
18 regulatory scheme be structured based on that.

19 CHAIRMAN JACKSON: So the two-by-four is send us
20 the data or we'll send you more inspection.

21 MR. GILLESPIE: I think if you go back to one of
22 our basic defining principles and the idea of an objective
23 being stated and agreed upon for each milestone, the first
24 question for each cornerstone is, what information do you
25 need to make the judgment that there is reasonable assurance

1 this objective is met? Whether that comes from a
2 performance indicator or inspection, we are going into this
3 asking that first broad question first.

4 COMMISSIONER DIAZ: And that's the balance between
5 the inspection and the indicators. How they integrate is
6 the whole key.

7 MR. GILLESPIE: That's where it starts coming in,
8 right there.

9 The efforts completed to date and just discussed
10 were intended to provide the framework for the regulatory
11 oversight of commercial nuclear power plant licensees.

12 The current scope of activities include developing
13 improved processes within this framework to address
14 inspection, assessment and enforcement.

15 As described in the August 25th Chairman tasking
16 memorandum, the activities in these areas are being closely
17 coordinated to ensure that the process improvements remain
18 integrated.

19 The work in these three areas will form the basis
20 for the recommendations for improvements to the regulatory
21 oversight process that will be submitted to the Commission
22 in January of 1999.

23 In addition to work in these three areas, there
24 are several other regulatory oversight processes which need
25 to be addressed and evaluated within this cornerstone

1 framework. Most of this work is longer term in nature and
2 will not be part of the January 1999 recommendation.
3 Specifically, there will be a substantial effort required to
4 revise the inspection program documentation to support any
5 new approach to regulatory oversight.

6 Definitions developed within the framework for
7 risk-significant inspection observations will need to be
8 applied to the enforcement program to help characterize
9 inspection findings.

10 The allegation program needs to be evaluated for
11 appropriate changes within the framework structure to
12 determine whether allegations should be handled in a
13 risk-informed manner.

14 As previously discussed, how assessment results
15 affect enforcement will continue to be evaluated beyond
16 January of 1999.

17 Based on the results of the cornerstone framework
18 and the identification of risk-significant performance
19 areas, changes to licensee reporting requirements may be
20 warranted.

21 CHAIRMAN JACKSON: Let me ask you a couple quick
22 questions. Will different inspection skill sets be required
23 to implement this program?

24 MR. GILLESPIE: Bruce and I have talked about
25 that. I'd like to let Bruce address that.

1 MR. MALLET: Thank you, Frank.

2 [Laughter.]

3 COMMISSIONER DIAZ: That didn't sound very
4 enthusiastic.

5 MR. MALLET: We believe that there will be some
6 skills. They may be lined up different than we have now.
7 Now in the inspection program you may have a specific skill
8 for someone who may be in operations, may be in maintenance,
9 or may be in electrical engineering. I think in the future
10 you may need a different skill. We aren't too sure what
11 that looks like yet. So we will have to factor into this
12 implementation some training aspect to develop people for
13 those skills.

14 As far as being able to inspect, that basic skill
15 will be there.

16 MR. COLLINS: Chairman, I would say that overall
17 we would be looking at a more performance-based approach to
18 inspection. In other words, as you go down through the
19 cornerstone into the tiers, we would be looking more at the
20 cause of performance, whether it be good performance or an
21 area that needs attention, and we would track that back
22 through and come to a determination of whether the action
23 the licensee has taken or proposed to be taken are
24 appropriate.

25 So we will need a better understanding of the

1 corrective action system and corrective action processes.
2 Potentially, and this is yet to be determined, a more
3 refined skill set on human performance, because that may end
4 to be an area that is raised to a different visibility. And
5 then probably better training in the risk-informed,
6 performance-based inspection area and less specific
7 disciplines, unless we have a specialist inspection, which
8 would probably be reactive inspection.

9 CHAIRMAN JACKSON: When you talk about reporting,
10 you mean LERs, or do you mean these performance indicators,
11 or what? And will the LERs be part of the assessment
12 program?

13 MR. GILLESPIE: We are looking at how we are going
14 to integrate LERs. Right now certain things reported in
15 LERs would be picked up as part of the indicators, and we
16 don't want to do a double count of LERs and indicators. So
17 we are going to be stepping back and looking at LERs and
18 what information is reported and how you integrate that in
19 with the hard indicator information being reported from the
20 licensee. So, yes, we do mean both, the potential for a
21 rulemaking on reporting the PIs and the potential that this
22 could change the LER reporting rulemaking in the longer term
23 once we refine probably the second generation of performance
24 indicators, quite honestly.

25 CHAIRMAN JACKSON: You had earlier shown the slide

1 showing operator licensing and requalification. How do they
2 affect assessment?

3 MR. GILLESPIE: What we are showing there is
4 operator licensing and requalification. Specifically, the
5 requalification piece is right now part of our baseline
6 inspection program. That came out when we were going down
7 through the attributes. The question was, what is not
8 specifically covered that would be high risk by a PI? So
9 that dropped out as an example, and that was operator
10 reaction under accident conditions in a control room.

11 CHAIRMAN JACKSON: Okay.

12 COMMISSIONER McGAFFIGAN: This chart was titled
13 "Longer Term." For some of these actions -- I'm looking at
14 Mr. Lieberman -- the threshold for minor violations, that
15 isn't too much beyond January, is it? My recollection from
16 the ongoing response to the Chairman's tasking memo is that
17 that is an early spring deliverable from you; isn't it?

18 MR. LIEBERMAN: That's correct. In the past the
19 enforcement program drove the assessment process. We want
20 the assessment process to drive the threshold process, and
21 we need that to be done. Right after that we will be ready
22 to go.

23 COMMISSIONER McGAFFIGAN: So these are longer term
24 but quite near term in NRC time?

25 MR. GILLESPIE: Yes. Early spring. If you look

1 at our schedule, longer term tends to be before June for
2 most milestones.

3 CHAIRMAN JACKSON: Is it fair to say that that
4 second bullet under longer term relates to ensuring that
5 there is an appropriate alignment between thresholds for
6 inspection and thresholds for minor violations?

7 MR. LIEBERMAN: That's right. We want to make
8 sure that we are not collecting in inspection space
9 information that we don't need for assessment and we are not
10 enforcing things which aren't important for the bigger
11 picture oversight issues. We want to have these things
12 integrated together.

13 CHAIRMAN JACKSON: So in addition to having
14 assessment come ahead of the curve, it is also meant to
15 ensure that there is an alignment here; is that correct?

16 MR. GILLESPIE: Yes. If we are successful in a
17 risk-informed baseline inspection, then inspectors in theory
18 should not even be looking at things that we would put in a
19 minor violation category today.

20 CHAIRMAN JACKSON: Okay.

21 MR. GILLESPIE: Slide 12. There are currently
22 four short-term activities in progress to develop a
23 recommendation to the Commission on improvements to the
24 regulatory oversight process.

25 The technical framework group, led by Pat

1 Baranowsky, is responsible for building on the work started
2 in the public workshop, to complete the development of the
3 cornerstones by identifying appropriate performance
4 indicators, establishing criteria for thresholds, and
5 establish the basis for risk-informed baseline inspection.

6 The inspection task, led by Bruce Mallett, is
7 responsible for developing a process that addresses scope,
8 depth, and frequency of a risk-informed baseline inspection.
9 The scope and basis for inspection were based in part on
10 input received from the framework group.

11 The assessment process group, led by Mike Johnson,
12 will determine methods for the integration of indicator and
13 inspection data, develop criteria for NRC actions based on
14 assessment results, and determine the best method for
15 communication of the results to licensees and the public.

16 The enforcement activity, led by Jim Lieberman, is
17 working with and participating in these tasks to ensure that
18 the enforcement process changes are properly evaluated in a
19 framework structure and the changes to the inspection
20 assessment program are integrated with changes to the
21 enforcement program.

22 All these activities are fully coordinated and
23 integrated and consist of broad participation from all four
24 regions, NRR, OE, Research, and AEOD.

25 With that, I would like to turn it over to Pat

1 Baranowsky to address the technical framework.

2 MR. BARANOWSKY: The technical framework group, as
3 Frank mentioned, does have representatives from a broad
4 spectrum of the NRC's offices. Let me mention some of the
5 disciplines that are involved.

6 We have people with field inspection and
7 inspection program development background; maintenance rule
8 implementation; performance indicator development analysis;
9 emergency planning; health physics; security; human
10 performance; risk assessment; and enforcement.

11 That is a pretty broad-based group. If you look
12 at the cornerstones, you will see they cover pretty broad
13 indications.

14 We have about a dozen full-time and about a half
15 dozen half time staff involved in this activity.

16 The charter for this group is to develop the
17 details of the technical framework for a more objective,
18 risk-informed and performance-based approach to licensee
19 performance assessment, and to provide related bases for
20 inspection activities. Therefore, the information that is
21 developed by this group will be used in the development of
22 the risk-informed baseline inspection program and for the
23 performance assessment tasks.

24 The work of this group, as Frank mentioned, will
25 follow and build on the defining principles and the

1 cornerstone development effort that was begun at the
2 performance assessment workshop in late September of this
3 year.

4 Also, as was mentioned by Sam Collins, we
5 recognize that this is really the first phase of an activity
6 that is going to evolve over several years through
7 implementation, feedback, and improvement of the process.
8 Nonetheless, it's our intent to develop with sufficient
9 detail information that will allow the Commission to make a
10 decision on the efficacy and direction of this new approach
11 to licensee oversight for potential near term implementation
12 even though there may be some future development in the
13 years to come.

14 COMMISSIONER DIAZ: I'm sorry, my major concern
15 with this paper is in some of the definitions of
16 cornerstones. Are you going to cover that because they are
17 in the appendix, or should I just jump right in to it?

18 MR. BARANOWSKY: I think we should jump right in.

19 CHAIRMAN JACKSON: Backup slide 1a.

20 COMMISSIONER DIAZ: I'm sure we are going to this
21 from the principle that when you look at these things you
22 first determine what is the desirable outcome, and second,
23 how you are going to regulate to make sure that that outcome
24 is there.

25 If I look at the definitions in here, I do have a

1 little problem with the way they are stated. Let me start
2 with initiating events: limit the frequency of events that
3 upset plant equilibrium. I'm a little leery about the
4 words, because plant equilibrium is upset in many different
5 fashions, and those might not be initiating events. So I
6 would encourage the staff to look at that.

7 Words might be something like "initiating events
8 that create deficiencies in plant balances (reactivity, heat
9 transfer, and coolant inventory)" That would be very
10 specific.

11 I think it's important to know what we mean by
12 upsetting plant equilibrium, because if we have a scram due
13 to losing a transformer, say 50 percent load is gone but the
14 plant is still responding very well, it would be an event,
15 but it might not be an initiating event that would create
16 a response.

17 Fundamentally, there are three things that we are
18 always looking at when we look at critical safety functions,
19 and that is reactivity, heat transfer, and coolant
20 inventories. I don't know of any other. Some definition on
21 that might be appropriate to avoid people getting upset
22 about upsetting plant equilibrium.

23 CHAIRMAN JACKSON: There is actually a definition
24 of initiators in a PRA sense.

25 MR. BARANOWSKY: I wonder if I could respond to

1 that.

2 COMMISSIONER DIAZ: Please.

3 MR. BARANOWSKY: I hope you will be happy
4 eventually when you see what we are putting together. Our
5 job is to take these bullets that were basically put on
6 paper as a result of the workshop and detail them out just
7 to cover the kind of concerns that you are raising. In
8 fact, for each of the cornerstone areas we are going to have
9 a fairly substantial discussion of what the cornerstone is,
10 what the performance concern is, how the performance
11 indicators relate to those things what the performance
12 indicators can't do.

13 COMMISSIONER DIAZ: I have absolutely no doubt
14 that you will do that. Again, the summary is something that
15 people look at and they form their own images. I think this
16 process has to be so transparent, so well defined that some
17 of those things are important.

18 Quickly, because I know we are time constrained,
19 when you go to mitigation systems, there is some things that
20 we need to state that have to be according to our rules.
21 This definition still has something missing. For example,
22 "ensure that those systems required to prevent and/or
23 mitigate core damage perform at a level commensurate with
24 their safety significance." It has to include "perform or
25 are capable of performing," because if they are not capable

1 of performing that function even if they were not challenged
2 by an initiating event, that might be sufficient to be a
3 cornerstone. A lot of our things are established on the
4 capability to perform the function. So "perform or capable
5 of performing." You have to have it. If not, we are not
6 compatible with other things.

7 The same thing on barrier integrity: "Assure that
8 the physical design barriers protect 'or are capable of
9 protecting.'" In other words, the capability has to be
10 there not only being able to do it.

11 With just those minor corrections, your summary
12 actually becomes very inclusive.

13 MR. BARANOWSKY: Thank you.

14 COMMISSIONER DIAZ: You're welcome.

15 CHAIRMAN JACKSON: Sam.

16 MR. COLLINS: Let me raise a fundamental issue
17 here. Not to resolve it here, but there is a difference in
18 looking at the level of engagement of the regulator. In
19 your own words, things happen at power plants, and you do
20 have random failures, random events.

21 We become concerned at a different level when
22 those random events result in actual challenges to our
23 safety safety, as opposed to challenges to a safety system
24 that the safety system does not function as required, as
25 opposed to it doesn't function as required when you

1 challenge a barrier versus a barrier failing. So it is a
2 graduated approach.

3 Although systems that may not have worked are a
4 concern to us, they are not of the same concern under this
5 scheme as those that are actually challenged. So what we
6 have to decide as an agency at what level we are going to
7 engage versus at what level we are going to ensure that it's
8 understood and that the licensee is approaching the issue
9 appropriately.

10 In other words, if I can paraphrase Jim, does luck
11 count? Does the fact that you had a potential but didn't
12 have a circumstance that has a nexus that is close to one of
13 our strategic goals more important? We are still working
14 our way through that to some extent.

15 CHAIRMAN JACKSON: Actually, the two things do tie
16 in. Commissioner McGaffigan raised the issue of cable
17 separation and other fire protection issues. You could
18 argue that cable separation relates to the capability line
19 as opposed to did they work if there were a fire, or what
20 have you. I think the real answer is that you have to give
21 some specificity that relates to these fundamental barriers
22 and you have to be clear on what this graduated approach is
23 that you are talking about related to that.

24 COMMISSIONER DIAZ: I agree. It's the specificity
25 that will avoid the problems. Voluntary or involuntary,

1 whatever it is, there is still some things that are low, and
2 we still have to be able to maintain the capability to
3 perform the function. If we want to be specific about what
4 grade we are going to risk inform those functions, that's
5 fine, but you still have to have that.

6 CHAIRMAN JACKSON: That's a good point. That's a
7 good way to put it, I think.

8 MR. BARANOWSKY: The product that we are going to
9 have is basically part of the paper that will come up here
10 January 1999 and will document the principles, bases, logic,
11 and technical information that supports all these areas at
12 that time.

13 Let me go to number 14 and talk a little bit more
14 about some of these specific tasks that we have. We had
15 covered some of this stuff in pieces, parts and chunks
16 earlier as we had a question and answer session, but I will
17 talk about a few of these.

18 The cornerstone task, as I said, is primarily to
19 detail out the few bullets and charts that we have, to cover
20 the scope, key definitions, and relationship to other
21 activities. We are going to have operating events that are
22 significant by themselves, how does that relate this, and
23 what do we do about that. Reporting, generic issues, and so
24 forth, all have to be looked at in terms of this framework.

25 Enforcement philosophy as it relates to the

1 defining principles and development of the performance
2 indicators, inspection bases and thresholds, will also be
3 considered in this technical framework development task.

4 The performance indicators are intended to be risk
5 informed to the extent practical at this time.

6 The performance indicator task involves evaluation
7 of the performance indicators that were proposed at the
8 workshop, and also includes the identification of other
9 performance indicators where either there were some holes
10 identified or limitations.

11 However, I should note that not all the
12 performance indicators are going to be so amenable to
13 risk-based or risk-informed thinking. For instance, the
14 radiation protection cornerstone area is not so much based
15 on risk as it is ALARA and other regulatory principles that
16 haven't been evolved through the kind of risk analysis that
17 is associated with initiating events and mitigating systems.

18 In general, the PIs are meant to be a broad sample
19 of performance in some of the more risk-significant areas
20 and those areas that are delineated by the cornerstones.

21 For instance, in the mitigating systems, although
22 we are not going to look at all risk-significant mitigating
23 systems, at this time we are thinking about four or five key
24 systems, ones that we have some form of indication available
25 at this time that would be easy to develop, because we are

1 working under some time constraints. We think that would be
2 practical, and moreover, we think that we are going to get a
3 large chunk of what we need to get in terms of risk-informed
4 information from that set of indicators.

5 In the future, our work will involve developing
6 improved indicators or additional indicators, and we will
7 also look at that in this activity.

8 Validation of the performance indicators is also a
9 part, and that is related to the adequacy discussion that we
10 had earlier.

11 Evaluating their limitations. Their limitations
12 are significant in terms of the development of inspection
13 bases. We want to make sure that the risk-informed
14 inspection program takes advantage of the information
15 generated by the performance indicators but that we don't
16 misunderstand the capabilities of performance indicators to
17 give us relevant information.

18 The inspection bases will include identifying
19 areas where verification and validation needs to continue,
20 and of course the risk-significant aspects of performance
21 not adequately covered by the PIs.

22 The threshold task involves the identification,
23 definition and evaluation of the performance indicator
24 thresholds. These thresholds are intended to provide a
25 clear demarcation point or points for identifying fully

1 acceptable performance, areas of declining performance, and
2 unacceptable levels of performance.

3 We will be evaluating the thresholds proposed by
4 the Nuclear Energy Institute for several of the proposed
5 indicators, and we will perform some of our own independent
6 analyses of PI response, the benchmarking, sensitivity to
7 risk, and that kind of thing.

8 An important aspect of the evaluation of
9 performance indicator response and thresholds is determining
10 the ability of indicators to identify declining performance,
11 allowing the staff time and the licensee time to evaluate
12 problem areas, and initiate corrective actions before
13 reaching an unacceptable threshold. This would allow
14 licensees time to do what they have to do and the NRC to
15 implement a graded response to declining performance.

16 In this regard, we will be considering regulatory
17 as well as safety implications of crossing a threshold and
18 possible mandatory actions associated with the unacceptable
19 threshold.

20 The enforcement philosophy and implementation are
21 primarily being addressed in the performance assessment and
22 the inspection baseline groups. However, we are going to
23 look at this philosophy in terms of its logical connection
24 and consistency with the technical framework as it's
25 developed.

1 Questions.

2 COMMISSIONER MCGAFFIGAN: Could I go back to a
3 question I asked earlier and was told, I think, this is the
4 time to ask it? Do we take regulatory action in a single
5 area? Even they are green everywhere else, if they dip into
6 the white, in that area, is that the notion?

7 MR. BARANOWSKY: That's the notion that is
8 currently being proposed, although Mike Johnson is going to
9 be looking at whether or not that is going to be our final
10 posture and how we should look at groups of indicators
11 changing in one way or another. We are not planning at this
12 point to have an integrated indicator like the one we
13 recently developed and put out with the IRAP public comment
14 paper.

15 COMMISSIONER MCGAFFIGAN: If you are in the green
16 zone and we have an inspection finding that belies the
17 indicator, the burden of proof is on us, but we still can
18 take regulatory action in the green area if you pass that
19 burden? How does that burden get manifested in terms of
20 staff processes? Is there a higher level of approval
21 required to take a regulatory action if, despite the burden
22 of proof being on the regulator, it's passed?

23 MR. TRAVERS: Commissioner, I think this is
24 exactly right. We would look on that compelling argument
25 that we were speaking of earlier as one that would be a

1 burden on us to make if they are in the green zone, but one
2 which we very well could make if we felt by virtue of our
3 inspection program or any other information that we had that
4 we needed to engage on an issue, and how we would engage on
5 the issue would be determinant on just what the issue is and
6 the extent to which it looked to be a problem. We could
7 have a meeting; we could issue an order; we could do a
8 special inspection; we could put more resource on the issue.

9 COMMISSIONER MCGAFFIGAN: I'm just trying to
10 understand what burden of proof means. If I'm a licensee
11 and I get an inspection and at the exit interview it's clear
12 that despite sailing along in green in whatever category or
13 set of categories this might fall under, I really do have
14 some problems here, and I should expect regulatory action.
15 Do I petition to the EDO to say, I'm on top of it now, I
16 appreciate what your staff found, but let me fix it and
17 don't do anything, because I'm in green? And how is this
18 process scrutable to me, that you make a decision that
19 despite the green, you are going to have a public meeting,
20 you are going to have an order, you are going to do
21 something?

22 MR. TRAVERS: That's part of the challenge that we
23 have to yet develop, but the expectation would be if you are
24 in the green that we wouldn't be in a position to engage.

25 COMMISSIONER MCGAFFIGAN: Despite the fact you've

1 just found some stuff in an inspection report, I might leave
2 the meeting thinking, well, I'm still in green. Then three
3 months later NRC takes an action and comes out of the blue.
4 How do we make sure that it doesn't come out of the blue,
5 that we signal to them early on that we regard these
6 findings of such magnitude that we may take regulatory
7 action despite their being in the green, and that that is
8 being considered?

9 MR. TRAVERS: I think engagement at its earliest
10 phase would include dialogue with the licensee. I think
11 that is what is envisioned.

12 MR. COLLINS: It's really no different than our
13 processes provide for now.

14 MR. TRAVERS: That's right.

15 CHAIRMAN JACKSON: So you would engage because you
16 have dissonance between what the indicator says and what
17 your inspection results might say.

18 MR. TRAVERS: Correct. I would assume that what
19 we would have in place -- it's early yet, and we haven't
20 really developed the process -- but that we would have an
21 internal process that would guide us in developing the
22 compelling case. We would base it on whatever information
23 was at hand, including information from the inspection
24 program, and so forth. The internal process would make it
25 one that is very carefully managed. So again, the

1 expectation would be that things do happen at these complex
2 plants and that a few things or normal kinds of events or
3 issues would not result in engagement. If we felt we needed
4 to, we could do it, but it would be a very carefully managed
5 process.

6 COMMISSIONER MCGAFFIGAN: All I am suggesting is
7 that it's probably going to have to be a relatively
8 scrutable and transparent process from the point of view of
9 the licensee. We get criticized today. One of your early
10 viewgraphs talks about more scrutability, more transparency,
11 et cetera. Once we divert from the model, we can't make it
12 inscrutable and less transparent.

13 MR. TRAVERS: I absolutely agree. That's why when
14 Frank Gillespie was speaking he was talking about developing
15 the thresholds that we would use for that kind of
16 engagement.

17 CHAIRMAN JACKSON: This is a question I want to
18 put on the table. If it's best addressed by Dr. Mallett,
19 that's fine. If not, if you could answer it now. It
20 actually relates to this, particularly if there is ever an
21 area where there may be a dissonance between what a
22 performance indicator or set of indicators seem to say
23 versus inspection findings.

24 Are you looking at, perhaps both in indicator land
25 and inspection land, at sample size, and that it be

1 established in a way that provides a demonstrable level of
2 confidence? Or is there any kind of statistical or sampling
3 protocol that is under consideration in the selection of the
4 number, types and thresholds of indicators as well as
5 inspection observations?

6 MR. BARANOWSKY: I don't think we have a
7 statistical sampling process in mind for the performance
8 indicators. The approach there is to try and capture the
9 bulk of the risk as we understand it and to use indicators
10 that are broadly understood to be important to risk, which
11 means we are going to take insights that we get across the
12 industry in selecting these indicators as opposed to being
13 very plant specific and picking details for the indicators.

14 There may be some plant-specific elements to the
15 indicators such as performance thresholds that make sense in
16 either peer group, or certain design features that would
17 benefit from a plant-specific approach, but when it comes to
18 the inspection program, I think we are talking about some
19 sort of sampling. Bruce might want to address that.

20 CHAIRMAN JACKSON: If you are going to talk about
21 it as part of your presentation, I'm willing to wait, but I
22 want to be sure that you are going to talk about it.

23 MR. MALLET: Okay.

24 MR. GILLESPIE: One other element. If we have
25 this compelling case, we have two problems. One is the

1 plant-specific problem we have the compelling safety case
2 on. The other is the feedback loop that says this
3 challenges having selected the right PIs and how we are
4 using them. So there are two elements to that when we come
5 across it. Our intention would be to have that feedback
6 loop in to take on that challenge if it occurs.

7 COMMISSIONER DIAZ: If I might be able to confuse
8 myself, if you think of this as you being a controller in
9 the sense of controlling processes, I think what
10 Commissioner McGaffigan is saying is, if any one of the
11 inputs or the desired outcome has a significant delta or
12 error margin from what you expect, then immediately the
13 process gets more focused, and you might take action.

14 There are two ways in which that could happen. It
15 could happen very suddenly. All of a sudden you have
16 inspection finding on something that shows you that you are
17 out of whack. Or it could be a degrading process which is
18 slowly changing. Either one of those could actually trigger
19 our actions. Is that correct?

20 MR. GILLESPIE: That's correct.

21 MR. COLLINS: One the process would accommodate by
22 the levels of engagement and the shift in the burden of
23 proof. The second would be the more extreme case where we
24 would have a data point which is abnormal, if you will.
25 That would engage a scrutiny of the system as well as a

1 reaction to the issue.

2 COMMISSIONER MCGAFFIGAN: One of the issues that I
3 see is the performance indicators are always going to be
4 lagging. They will be lagging even if they are close to
5 concurrent. An inspection finding is here and now. You
6 came across something and, like you say, it may be abnormal,
7 but the performance indicators are backward looking, at best
8 concurrent, the ones I've seen. An inspection report, as I
9 say, the person was in the plant yesterday and he found such
10 and such, and it's either a big concern or it isn't. If it
11 is a big concern, despite their being in the green, you have
12 to have some mechanism for dealing with it.

13 MR. GILLESPIE: Right. The big concern is
14 probably the easier one to deal with, when it is something
15 that is recognized as very, very significant. It's the
16 accumulation of small things that is going to take us a lot
17 of thought on how to deal with building a compelling case
18 when there is an accumulation of small things.

19 Also, there are two thresholds we are dealing with
20 here. One is an operating threshold which, if successful in
21 the system, will be set high enough to give us some, you
22 might say, margin, accounting for a one quarter or lag time
23 when the trend shows up and crosses the threshold, but yet
24 leave a utility sufficient freedom so that they can catch a
25 trend and reverse it themselves before we have to interdict

1 ourselves. Much lower, we would hope, is the safety margin
2 where much sterner action would have to be taken, and in
3 between these there is a gradual engagement with us.

4 COMMISSIONER McGAFFIGAN: The plant that keeps
5 coming to mind is D.C. Cook. I don't think there were lot
6 of indicators before that inspection occurred, and then it
7 fell off. Mr. Lochbaum might believe, and I'm sure does,
8 that he had concerns with the ice condenser plants earlier
9 that hadn't been fully addressed. That plant inspection
10 comes along and the plant goes from non-regulatory
11 difficulty to regulatory difficulty all at once. The old
12 inspection program doesn't catch it; performance indicators
13 don't necessarily catch it. How does it work in this new
14 system? It's probably in the green.

15 CHAIRMAN JACKSON: It's in the green if you don't
16 look at it.

17 COMMISSIONER McGAFFIGAN: It's in the green,
18 according to performance indicators, in this area where
19 performance indicators perhaps don't capture very much. I
20 think you showed that backup slide earlier. This is
21 probably one of the areas where you have inspection still
22 and don't rely on indicators.

23 I think one of the things the industry is looking
24 for is predictability in the regulator, the notion that not
25 everybody is one day away from regulatory difficulty. You

1 still have these hard cases. Unless you can tell me how
2 this new systems would catch D.C. Cook without having an
3 engineering inspection.

4 MR. GILLESPIE: In discussions we've had, even
5 with NEI, we would fully expect that there are four to six
6 things a year that seem to occur by exception that we are
7 still going to have to deal with outside the defined
8 performance indicator risk baseline inspection program,
9 whether it's an event that has multiple items that still
10 stay in the green or whether it's significant design
11 problems. And design is one of the areas which was
12 crosscutting through all the cornerstones that came up
13 needing to still be inspected.

14 CHAIRMAN JACKSON: That's the question. Will the
15 risk-informed baseline inspection program capture
16 risk-significant design issues or not?

17 MR. MALLETT: Let me answer that, Frank.

18 We are planning to do that. What we are also
19 planning to do is, when we get more inspectable items
20 defined and what we want to look at, we are going to go back
21 and benchmark some of these events that occurred or some of
22 these issues that came up, like a D.C. Cook, to see if we
23 have covered in our inspectable items those sort of things
24 in the baseline program. I'm not saying we may pick them
25 all up, but we want use that a way of a self check to make

1 sure we have been all-inclusive in our inspectable items.

2 MR. COLLINS: Chairman, I think the direct answer
3 is the risk-informed core baseline inspection will probably
4 not contain an in-depth design engineering review. That's
5 not to say it will not be done either as a result of the
6 supplemental or as a result of licensees doing it
7 themselves. Much of the development of the inspection
8 programs is going to depend on the role of the licensee as
9 far as either routine reviews or corrective action as a
10 result of findings, as well as those areas that we believe
11 periodically in order to ensure that the performance
12 indicators are giving us accurate information, we will go in
13 and delve into. That may be different than what the
14 risk-informed core baseline inspection is.

15 CHAIRMAN JACKSON: I understand the point you are
16 making, but going back to a couple of the examples, one has
17 to come out of this. There is some additional effort that
18 is not part of today's discussion having to do with
19 definition of design basis and design basis information.
20 Somewhere along the line there has to be some kind of
21 scoping or risk ranking in that arena, and you have to be
22 able to say how you deal with those things that show up at
23 the top of the list.

24 It's not necessarily everything, but you have to
25 be able to say how you are going to deal with that: Where

1 is the information coming from? Is is licensee
2 self-assessment? Is it some inspection that is or is not
3 part of the risk informed?

4 But if it's important, if it's high in a risk
5 sense, do you not have to address it at some level so that
6 you don't come along and here's a surprise that shuts a
7 plant down for a year, two years, et cetera, because all of
8 a sudden this was something that was discovered? Maybe it
9 was self-revealed, maybe not, and now it shuts the plant
10 down for X period of time.

11 That's one of these kind of sudden surprises that
12 on the one hand is very unpleasant for the licensee, and on
13 the other hand, makes us look bad if it warrants a plant
14 being shut down for two years and we've been going along
15 saying all the time it was fine. So I feel somehow you have
16 to get at that. It's not something you can walk away from.

17 COMMISSIONER DIAZ: It's going back to the same
18 thing. We have to have the capability to perform those
19 functions that we believe are essential to be performed.
20 All we are going to do is going to risk rank them to a point
21 that we know which ones those are, and that's where the
22 specificity comes in. D.C. Cook will be captured by
23 capability to perform.

24 CHAIRMAN JACKSON: Right. This will be a
25 performance expectation that those things that come up high

1 on that risk ranking are dealt with, but secondly, there is
2 a question of how does it get dealt with in this process.
3 If it's not covered by performance indicators, if you are
4 telling us it's not covered by a risk-informed baseline
5 inspection program, then how is it going to be covered?

6 It either has to be covered by a risk-informed
7 baseline inspection program suitably defined, or by some
8 licensee self-assessment. Perhaps that's the way to go.

9 But there has to be something for those things
10 that show up at the top of the risk list that have to be
11 dealt with. If you don't deal with it, you've left a big
12 hole, number one, from the point of view of safety
13 oversight, but secondly, you're left the big surprise, and
14 that also is unacceptable.

15 MR. MALLETT: Let me make a comment. One of the
16 things Pat Baranowsky and I've talked about is he's going to
17 give us a list of things he believes do not have adequate,
18 to use your phrase, performance indicators. We are
19 approaching it from a different standpoint. We're looking
20 at everything that we believe we need to have in the
21 inspection program first to get this baseline assessment.
22 Then we will modify that, depending on whether we have
23 adequate performance indicators, and modify based on risk,
24 we hope. I think that will address your issue, or we hope
25 it will.

1 CHAIRMAN JACKSON: And thereby address his issue.

2 MR. MALLET: It won't address the green coloring.

3 CHAIRMAN JACKSON: I'm talking about the surprise.

4 MR. MALLET: It should address all-inclusive in
5 the program if we've done our job right..

6 COMMISSIONER MERRIFIELD: It seems to me acute is
7 going to be the point at which you can do the benchmarking
8 of the performance indicators. You are going to be making a
9 presentation to us in January of the performance indicators.
10 At what point will you be able to do some of that
11 benchmarking to give us some greater assurance that you've
12 hit the mark? What's your time line for testing those
13 performance indicators to determine, based on past
14 performance, that they would have picked up the concerns
15 that Commissioner McGaffigan has raised?

16 MR. BARANOWSKY: The benchmarking that is part of
17 this effort is starting now. The Nuclear Energy Institute
18 has done some of their own work, and we are laying out our
19 activities that we want to do.

20 I just want to mention that we have done
21 benchmarking of performance indicators that are similar to
22 the ones we are talking about here as part of the Arthur
23 Andersen work over the last several years. I have pretty
24 reasonable belief that these things are going to have
25 capability of indicating poor performers.

1 There is going to be a question of whether you
2 want to have false positives or false negatives and
3 statistical issues like that that we have to address.
4 That's what we still have to delve into with these
5 indicators that we haven't worked with day in and day out,
6 but they are similar to ones that we have worked with in the
7 past.

8 CHAIRMAN JACKSON: I think you have to present the
9 documentary evidence to the Commission. If it's based on
10 the Arthur Andersen type algorithm using the indicators you
11 come up with, you need to present that even if the names
12 have been changed to protect the innocent.

13 MR. BARANOWSKY: It's going to be part of what we
14 provide in our January paper, and I think you will see
15 information coming out as we go to the ACRS in December. So
16 it will be coming up shortly.

17 COMMISSIONER McGAFFIGAN: The point for
18 Commissioner Merrifield is that there are some areas that
19 just aren't going to be covered. You're not going to have a
20 performance indicator for the capability of the ice
21 condensers.

22 MR. BARANOWSKY: We're not saying we can do that.
23 That was a problem with the old system.

24 COMMISSIONER McGAFFIGAN: It was a problem with
25 the old system; it's going to be a problem with the new

1 systems; we're going to try as best we can to work the
2 inspection program to fill the hole, as I understand the
3 answer.

4 CHAIRMAN JACKSON: Inspection and/or other things.
5 It could be licensee self-assessments, or required
6 self-assessments, or whatever. Agreed upon
7 self-assessments. What you have to really lay out is how
8 the pieces flow together. The performance indicators, you
9 have to know where they start and where they stop and where
10 the inspection goes and where self-assessment comes in.
11 Nonetheless, you have to be assured that you have covered
12 the waterfront.

13 MR. GILLESPIE: Going back to our first principle,
14 the objective statements, what information do you need that
15 reasonable assurances objective is being met? That was the
16 importance of the objective statements. That is where Pat
17 is taking off from. Design shows up in every single
18 cornerstone and different aspects of design. We will have
19 some risk-significant approaches to it. We are trying to
20 grapple with that problem and what comes out and how it
21 comes out the bottom.

22 CHAIRMAN JACKSON: Okay. Let's move on.

23 MR. BARANOWSKY: That is the end of my talk and
24 time for John Flack from the Office of Research to tell you
25 a little bit about risk lists.

1 CHAIRMAN JACKSON: I was just thinking about you.
2 You're an SR squared A as opposed to an SRA; is that
3 correct?

4 MR. FLACK: I am a risk assessment engineer, not
5 an SRA.

6 CHAIRMAN JACKSON: Right. So you are senior risk
7 and reliability analyst. I'm calling you an SR squared A.

8 MR. FLACK: Okay. In any case, risk will be
9 considered in all these issues, burden of proof and
10 inspection. So let me go on to that.

11 Before I begin to describe how we are utilizing
12 risk insights from both the IPE programs and PRAs that are
13 available to support the development of risk-informed
14 oversight process, I'd like to highlight a few issues up
15 front that are important to the development stage.

16 The first is the generic versus plant specific
17 issue. This is really a question as to the extent to which
18 we can capture generic risk insights in formulating a
19 risk-informed inspection process.

20 On the next viewgraph I'll summarize the approach
21 we've taken to address this issue.

22 The next issue we will specifically consider risk
23 in inspection and decision making and what metric and
24 criteria we are going to use for this.

25 Although guidance still needs to be developed to

1 support these activities, we expect that that guidance would
2 be consistent with Reg Guide 1.174, and that the risk
3 information would be used in conjunction with other
4 considerations such as defense in depth and safety margin.

5 The third issue, treatment of items not modeled in
6 PRA, is really to keep us aware of the fact that PRAs do not
7 cover everything and that we will not overlook important
8 issues like acts of commission, complex system interactions,
9 and transition risk.

10 Finally, the fourth key issue involves resource
11 allocation and use of risk to prioritize and guide the
12 inspection process. The risk significance and availability
13 of the PI data that Pat Baranowsky just described and risk
14 will both play a factor in assessing our inspection needs.

15 This is being addressed in the ongoing research
16 right now, which I am about to go over on the next slide.

17 CHAIRMAN JACKSON: You are saying there will be a
18 plant-specific inspection program that is tied to the actual
19 elements of risk presented by a given facility?

20 MR. FLACK: We are looking at it from two
21 perspectives, generic and plant specific. The
22 plant-specific aspect would probably involve more of the
23 maintenance rule development, information from the
24 maintenance rule, which is plant specific. We are trying
25 from both perspectives. What we are trying to look at is

1 from the generic perspective what we can capture, and then
2 what would need to be supplemented with some plant-specific
3 insights, but I'll get into that in a minute.

4 In fact, our first step was to identify and
5 priorities sources or risk and link these to the
6 cornerstones using the generic PWR and BWR insights and
7 plant-specific insights. In this process we utilized the
8 IPE insights and findings contained in the various NUREG
9 reports as well as the IPE database to identify those
10 contributors found to be most important by licensees.

11 By scanning across the top ten sequences of each
12 plant we were able to take a broad look at what is driving
13 the risk at nuclear power facilities. In general, these top
14 sequences can capture 80 to 90 percent of the contributors
15 to core damage frequency at any one plant. Sequences that
16 shows up to be in 50 percent or more of the plants was
17 considered high and generic.

18 At the same time, we took a vertical slice using
19 the Surry IPE and NUREG-1150 results to gain insights into
20 what would not be captured using the generic approach.
21 Taking this approach, we found that about 50 percent of the
22 core damage frequency for internal events could be captured
23 generically, but that a deeper understanding of
24 plant-specific features would be needed to capture the full
25 range of contributors.

1 Once the risk insights were identified, they were
2 arranged into a matrix so that we could link them to each of
3 the cornerstones. In a similar fashion, the risk was linked
4 to underlying attributes which could then be used as a focus
5 of the oversight activities.

6 Together, these form what we call the risk matrix
7 and a framework for bringing into the process risk
8 information.

9 Now that we have the risk matrix, the next step is
10 to link the risks to the identified performance indicators,
11 and as they become developed, the identification is still
12 ongoing, but the above approach provides a means by which we
13 can accomplish this task.

14 To summarize our first phase work, we were able to
15 capitalize on information generated by the IPE program and
16 NUREG-1150 to formulate a risk matrix and establish an
17 approach that links risk insights to the cornerstones,
18 attributes and PIs as they become available.

19 Also, we are now in a better position to put in
20 perspective generic versus plant-specific risk information.
21 We plan to continue our effort to capture external events
22 and shutdown risk and insights from other risk importance
23 measures.

24 We will also be looking at the application of
25 inspection resources using risk-informed approaches where

1 PIs do not cover the area.

2 This summarizes the research work to date. If
3 there are no other questions, I'll pass it on to Bruce
4 Mallett.

5 MR. MALLETT: Turn to slide 17. I believe I can
6 still say good afternoon. I want to provide you a
7 perspective on what the risk-informed baseline inspection
8 group is doing as part of their project. We discussed some
9 of these issues earlier, so I'll just try to highlight a few
10 of them in the interest of time. There are a few points I
11 want to make.

12 The overall objective of the project is to
13 describe a program of how the NRC will conduct its baseline
14 inspection program at all power reactor facilities. We
15 anticipate providing this in a Commission paper, which I
16 believe Frank Gillespie, we'll issue sometime in January or
17 late December of this year. The anticipation is that we
18 will provide it to the Commission in January 1999.

19 In establishing the project, as Pat Baranowsky
20 indicated, we also recognized that we needed certain
21 expertise on our inspection group. This is a monumental
22 effort. We have 12 members on our inspection group team.
23 It consists of individuals from various groups. We have two
24 risk experts. We have a senior reactor analyst on the
25 group; we have individuals from Research. We also have

1 representatives of the senior resident inspector program,
2 those who are currently senior resident inspectors and those
3 who have been in the past. We have representatives who are
4 currently regional inspectors in the program.

5 We also felt it important we have individuals who
6 are experts in each of the cornerstone areas. For example,
7 we have a person with expertise in radiation safety, another
8 person with expertise in mitigating systems, and we also
9 have a representative from the Office of Enforcement on our
10 team.

11 With regard to the charter and deliverables, I
12 would first say, if you turn to slide 18, we divided the
13 charter and tasks to reach our end product of describing
14 this program into several key tasks.

15 The first one is to look at the scope. We felt it
16 was important to first decide what the program should do
17 overall. We discussed here today that the purpose of a
18 baseline inspection program is to achieve an indicator of a
19 licensee's performance, that they are operating safely, but
20 there are two key pieces to that program. I believe,
21 Commissioner McGaffigan, you launched us into that
22 discussion.

23 One is that we will emphasize risk-informed
24 inspections in areas where there are no clear performance
25 indicators at this point in time. However, we will also

1 have baseline inspection program in areas where there are
2 limited performance indicators. That gets to some of the
3 discussion we had earlier.

4 Another key piece of the program will be where we
5 do have performance indicators verifying that they are still
6 providing us with the indicated results.

7 As far as the question of sampling, I'll address
8 that when I get down to the process attributes.

9 When you look at the scope of the program, we
10 first embark upon deciding what we want to inspect. As I
11 indicated earlier, we are calling these inspectable items.
12 We are providing a complete set of those. Our plan is then
13 to modify those, depending on the outputs from Pat
14 Baranowsky's group whether there are adequate performance
15 indicators, and depending on the experience that we've had.

16 The next step I have down there is a basis for the
17 linking those to the NRC mission on risk. Let me give you
18 an example of how we plan to do that.

19 If you take the cornerstone back on slide 7,
20 mitigating systems, the concept is similar to the improved
21 tech spec documentation we have out there now. We'll have
22 mitigating system. You might have a characteristic that
23 that particular item is functional. In other words, it's
24 capable of performing its intended function or design
25 function.

1 For each inspectable item we would list its basis.
2 Let me give you an example. If you take post-maintenance
3 testing as an inspectable item, as a basis for that we might
4 include why you would why you would inspect post-maintenance
5 testing. We are envisioning that we would have a
6 relationship with that to the cornerstone as to why it
7 produces a desired result. We might talk about whether we
8 have a performance indicator in there and what our
9 inspection program is going to show versus that indicator.

10 Most importantly, as John Flack indicated, we will
11 put in some risk information. Right now it's only on
12 concept, but we envision using some kind of risk hierarchy
13 to guide the inspector to what are the important systems or
14 components to look at when you are looking at
15 post-maintenance testing.

16 I recognize that's only a concept, but we wanted
17 to give you that as an example of what we are looking at as
18 how we might link this to mission and risk.

19 CHAIRMAN JACKSON: Don't you really want to look
20 at it kind of in a -- you could come out at the same place
21 -- converse way, where you would look at some system, and
22 you could ask if the performance indicator tells you what
23 you need about the system? Then you ask your three
24 questions. Is there something that the performance
25 indicator doesn't tell you? If it turns out to be that

1 post-maintenance testing will tell you that, then that tells
2 you what you are going to look at. If the indicator tells
3 you what post-maintenance testing would tell you, you
4 wouldn't necessarily do it except insofar as wanting to
5 validate the indicator. Is that correct.

6 MR. MALLET: That's correct.

7 CHAIRMAN JACKSON: So you don't start that you
8 need to do post-maintenance testing; you start with the
9 systems and then you ask, what do I need to know in order to
10 verify that the systems performs it's intended function?

11 MR. MALLET: When you are designing what you want
12 to look at in your program, that's correct. You might also
13 use it in a different method. If a certain event came up,
14 we envision you might go back and also use this as a way of
15 saying, do I need to even look further into this event?

16 If we move to the other items we put on here as
17 key items, address stakeholders issues. We felt it was
18 important early on to talk to the various internal NRC
19 stakeholders and external to see what the issues are that
20 they believe need to be addressed in a baseline inspection
21 program. Once we have given the concept to paper, we intend
22 to go back and use this as a check list to say, did we
23 address all those issues?

24 John Flack mentioned some of those when he
25 discussed it on slide 15. So I won't elaborate anymore.

1 As far as process attributes, the next step is to
2 decide how do we use this process. We have all these
3 inspectable items; we have their basis now; we've linked
4 them to our mission. How do we use this? How do we tell
5 the inspector how to use this?

6 We haven't got the answer to that question yet,
7 but some considerations we have is, how much inspection do
8 you need to do? How often do you need to do it?

9 Another thing we have considered is how we are
10 going to put sampling -- we call it selecting inspectable
11 items -- into the process. Chairman Jackson, you asked that
12 question about sampling. We don't have it formulated yet
13 but we do intend to include that in our description of our
14 program.

15 Another item we are addressing is how can you get
16 some generic risk information and also guide the inspector
17 to get specific risk information based on plant specificity.
18 How do you address type of plants, for example?

19 CHAIRMAN JACKSON: Mr. Flack is going to tell you
20 that.

21 MR. MALLETT: He's working with us. We are using
22 his group heavily. Mr. Baranowsky is also going to tell us
23 some of that.

24 I also have some senior reactor analysts on my
25 group that are discussing with them and interfacing to

1 provide that result.

2 The last item I put as a key issue. We are also
3 benchmarking some other agencies to see what their programs
4 are, what they use as a baseline inspection program, and to
5 see if we can learn any lessons from them, or issues.

6 You did ask one other question I would like to add
7 one other comment to, about the skills. One skill we do see
8 is the inspectors and managers are going to have to have
9 more understanding than they do today about risk information
10 and how to use risk information. I don't know that that's
11 necessarily a skill, but there may be some training involved
12 in how to do that.

13 If there aren't any more questions, I would like
14 to turn it over to Mike Johnson, who is going to talk about
15 the assessment group and their project.

16 MR. JOHNSON: Thanks, Bruce.

17 Slide 19, please.

18 I will discuss the role of assessment, the
19 deliverables, and finally, the team composition.

20 We envision that the role of assessment within the
21 oversight framework and based on the defining principles
22 will be to consider the results of licensee performance as
23 measured by the objective indicators and thresholds
24 developed by the framework group and the information that
25 results from the implementation of a risk-informed

1 inspection program and other insights as developed by the
2 inspection group to arrive at a view of licensee performance
3 within the framework.

4 Then, based on the licensee's performance, the
5 role of the process will be to identify appropriate
6 regulatory actions that range from conducting just the
7 baseline, up to and including issuing an order.

8 To communicate the assessment results along with
9 planned regulatory actions to licensees, the public, and
10 other stakeholders.

11 To provide follow-up and to verify our regulatory
12 actions to ensure that they are successful.

13 And to provide a quality check and feedback, a
14 process for continuous self-assessment, to ensure that the
15 effectiveness of our other oversight processes, the
16 inspection process, the enforcement process, continue to
17 improve.

18 In developing the staff's final recommendation
19 that we will provide at the end of the year, we will
20 consider questions such as:

21 How do we integrate the information inputs from
22 each of the cornerstones?

23 At what frequency and over what interval will we
24 roll that information up?

25 What will be the methodology where we compare the

1 objective insights or the objective indicators with the
2 insights coming from the risk-informed baseline inspection
3 and other inspection and other insights?

4 What does that methodology look like?

5 What actions should be taken and what is the
6 process with decision criteria to allow us to determine the
7 appropriate regulatory response based on licensee
8 performance in a manner that is scrutable and predictable?
9 Because are concerned about scrutability and predictability.

10 How should we communicate the results of the
11 assessment in actions to the licensees, the public and other
12 stakeholders? This will include issues such as how do we
13 provide an opportunity for licensee input and feedback as a
14 part of the assessment process.

15 What should be the relation between the assessment
16 process and enforcement? As we talked earlier and as Jim
17 Lieberman will talk in a minute, we do recognize that there
18 is a relationship between the assessment process and
19 enforcement. So what should that relationship be? How will
20 it work?

21 How should we phase in the recommended process
22 with our existing processes, including the senior management
23 meeting and the other things that we do in terms of
24 assessment today?

25 And how will we measure the assessment process

1 post-implementation to ensure that it meets our
2 expectations, to ensure that a year from now the process
3 that we have recommended and we hopefully are beginning to
4 implement does meet the success criteria that we laid out
5 for ourselves?

6 We believe that the assessment process will be of
7 great interest to licensees, the public, and other external
8 stakeholders; arguably, perhaps of more interest than even
9 the inspection program.

10 Because the assessment process will provide the
11 primary communication vehicle for the agency on the
12 performance of utilities, it will have a great ability to
13 impact licensee activities, public awareness and confidence
14 in the NRC and its licensees. And as we learned with the
15 SALP process, it could have a potential for unintended uses
16 and consequences.

17 The assessment process will also be of great
18 interest to internal stakeholders who will be the process
19 implementers.

20 Given the importance of the process to both
21 internal and external stakeholders, we assembled a task
22 group of experts made up of representatives from key
23 internal stakeholders, including the regional offices, who
24 will be the heavy lifters in the implementation of the
25 assessment process, as well as members from AEOD, NRR,

1 Research, and the Office of Enforcement.

2 Participants have implemented the previous
3 assessment processes. Several participated in the IRAP
4 process and understand the challenges of developing an
5 assessment process, and all have participated in the
6 workshop or are members of the inspection group or the
7 framework group, and therefore understand the philosophical
8 approach that we are embarking on and will be in a position
9 to ensure that the assessment group activities are properly
10 integrated with the activities of the other groups.

11 Finally, as is important with the other groups, we
12 have already conducted and plan to conduct several
13 additional meetings with the industry, the public, and other
14 stakeholders in order to get early input and involvement in
15 our development of the assessment process.

16 COMMISSIONER McGAFFIGAN: Could I ask a practical
17 question?

18 CHAIRMAN JACKSON: Please.

19 COMMISSIONER McGAFFIGAN: You talked about the
20 transition. Is there likely to be an annual briefing to the
21 Commission on the four regional administrators' and the
22 director of NRR's view as to how the plants are doing? Is
23 that likely to still remain part of the process?

24 MR. JOHNSON: First of all, let me preface this by
25 saying that we haven't really talked about it and done the

1 development that would enable me to answer your question
2 conclusively, but let me just tell you that it is our
3 feeling, based on the conversations that we've had in
4 staffing the group, that there would be some periodic
5 briefing of the Commission on the status.

6 COMMISSIONER MCGAFFIGAN: I also assume that,
7 based on what I read of the stakeholders interactions, that
8 the watch list concept may go by the boards. I'm just
9 gaming this, and I hope you guys do some gaming. If I'm an
10 enterprising reporter, how do I still -- I've got the four
11 regional administrators in front of me and we don't have a
12 watch list anymore but we have the discussion list, namely,
13 the ones that they thought important enough to call to our
14 attention, assuming we don't have 15 or 20 minutes for each
15 of the 104 plants.

16 CHAIRMAN JACKSON: We might.

17 COMMISSIONER MCGAFFIGAN: We are doing pretty well
18 today in time.

19 How do you end up having the trade press not
20 report that last week plants A, B, C, D, E, and F were the
21 focus of the Commission's deliberations as they received the
22 annual briefing from the staff and you still have a watch
23 list?

24 MR. COLLINS: I think the backdrop that we have to
25 keep in mind is that none of this should be new news to

1 anyone other than when either the agency believes we need to
2 take an action or we are confirming a licensee action. Any
3 roll-up that we would take periodically would not be for the
4 purposes of "announcing" any action against a plant. As in
5 the past perhaps the senior management meeting that was the
6 context, this would be a review of where we have been at any
7 given point in time and have our actions been effective. It
8 might be more of a status of what has previously been
9 announced and implemented rather than a decision-making
10 meeting.

11 COMMISSIONER MCGAFFIGAN: I don't know how you
12 control five Commissioners who are sitting here asking you,
13 or even your own regional administrators, for that matter.
14 Plant X looks like it's getting into some regulatory
15 difficulty. I understand, Mr. Regional Administrator, you
16 have some real concerns about X,Y,Z. Is that going to be
17 off limits for discussion?

18 MR. COLLINS: I don't pretend to control five
19 Commissioners. I guess what we would have to do is
20 understand what the forum is. I wouldn't envision that this
21 process is focused toward the staff. The process is focused
22 towards having a mutual understanding of performance and
23 ensuring that there is an entity, preferably the licensee,
24 who is responding and reacting to those issues
25 appropriately. If not, then we engage, we reinforce; if

1 appropriate, we act independently.

2 At that point, if we were to be in a meeting to
3 discuss licensee performance, I would expect the licensee to
4 be there discussing their performance and the reasons for
5 why their performance is appropriate or not, and for the
6 agency to be there to ensure that our actions are
7 commensurate with that. That meeting, if a meeting is
8 warranted in that fashion, should not be delayed annually;
9 it should be conducted when it is appropriate.

10 Perhaps, in that context, the meeting we are
11 talking about is more to review the process itself than it
12 is to review licensee performance. That's yet to be
13 determined.

14 COMMISSIONER MCGAFFIGAN: I believe Mr. Lochbaum,
15 who is going to speak in a few minutes, has suggested that
16 at that meeting we would focus, in his scheme, on which
17 plants are doing less well and maybe which are doing better.
18 I'll let him speak for himself. But that there would be a
19 discussion of how plants specifically are performing as
20 opposed to how our process is working.

21 CHAIRMAN JACKSON: You could argue that the one is
22 a test of the other. You can't ask the staff how they would
23 control five Commissioners.

24 COMMISSIONER MCGAFFIGAN: No, but I think I can
25 ask the staff, I think you need to think about the gaming of

1 the process. All processes are gamed and you should think
2 about it.

3 CHAIRMAN JACKSON: But presumably, if one gets at
4 the issue of surprises, or one is sailing along in good
5 shape and all of a sudden one drops off the cliff, that's
6 the ultimate sense in which someone can "game the process."
7 If it's an open, scrutable, continuously interactive and
8 appropriate process with the licensees involved, it's not
9 new news.

10 COMMISSIONER McGAFFIGAN: Most of our recent watch
11 list meetings haven't been new news either.

12 CHAIRMAN JACKSON: Nonetheless, when we come out
13 with the list, everybody watches. There is a balance
14 between having a process that is scrutable, objective,
15 risk-informed, and so on, and the fact that the Commission
16 has to be informed and it should be in an open process.

17 Mr. Lieberman, you're on.

18 MR. LIEBERMAN: Turning to slide 21. We've
19 already made reference to enforcement as part of the
20 development of the oversight process.

21 As Mike Johnson and others have said, to develop
22 the assessment process, we need to establish what regulatory
23 actions will be taken based on the performance levels of
24 licensees. This will include consideration of the role of
25 enforcement in the oversight process and what changes, if

1 any, are needed to be made in the enforcement policy.

2 Specific enforcement issues that the staff is
3 considering in coordination with the oversight effort
4 includes developing better guidance for the thresholds
5 between minor violations and severity level 4 violations,
6 reviewing severity level examples and enforcement policy to
7 make them more risk informed, reviewing the process to
8 determine sanctions, and evaluating the role for regulatory
9 significance in the enforcement process.

10 As to the threshold between minor violations and
11 level 4 violations, we've already mentioned that in the past
12 the enforcement process has set thresholds resulting from
13 the inspection and assessment process. As part of the
14 integration effort, the threshold will be driven by the
15 needs of the assessment process.

16 As to severity levels, the technical framework and
17 assessment efforts will provide insights as to what is risk
18 and safety significant for purposes of assessment. These
19 insights should be considered in developing the severity
20 level examples so that violations which are significant to
21 threshold issues are significant to enforcement and vice
22 versa.

23 As to enforcement sanctions, we will be
24 considering what changes, if any, should be made to the
25 process for assessing sanctions based on the levels of

1 licensee performance.

2 Finally, the issue of regulatory significance be
3 to be addressed. By regulatory significance, I mean when
4 the agency concludes that the significance of root causes
5 and the circumstances of grouping individual severity level
6 4 violations are greater than the actual potential
7 consequences, warranting their aggregation into a severity
8 level 3 problem.

9 The staff has not developed a final position on
10 whether and how regulatory significance should be used in
11 the regulatory process. Since regulatory significance is in
12 essence an assessment effort, the staff is proposing that
13 the resolution of this issue be deferred until it can be
14 integrated into the assessment process.

15 In the meantime, the staff intends to issue an
16 enforcement guidance memorandum and increase its oversight
17 of cases involving regulatory significance. For example,
18 reactor cases involving escalated actions which now require
19 my approval, will require the approval of the deputy
20 executive director for regulatory effectiveness. In
21 addition, we intend to continue the current efforts to
22 ensure that each case considered for regulatory significance
23 have a clear nexus to safety.

24 Apart from the adjustments to the enforcement
25 process, we have developed a proposal to address

1 non-escalated enforcement actions. This should be delivered
2 to the Commission very shortly.

3 The changes for non-escalated enforcement actions
4 have been coordinated with the oversight effort. The
5 proposed changes will not prejudge the outcome of the
6 assessment and inspection improvements; it can accommodate
7 any needed changes.

8 COMMISSIONER McGAFFIGAN: You are proposing to
9 postpone this paper on regulatory significance until the
10 assessment process is further along. The next chart is
11 going to tell us the schedule. How much of a delay are you
12 talking about? Does it have to be already in place and
13 being implemented? Is it sometime soon after January? How
14 long do we wait to tackle this issue?

15 MR. LIEBERMAN: I think, Commissioner, we will be
16 doing that in early spring. We need to understand how the
17 assessment process works, and then we can complete the
18 effort on the regulatory significance. Whether we can
19 implement it completely may be a function of how long the
20 assessment process is being completed, but the concept we
21 should be able to present to the Commission after we
22 understand the assessment process.

23 CHAIRMAN JACKSON: Have you interacted with other
24 agencies that have an enforcement authority, such as FAA,
25 FDA, EPA, DOJ? Have you interfaced with state agencies,

1 with local law enforcement, with academicians who have done
2 studies in criminal justice or civil justice? Have you
3 looked at SEC?

4 MR. LIEBERMAN: Some of all of that. We've looked
5 at DOT; we have gone to FAA; EPA. I've gone to training
6 programs and discussed issues with the academic community.
7 I haven't dealt that much with the states, but I read of lot
8 of articles on enforcement in general. So I understand what
9 other organizations are doing in the enforcement process.

10 CHAIRMAN JACKSON: Where do things stand with
11 OSHA, with what they call cooperative compliance?

12 MR. LIEBERMAN: The OSHA system is a little
13 different from the NRC regulatory systems. OSHA doesn't
14 have licensees. They have spot inspections. They inspect a
15 group of potential safety concerns in an industry, say the
16 paper making industry in Maine. They don't have the same
17 degree of oversight. The analogy that OSHA has to the NRC
18 regulatory program on giving credit to self-assessment is
19 not exactly the same system.

20 COMMISSIONER McGAFFIGAN: Is regulatory
21 significance used in other agencies? Is there a category
22 that allows you to aggregate or do some of the things that
23 the current enforcement policy allows?

24 MR. LIEBERMAN: I'm not familiar with other
25 agencies using the specific term of regulatory significance,

1 but the concept of evaluating violations for the potential
2 safety significance is not unique to the NRC process. We
3 came up with the concept of regulatory significance, the
4 grouping of violations, in part because of the history of
5 the civil penalty process. Prior to 1980, our civil penalty
6 authority provided for a maximum of \$5,000 per violation.
7 We almost had a cash register approach to enforcement back
8 in the 1970s. There were so many violations and there was
9 so much money per violation and you added it up.

10 When we received the authority post-TMI to have
11 \$100,000 per violation and we recognized that many
12 significant issues involved more than one violation, we came
13 up with a concept of grouping violations together and then
14 assessing civil penalties based on the groupings of
15 violations. That's where the concept of regulatory
16 significance came along. Other agencies have different
17 civil penalty schemes. So there is not necessarily a direct
18 correlation.

19 CHAIRMAN JACKSON: Okay.

20 MR. GILLESPIE: Going on to slide 22, which is our
21 schedule. Short-term actions are set to happen between now
22 and January of 1999, including public meetings more than
23 weekly with NEI. NEI has established two subgroups to our
24 framework and inspection groups to deal with radiation
25 protection and to deal with safeguards.

1 We are hoping to have our proposal developed by
2 the end of November. This will allow us to meet with the
3 ACRS subcommittees and ACRS full committee the first week in
4 December so that we might get a letter from ACRS to the
5 Commission on our proposal, and then to the Commission in
6 December.

7 Beyond January, with Commission approval and
8 comment in the spring, develop revised enforcement guidance
9 in the spring.

10 Start the phase-in of both the assessment and
11 inspection process in June.

12 Implement risk-informed inspection baseline in
13 October. I emphasize this is the risk-informed baseline,
14 because there are regional initiative inspections which will
15 not be completely redone.

16 Complete the phase-in of both risk-informed
17 inspection and assessment by June of the year 2000.

18 And then a retrospective look one year later.
19 Hopefully we will have established some credible objectives
20 when we put this place and measure ourselves against those
21 objectives a year later.

22 With that, we complete our presentation for this
23 afternoon.

24 CHAIRMAN JACKSON: Thank you. If there are no
25 further questions or comments, let me thank the staff. I

1 will make some fuller remarks at the end. So you are
2 excused for the moment.

3 Let me, first of all, thank Mr. Beedle and Mr.
4 Lochbaum for their patience and invite you to please come to
5 the table.

6 Good afternoon.

7 MR. BEEDLE: Good afternoon, Chairman Jackson,
8 Commissioner McGaffigan, Commissioner Diaz.

9 CHAIRMAN JACKSON: We are pleased to have you. We
10 are particularly interested in how you see the overall
11 progress to reengineering the assessment, inspection and
12 enforcement program.

13 MR. BEEDLE: First, let me echo Frank Gillespie's
14 comments somewhere around two o'clock this afternoon and
15 wish you all good evening.

16 COMMISSIONER MCGAFFIGAN: It isn't sunset yet.

17 CHAIRMAN JACKSON: It isn't sunset yet. It's
18 getting close.

19 MR. BEEDLE: Just a point of perspective. The
20 process that the staff described to you during the course of
21 the last couple of hours is one that is shared by the
22 industry because it's going to help both the industry
23 executives and the NRC staff focus on the things that are
24 important to safety in the operation of these plants. In
25 doing that, it helps us assign our resources to the things

1 from a safety point of view, that are meaningful, and frees
2 us from a regulatory burden on things that are not safety
3 related. One of the objectives of this process, at least
4 from the industry point of view, is to help focus on that as
5 opposed to the management of the facilities.

6 The four day workshop was really a very beneficial
7 workshop in that it fostered a lot of communication between
8 the NRC staff and the industry and other stakeholders that
9 were present. It helped us better appreciate the direction
10 that the staff was moving on this particular issue. So from
11 an educational point of view, I think it was an immense
12 success.

13 Did we solve a lot of problems in the process of
14 doing that? Perhaps not, but we did have an alignment that
15 was discussed earlier that there was a need to focus on
16 safety, and with that we could define parameters that would
17 help us understand that better, and with that we could also
18 define some thresholds that would give us the ability to
19 then take a look at inspection and enforcement and properly
20 respond to that.

21 Let me have the next slide, please.

22 [Slides shown.]

23 MR. BEEDLE: You asked earlier about data. I'd
24 like to talk a little bit about that.

25 First of all, the nuclear officers in the

1 community have agreed that the data is necessary for the
2 agency in order to determine where the performance of the
3 plant is, and it helps not only you, but it also helps the
4 people that are managing the facility.

5 Our thinking at this point is that that data would
6 be provided directly to the NRC in some sort of a formatted
7 process that would make it easy to digest and process, and
8 it would not involve pass-through through INPO and
9 perturbate the process that INPO has got. So it eliminates
10 a number of the concerns.

11 CHAIRMAN JACKSON: It would be direct.

12 MR. BEEDLE: It would be direct. Perhaps an
13 appendage to the monthly operating report for each of the
14 plants.

15 Would each of the plants participate? I think
16 with reasonable assurance I can tell you that they would.
17 So I don't think that is really an issue. Having defined up
18 front the parameters that we are talking about, I don't
19 think we are going to have any particular problem.

20 If the staff comes back and says we need six more
21 parameters, I think we might ask some questions and try and
22 understand why. If we could reach agreement on it, I think
23 all the plants would then provide those additional six
24 parameters.

25 We expect that the number of parameters for each

1 plant would be the same. So we wouldn't have a group of
2 plants that would provide four and another group of plants
3 that would provide six. I think we are going to look at
4 consistency across that spectrum.

5 The three year trending curves that we have been
6 plotting would be plotted for each one of the plants.
7 Histograms would display worst value for each plant plotted
8 against those indicators.

9 PRA sensitivities would be run, and in the case of
10 scram and mitigating systems, we are looking at something
11 like two times a CDF or a delta CDF of one times ten to the
12 minus five to set threshold.

13 Insights from the data that we have analyzed to
14 date. The indicators do provide an overall perspective on
15 safety performance. That is certainly our assessment.

16 Barrier integrity indicators show strong plant
17 performance for almost all plants.

18 The initiating events and mitigation indicators
19 exhibit the most detectable variations.

20 And the unplanned plant transient indicator
21 appears to be a reasonable leading indicator of plant
22 performance. Indicators do not reveal any design control
23 problems.

24 I would remind you that this process is one
25 focused on risk, but it does not exclude the fact that we

1 still have tech specs and regulations and design basis
2 requirements to adhere to. So we are looking at assessment
3 process, not whether or not we in fact followed the
4 requirements of regulation.

5 Indicators do distinguish levels of safety
6 performance. We see the excellent performing plants have
7 indicators that are high in the green band; the average
8 plants are in the low green to white band; and there does
9 appear to be declining trends that show in multiple
10 indicators. Recent watch list plants have several
11 indicators that show up in the white zone.

12 If I could have the backup slides, please, that
13 show the graphs.

14 COMMISSIONER MCGAFFIGAN: All of this information
15 is going to be docketed. If it comes in the monthly
16 operating reports, it's public information.

17 MR. BEEDLE: That's correct.

18 COMMISSIONER MCGAFFIGAN: So we can use it as we
19 see fit. We can aggregate it, et cetera.

20 MR. BEEDLE: You could aggregate it, but it's not
21 our intent that you would aggregate it. We are trying to
22 focus on a plant's performance in those areas.

23 CHAIRMAN JACKSON: It's going to be plant
24 specific.

25 MR. BEEDLE: Right. We are not going to give you

1 aggregated information; it's plant specific.

2 In this one, I know that the graph is a little
3 hard to see, but here are some plant transients and
4 unplanned shutdowns for a plant that has reasonably good
5 performance. You can see that the industry average is that
6 solid line. The occurrence at this plant is the dotted
7 line. So we've got a plant here that I think, by all
8 rights, would be concluded to be a good performer, and this
9 is what the operational challenges look like in plant
10 transients. These are transients that create a power change
11 of greater than 15 percent.

12 This is a plant whose performance is trending in a
13 downward direction. You can see that trend developing.

14 This plant's performance has been cyclic in
15 nature, and I think this performance indicator indicates
16 that. It was one that, coupled with other indicators, I
17 think you would have probably concluded should be on the
18 watch list.

19 Back to the original set of slides.

20 COMMISSIONER McGAFFIGAN: The data you have there
21 goes back five years.

22 MR. BEEDLE: Correct.

23 COMMISSIONER McGAFFIGAN: You are getting three
24 year data for the plants. Is that just a matter of
25 resources? Do you think three year data will be enough to

1 prove the point?

2 MR. BEEDLE: This is data that we had started out
3 with sometime ago, when we were looking at this process. We
4 think that the three year rolling average looks like about
5 the right data to look at. I don't think that even in this
6 one where you have that cyclic behavior that going back
7 another couple of years makes all that much difference.

8 In this slide we have some data that speaks to the
9 establishment of the thresholds just to give you an idea of
10 what we are looking in that area. We are looking at the
11 base core damage frequency. In plant A it's 1.47; in plant
12 Bit's 4.6. So we see a different range in there.

13 If we use a delta CDF at one times ten to the
14 minus five or $1-E$ to minus five, and then two times the CDF
15 as the threshold, the resulting behavior that you see would
16 be, in the case of scrams, the CDF was based on four. You
17 could set a threshold using the delta of ten scrams, and if
18 you were going to use a two times, a doubling of the CDF,
19 you'd have to have something on the order of 14 scrams. So
20 that would give you the range in that white band of, say,
21 four to ten.

22 If you look at diesel unavailability and HPSI
23 unavailability, you get an idea of the sensitivity of this.

24 From where we typically see the plants operating,
25 to get a significant change in availability as measured by

1 the core damage frequency, you are looking at a fairly
2 significant increase in unavailability. You really have to
3 make it a point to have your system out of service for long
4 periods of time before you start encroaching on a safety
5 limit in this case.

6 Plant B, where the CDF is a little bit higher,
7 those ranges are slightly different but not significantly
8 different.

9 So there is a wide spread in this data threshold
10 that we would be looking at.

11 COMMISSIONER MCGAFFIGAN: Is the idea that we
12 would have different thresholds for different plants? That
13 might be a little difficult to implement. Or is there a
14 single threshold for a performance indicator that would work
15 for all PWRs or all BWRs, or whatever?

16 MR. BEEDLE: I think we are going to end up with
17 different thresholds, with some different parameters for the
18 BWRs and PWRs.

19 COMMISSIONER MCGAFFIGAN: Is it a single threshold
20 for all plants, or does this analysis suggest that you have
21 a different threshold for each plant?

22 MR. BEEDLE: I think it will be a different
23 threshold for each plant.

24 CHAIRMAN JACKSON: What is consistent is whether
25 the trigger is a specific delta in core damage frequency or

1 two times or some specific multiple of core damage
2 frequency, or a change in the base to cored damage
3 frequency. That's the commonality of approaches. Is that
4 correct?

5 MR. BEEDLE: That's correct.

6 We are currently working on the trend graphs and
7 histograms and would expect that a little later this week
8 we'll have those available for about two thirds of the
9 plants.

10 PRA sensitivity results will be provided sometime
11 later this month for a representative set of plants,
12 approximately 25 of them. So I think we are reaching some
13 consensus on what the data collection effort should be and
14 what those thresholds should be.

15 We are working closely with Frank and his various
16 task forces on this, and we think that we are reaching
17 agreement on some technical issues that help us understand
18 safety at the plants.

19 COMMISSIONER MCGAFFIGAN: One of the conversations
20 we've had with ACRS in the past is that we probably have
21 pretty good confidence on delta CDFs. I'm still stuck on
22 this notion that we might have for plant A so many safety
23 system actuations that get you into the white zone and for
24 plant B have a different number based on IPE that weren't
25 all done in a standardized way. It's sort of taking my

1 breath away at the moment.

2 CHAIRMAN JACKSON: But the delta CDF --

3 COMMISSIONER McGAFFIGAN: The delta CDFs I can
4 understand. Delta CDFs is part of it. But part of that was
5 two times CDF. We were using the actual number.

6 CHAIRMAN JACKSON: That's the point. You have to
7 settle on which of those is the acceptable metric, right?

8 MR. BEEDLE: Go back to the slide with the plant A
9 and B table on it. In this slide we had, for example,
10 diesel unavailability of .61 percent. I would argue that
11 any plant that is getting up into the ten percent
12 unavailability on its diesel engines is probably going to
13 wonder what's going on with its maintenance group. I don't
14 think the manager of the facility is going to allow that.
15 Forget whether or not it's a regulatory threshold. When we
16 first posed in the area of scrams that we set the green band
17 at the level of three, we had tremendous opposition on the
18 part of the industry. They said, well, that's ridiculous.
19 We never have more than two. Why don't we set it at two?

20 CHAIRMAN JACKSON: The approach that is most
21 consistent with Reg Guide 1.174 is the delta CDF approach.

22 MR. BEEDLE: Right.

23 CHAIRMAN JACKSON: At any rate, the delta approach
24 is the approach in Reg Guide 1.174.

25 COMMISSIONER McGAFFIGAN: But where he derived

1 those numbers, I thought --

2 CHAIRMAN JACKSON: No. If you put the viewgraph
3 back, it means that for that particular plant, in order to
4 have a delta of ten to the minus five, for that particular
5 plant theoretically it would require ten scrams, or diesel
6 generator unavailability of about 30 percent, or HPSI
7 unavailability of about 14-1/2. That's what that is saying.

8 COMMISSIONER McGAFFIGAN: Therefore, that's where
9 the threshold should be for the red zone.

10 CHAIRMAN JACKSON: For that plant.

11 MR. BEEDLE: That's where that bottom of the white
12 zone, start of the red zone would be.

13 COMMISSIONER McGAFFIGAN: We are using delta CDF
14 there, but at the top, to decide where the green zone/white
15 zone interface is, the proposal is that we use the base CDF.
16 So it's four for that plan for scrams and .61 percent and
17 1.81 percent, and then a different set of numbers for the
18 other plant. So we are using the CDF itself as a mechanism
19 for deciding the green zone.

20 MR. BEEDLE: I think in the case of the green zone
21 we are looking at perhaps CDF, but we are also looking at
22 some history of performance of the plants in the 1990 to
23 1994 range.

24 COMMISSIONER McGAFFIGAN: Am I understanding you
25 for scrams, three across the industry? We're not going to

1 do three at one plant and four at another?

2 MR. BEEDLE: In that case, we'll probably have
3 three across the industry.

4 COMMISSIONER McGAFFIGAN: For diesels, rather than
5 11 percent versus 28 percent, it would be 10 percent across
6 the industry?

7 MR. BEEDLE: I'm not sure, but I would guess that
8 the diesel would probably be somewhere in the one percent
9 range for the green band. I can't imagine us putting it
10 down at 30 percent. It may be 20 or something like that.
11 It demonstrates that there is a tremendous margin between an
12 operationally significant condition and a safety significant
13 one. The risk insights that we have developed over the last
14 several years help us understand that every time you have a
15 wing nut out of position doesn't mean that the plant is
16 unsafe. That's really what we need to focus on.

17 CHAIRMAN JACKSON: Your point still remains about
18 having some consistency in approach. What that consistency
19 in approach translates into is a fundamental question. Is
20 it going to vary by plant, or do we want to just pick
21 something and say that this is in fact the threshold? I
22 think that's a regulatory decision.

23 MR. BEEDLE: I think once we get all the data in
24 here, our task forces are going to look at that and say what
25 makes sense. I think part of what makes sense also, you

1 have to factor in your ability to regulate that and get some
2 consistency and standardization.

3 COMMISSIONER MCGAFFIGAN: I'm just trying to
4 anticipate. Mr. Lochbaum at some point is going to pipe up
5 and talk about his views as to how good the IPEs are and all
6 that. I guess he's waiting his turn patiently.

7 MR. BEEDLE: I would also argue that as we look at
8 the spectrum of plants, when we see one that looks like it's
9 an outlier, we may have to take some special action in the
10 case of that one. It will also point out difficulties
11 associated with some of the PRAs or IPEs that have been done
12 at the plants.

13 CHAIRMAN JACKSON: Are you done?

14 MR. BEEDLE: I'm finished.

15 CHAIRMAN JACKSON: Mr. Lochbaum.

16 MR. LOCHBAUM: Thank you for this opportunity to
17 comment on the NRC's initiatives in the area of inspection,
18 assessment and enforcement. These important areas are the
19 foundation of the NRC's reactor safety oversight function.
20 It's vital that they be as effective as possible.

21 The staff mentioned the recent four day workshop.
22 I attended that workshop. It wasn't as useful as it could
23 have been. The structure of that workshop was such that it
24 would have been virtually impossible to result in anything
25 but alignment. The breakout sessions and the cornerstones

1 were determined well in advance of the workshop and really
2 could not have been changed by the attending stakeholders.

3 The workshop was, in my opinion, little more than
4 a dog and pony show that the staff could tell you today that
5 it had met with the stakeholders and had their endorsement.

6 In my opinion, those four days could have been
7 better spent examining the pros and cons of NEI's proposed
8 assessment model and its regulatory scheme.

9 I have the following comments on the specific
10 items discussed by the staff today.

11 Commissioner Diaz already commented on one of the
12 concerns I had with respect to compelling cases.

13 I felt that the NRC staff in the past has had a
14 major flaw in its existing program and that there is a very
15 low threshold for compelling cases. The staff, in my
16 opinion, should very rarely overturn indicator results. I
17 agree with Mr. Gillespie that if you do overturn indicator
18 results, that also casts doubt on the validity of your
19 indicators. That needs to be reexamined. Basically, that
20 shouldn't happen very often.

21 In the same section, defining principles, the
22 staff said that the assessment process results might be used
23 to modulate enforcement actions. We strongly feel that
24 enforcement actions should be based exclusively on the
25 severity of the offense. Under no circumstances should

1 enforcement actions be increased or decreased based on
2 assessment results.

3 We feel that a major flaw of the current senior
4 management meeting process, which doesn't seem to be
5 addressed in the current plans of the staff, is that the
6 managers spend too much time deciding who's naughty and nice
7 and too little time figuring out what to do about the
8 naughty ones.

9 The primary focus of the SMM process should be to
10 develop action plans to handle plants determined by an
11 objective assessment process to be performing badly.

12 The staff spoke about a risk-informed oversight
13 process to guide its inspections. Virtually all of the
14 staff's efforts seem to be directed towards ensuring that
15 they look at the right areas. The staff needs to spend more
16 effort on figuring out how to properly respond to their
17 inspection findings. We remain baffled by the current
18 inspection process, which seldom triggers a scope expansion
19 either on the licensee's part or the NRC's part.

20 The staff conducts inspections of very small
21 samples. The findings from those limited audits need to be
22 placed in context, but they are not. We think that was the
23 problem at D.C. Cook. The inspection that was done last
24 August and September revealed a problem that begged for
25 scope expansion that seemed late in coming.

1 We are also disappointed that the staff hardly
2 ever asks the licensees to explain why they didn't find the
3 problems first. After all, the licensees have the burden
4 for assuring that their facilities are maintained in
5 accordance with safety regulations. When the staff has
6 evidence that a licensee may be shirking that burden, the
7 staff needs to find out why.

8 We hope that the revamped NRC assessment,
9 inspection and enforcement processes will at least obtain
10 one element, namely, the ability to occasionally call some
11 event or plant condition unsafe. We feel that plants like
12 Millstone Unit 3 and D.C. Cook were operating unsafely for
13 years prior to their lengthy outages.

14 We are not asking the NRC to agree with us on
15 these cases, but it's crucial that the NRC have a line
16 between safe and unsafe practices and to occasionally
17 identify something as being unsafe. Without such a line,
18 you can never really adopt a meaningful risk-informed
19 regulatory policy. Quite simply, if everything at every
20 plant is safe, you don't know where to focus resources and
21 attention. Besides, it's very difficult for the public to
22 understand why you could fine NU \$2.1 million or AEP half a
23 million dollars for safe operation of their facilities.

24 Thank you for this opportunity to present our
25 views. More importantly, we appreciate the fact that you've

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1 undertaken these important initiatives.

2 CHAIRMAN JACKSON: Thank you.

3 Let me ask you to kind of expand a little bit on
4 what you mean when you say that so far all the efforts seem
5 to be looking at trying to decide what the right areas are
6 as opposed to more effort on what to do.

7 MR. LOCHBAUM: For example, Mr. Collins during the
8 early presentation talked about the annual meeting or what
9 conceptually that might anticipate. In our view, that
10 should be talking briefly about plant performance or what
11 the NRC's assessment is. We agree that that's a backward
12 looking thing. There should be no new surprises in that
13 because it's all based on available information. But we
14 think that should be complemented by looking forward at what
15 the NRC is going to do the upcoming year to address any
16 weaknesses that have been identified.

17 We think the purpose of that meeting is twofold.
18 One, to ensure that the public and all stakeholders know
19 what the NRC's current assessment of a plant is, but also to
20 identify what the NRC is going to correct any deficiencies
21 or weaknesses. If you have a series of these things every
22 year, or however periodic it is, if you keep identifying the
23 same problem over and over again, that reflects on the
24 regulatory staff effectiveness as well as the licensee's
25 effectiveness. It captures both.

1 We think too much effort is focused on grading the
2 plants and not responding to what those grades tell you or
3 what needs to be done to improve the low grading plants.
4 That's just an example. We seem to see this in many cases.

5 COMMISSIONER DIAZ: Have you done any work in
6 trying to define or bound what unsafe means? Is that a
7 category of radioactive releases? What are the things that
8 you would work with?

9 MR. LOCHBAUM: I think the closest attempt that
10 I've made to addressing that question is the presentation
11 that I made at the NS meeting in Nashville this past summer.

12 What I advocated there was when a plant event or a
13 condition is found at a plant, the licensee should evaluate
14 the as-found condition, whether it's a single event or an
15 aggregate of many different problems, and look at that event
16 with all postulated design basis events, LOCA, loss of
17 offsite power, et cetera, and see whether the 10 CFR 100
18 limits would have been exceeded. Starting from that point,
19 would the public have been jeopardized had the events
20 occurred from that degraded point? If not, then that event
21 poses relatively little safety risk. It needs to be
22 corrected, but it's not a safety issue per se because the
23 public would have been protected even if the accident had
24 started from that point.

25 Occasionally you find that the 10 CFR 100 limit

1 might have been violated had the event occurred from that
2 degraded point. That to me is a potentially unsafe
3 condition, and that is where everybody should be focusing
4 their attention. Not the other ones, but the ones where the
5 public might have been harmed. And also plant workers under
6 GDC-20. I think applying that standard to identification of
7 as-found conditions is the way to distinguish between safe
8 and unsafe.

9 COMMISSIONER DIAZ: You say potentially unsafe.
10 So there is a potentially unsafe and there is an unsafe.

11 MR. LOCHBAUM: I agree, but the public needs to be
12 protected even if the accident occurs. So it is potentially
13 unsafe, but I'm not sure in my mind that that's more than
14 just semantics or just a technical term, because had the
15 accident occurred at that moment, then the line would have
16 been crossed; the public would not have been protected, and
17 that can't happen.

18 COMMISSIONER DIAZ: There is a difference.

19 MR. LOCHBAUM: There is a difference, right.

20 COMMISSIONER McGAFFIGAN: What do you think the
21 prospects are for the success of this enterprise in terms of
22 defining performance indicators? My recollection is that
23 you put out a report annually that uses a performance
24 indicator that is heavily focused on who identifies
25 problems. My recollection is you gave Oyster Creek high

1 marks and other folks lower marks, and whatever. That is
2 your favorite indicator. Or it's an indicator. Have you
3 tried to insert that indicator into this process? Does it
4 fit in any way? Do you think we are missing things in this
5 NEI/NRC assessment process that is evolving?

6 MR. LOCHBAUM: We looked at performance
7 indicators. When we provided the October 2nd comments on
8 the IRAP that were submitted, we didn't include my favorite
9 indicator for the reasons that it didn't seem to be better
10 than the indicators that NEI was proposing. I can't develop
11 NEI's indicators independently, so I didn't have access to
12 that information. Had I had that, I probably wouldn't have
13 used the indicator I used.

14 I think the long-winded answer to your question is
15 I think NEI indicators are better than what I was using, and
16 I would prefer to continue using those. With them being
17 public, I shouldn't have any problem doing that.

18 COMMISSIONER McGAFFIGAN: Okay.

19 CHAIRMAN JACKSON: If this process closes that gap
20 in terms of what the staff is going to do based on what it
21 finds, or what the NRC is going to do based on what it
22 finds, would that address the major part of your criticism?

23 MR. LOCHBAUM: I think so. One of the things that
24 intrigues us about the NEI process is the trending. When
25 you start getting into the white area, that's when the

1 regulator should get involved. The licensee will already be
2 trying to turn it around, but that's when the regulator
3 should provide whatever inducements are necessary to ensure
4 that it happens.

5 I am also encouraged by the fact that it doesn't
6 look like there is going to be a roll-up of however many
7 indicators there are into one global indicator of good or
8 bad. I don't think that would have been entirely fruitful.
9 So it's good that it looks like it's not going to happen.

10 I think the answer to the question is yes, that
11 concept seems to be the right way to address our concerns or
12 criticism.

13 CHAIRMAN JACKSON: Do you believe that the
14 performance indicators and the risk-informed baseline
15 inspection program will cover the waterfront?

16 MR. LOCHBAUM: No. I think there will continue to
17 be surprises. I don't think any process will ever eliminate
18 surprises, but I think we need to reduce the number of
19 surprises we have. It looks like these initiatives will go
20 a long way toward reducing the number of surprises, and I
21 think that's positive from that standpoint.

22 CHAIRMAN JACKSON: If I can paraphrase you -- you
23 can agree or disagree -- you're basically saying that the
24 missing element is what the regulator is going to do based
25 on what the regulator finds.

1 MR. LOCHBAUM: That's right.

2 CHAIRMAN JACKSON: And that somehow the work still
3 hasn't, to your satisfaction, delineated safe from unsafe.

4 MR. LOCHBAUM: I'm still worried about the
5 threshold about when the plants get shut down. Mr. Beedle
6 pointed out that backward looking, some of the data showed
7 that the watch list plants, some of the indicators moved
8 into the white zone. It didn't look like any of them moved
9 into the red zone, which would have necessitated a plant
10 shutdown. Some of those watch list plants were shut down.
11 Was that a right decision or a wrong decision?

12 I need to go back and look at that. I haven't
13 done that, so I don't know the answer to whether this
14 process would solve that.

15 The one thing I was concerned about in the staff's
16 presentation was about if you are operating in the green
17 zone and a violation comes up, do you not overlook that, but
18 do you give the licensee credit for that? We are kind of
19 against that. We think that process could lead to more
20 surprises because you tend to dismiss early indicators of
21 problems until it becomes so bad that several indicators go
22 into the white or things get so bad that you get the
23 regulatory bag brought out. We are kind of concerned about
24 that. We think all sanctions should be equal, depending on
25 the offense, no matter zone you are in at the time.

1 CHAIRMAN JACKSON: Do you have a comment?

2 MR. BEEDLE: We've talked a lot about what is the
3 regulatory response. I would remind you that we still have
4 tech specs and rules and regulations to follow. This
5 assessment process does not set any of those conditional
6 requirements aside.

7 The question, I guess, is really how significant
8 is the violation. I think we are headed toward a process
9 that would help us understand that, and that would then
10 determine what sort of reaction the regulator would take in
11 response to the violation. I think that's really what the
12 whole point in this assessment process is all about.

13 CHAIRMAN JACKSON: Are you operating from the
14 perspective that the assessment process in the end should
15 never lead to specific regulatory action?

16 MR. BEEDLE: No. I'm saying that the assessment
17 process would help the regulator understand how to treat the
18 violation.

19 CHAIRMAN JACKSON: No, no, no. Let's leave aside
20 violations. I'm talking about general performance.

21 MR. BEEDLE: I think the general performance would
22 be dictated by the performance indicators.

23 COMMISSIONER McGAFFIGAN: Do either of you have
24 any concerns about the process whereby we are going to try
25 to integrate these objective performance indicators with

1 inspection findings in the areas where the performance
2 indicators are not going to provide useful information, and
3 then any other inspection findings that we come across? Do
4 you have any suggestions as to how to make that process more
5 scrutable or transparent?

6 MR. BEEDLE: I think there are a number of areas
7 where these performance indicators are not going to tell you
8 about the compliance of the facility to the rules and
9 regulations, and I think those inspections and part of the
10 core inspections and baseline inspections that they
11 discussed earlier. I think when you find problems as a
12 result of those inspections to supplement the performance
13 indicators, again the test of significance is whether or not
14 they have created problems from a safety point of view.

15 CHAIRMAN JACKSON: Right, but if it's risk
16 informed in the first place, presumably one is looking at
17 the --

18 MR. BEEDLE: It would help you determine where
19 your inspection effort would be devoted.

20 MR. LOCHBAUM: I would agree certain inspections
21 have to continue because they are not covered under
22 performance indicators, like human performance and training.
23 They have to have a fitness for duty that falls in that
24 category as well.

25 I also think this whole process, I don't know

1 whether it's allocated equally among assessment, inspection,
2 and enforcement, but collectively there is a greater
3 emphasis on corrective action programs of licensees. I
4 think that greater emphasis will do more to ensuring there
5 are no more surprises than anything else. The key
6 difference between good and bad performance is the adequacy
7 of their corrective action process. Everything I've heard
8 from all three components is to ensure that that is a good
9 corrective action process.

10 CHAIRMAN JACKSON: Commissioner Diaz wanted to
11 make a comment.

12 COMMISSIONER DIAZ: I just want to make a comment.
13 Without preempting the Chairman, I really want to express
14 how good I feel about what is going on. I think that the
15 staff has made a very valiant and a very intellectual effort
16 to get out of the box and think ahead and provide us with a
17 risk-informed framework that will serve this country better.
18 I want to thank also the industry and the stakeholders, and
19 Mr. Lochbaum. This has been a fast and furious, but it has
20 been a very good process. I am very encouraged by the
21 results and I look forward to see you all soon again to
22 finalize it. Thank you.

23 CHAIRMAN JACKSON: Thank you.

24 Let me just say on behalf of the Commission, I do
25 commend the staff, NEI, all the stakeholders, for working

1 together in developing improvements to the plant assessment
2 and oversight process. I would urge that if it is true that
3 others are provided with a fait accompli that there be more
4 real opportunity for participation and influence on the
5 process, because in the end there are many stakeholders, and
6 we have to ensure that the public or the public surrogates
7 have an opportunity to be involved.

8 As the staff itself has pointed out, although we
9 have made significant progress, and I am commending you for
10 that, much work remains to be done. The decision
11 thresholds, for instance, for increasing regulatory
12 attention and regulatory action have to be well conceived;
13 they need to be benchmarked against historical experiences
14 and as easily implementable as possible. So I would urge
15 the staff to stay focused, and all the stakeholders to stay
16 focused on those principles.

17 I would like to thank two of our stakeholders, Mr.
18 Beedle from NEI and Mr. Lochbaum from UCS, for your
19 comments. I appreciate the thoughtfulness that you put into
20 them. They will be very helpful as we go forward.

21 Unless there are further comments, we are
22 adjourned.

23 [Whereupon, at 5:00 p.m., the briefing was
24 concluded.]

25

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 REACTOR OVERSIGHT PROCESS
IMPROVEMENTS
PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Monday, November 2, 1998

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: _____

Reporter: Mike Paulus _____



Industry Remarks at Commission Briefing on Plant Assessment Process

November 2, 1998



OVERALL INDUSTRY VIEW

- Four-day assessment workshop was well run and was successful in reaching consensus on revised assessment process.
- Staff efforts to date appear consistent with workshop principles.
- Industry is encouraged that staff is heading towards a more objective and safety-focused oversight process.





INDUSTRY DATA ANALYSES

- Three-year trend curves being plotted for each plant for all proposed indicators.
- Histograms displaying worst value for each plant being plotted for each indicator.
- PRA sensitivity studies being run for Scrams and mitigation system indicators.
 - 2 times CDF
 - delta CDF of 1E-5



INSIGHTS TO DATE FROM DATA ANALYSES

- Set of indicators provide an overall perspective of safety performance.
- Barrier integrity indicators show strong performance for almost all plants.
- Initiating events and mitigation indicators exhibit the most detectable variation.
- Unplanned plant transient indicator appears most "leading".
- Indicators do not reveal design control problems.



INSIGHTS TO DATE FROM DATA ANALYSIS

- Indicators do distinguish levels of safety performance:
 - Excellent performing plants have indicators high in the green band.
 - Average performing plants have indicators in the green band with an occasional dip into the white band on one indicator.
 - Declining trends show up in multiple indicators.
 - Recent watch list plants had several indicators in the white zone.

NEI

Plant A

	<u>CDF</u>	<u>Scrams</u>	<u>EDG</u> <u>Unavail.</u>	<u>HPCI</u> <u>Unavail.</u>
Base CDF	1.47 E-5	4	0.61%	1.81%
Delta CDF = 1E-5	2.47 E-5	10	29.9%	14.5%
2 X CDF	2.94 E-5	14	40.3%	18.1%

Plant B

	<u>CDF</u>	<u>Scrams</u>	<u>EDG</u> <u>Unavail.</u>	<u>AFW</u> <u>Unavail.</u>
Base CDF	4.60 E-5	3	1.86%	0.59%
Delta CDF = 1E-5	5.6 E-5	10	11.2%	18.3%
2 X CDF	9.2 E-5	34	48.4%	80.2%

NEI



SCHEDULE FOR PROVIDING DATA RESULTS TO NRC STAFF

- Trend curves and histograms will be provided 11/4/98.
 - Data available from 2/3 of plants
- PRA sensitivity results will be provided 11/12/98 for representative set of plants.
 - Approximately 25% of plants

NEI



REACTOR OVERSIGHT PROCESS IMPROVEMENTS: INSPECTION, ASSESSMENT, & ENFORCEMENT

NOVEMBER 2, 1998

**FRANK P. GILLESPIE - NRR
PATRICK W. BARANOWSKY - AEOD
JOHN H. FLACK - RES
BRUCE S. MALLET - REGION II
MICHAEL R. JOHNSON - NRR
JAMES LIEBERMAN - OE**

BRIEFING OUTLINE

- **Background**
- **Status**
- **Next steps**

BACKGROUND

- **Integrated Review of the NRC Assessment Processes for Operating Commercial Nuclear Reactors (IRAP)**
- **Nuclear Energy Institute (NEI) white paper**
- **Challenges**
 - **preserve core values (safety, Principles of Good Regulation)**
 - **improve objectivity, scrutability, and predictability**
 - **retain the ability to provide strong focus on licensees with significant performance problems**
 - **single recommendation**

APPROACH

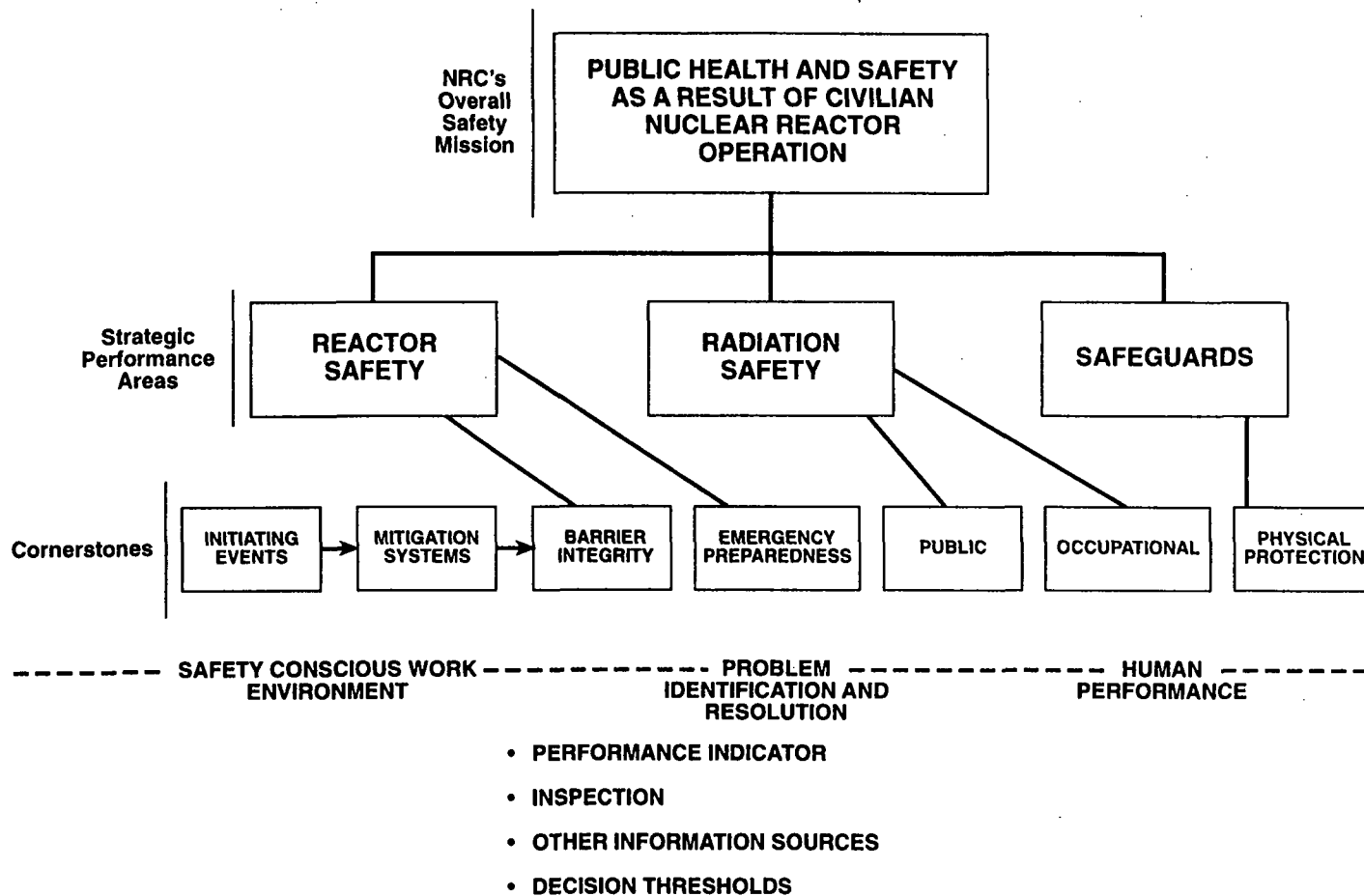
- **Develop framework**
- **Identify and address key issues**
- **Develop oversight processes**
- **Maintain link to changes in ongoing programs (SALP, PPR, SMM, enforcement, inspection, resident policy, etc.)**

STAKEHOLDER INVOLVEMENT

- **60-day public comment period on IRAP (public, States, public interest groups, licensees, NEI)**
- **Public meetings with NEI with opportunities for all stakeholders to participate**
- **Meetings with ACRS**
- **Internal meetings (headquarters and regional personnel)**
- **4-day workshop (public, States, foreign governments, public interest groups, licensees, industry, NEI, U.S. Senate rep., GAO, other government agencies, OIG, NRC)**

WORKSHOP ACCOMPLISHMENTS

- **Consensus on framework and objectives**
- **Alignment on defining principles**
 - **2 significant issues remain: integration of data, nature of program: voluntary**
 - **these issues will be discussed later in the presentation**
- **Progress on process development**
 - **performance indicators**
 - **inspection areas**
 - **how to select thresholds**



DEFINING PRINCIPLES

- **There will be a risk-informed baseline inspection program that establishes the minimum regulatory interaction for all licensees**
- **Thresholds can be set for licensee safety performance, below which increased NRC interaction (including enforcement) would be warranted**
- **Performance indicators (PIs) (supplemented with some inspection) will form the rebuttable presumption for licensee assessment**
- **The risk-informed baseline inspection program will cover those risk-significant attributes of licensee performance not adequately covered by PIs**
- **The risk-informed baseline inspection program will also verify the adequacy of the PIs and provide for event response**
- **If risk-significant inspection findings and other information sources indicate that the PI results do not accurately portray licensee safety performance, the findings and information may be used to develop a compelling case to overturn the indicator results**

DEFINING PRINCIPLES (continued)

- **Enforcement actions taken (e.g., number of cited violations, amount of civil penalties) should not be an input into the assessment process. However, the issue itself that resulted in the enforcement action will continue to be an input.**
- **Assessment process results might be used to modulate enforcement actions.**

SIGNIFICANT ISSUES

- **Integration of Pls and inspection results**
 - **No clear consensus on how (but, consensus that Pls and inspection results should not be artificially merged/integrated)**
 - **Current PPR and SMM processes could perform this function, but objectivity and scrutability would continue to present a challenge**
- **Voluntary reporting program is preferable to rulemaking**
 - **Implementation issues (mechanism, frequency)**
 - **Policy issues**

REGULATORY OVERSIGHT

- **Inspection**
- **Assessment**
- **Enforcement**

LONGER TERM

- **Inspection documentation**
- **Threshold for inspection findings and minor violations**
- **Allegations**
- **Output to enforcement**
- **Reporting**

SHORT TERM PROJECT STRUCTURE

- **Project Activities**

- **Technical Framework:** Pat Baranowsky, AEOD
- **Inspection:** Bruce Mallett, Region II
- **Assessment (process framework):**
Mike Johnson, NRR
- **Enforcement:** Jim Lieberman, OE

- **Integration**

- **Representatives from regions, NRR, OE, RES, and AEOD are participating**

TECHNICAL FRAMEWORK GROUP

- **Group leader: Pat Baranowsky**
- **Team composition**
- **Charter/deliverables**

TECHNICAL FRAMEWORK GROUP - CHARTER

- **Cornerstones**
- **Performance Indicators**
- **Inspection Bases**
- **Thresholds**
- **Enforcement Philosophy**

KEY ISSUES RELATED TO RISK-INFORMED OVERSIGHT PROCESS

- **Generic versus plant specific**
- **Consideration of risk in inspection and decision making**
 - **metrics**
 - **criteria**
- **Treatment of items not modeled in PRA**
- **Inspection frequency and performance indicator updating**

FORMULATION OF A RISK-INFORMED OVERSIGHT PROCESS

- **Identify and prioritize sources of risk and link to cornerstones**
 - **generic PWR and BWR insights**
 - **plant specific insights**
- **Identify attributes associated with risk insights**
- **Link performance indicators and inspection activities to risk**
- **Preliminary work completed**

INSPECTION GROUP

- **Group leader: Bruce Mallett**
- **Team composition**
- **Charter/deliverables**

INSPECTION GROUP - CHARTER

- **Scope of risk-informed baseline program**
- **Basis for inspection linked to NRC mission and risk**
- **Address stakeholder issues**
- **Process attributes**
 - **Depth/frequency/resources**
 - **Generic/site-specific**
 - **Input to assessment/enforcement**
- **Benchmark against other government agency inspection programs**

ASSESSMENT (PROCESS FRAMEWORK) GROUP

- **Group leader: Mike Johnson**
- **Charter/deliverables**
- **Team composition**

ASSESSMENT (PROCESS FRAMEWORK) GROUP - CHARTER

- **Integration methodology**
- **Action**
- **Communication**
- **Follow-up/resolution**
- **Tie to inspection**
- **Tie to enforcement**

ENFORCEMENT ISSUES

- **Enforcement philosophy**
- **Other enforcement issues**