Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards
Plant Operations Subcommittee

Docket Number: (not applicable)

Location: King of Prussia, Pennsylvania

Date: Wednesday, July 26, 2006

Work Order No.: NRC-1166 Pages 1-331

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NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS)

PLANT OPERATIONS SUBCOMMITTEE

REGION I BRIEFING

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WEDNESDAY,

JULY 26, 2006

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The meeting was convened in the Conference Room, 475 Allendale Road, King of Prussia, Pennsylvania, at 8:30 a.m., John D. Sieber, Subcommittee Chairman, presiding.

MEMBERS PRESENT:

GRAHAM B. WALLIS	ACRS Chairman
WILLIAM J. SHACK	Vice-Chairman
DR. SAM ARMIJO	ACRS Member
OTTO MAYNARD	ACRS Member

NRR REPRESENTATIVES PRESENT:

PAUL HARVEY	UK NUCLEAR INSTALLATIONS INSPECTORATE
IAN TAIT	UK NUCLEAR INSTALLATIONS INSPECTORATE

NRC STAFF PRESENT:

SAMUEL COLLINS	R1 REGIONAL ADMINISTRATOR
MARC DAPAS	DEPUTY REGIONAL ADMINISTRATOR
RICHARD BARKLEY	R1-ORA
GEORGE PANGBUM	R1-DNMS
BRIAN HOLIAN	R1-DRP
MARSHA GAMBERONIR1	-DRS
JAMES TRAPP	R1-DRP
MICHAEL MODES	
ART BURRITT	
ALAN BLAMEY	
DAVID LEW	R1-DRP
LARRY SCHOLL	[via telephone]
MARJORIE McLAUGHLIN	R1-ORA
RAM S. BHATIA	R1
SHANI LEWIS	R1
STEVE SHAFFER	R1
SEAN MANZANO	R1
EUGENE HUANG	R1
ROSS MOORE	R1
CHERIE J. SIMS	R1
STEVE PINDALE	R1/DRS
CAREY BICKETT	R1-LIMERICK
MICHELLE SNELL	R1
JEFF KULP	R1

NRC STAFF PRESENT: (cont.)

THOMAS SICOLA	R1
RONALD BELLAMY	R1
DAVID SKEEN	R1
JIM TRAPP	R1
BRIAN HOLIAN	R1
WILLIAM COOK	R1-DRS
CHRIS CAHILL	R1-DRS
JOYCE TOMLINSON	R1
RAY McKINLEY	R1
DONALD JACKSON	R1-DRS-EB1
NICOLE SIELLER	R1 DRP Branch 5
KARL FARRAR	R1-ORA
BRIAN DELLONI	R1-ORA
L.T. DOERFLEIN	R1 DRS
PAUL KROHN	R1-DRP
A. RANDOLPH BLOUGH	R1-DRS
CHRIS O'ROURKE	R1/DRM/HR
JUDITH ROYAL	RI/DRM/HR
LOUIS MANNING	RI/DRM/IRB
KARL DIEDERICH	RI/DRS/EB1
RICH HANATI	PADEP/BRP

ALSO PRESENT:

MICHAEL CULLINGFORD	DONRR

C-O-N-T-E-N-T-S

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

8:32 a.m.

SUBCOMMITTEE CHAIR SIEBER: The meeting will now come to order. This meeting is a meeting of the Advisory Committee on Reactor Safeguards and the Subcommittee on Plant Operations. Again, my name is Jack Sieber. I'm Chairman of the Subcommittee on Plant Operations. Subcommittee members in attendance are Graham Wallis, Bill Shack, Sam Armijo and Otto Maynard. The purpose of the meeting today is to discuss regional inspection, enforcement and operational activities. The Subcommittee will hold discussions with representatives of the NRC staff regarding these matters.

The Subcommittee will gather information, analyze relevant issues and facts and formulate proposed positions and actions as appropriate for deliberation by the full Committee. Michael Junge is the designated Federal Official for this meeting. The rules for participation in today's meeting have been announced as part of the notice of this meeting previously published in the Federal Register on June 21st, 2006. A transcript of the meeting is being kept and will be made available as stated in the Federal Register notice.

It is requested that speakers first identify themselves and speak with sufficient clarity and volume so that they can be readily heard. I might mention, if we have speakers from the audience, in order to get it on the transcript, they will have to come up to the table close to one of these microphones that look like this so that their voice will be heard by the transcriber. We appreciate the Region's efforts in hosting this meeting with the ACRS.

Each year we go to a different region and accompany that visit to the region with a visit to a licensee's power plant. And, frankly, we consider the activities in the region as an important part of the agency's federal mission. And, in fact, this is, so to speak, where the rubber hits the road and the insights that we gain from talking to inspectors and region-based personnel and also licensees are important in rounding out our knowledge and understanding of the industry as a whole and where the agency should be interacting and can be more effective.

And so we really appreciate coming to the region, Region 1 today. I've been coming here for almost 40 years off and on, not here but different buildings in King of Prussia and so it's sort of like

old home for me. And so we look forward to today's meeting and I know that it will be very helpful to us.

I'd like to introduce Sam Collins, the Regional Administrator for Region 1, who will lead us through today's presentations. Sam?

MR. COLLINS: Yes, thank you, and welcome to Region 1. Seeing how you're on the road, a few administrative items for you, if I may. Gina Matakas, Gina, if you would stand, please, Gina is your contact for administrative and support areas. Barbara is familiar with how to reach Gina and we have the facilities for phone, fax and other continuing business, if needed. Also, I'd like to acknowledge that there will be many members of the staff who will speak here today. They will be speaking from the table. We'll provide for those specific introductions when it's appropriate.

We have guests today from the UK. We have two senior staff members from the UK Inspector, NII and from HSE, that's the Health and Safety Executive portion of the UK Government and the Nuclear Installation Inspector. We also have state representatives here from the State of New Jersey and Pennsylvania. Pennsylvania we have Rich Janarti and Jerry Humphries. Some you may recall Rich Janarti, he

was part of the incident investigation team for the Two-Mile Island intrusion event, and Rich participated in a presentation to the ACRS following that event.

We do have a public protocol and we'll let the subcommittee acknowledge anyone who would like to speak and the protocol is in that regard. And I'd like to acknowledge the role of Don Jackson and Dante Johnson in setting up the presentations and also Jim Trapp and Carey Bickett for the site trip to Limerick tomorrow which I think will be very interesting for you.

To get into the presentation, my part of the presentation, if I was to define success for that would be a general overview of the region with some specific points in the theme of interest which is what are our challenges, how do we do our business and what are those areas of consideration for the future. We understand ACRS' role and the subcommittee's role. I've seen it from the NRR side, from the presentation of the Three-Mile Island IIT, from the Deputy EDO and I know the contribution that the ACRS and the subcommittees make and I understand the process by which you review the specifics of a presentation and then provide guidance to the Commission and we value any insights that you have as a result of this

meeting, either formally or informally during the course of today or the site visit.

I'm into the slide package now. The first slide is the Region 1 data with the number and types of licensees. We have a unique region here. It's unique because of the geography, the types of plants and the history of the industry in Region 1. The data in front of you is a rack-up of the number of sites. We have reactors in 11 states, or we have 11 states in Region 1, excuse me, and we have eight states with reactors. There are three states without; that's Maine, Delaware and Rhode Island.

Our other business is in the materials area. The materials area is a large workload and product line for us. We have 2400 materials licensees. We encompass essentially two regions geographically in that area. That includes 21 states, Puerto Rico, District of Columbia, Virgin Island and we have 14 agreement state programs and three pending in one manner or another in the agreement state filing or approval process and we have independent fuel storage installations in six states and that number is growing with additional PETs and additional facilities being licensed.

Decommissioning is a product line for the

Region. Perhaps one of the more successful decommissionings and I would define success as scheduled but I would by accomplishing the goal and working with the states would be Maine Yankee. And George Pangburn's organization and many of the individuals who are here have been involved in the decommissioning of Maine Yankee and that covered all facets. We took that plant from construction, through operation, through an independent safety assessment, into a plant shut-down and into a decision to decommission the plant and then ultimately through the decommissioning process working with the state on applicable decommissioning guidelines with a lot of intervention by stakeholders.

So that's kind of a microcosm of the birth to grave process in a more contemporary sense and maybe the best example that's out there at this time.

SUBCOMMITTEE CHAIR SIEBER: Is that site available for unrestricted use yet?

MR. COLLINS: It is with the exception of the isthmusi facility itself.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. COLLINS: The licensee has released the majority of that state to the state in the terms of park property or donated the property to the local

community and it's being -- part of it is being developed for an industrial site and the other part is being held in a trust for public purpose.

CHAIR WALLIS: What happened to the spent fuel?

MR. COLLINS: The spent fuel is onsite in a stand-alone ISFSI arrangement at this time.

CHAIR WALLIS: And it's going to stay there forever.

MR. COLLINS: I have to look at my job description in the region before I answer that question. The real concern there, Dr. Wallis, is whether other fuel will be sent to that site. That has notoriety now because of some of the actions that are going through Congress and there is a sensitivity to that being designated as one of the facilities, particularly if DoE were to take it over to ship fuel. No decisions in that, of course, but that is in the media and it is -- our Office of Public Affairs is responding to questions in that regard. We also have complex material sites at our Division of Nuclear Materials deal with day to day.

VICE CHAIR SHACK: I'm curious, Sam, is there any exemption or anything required to get all the fuel out of the pool into the ISFSI? I mean,

there's normally a time limit, are there waivers for that or everything just sort of went normal?

MR. COLLINS: I want my DRS experts to answer that. Randy? Ron, do they need an exemption to move the fuel from the spent fuel pool to the ISFSI or was --

AUDIENCE MEMBER: No, sir they do not and I think maybe the real answer to your question is, once they determine that they need to shut down, they have 60 years by regulations to complete that decommissioning, maybe 60 years is the --

SUBCOMMITTEE CHAIR SIEBER: Yeah, 60 years is the final but I was just worried about getting into the ISFSI.

MR. COLLINS: My understanding is -- Steve?

MR. SCHAFFER: The original cast design --

SUBCOMMITTEE CHAIR SIEBER: You need to come close to a microphone somewhere.

MR. SCHAFFER: With the original cast design, the fuel had to be out of the pour for two years before it can be put in the cast but the basic decommissioning was such that you never challenged the two years.

MR. COLLINS: Okay, thanks, Steve.

SUBCOMMITTEE CHAIR SIEBER: That was Steven Schaffer speaking.

MR. COLLINS: Steve is the resident at Seabrook, former materials inspector. Okay, thank you.

I'm onto the Region 1 organization slide 3 now and I'm going to move through these fairly quickly. They are more for familiarization and for you to get a general feel for the functions of the organizations. I would want you to know that in fiscal year `06 our staffing ceiling here in the region is approximately 240 people. To put that into perspective, there's 28 offices in the NRC and we are the third largest office in the NRC in staffing size.

We are the largest region. Region 2 has 220, Region 3 has 205 and Region is approximately 190. And we come and go between five to eight FTE per year depending upon the product lines that we have and next year our budget is down about five FTE but that's in a preliminary sense. That might change as a result of functions being relayed to the region.

SUBCOMMITTEE CHAIR SIEBER: Have you been able to fill the FTEs so that you have --

MR. COLLINS: We have. In a later slide

we talked a little bit about staffing but I'll talk to it now if I can. We have been very successful and many of the individuals are in this room. If I could ask those who have been hired in the last two years to stand up. Those are in the development program, NSPDP, summer coop. So we have been very successful in attracting not only individuals out of school and through an intern or a coop or summer hire program or targeted opportunity with out champions for each school but also individuals who have a broad experience in the industry because of the dynamics of either work hours or individual decisions, want to make the NRC a part of their career at some point in their broader career and we're blessed with a very talented and diverse organization and I see that as the future of the region, quite frankly.

Succession planning is a challenge for the region, just like it is in the other parts of the agency. We have many of us here who in the next five to 10 years will be either moving to another position or hiring from the agency and we need to bring people up through the organization fairly quickly to provide for knowledge transfer and knowledge management.

SUBCOMMITTEE CHAIR SIEBER: I don't want to interrupt or disturb, perhaps, a future

presentation but when there is turnover in an organization, you end up with productivity issues related to training that has to go on. For example, you can't hire a resident inspector and put them right on the job. It takes a certain amount of time --

MR. COLLINS: Yes.

SUBCOMMITTEE CHAIR SIEBER: -- in order to get that individual up to speed and knowledgeable about the policies and practices of the agency and your policies and practices. So as a rough percentage, how would you characterize the number of people that you have in the training mode versus the number of people that you have in the fully active mode, just a rough --

MR. COLLINS: If I can give you a little bit of context, I may ask the Division Directors to address that. Our entry level hiring that we track over a three-year average is 33 percent of the new hires that we bring in are entry level hires.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. COLLINS: So those we would say are individuals, very talented because they're specifically targeted. However, they would be in the situation that you would acknowledge, having perhaps some coop or some summer hire experience, but needing

to go through a two-year or so development program, either as part of the NSPDP or as part of the more traditional sense. Let me ask the Division Directors. Randy, do you have a feel in the Division of Reactor Safety approximately how many people are in the qualification program?

MR. BLOUGH: This is Randy Blough, Division of Reactor Safety. The percentage of personnel in the training process has varied over the years from anywhere from about 10 percent up as high as 25 percent and in calendar years 2002 and 2003, we were in one of those phases where a lot of folks had been promoted to headquarters and we actually implemented some coping strategies to get the inspection program done. Right now we're more in about the 15-percent range, 15 percent of our staff are in some sort of training.

MR. COLLINS: Thank you. So I guess for clarification, the 33 percent is of all hires, 33 percent is new hires, and then Randy's 15 percent is of the total staff. Different basis.

In the Office of the Regional Administrator on the slide that overviews that, we have four programs; Allegations, Enforcement, Communications and State Liaison. We have a Senior

Technical Communications staff who is Rich Barkley. We have two State Liaison Officers. We went from one to two. Bob Bores, Dr. Bores recently retired. We have on state liaison who is targeted towards interface with emergency preparedness. That's FEMA and reactor states, and one who is targeted towards outreach and communication with the states and our other federal partners. That's to acknowledge the enhanced or enhanced need and the increased workload in those areas at a regional level.

Communications is a challenge for us in this region. We'll talk about that in a moment. That's partly due to the demographics of the region, the location, New England, very vocal, very demonstrative state government styles and a history of plants in the region, some of that dealing with performance that warrants increased stakeholder involvement.

The next organization is the Resource Management functional responsibilities and what I would want to acknowledge there is we're going to focus on the technical discussion here today; however, like all organizations, we depend on our infrastructure to be successful. And the Division of Resource Management hold the keys to that

infrastructure. There is a list of activities that they perform that runs from administrative support to human resources to IT, to budget formulation, budget implementation. They do the travel. We do a lot of travel here in the Region. That's one of our primary functions in the Region. That's why we're out here.

Coordinating training and development, and all of the technology that goes along with being a successful organization, including implementing the concepts from OAS and CIO. FOIA requests, Freedom of Information requests is a workload for us. We get a number of those. They're coordinated up in our office by Carl Farrar, our regional counsel. The program is managed down in Division Resource Management and there's a lot of FOIAs that come in that are fairly hefty requests for information. It's part of our outreach. It's a necessary part of the function and it does take time.

Of course, we'll a fee recovery agency so fee billing is very important for us and the accuracy of how we spent our time, people and money in providing for information and analysis of the management in corporate arena. We are leading the agency in a pilot organization in the Division of Resource Management for regional activities and we're

coordinating that with the Program Offices and headquarters with the CIO/CFO/Admin in order to provide for in-depth analysis and structure within our corporate arena and providing the tools for the technical divisions to know where the time is being spent, where the money is being spent and are we doing it in a way that provides us the best leverage for achieving our safety mission.

The next slide goes over the material safety functional responsibilities. I covered a few of those. We're talking a large number of licensees here, 2400 materials licensees. I can say that I used to be of the mind, before I became real familiar with materials when I went to Region 4, that reactor was where the risk is, but really what I think is that reactor has low probability and high consequence, materials has high probability, low consequence, but having said that, people are hurt in the materials area. We do have deaths in this area, we do have injuries in this area. We do have misadministrations. We do have industrial accidents, and Mark comes to us from Region 3, having been a Division Director on Nuclear Materials, very familiar. I used to be familiar with the program. George is getting me up to speed here but it is a very important part of our life

here in the region.

And the materials events, we pay a lot of attention to those because they have a direct nexus with the public and/or the licensee and the authorized user.

SUBCOMMITTEE CHAIR SIEBER: Let me ask a question about that. Could you tell me roughly the percentage difference between medical misadministrations and other by-product events in radiography or what have you that have consequences that are significant?

MR. COLLINS: We looked at -- we just did a review, right?

MR. DAPAS: Right, I'm trying to remember. I think it was on the order of like seven medical events in 2005 if I recall correctly.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. DAPAS: And we do look to see -- trend that and we work with the Program Office to make sure that we have an understanding, is there any increase in the number and the program office may decide that there's some generic communication that is appropriate. And then as part of the annual agency action review meeting, which is associated with the reactor and material performance, there is a paper

that's provided to the Commission that talks about any trends and that's where you're looking at the nuclear material events data base which there is quarterly report and where you review that and other operating experience to identify are there any outliers, number of lost sources, number of stolen sources, number of medical events, which would include over-exposures, et cetera. So we do evaluate that as an agency.

MR. COLLINS: None of those resulted in health effects.

MR. DAPAS: Right.

MR. COLLINS: On the industrial side, again in `05, we did have a fairly significant event at Baxter and Baxter is a facility in Puerto Rico. It's a large irradiator and --

SUBCOMMITTEE CHAIR SIEBER: Right, I read about that.

MR. COLLINS: Right, and those issues at Baxter are not unique to the medical or industrial side of the house as far as nuclear materials licensees are concerned, because they dealt with command and control. They dealt with overriding interlocks. They dealt with individuals having the right devices with them. They dealt with familiarization with procedures and they dealt with a

sense of judgment of getting the job done quickly because of production pressures as opposed to taking more time and thoughtful approach.

SUBCOMMITTEE CHAIR SIEBER: You're right.

MR. COLLINS: We had exposures, fairly significant exposures here but no latent health effects. We recently have had a number -- and that number is less than five, but a number of exposures in radiography; one due to training where any individual actually picked up -- they thought they were in a training situation but they had an actual device and they picked up the source and looked at it and set it back down and the exposure calculations there were fairly significant but the actual experienced exposures were not that readily apparent.

But again, that's in training and that facility chose to give up their license and shut down.

SUBCOMMITTEE CHAIR SIEBER: I presume that most of these incidents in the medical and other by-product industrial uses are licensee identified.

MR. COLLINS: Yes, I would say yes, but I would say, of course, we're dealing with agreement states here, so licensees would identify the issue to the agreement state and to the NRC. Typically, without being too overarching but typically when we

look at the event, there's more to it than what's originally reported. But most of them are reported. Now, we do have -- we do have inspector findings in the medical area and in the industrial area where we go and perform a program review and find out that something went wrong that they didn't realize and they didn't report.

We had the potential for lost sources at Green Belt NASA that took place this year would be one for example. And we've gone to some medical applications. Typically the --

MR. DAPAS: I think patient intervention.

MR. COLLINS: -- patient intervention, yeah, thank you.

MR. DAPAS: Where the setting was.

MR. COLLINS: Right, where as a result of administration but patient intervention ends up to be an exposure to an individual that the licensee may or may not realize until after the fact.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. DAPAS: And just to add to that, we work with the Program Office. Sometimes we end up sending a request asking the Program Office, Office of Nuclear Materials, Safety and Safeguards, to evaluate the medical criteria and did this particular event

meet the threshold because you do, sometimes, get into interpretation issues; to what degree was there patient intervention, et cetera. So we do that to insure consistency in our application.

SUBCOMMITTEE CHAIR SIEBER: Thank you.

MEMBER ARMIJO: Of the 2400 licensees what's a rough breakdown, medical, industrial or other major categories? And you don't have to be precise; is it half medical?

MR. COLLINS: We'll try to get you that number. I'm not sure I have that in my head.

MEMBER MAYNARD: About how frequently do you look at the programs? 2400 it looks like it would be difficult to look at their programs or do any type of inspection very frequently.

MR. DAPAS: I can answer that. Marc, the Deputy Regional Administrator, but there are different priorities for inspections and that's based on the risk significance of the sources. For example, an irradiator licensee would be -- frequency is once a year. You have the manufacturers and distributors. You have radiographers and then, of course, the medical licensees and you have different categories and it will either be a one-year, a two-year, a three-year, five-year or even seven-year frequency and

that's the risk informed inspection program in determining the periodicity of inspection.

MR. COLLINS: On top of that, we have the agreement state programs which we look at through the MPEP program and we don't inspect the licensees in that case but we do inspect the state's programs for licensing and inspection to insure that there is compatibility between the NRC rules and regulations and the state rules and regulations, which means they have to at least be equal. Some states are more conservative. So we look at the backlog of rules and regulations and we also look at their inspection program and the results of their inspection programs.

MEMBER MAYNARD: Thank you.

MR. COLLINS: In the Division of Reactor Projects, there will be a presentation today for that. The Division of Reactor Projects, essentially, is our operations coordination organization. They facilitate the implementation of the reactor oversight process, coordinate that on a site by site basis as well as the assessment. So the reactor oversight process is really two tools; it's inspection and assessment. The inspection is done by the Division of Reactor Safety and the Division of Reactor Projects. Those inputs go to the Division of Reactor Projects and they

oversee and manage the assessment cycles which is a mid-cycle, an end-up cycle, preparation for the agency, action review meeting, of course, that moves up to the Commission presentation and the annual review of the reactor oversight process as well as a look at the licensees to see if the reactor oversight process is providing all the tools that are necessary for us to be effective as regulators.

The old equivalent of that was the watch list, remember. Now we have a column 1, 2, 3, 4, facilities. Licensee public meetings are a big part of our product line here, interface with the stakeholders. Staff comes and goes. We conduct many public meetings that we lead or participate in. Some of those are product line. Some of those are outreach. Some of those are with the states, some of those are with the licensees, some of those are with communities, some of those are topic specific, or licensee performance specific. It's a large part of our business line here.

And there is an increased state emphasis, as you know, through the Strategic Plan on openness. Our openness is a result of what we publish through our process and how we communicate an understanding of our roles and responsibilities and what actions we

take with our licensees. I know you're particularly interested in the resident program. That's a very specific program to the regions. I want you to know also that that is, of course, supplemented by our Division of Reactor Safety in the reactor world. Those are the discipline experts who supplement the residents on site to provide for focused review of areas within a reactor oversight process and the residents, like Steve and the senior residents who are at the sites have the overarching knowledge of the sites, Otto, I know you're very familiar with this --

MEMBER MAYNARD: Yes.

MR. COLLINS: -- at the sites, of course, but the Division -- and the Division of Reactor Safety performs a valuable function not only of providing for the discipline expert but by being familiar with more than one site. So when they come to the site and they look at a fire protection program or an engineering program or an operator licensing program, they're also testing what the resident knows or what the senior resident knows and is the plant really performing at a level that's a best in class or a best in fleet or -- because you hear from a licensee, you know, "We're best of fleet", or, "We're an IMPO 1". The traveling discipline experts get a very good view of, "Well,

they have a good program but if you look at Wolf Creek", because it's not in Region 1, "if you look at Wolf Creek, their program is much more progressive and efficient", and the resident maybe only sees one program, and this individual sees a number of them, so that's very valuable for us.

SUBCOMMITTEE CHAIR SIEBER: I notice in reading through inspection reports and this has been going on for quite a long time, you use residents from one plant to do -- to assist in team inspections in other plants and I think that is valuable from the licensee's standpoint and it's also valuable from the agency standpoint in that inspectors and particularly resident inspectors, if they don't get to other plants, they become sort of parochial in the plant where they're --

MR. COLLINS: Yeah, which is normal. It's not a criticism. I understand, it's just normal because you're ingrained in that process day-by-day.

SUBCOMMITTEE CHAIR SIEBER: Well, I just wanted to say, I think it's a good practice and the more you do it, I think the better off you are.

MR. COLLINS: Okay, thanks for that. A comment in that regard would be within the role of the ACRS and the Subcommittee, in Region 1 we receive of

late numerous requests for an independent safety assessment. And of course, that was done at Maine Yankee a number of years ago before we had the reactor oversight process and before we had some of the tools we have now, but it was called for -- hi, George, George Pangbum, the Director of Material.

MR. PANGBUM: Good morning. How are you this morning?

MR. COLLINS: From Maine Yankee in conjunction with the power operate, there's a call for Oyster Creek in conjunction with license renewal, Indian Point. There's actually a legal bill working its way through Congress right now that's being proposed for an ISA at Indian Point, and as you may know, there was a bill that was approved requiring the NRC to mandate backup batteries for the siren system at Indian Point. I'm not a fan of regulation by legislation. I have to say that right up front.

Having said that, there may be a role for the Subcommittee or the ACRS in looking at this ISA issue and you know, do the inspections that we do here both in the ROP but particularly in the engineering area, which right now is component design basis inspection which is the outgrowth of the latest series of engineering focus inspections, and the responses

from the Commissioners, particularly the Chairman, which stresses that we are an independent agency, do they fill the need? Do they fill the need for insuring that we are performing a rigorous engineering evaluation over the period of time? You can't just look at one series of inspections, you have to look at all of them. And does the NRC in the way that we fashion our teams, provide enough expertise and independence to negate the need for an ISA?

The Commission has spoken to this because they have responded to a number of letters in this area but it might be an insight that you would gain from your presentations that you receive from the Program Offices as well as your visits to the regions.

SUBCOMMITTEE CHAIR SIEBER: Well, we're familiar with the issue because of our hearings on the Maine Yankee and others that have -- it seems to have caught on as a way to scrutinize various applications that licensees would submit.

MR. COLLINS: Right. I think it's important for us, too, that we have representatives here from New Jersey and Pennsylvania. I think it's important for us to include the states in these initiatives which we do routinely.

SUBCOMMITTEE CHAIR SIEBER: I do, too.

MR. COLLINS: They're a very important stakeholder, plus they're a very important voice in the line between the federal NRC independent responsibilities and the local state responsibilities, so it's very important that they understand. Bill Sherman for one, it's very important that they understand what we're doing and why we're doing it and either observe it and hopefully in some cases have ownership.

CHAIR WALLIS: In the case of interaction with the state that we've had, it's very useful, very helpful. The difficulty was with the public whose idea of independent safety assessment sort of means independent of everybody, some group that has not connection with NRC or any other group and it's very difficult to find.

MR. COLLINS: Yes, understand.

SUBCOMMITTEE CHAIR SIEBER: Well, it's difficult to find qualified people that are unbiased. On the other hand, I'm familiar with state inspectors in Pennsylvania and Illinois and other places and in general, I feel very good about their competence and their ability to manage their programs. So I think it's legitimate and important to include state agencies as part of this process.

MR. DAPAS: Thanks for that.

MR. COLLINS: I'm going to take a short break from this to answer a question now on the division of license numbers between industrial and medical.

MR. PANGBUM: Okay, I mean, nationwide, again, I'm George Pangbum, Director of the Materials Program here. Nationwide, there are about 21,000 materials licensees. The agreement states have the vast majority of those with about 17,000. NRC has 4500 and those are administered by this office, Region 3 and Region 4. This office is the largest materials program in the country with about 2400 licensees. Medical licensees typically make up about a third of the licensees, whether it's an agreement state or NRC jurisdiction. So for here we have about 800 medical licensees.

Industrial licensees, in terms of -- run the gambit between radiographers, which are a fairly small number but it's a high risk operation because they use intense sources and obviously, intended to penetrate steel and determine the appropriateness of welds. Most of our industrial licensees are people who use portable and fixed gauges, whether it's for determining the thickness of asphalt in a parking lot

or soil testing of other types, and we probably have about 500 of those.

We also have a number of different types of research and development licensees all the way from large radiopharmaceutical firms to smaller operations that provide support to industrial users. I don't know if that gets to the heart of your question or --

MEMBER ARMIJO: Yeah, sort of, just a rough breakdown of what the major categories were.

MR. PANGBUM: Yeah, and I mean, there are even -- when you get to medical, two of the programs go very broadly from broad scope licensees, such as University of Pennsylvania or University of Pittsburgh that are broad scope programs, have a number of users, go all the way from high risk therapies for treatment of cancer, down to basic nuclear medicine tests, all the way down to small private practice clinics with one user that probably just do basic testing of individual for health screening purposes.

MR. COLLINS: Thank you, George.

MR. PANGBUM: Okay.

MR. COLLINS: I'm going to move rapidly through the other organizations here, particularly focusing on the resident program, because I know that's of interest to you. We rotate the residents

every seven years and they do participate in inspections at other sites. They have primary backup sites. They also participate in team inspections. We rotate people to other regions. We rotate people to headquarters, both for functional and developmental purposes.

SUBCOMMITTEE CHAIR SIEBER: Are you able to keep the seven-year rotation schedule or when the seven years is up say, "Well, I can't make a move right now, we'll get it next year"?

MR. COLLINS: It's a very formalized process. You need an exemption not to do it. An exemption typically comes from Bill Kane and the EDO. Brian, have we had any exemptions here in the past three years from the seven-year rotation?

MR. HOLIAN: No, Brian Holian, Division of Reactor Projects. No, no exemptions for the seven years. We have an individual coming in -- a seven-year resident coming in this month from up at Nine Mile, so, no, no exemptions for that.

SUBCOMMITTEE CHAIR SIEBER: Thank you.

MR. COLLINS: We typically start planning at five years if we go that long. Now everyone goes that long. There is a minimum period we like to have because of the investment with the relocation and the

training; however, when people typically and I've been through this, Marc has been through this, many of us here, when you get towards the end of the time frame, you start to plan and that typically will formulate within two years of the end, you know where you're going to go, you know what your options are.

MEMBER MAYNARD: Sam, you may want to defer this to later if you've got a presentation on it, but I'm interested in how you -- the leadership team here gets out and actually makes some independent judgments on how well their staffs are doing out there, the inspectors, because they are your eyes and ears. How do you know that you're getting a consistent level of feedback?

MR. COLLINS: Right, and I think Brian -- we have a structured program of site visits. They're mandated for length and frequency and for purpose and that's at the Branch Chief level or Division Director level and Region Administrator level. And then we have feedback forms that are specifically targeted towards licensee individuals, particularly at the Vice President level now, where we go in and request feedback. It goes into the process with a feedback form. We get a copy, the Program Office gets a copy. We rack those up at the end of the year for insights.

Brian can elaborate more on that if you'd like.

I talked about the Division of Reactor Safety with their independence. I would like to acknowledge that one of their functions also is operator licensing. And when you look at the Part 55 responsibilities for the operators and control rooms, that's a primary safety focus for us to insure those individuals have the tools that they need to be successful in judging the tools that are provided and supported by the licensee to insure that the individuals are trained and alert and knowledgeable.

Our most valuable aspect of understanding that, I was talking to our UK counterparts here, is really the review of events. When you go in and look at an event and you look at the way the control room responded to that event, how they used procedures, how they declared the emergency, and how the plant performed, you get a pretty good insight into that facility. So we have a very specific, fairly elaborate judgment process, Management Objective 8.3, of how we respond to events on a greater level based on the risk and safety significance of that event. Those are opportunities for us.

I'm a little over time. I'm going to finish up here in five minutes. The Region 1 overview

and challenges is important. If you were to turn to page 5, where we talk about the historical perspective, some of the older or oldest facilities still operating are in Region 1 and Yankee-Rowe was undergoing decommissioning at this time and those of you who may have been familiar with the ball, it's all gone. We're into the ISFSI stage. They re now in the final site reclamation.

NE.1 is partially decommissioned. It's still onsite with the other two units. That site if or notoriety now because of the groundwater leakage, the potential for the tanks there and the pools to be contributing to the groundwater contamination which is a fairly recent lessons learned for the Agency, about the extent of groundwater contamination, how do you know it's there if you don't test the water, if you don't have wells?

SUBCOMMITTEE CHAIR SIEBER: This basically shows up at tritium?

MR. COLLINS: Tritium is a primary component. We're getting some strontium.

SUBCOMMITTEE CHAIR SIEBER: Oh, really? How about cobalt?

MR. COLLINS: Cobalt, Randy, we had some false positives for cobalt, right?

MR. BLOUGH: Just, there's a well right near Unit 1 and Unit 2. It's just one well that's showing a little bit of cobalt, very low levels. The strontium is mostly thought to be Unit 1 related, although they haven't pinpointed the source. That's still a question. It's just a very small amount of strontium and this is oxide. Again, I'm Randy Blough, Reactor Safety.

MR. COLLINS: Thank you, Randy.

SUBCOMMITTEE CHAIR SIEBER: I imagine the older plants would show more cobalt in their stored liquids than more modern plants because there's --

MR. COLLINS: More wear products.

SUBCOMMITTEE CHAIR SIEBER: Yeah, more wear products and the industry has changed its use of things like Stellite.

MR. COLLINS: The tritium aspect is interesting because it's primarily related to either unmonitored, uncontrolled dilution streams which is one tact, or spent fuel pool release, typically liners that are unmonitored because it's unknown. It's in the evaporation numbers so to speak. And it doesn't necessarily comport with plant age. We have the Salem facility which is not new but it's one of the more recent facilities here which is, as New Jersey knows,

is mitigating a spent fuel pool leak now. They have remediation measures in place. So part of their challenge in this area is how do you know you have a leak if you don't have the wells and aren't doing the monitoring in those. So that's the challenge that's in front of us as an agency, to define those requirements.

NEI has an initiative now that's the next step for us in this area, but it's not necessarily a safety issue but it is a stakeholder communication issue particularly if it's offsite.

We have a large number of single units. We used to be the recipient of a number of what we would call mom and pop organizations with the anti-fleets and those types of organizations but there's a large consolidation now within the industry and when you look at the Dominions and the Constellations and the entities and the Exelons, there's a consolidation of the industry and you know, even amongst those players, they're starting to devour one another. You have P&L and Constellation and Exelon and Public Service, Hope Creek. So we're dealing with very large corporations with centralized functions, centralized support functions and then plant specific functions. That's a different way of doing business for us,

rather than each site have a stand-alone organization including engineering, oversight, QA, security, all of those. There's emergency preparedness facilities now. There's fleet initiatives. There's best of fleet, there's the Exelon way would be an example. That's -- you go to one site and the procedures are the same, the training is the same, the expectations are the same, the measurements and the benchmarks, the metrics are all measured against one another. So there's --

SUBCOMMITTEE CHAIR SIEBER: Well, this whole thing has been a long evolution. In the early days of the industry, there was a so-called headquarters staff with engineering and so forth, and a plant staff whose vision was to operate the plant and a consolidation of headquarter and plant functions took place in the 1980s to make sure that the headquarters function was married to the plant as opposed to doing the same thing. And so now I see organizations splitting apart again and it will be interesting. You know, whether it works or not is truly a function of the leadership involved. So I think we all have to just sit and watch and see how things work out.

MR. COLLINS: Right, if there's a sensitivity in that area, and I know Brian and Randy

will speak to it, it's how robust is the central organization and being able to provide for the expertise for the sites. There is a tendency and it's not -- normally it's understandable, but there's a tendency to move people to a site that's an extremist and take them from the best performers and then move people up through the organization. And when we look at some of the sites that have been managed that way, it's fairly clear that performance does improve at the targeted site. What's hard to measure is what's happened at the site where those individuals have left.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. COLLINS: And when does it get to a point where the performance trend at that site is of concern but the assessment task that we have through the oversight process.

SUBCOMMITTEE CHAIR SIEBER: You may have that situation going on at a number of sites here. I'm heartened that you recognize that that's a phenomenon that will occur and that you're looking out for it.

MEMBER MAYNARD: And typically, it's going to be two, three, four years before you may see the impact that may change that.

MR. COLLINS: That's right. There is momentum at the sites and particularly at a good performer that will move through. But you'll start to see indicators with a backlog of corrective actions for example, of repeat events, those types of things.

MEMBER MAYNARD: Well, I think the NRC needs to stay away from the -- kicking aside whether it's better to be a big organization, small organization or whatever and focus on the plant performance and the support that they're getting. So I --

MR. COLLINS: I agree. We have a number of former Wash List plants here and a lot of this is history but Pilgrim, Peach Bottom, Nine-Mile. Millstone was notoriety in early safety culture issues at Millstone. Salem 1 and 2 and of course, Maine Yankee. We've had a number of plants with extended shut-downs. Hadamack and Viewpoint 1, Beaver Valley, Pilgrim and others. So this region, some of us here, many of us here, are familiar with it, some of us lived through it, have seen the industry when it hasn't performed at the level that it has today.

And when you speak to knowledge transfer, what's normal is always the benchmark.

SUBCOMMITTEE CHAIR SIEBER: That's right,

uh-huh.

MR. COLLINS: I mean, when Randy and I and others here were out at the sites in the `80s, it wasn't unusual to have a couple plants trips a month.

SUBCOMMITTEE CHAIR SIEBER: That's right.

MR. COLLINS: And particularly before the maintenance rule with the secondary plant. And outages were long outages, right, two months, 10 times or so and that was normal. And of course, now it's very different. And we're seeing staffing reductions at some of the sites. There's always pressure on staffing at the sites, because Region 1 is a market driven utility based, not regulated by PUCs, states, so they're very conscious -- the bottom line, they're very conscious of the corporate ownership and stewardship and there is pressure to perform with benchmark levels of expertise and resources and we're conscious of that.

I talked about the ownership changes. This is just an overview of some of those. Of course, we're going now through the pending PSEG/Exelon merger. That's pending State of New Jersey approval. And there is talk, although it's on hold now, Florida Public Water, Power and Light taking over Constellation and there are still some sites out there

that are being looked at but nothing that's on the radar screen in front of us today.

Part of the challenge in coming into Region 1 is just the demographics of New England and when you have a Florida Power and Light who comes in and takes over Seabrook or Entergy who takes over Maine Yankee or a Vermont Yankee, you have this concept of you're from away, so since you're from away, you don't have stewardship of the area. You're just here to make money, particularly since you're a merchant plant and you may be selling electricity even outside the state.

CHAIR WALLIS: That's why the state gets more involved.

MR. COLLINS: Right, therefore, due diligence, what's the benefit to the state in you being here? And that's a tension between the industry and the states, where we get drawn into that because of our safety role.

CHAIR WALLIS: In Vermont the state is trying to insert itself into the licensing process.

MR. COLLINS: Well, we can talk about preemption and dual regulation at some point if you'd like. That's an issue that's coming up on our radar screen. We have a number of examples. Carl Farrar is

here with us right now, but we're engaged with the State of New York right now on a materials issue, on the reprocessing or reuse of materials that a state law preempts NRC and we're engaged directly with the state at that time, now. And we have a letter going to the Governor to encourage him not to sign that law.

On a different level, we have a number of facilities who are undergoing state review, typically environmental or discharge permit reviews and there are -- like any process, there are desires that work their way into those processes and they're leveraged towards other activities. Oyster Creek would be one, there's a request in the Coastal Act Mitigation Program for a security driven emergency procurement exercise and Vermont as a number of these. It used to be Acts but there's a law now to show economic benefit for the site before the state would approve license renewal for one entity. So there are number of those that are working their way through the process. They seem to be more of note recently than they have been in the past. The Commission has focused on this. As you know, the Commission has tasked OGC to understand these issues and bring them to the Commission's attention when they reach a certain threshold and the Commission wants to be more assertive in this area.

Our argument would be we want to avoid them, particularly before they get to the case where there's confusion over the safety role or safety mission in the risk of performing some of these activities. In a market driven environment, we have to remember there's a bottom line in the budget and if unanticipated line items come into that budget that mandate spending money in the NRC's realm of control, which is safety related, but mandate spending that money for a purpose other than is prioritized on a risk and safety reliability basis, that takes away from something else. It's very hard to measure it, but from my discussion with the executives, it can be notable, can be noticed in the way that they rearrange the budget away from some things to provide for those needs.

MEMBER MAYNARD: Actually, that does occur in two ways; actually one in the budget, the other just in management attention. Any time something new comes on, you're going to have attention focused on that as opposed to something else that might actually be more important to safety.

MR. COLLINS: Right, and we can be accused of that, too. I mean, that's why the ROP was provided, so that we can have a transparent,

predictable regulatory environment and we would want other regulatory environments to be that same way. Not that we're perfect, but that the goal would be the same and how you get there depends on the situation. Okay, thank you.

Next is public involvement. A lot of public involvement in the region. I talked about that earlier. We spend a lot of time at public meetings, a lot of time at outreach. Outreach is increasing through our state liaison and through Richard's initiatives. We've had government-to-government meetings with New York, with New Jersey. We're planning one for the Commonwealth of Massachusetts. We'll have one with Vermont after some of their more notable licensing issues are behind us. Those are focus meetings on a government-to-government basis to explain our programs, explain our roles and our responsibilities and to be sure that there's compatibility and understanding. They can be contentious but generally, they're overall positive.

We do have some very tough public meetings in the area of New York. There have been some in Vermont, you may be familiar with those. Massachusetts, a little less so, but still of note, and Oyster Creek is of note, too, going through their

licensing process. Emergency preparedness always seems to be a focus issue and age of the facilities of this regions seems to be a focus issue.

We have congressional interest, particularly around Oyster Creek, some at Salem/Hope Creek, clearly at Vermont Yankee and at Millstone. We have Attorney Generals who are elected separately from Governors and we have Boards of Selection and Nuclear Advisory Panels and it's pretty much a localized government in a way and many of those situations are leveraged at certain times of year depending on election cycles and budget cycles and our program cycles. There always seems to be opportunities in those areas.

Staffing dynamics, we talked a little bit about this before. This proximity to headquarters in the aggregate is a good thing. We're able to bring people back and forth from headquarters particularly on rotations. We have a number of senior executive service candidate development program, individuals working with us now. We have two in that development program who come up and work with us as part of their development program for a number of months, and that enhances not only their development program but it helps us with a different view and expertise typically

at the Deputy Division Director level.

If you look across the agency, you can see a number of Region 1 staff who occupy senior positions. Some of those are there. I would add Laurie Zimmerman to that list, for example. So we do have a lot of movement between headquarters and the region. If you were to look at that list, it's interesting, I'm asking this question frequently, "Aren't you folks just a group of retired Navy nukes"? And I think in the `80s the answer to that might be, "Well, probably", but today, no. Today, no, it's a very different organization, even at the commission level. There was a time when a number of admirals and others with Navy nuclear experience were in those positions but the agency is different now. We have a number of individuals who are coming up through the organization who are a diverse group and our hiring practices now where we're bringing people in from the industry, many of them, two examples here, many of them with site experience, with SRO licenses, STA experience.

There will be a time when, as individuals move up through the agency, where it won't be uncommon for the executives senior positions for individuals to be formally licensed by the NRC or to have direct site

experience over a number of years.

SUBCOMMITTEE CHAIR SIEBER: And I think that's a good thing.

MR. COLLINS: I think it's a good thing, too. I mean, our challenge, you mentioned earlier, is to train individuals who are highly experienced or have high potential to be good regulators. They're very talented in the technical area or industry experience area. Our challenge is how to transform individuals into good regulators and we can do that. It takes time but that's the focus.

SUBCOMMITTEE CHAIR SIEBER: I guess before you leave this slide, and you can correct my vision if it's incorrect, but sort of see headquarters having an upcoming demand for people because of new reactor placements and so forth and I picture also sees the regions as sort of the farm system and to me that's a concern. And I hope that that's not happening but one could set up a system where that would be the method of operation. Could you comment? Do you see that that's a potential?

MR. COLLINS: Marc, do you want to speak to that?

MR. DAPAS: Yeah, I would. Actually, that is something --

MR. COLLINS: Somebody who just came from the Region 3 area.

MR. DAPAS: Yes.

SUBCOMMITTEE CHAIR SIEBER: I would say you're for that, right?

MR. DAPAS: Actually, I do think the cross-pollination is beneficial to both organizations but obviously, as headquarters staffs up for new reactor licensing there are going to be promotional opportunities. There are going to be -- certainly going to be interests for the staff in applying for those. I think we have a rather aggressive recruitment program. We do look at succession planning. We have a human capital management plan that we focus on and we do have retreats where we discuss succession planning, staffing.

The Division Directors right now are working on the staffing plan for fiscal year `07. We look at things like historical attrition and those type of what I'll call external planning assumptions, what do we expect to be the attrition as NRR staffs up to support new reactor licensing, that is something that we do need to look at, but I think the agency as a whole benefits. Obviously, when we have folks that have experience in the regions and they're able to go

to headquarters and support the programs there, that brings field experience to headquarters which can be very beneficial.

SUBCOMMITTEE CHAIR SIEBER: That's a good thing. That's a good thing.

MR. COLLINS: Yeah, my view is that there's three groups and the individuals who come in through the coop and the Nuclear Safety Professional Development Program are very open to different experiences. We send them down to headquarters for rotations. We send them to different regions for rotations. They're a very fairly mobile group. The SES, our obligation is to really go where you're appointed. The attention is in -- and it's understandable, is in the individuals who are senior staff, who have experience in the region or in headquarters who have family, who have people in school. In today's day and age, it's not uncommon for the spouse to have a professional career also. They have a residence that needs to be dealt with and the cost or relocation, particularly if you're going to headquarters or to some of the specific regions, can be daunting.

SUBCOMMITTEE CHAIR SIEBER: Yes.

MR. COLLINS: And the disruption. You

have to balance that against the career gain and we have limitations in those areas. I think we try to be as generous as we can in the relocation benefits but the emotional aspect of providing for all of those family needs in the center group provides for some barriers that people have to work through individually.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. COLLINS: So I think our HR organization is aware of that. We're trying to use different types of tools but we don't have all the tools that the industry has. So --

SUBCOMMITTEE CHAIR SIEBER: On the other hand, I think you have many of the tools, the industry has. There are certain barriers to mobility and I would think that use of the internet and so forth, can streamline your operation and the communication much better.

MR. COLLINS: Yes, and an outgrowth of that and we have Judy Wherle and Chris O'Rourke here from out HR staff. An outgrowth of that is the alternate workplace concept, you need the expertise, you need the function, you need the individual's background. Is it necessary for that person to be relocate in order to do that job.

SUBCOMMITTEE CHAIR SIEBER: That's right.

MR. COLLINS: And it's a little harder on the region to facilitate some of that with the type of work we do but we are endeavoring to do it in the materials area. We're doing it on a limited basis. We're looking right now at providing for some alternate work sources for headquarters, hiring people here, having them work on headquarters programs. And we do have work at home programs here on a case-by-case, on a project basis. That's an alternative to individual relocation. In the region, it's hard to do and keep conductivity with some of the job functions that we have.

MR. DAPAS: Just one thing, if I could add, Sam and I have an opportunity to meet any potential employees from outside the organization that come to the regional office that have expressed interest in a particular vacancy and I often ask, "Well, what is it that particularly interests you in the NRC", and I often get the response, "Well, I noted that you're the third best organization in the government to work for", and that certainly peaks their interest and they've -- they are very interested in the professionalism that we have. And so that has been a real recruiting tool here as a result of that

survey.

SUBCOMMITTEE CHAIR SIEBER: Okay, thank you.

MR. COLLINS: These are the current issues. I won't dwell on any of these specifically. We do have two reactor site deviations in place; one at Salem/Hope Creek for the safety conscious work environment cross-cutting issue and the other at Indian Point to follow up on the groundwater contamination and the emergency preparedness RN upgrade. Both of those programs are and were outside of the ROP focus when these issues came to light.

Of course safety conscious work environment now is a new aspect of the reactor oversight process and we'll be testing that at mid-cycle coming up next month to insure that we're aligned with the ROP and if we need to move forward, then we would go to the ROP and the outgoing cycles in that case.

I talked a little bit about knowledge management. We're going to talk some more about that. One administrative issue we have is the office relocation. We've been in this building for a number of years. It serves us well. We like the location; however, we would like to have better infrastructure,

more up to date process programs, IT is an example of that. And we need more space for the future. So we're going through an office relocation process now, working with GSA and with our headquarters organization. Our goal would be to be in another building in late `07, early `08, but we might have some hurdles to do that because of the process that we're following and we're working through those at this time.

CHAIR WALLIS: I'm presuming that's not a big move, that's not several hundred miles away. It's right here.

MR. COLLINS: No. Thanks for the question. We know the committee made up of the staff and through the input of the staff, they want to stay in this general location. So we have restricted the bidding process to a specific area that's bounded by some major road arteries within this essential corporate complex that's bordered by 202 and the turnpike.

Lastly, we look forward to any insights. I think we had a lot of discussion here. Thank you for that. I have to apologize for the agenda, Rich. Perhaps we've answered some of the questions here from the other presentations, but we do look forward to the

exchange. Thank you for engaging us. We wanted this to be an interactive session here.

CHAIR WALLIS: Speaking about item 2, we'll be here all day.

(Laughter)

SUBCOMMITTEE CHAIR SIEBER: The only thing that's firm is the starting time.

MR. COLLINS: I know you guys work weekends and everything to meet the agenda, so we appreciate that dedication. Rich, at this time, do you want to go through the next topic?

MR. BARKLEY: Yes.

MR. COLLINS: Okay.

SUBCOMMITTEE CHAIR SIEBER: Thank you very much, well done.

MR. COLLINS: Yeah, I've enjoyed my time in front of the ACRS. I know we had the -- while Brian is setting up here, I think one of the more exciting times in my early career was making the presentation on Three-Mile Island IIT. And Rich was there. We used graphics for that. Some of you may recall, we recreated the individual's entry into the site and that was a lot of fun, but it was one of the first time that graphics were used in a presentation and at that time, unlike today, of course, ACRS we

infamous for interactions with the staff.

It was not always a congenial relationship. I know it is now, but it wasn't back then. But I thought that was a really good opportunity early in my career to understand the broader aspects of what the ACRS does and go through that process to be able to really challenge the product that we had.

MEMBER MAYNARD: I'm not sure congenial is the right -- I think it's important to have a professional exchange and interaction but the ACRS and the staff shouldn't necessarily be congenial and be just working together any more than what the ACRS and the licensee should be working together. They provide an independent role and look at everything.

MR. COLLINS: Sure, right.

MEMBER MAYNARD: I do think it's important to have professional communications as opposed to pouncing on or whatever.

MR. COLLINS: Mayhem. Well, the independence is important so the constructive criticisms and the professional approach is certainly where we need to be. For the staff to be successful, the accountability of the ACRS has to be demonstrated. We rely on ACRS to overview and provide guidance to

the Commission and without that, with our stakeholders and amongst ourselves, we really can't point to how the checks and balances work within the agency.

SUBCOMMITTEE CHAIR SIEBER: Thank you.

MR. HOLIAN: Good morning, right onto the next presentation. I do remind the speakers to maybe speak from up here, Rich, if we can go that way for the other audience members. It's a little difficult for our staff to hear back there. My name is Brian Holian, Director of Division of Reactor Projects. I have been in Region 1 about seven years. I've been on both the Division of Reactor Safety side and now the Division of Reactor Projects side. Prior to that I was at headquarters for a good nine years in the Reactor Projects Organization and then spent three years on commissioned to Germany, the German Staff back at that time.

Prior to that I was six years at Calvin Cliffs, in the engineering and operations organization following Mike Jung into the SRO/STA program there so did Mike Stondely also down at Calgary Tech. Was first sent to Calgary Tech, left and went to the NRC, the third best place, maybe the second best place at that time to work. And Calgary didn't write a letter when we left, so I don't understand that. We weren't

the essential people.

Real quickly, that's my background. We'll be giving this quick presentation here, just on external stakeholder involvement. Sam hit a few of the topics on there, so we'll go through it quickly. That's my background. Rich Barkley has been a key person and Tracy Walker before him, on our staff. You might know Tracy's name as a technical communications coordinator for the region. And it's something we've been forced to do really within the last five, six years in particular but Rich is going to start this off. Give them your background.

MR. BARKLEY: Yes, I have actually 22 years in Region 1. I was a resident at several of the sites in Seabrook and spent a long time in the DRP organization dealing in supporting the resident inspectors, much of that time dealing with controversial reactors in DRP. And what I wanted to give you a quick overview here is just a little bit of the history of the external environment in Region 1, give you a perspective of the environment in which we're working here and give you the idea that this is a very unique region relative to the other four in the sense that the tremendous amount of time and effort that we spend dealing with external stakeholders.

Some of the history again, goes back all the way to the late `60s and early `70s. Some of these projects are very well know around the industry, Seabrook and Shorum, obviously Shorum a protracted period of time during construction and then the EPA issues that eventually led to a state deal to shut the facility down and decommission it. We have a unique emotional event and technical event in this region having the TMI accident in this region and the subsequent clean-up of that project as well as then the prolonged period in which time Unit 1 was down and then eventually restarted in late 1985.

Following the TMI accident when emergency preparedness was expanded, we had a number of sites that had particularly difficult emergency preparedness issues, Indian Point in the `82/'83 time frame and Brian can talk a little bit about the recent problems with emergency preparedness. But that was a very difficult time, threatened to shut down the plant but it didn't eventually culminate in that. The Seabrook project which delayed the start-up of that facility for almost 33 months due to unwillingness on the part of the Massachusetts communities to participate in emergency preparedness and obviously, Shorum which eventually was reclassed behind the shut-down that

terminated, I believe that was late 1988.

Since that period of time, outside the EPA area, we've had continued interest in a number of the sites. We give you a list up there. A number of facilities have had localized issues. So for instance, Vermont Yankee will be relatively quiet for several years. Then an issue would come up such as the extended power operate which prompts a lot of interest in that particular site. That seems to be quieting down quite a bit now since the plant has finished the power escalation, the process has been approved, although they're still interested in that location.

And then a number of the other projects, again, that promote a considerable amount of interest and so because of that, senior management and the staff spent a considerable amount of time responding to the inquiries from the public and from members of the press and Congress.

Obviously, a watershed event in this reason was the 9/11 attacks. They were all in this region. That prompted very, very serious concerns on the parts of the States of Pennsylvania, New Jersey and New York, prompted the deployment of the National Guard and State Police at sites -- at those locations. The National Guard still remain at the sites in New

Jersey and New York five years after the fact. Because of that, again, there's been enormous numbers of inquiries regarding that. There are many, many calls post-9/11 for greatly expanded security provisions. They want a site hardening, they wanted airspace exclusions. They wanted a whole range of security upgrades which make these plants essentially defend them against targets of war. And so there are -- obviously, there are provisions in the regulations that nuclear stations need not deal with an enemy of the state, but as to where the dividing line is between their security provisions and the national defense provision is not a hard and fast line.

So we spent a lot of time doing briefings of a range of outside individuals on security subjects. It's quieted down a good bit from 9/11 but in the several years afterwards it was a very serious time.

SUBCOMMITTEE CHAIR SIEBER: I take it that those plants in Region 1 do not have FAA airspace restrictions.

MR. BARKLEY: There's a NOTAM that the FAA has out that urges pilots to stay out of the area, the immediate area of a nuclear station but there is no hardened airspace exclusion there.

MR. HOLIAN: But it continued to be called for by -- especially in the Union Point area. You might have seen news clippings in the last several weeks about the Westchester County Airport that's proposing to redirect traffic in a direction over the Union Point Plant that's raising elected officials' interest in that.

SUBCOMMITTEE CHAIR SIEBER: Well, there are some sites where that's virtually impossible where you have ISL beams right over the plant.

MR. BLOUGH: This is Randy Blough. The NOTAM applies only to general aviation. You get small aircraft that there's no airspace restriction like fo the airlines and larger --

MR. COLLINS: This is Sam Collins. Otto, you know, about the NOTAMs right? You still have your private pilot's license. This issue is predominant at Indian Point and we've coordinated with FAA and as FAA tells us, the disruption on the national flight plans for commercial flights if there were to be restrictions over the nuclear power plants, would severely hinder the effectiveness of the commercial industry as well as increase the risk of airline flight. And so that judgment has been made, although, as Brian says, we continue to be pressed on why that's

the case, particularly at sites that are near airports where you have ascent and descent possibilities.

MR. BARKLEY: Brian was going to cover the next slide.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. HOLIAN: The first item and I've got a few handouts for you, I'll just cover -- a couple of visuals for you. Around Indian Point, Richard had mentioned, this is just the EPZ around Indian Point. This is a population map, color coded for the high population zones, going from lower population in green and up to higher populations in the pink and oranges. You'll be at Limerick tomorrow. The EPZ for Limerick has almost as many people as the EPZ for Indian Point. New York City, of course, being down here, the Tappan See Bridge is outside of the EPZ. Most of the population is in the Northern Westchester. There's four counties around the Indian Point plant here in the middle. Westchester and Rockland, Orange and Putnam and you know, you mentioned the 9/11 attacks. It was soon after that the flights out of Boston and the north, actually, as you know, navigated right down the Hudson River to the World Trade Center and when that became known to the population up here it was a significant emotional event for them. They had

questions right away, what if they had chosen this instead of the World Trade Center.

The EPZ up here, you know, on this side you do have a lot of state land over here, so it's not too bad in the Northern Rockland County. So obviously, in Northern Westchester, very congested roads, two-lane, four-lane. Senator Clinton's home is out down the eastern side of the EPC right out here about 12 miles out and the Commission itself has taken an interest in driving these roads. Commissioner Jaczko has been up there, Chairman Diaz went up there in particular and have talked to the public about their knowledge of particular concerns with not only this EPZ but other high population zone EPZs. I just wanted to show that.

One other handout I'd pass around. You can keep these or trash these. These I just printed off the website this morning from Riverkeeper who is one of our stakeholders. These are just pages on their public website but it continues to draw interest. One of the major stakeholders around the Indian Point area, I'll just put them out there. They're all on different subjects but if you look at the left-hand column there you'll see a map that they keep of the EPC on their website and what they have a

circle for is the 17.5 mile and they have the peak fatality zone on there. Now, where do they get that from? Unfortunately, they get that from an old NRC document. It was a Crack 2 report that you've probably seen referenced before in your readings and that from way back when research had some money to spend in maybe the `80s or `80 time frames and looked at a siting study.

That was out there after the 9/11 and this organization, I believe, Recordkeeper was one of the first ones to resurrect that document and use excerpts from that in a way that was not intended and so I just show that to you as an item of what continues to be on their web page and continues to come up in public meetings.

The other issue besides 9/11 itself, it's on your slide, was the James Lee Witt EP study that was done by the State of New York in 2003. And quoted still on the Riverkeeper website and it's on one of your sheets, that's going around, is the quote from that report that the current radiological release system and capabilities are not adequate to protect the people from an unacceptable dose of radiation in the event that it were released from Indian Point. So that's a powerful statement that came out in 2003 in

that report.

If you get through the report in general as you might have, it really was not centered on normal type events in a plant, but it was centered on the hypothetical what would happen if a plane came down on the plant and you had what they called a quick release, a quicker release than was ever envisioned from the plant and that continues to resonate to this day. The NRC has responded to that in several letters and other issues and -- but we continue to get it at public meetings up there.

You know, Indian Point back in June 2003, I think was the last time the ACRS was here, and I gave you a briefing on Indian Point in general. They're doing -- at that point, they were just coming out of a red find and they were the first red finding under the ROP that was from the 2000 steam generator tube failure that they had up there, a very poor contractor oversight that they could have prevented that in our view and that was the first red finding. So you had a -- that was the first really alert type issue to the populous around there at that plant. It had been pretty quiet until that time. So you had the 2000 event and then you had EP concerns following the September 11th event and continue to this day.

In general, the plants themselves have done pretty well, Indian Point 2 in particular. Sam mentioned the consolidation of the industry and Entergy taking over Indian Point 2 and Indian Point 3. I'll get to a slide in a minute that talks about consolidation. I wanted to include that in here. But Entergy, you know, they've had a rough time with the populous and the stakeholders here but in general, plant performance has improved. Both those plants are in green licensee response. We still receive differences between those plants Indian Point 2 performance lagging behind. A recent resident quarterly report exited with 12 findings at Indian Point 2 and one at Indian Point 3. There are some differences there even though the gate's been taken down or the fence between the plants and they're trying to work together. So it continues to be a plant, one, performance we're looking at and two, of course the stakeholder interest.

We do finally get a lot of congressional correspondence. Let's go onto the next slide. These stakeholder type of correspondence we get are numerous. They are very numerous at Indian Point but Salem/Hope Creek, Vermont Yankee also are very high. We continue to get the TMI. I was going to read a

couple quotes from some of the correspondence we get. You've got the words on the slide, but on BY, you've probably seen some of it there, a letter from John Kerry from one of his constituents. He repeats that, "For someone who's lived for 33 years near this Vermont Yankee Reactor `reasonable assurance,' in quotes, is not very comforting and in fact, it's completely unacceptable". We had to respond to that from Senator John Kerry.

On Indian Point, Senator Schumer, to his dismay, he was amazed at the belated announcement of hairline cracks in the spent fuel pool, wanted to know what the NRC is doing about that and we had many letters on that. A letter from all the representatives up there, Engel, Kelly and Lowey, "Should the worst happen we would expect every single site to be in working order. Instead the NRC seems to believe that a failure rate of 10 percent that might effect 20 percent of the population is acceptable. We disagree that it's not acceptable".

One of the country executives in Orange County on the western side of the plant, "Orange County is again, extremely displeased with the site performance. We will ask you to remedy this dangerous situation. And finally even on TMI, a little further

west from here, after 9/11 they wanted the implementation of a Phalanx Close-In Weapon System and just recently we had a letter on TMI from a stakeholder that notified us that he suing a director of FEMA, he's suing the governor of Pennsylvania and he's suing Sam Collins for what he called, "a coordinated failure to enforce and implement federal laws, regulation and guidelines for nursery schools and day centers".

MR. COLLINS: He's threatened to sue.

MR. HOLIAN: Threatened to sue. That's right, we haven't seen the actual document although OGC is still looking for it.

MR. COLLINS: At 1:20 in the morning.

MR. HOLIAN: So we do have at many plants, not just at Indian Point, I wanted to cover a few other plants here in the Northeast as Sam has mentioned. What this resulted in and Sam mentioned, we have done frequent meetings and outreach, not only from our resident staff that's a little bit of a burden on our resident staff where they have to respond to some of these letters, obviously, it's -- you know, they have to review some of the letters. We try to do a bulk of that from here, with Richard's help and other's help but the resident staff in the

Northeast through the ROP has a lot of stakeholder pieces put on them also.

And the tritium identification, I didn't bring the map in for that, maybe in the ROP discussion in the afternoon, we can bring in another good map just to show you that DRS has really been helping DRP out on leading the Indian Point well and tritium issues. In effect, we have a bi-weekly call with congressional stakeholders, that is it's helped calm the fears, so it's done very well, but every two weeks, they tie onto a bridge for a good hour, hour and a half and they get the update on the exact numbers, they know the wells, they know what we told them last time. They're tracking and trending the data just as we are, so in a real time effort, they want that type of information and kind of expect to have it now at this point for a plant like this.

Next slide, please.

MR. COLLINS: Brian, Sam Collins, the public meeting we had at Indian Point on the groundwater contamination after a special inspection team from Randy's organization, DRS, how many people were at that meeting?

MR. HOLIAN: There were 400 crammed into the second floor story of a restaurant about a mile

out of Indian Point, that's right.

MR. COLLINS: That's right.

MR. HOLIAN: We mentioned the correspondence being high. I'll also mention that the allegation workload is awfully high in the Northeast here. Dan Holody, the allegation coordinator is not here but I believe the numbers in our allegations equal the other three regions and --

MR. COLLINS: It's the highest amongst any office in the NRC, both allegations and the enforcement numbers we have.

MR. HOLIAN: We also have high profile OI investigations.

CHAIR WALLIS: The allegations, are they all from outside or are they from personnel who actually work at the plants? Where do that allegations come from?

MR. HOLIAN: We get a mix of both, predominantly the plant employees.

CHAIR WALLIS: Plant employees.

MR. HOLIAN: Plant employees that will come to us --

CHAIR WALLIS: Does it turn out that these are valid allegations, mostly or --

MR. HOLIAN: High percentages, over 90

percent are not substantiated but there are good issues. Several of them are. One of them, the high profile one I was just going to cover at Indian Point was an OI case. It was --

CHAIR WALLIS: Office of Investigations.

MR. HOLIAN: Yes, Office of Investigations, thank you. It just closed after three or four years and it was a public investigation. It was an individual who happened to show up on Good Morning America after he had already brought his concerns into us and so, you know, talk about high visibility, as you see the security guard that you've already initiated an investigation on espouses at a public forum about safety and security concerns at Indian Point and partial of those issues were substantiated. There were issues with weapons cleaning and weapons maintenance and that but the aspects of his ste protected were obviously not in that case. But high numbers in all those and I just wanted to highlight that one in particular.

Sam mentioned the independent safety assessments that have been called for. That continues to be an issue. You know, the ACRS was a body that was -- you know, I think filled a void in that for the power upgrade type aspect. As Sam mentioned, you

know, how good that is, but it filled it in one way. Vermont still calls for it though, because what they envision is an in-depth inspection of the plant in a way that would eventually shut down the plant like they believe happened when main occurred so we continue to get that call and particular at Indian Point and BY for any kind of safety assessment.

It's not unusual with this type of stakeholder involvement to be called down to the Hill. Sam goes routinely down to the Hill with commissioners. I had to brief our oversight committee staffers on the Indian Point independent safety assessment last year and, you know, the background of that, why we believe the 95-003 inspection and they'll be able to walk through the ROP is a significant inspection. It kind of takes the place of what the old independent safety assessment order could do. So those are some of the other aspects that we have with stakeholders. I didn't want to forget our congressional stakeholders here.

Next slide. I threw this into this presentation because we did brief you back in June 2003 when you were here about deregulation and licensee changes. Sam covered this in particular but I would just note that we have gone from 17

owner/operators to about eight and that might go to seven if PSEG Exelon come in. Another aspect of this is the cross-regional aspect now. We have -- as you see, there's several owners now spanned with one regional office and we hear about that. I mean, Sam will be going down like tomorrow or the next day to Dominion for an all Dominion fleet meeting where the Regional Administrators will meet. We hear about it at the Regulatory Information Conference, "Hey how are the regions treating us a little differently on inspection findings," and things like that. So we do that same benchmarking among our DRP Directors and DRS Division Directors also.

MR. COLLINS: It's actually -- this is Sam Collins. This is actually useful information for Entergy or Dominion or Exelon to look across the regions and to -- they're very good at benchmarking the sites and giving us feedback on whether we're handling issues consistently, whether it be the amount of inspections, the types of inspections, how many hours it takes, how the findings are handled, those types of things. It's good information for us. We have to judge it independently, of course, but it's a good source of information.

SUBCOMMITTEE CHAIR SIEBER: Should we

thank them for informing you that the regions need beefed up, right?

MR. DAPAS: That's right, it is a two-way street, just having attended the status of the fleet meeting with First Energy, there have been questions posed by members of the public, "Well, explain the difference in performance at Davis-Besse versus Beaver Valley." So the corporate entities also have to address the variances and inconsistencies as well.

MR. COLLINS: Yeah, we had sent our inspectors for example, Region 1, Beaver Valley to the FENOC sites in Region 3 to try to be sure that we're not handling things differently and that we understand FENOC's approach at each site. Because Beaver Valley's performance is very different than Davis-Besse and we wanted to be sure on the NRC end we weren't looking at them through a different prism than Region 3.

SUBCOMMITTEE CHAIR SIEBER: And what was your conclusion?

MR. COLLINS: Well, the conclusion as borne out by the recent CDBI, the Compliance Design Basis Inspection, is that Beaver Valley's programs are more robust and that's predominantly to the region's credit before I ever came here. Bob Miller and others

focused on Beaver Valley and worked with that licensee specifically for design basis reviews and upgrades to programs and procedures before Davis-Besse really occurred.

MR. HOLIAN: Yes, they did -- this is Brian Holian. They did some in-depth system health reviews back in the last `90s and got ahead of that following agency action really on 50.54F and all that. They submitted that for reviews and it seemed to have borne out.

SUBCOMMITTEE CHAIR SIEBER: And is FENOC aware that the agency has done this, because that should be to their advantage to know about that.

MR. DAPAS: They certainly would receive the CBDI reports and then they look at that. I think they do their own internal benchmarking and comparing inspections of the different facilities.

MR. COLLINS: They have moved people back and forth between the two sites.

SUBCOMMITTEE CHAIR SIEBER: Yeah, I wonder about that. Does that raise another site or -- as far as competency is concerned? Maybe you ought not comment.

MR. COLLINS: I think we've seen a little of both. The more common is when the right people go

to the site, plant performance improves.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. COLLINS: As Otto indicated it's a little -- and Dr. Shack, it's a little harder to acknowledge because it's less visible, the gradual decline of a site over time, because there is momentum and there is infrastructure and that has a tendency to decline.

SUBCOMMITTEE CHAIR SIEBER: Yeah, well, when that decline is occurring, you don't want to find out about it through some event. It's better to find out about it in the ordinary inspection process.

MR. DAPAS: Which is how the Reactor Oversight Process is structured.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. DAPAS: Hopefully, the indications of declining performance manifests themselves through the ROP inspection finding, et cetera.

MR. COLLINS: Randy, did you have a comment on this?

MR. BLOUGH: Randy Blough, DRS. Just a couple thoughts. One is that with FENOC we have had state of the fleet type meetings and our senior inspector from Beaver Valley toured another plant along with Region 1 management in conjunction with

those meetings and we have watched Beaver Valley closely for a number of years for any indications of the fact that the account is being sent elsewhere for adverse impact. We didn't sense any, but as you say, you know, it's something that takes time and you have to see the length of it. Right now, we still haven't seen any effect.

MR. HOLIAN: And just to follow through o that same vein, Brian Holian, DRB, the last bullet I had on the slide I was going to cover is the impacts of both consolidation and deregulation and those are items we're looking at. One is the bench strength that they might have in their management type organization. You know, staffing cuts in general, we do, obviously, see those on those plants that are in a deregulated environment. Now, I think that they're more prevalent than the non or the regulated environments. We see clippings all the time. Nine Mile just cut 150 people this year. In the article it mentioned that at a 2000 time frame about five years ago they were three to 400 people higher than they are right now. So that's a stress around the organization.

I recognize -- Mr. Maynard commented about different sites can do it with different number of

people and we recognize that but it clearly is a stress around the organizations at least in the transition period and a lot of our allegations also come from right around the times of staffing cuts at plants.

What else have we looked at, I mean, we see PM optimization is a big item now with consolidation and deregulation. We see the shorter outages. We see, I won't call it a reluctance to shut down. I mean, we're obviously looking for that but the stress and the economic effects that they have for an unscheduled shutdown you can clearly see that they want to schedule their outages for maintenance items about a week from now, not necessarily right away. So our residents are stressed but looking at operability in a real time situation it seems like more frequently on these type of plants.

And you know quick restarts is another item that stresses our resident staff. They're very quick. Indian Point 3 went down on Friday night. I was turning around the plant on Saturday. And so it's a stressor for our organization a little bit to get in there and make sure what they're doing is not an apparent cause but what are causes for trips and issues like that.

MR. COLLINS: That's not -- Sam Collins, that's not technical though. That's a primary safety focus but it's also in communications. A high profile facility, a plant shut-down, we have a whole communication planned with stakeholders and then we communicate again based on the cause and we communicate again when the plant restarts. We end up not only following the technical aspects of the plant but we really have two communication plans in a very short period of time.

MR. HOLIAN: I'll turn back over to Rich Barkley for the last couple of slides.

MR. BARKLEY: All right, I'll quickly get through these three slides. I just wanted to give you a little outline of some of the things we've tried to cope with all of the demands of the involved stakeholders. After 9/11 we did do additional recruiting and training in the security area to follow up on the concerns and interests that came up with the increased demands from increased security requirements and increased management oversight for two to three years. Brian Holian devoted pretty much his entire time to dealing with outside activities related and he pointed out the controversial facilities.

We've had to tap folks at headquarters to

support us at critical junctures where the demands on us were just too much to try to handle alone. So we really appreciated the support they provided. And again, my job is unique to this region. The other three regions do not have an equivalent technical communications persons supporting these type of activities. It's been a demand on the staff, too, responding to numerous security requests and information requests. Post 9/11 for awhile we had to turn down responding to a number of them, just too many time demands on us. That has since tapered off a bit, but it's still a time demand.

VICE CHAIR SHACK: I'm just curious, when you have letters, what's the process for deciding how you're going to respond to them?

MR. BARKLEY: Again, I work with the Regional Administrator and the Division Directors as to responsibilities for those letters. Some take very careful delicate planning as to how we're going to respond to them because to some degree, they're not only technical but emotional, probably more emotional than technical.

VICE CHAIR SHACK: But does everybody get a response?

MR. DAPAS: Let me comment on that. This

is Marc Dapas. It often depends on the level to which the letter is addressed. For example, if a letter comes in addressed to the Chairman, the Executive Director for Operations will issue what's called a green ticket and it will target which office has the lead, what are the support offices. There will be times where the Office of Nuclear Reactor Regulation may have the lead. If it's a question that relates to a programmatic aspect, or the region, you know, it will be tasked to say Region 1 identifying the supporting offices and then we work internally to determine how we're going to staff that, which divisions are involved and then we provide the draft response for review.

So it is a function of the nature of the correspondence in terms of which process we invoke.

MR. COLLINS: I think your question was does every letter get a response? Every letter gets a type of response. More often than not, it's a written response. There are some malicious correspondence. We get a flood of activity. This happened at Davis-Besse, I think. You get a flood of form letters that come in where we, in that case would write a form letter back. But every correspondence that comes in that suggests to the agency at some

level, using a priority system of the level of review and concurrence, receives a response. I think the NRC is fairly unique in that case and it is -- in some cases we call the individual and say, "Can we just discuss this on the phone with you", and then we'll write a letter back saying, "As discussed on the phone, we responded to your question. Please let us know if you have any further issues". So there's various ways of handling it to try to minimize the impact based on the significance of the letter.

MR. BARKLEY: And I do find that people like the personal contact, so the quick phone call you can make up front may satisfy them over all but that's probably the most positive way of getting feedback is a quick call and being timely.

CHAIR WALLIS: That can be counterproductive. You can get into sort of a technical debate on the phone, that can give rise to a lot of misunderstanding sometimes.

MR. BARKLEY: I can. You have to be selective as to who you make the phone calls to.

VICE CHAIR SHACK: It's nice to know who you're calling.

MR. DAPAS: We also have some experience for example, an individual that has expressed concerns

in the past were to communicate say via e-mail, we have relied on what has been an effectively communication feedback form, i.e., responding by letter so that we have a documented trail, we have found is the -- you know, we'll often say, "Please send us a letter in communicating your current concerns specifically", put it into the appropriate process.

MR. COLLINS: In our office of Public Affairs we have two Public Affairs officers here and they are very good in helping out and responding directly to some of those.

MEMBER MAYNARD: I would think that one of the main problems is just sorting out the emotion from the facts, the issues and trying to get it where you get the common understanding of what the facts are and responding and dealing with that.

CHAIR WALLIS: Of course, all the emotion is on the public side.

MEMBER MAYNARD: You have to be careful you don't engage in the emotion.

MR. DAPAS: We're committed. The public is emotional, we're committed.

MR. BARKLEY: I find I have to work very hard to try to explain the issue but when I get it in

perspective, that makes it a lot easier. You can calm a lot of emotions then. If they're open to that kind of background. Quickly wrapping up here, we have expanded discussions at our annual assessment meetings. We have public meetings on performance of licensees and we expand it into group discussions of security need. We have done some outreach activities here we've actually met with other government bodies at Oyster Creek and Indian Point and will continue to do that in the future.

Let me roll to this last slide. Again, we've mentioned congressional office briefings. Brian mentioned bi-weekly conference calls. We have representatives of congressional and Senate staffers there listening in, twice weekly to discuss groundwater contamination issues and then we've supported some highly controversial meetings. One of the BY meetings we had 500 people, a particularly tough meeting. So we've had some waters that we've gone through.

MR. HOLIAN: Brian Holian again. Finally the last slide we have is or office going forward, really is just more of the same. We've geared up to respond to these types of challenges and we'll continue to that. Our last slide, probably a

purposeful cycle there, we think we have met and will continue to meet these challenges and it's something we track even in the budget space a little bit. We're working with what we call a unique site budget model for Region 1 here. As Sam mentioned a lot of single unit sites and of course we have some sites like Salem/Hope Creek. We have Millstone with a Westinghouse plant, so on budget space for how much it takes to inspect them, we're looking at a unique site budget model and we also are tracking kind of the outreach type effort that we need all the way down to our residents, a portion of which they have to respond so that we can fill that packet in the budget area.

That's it for the outreach slides. I just had a couple items I'll just touch from questions I've heard and then there's a two-hour session that Dave Lew our Deputy Director will be covering this afternoon on ROP for more resident type questions. But in general you talked about NSPD peers earlier, Randy mentioned about a good 10 to 15 percent, that's a good number. We don't have them all here even the ones that stood up. We have eight NSPD peers in the program at any one time here. That's a two-year program.

On top of that, we have, I'll call it the

burden nor the opportunity to host a lot of headquarters NSPD peers out. So you just need to know when you're out at our sites and you see that third person there, it's headquarters folks coming out for their resident tour. And it's very valuable for them but that's a training issue that this region in particular has.

We talked about the seven-year resident policy. Interestingly enough, we've been in a very stable period here and starting in 2007, DRP is already looking ahead to 2009. There will be about a 30 percent turnover as the people who first entered that seven-year period start timing out. So it's an item that we have on our radar screen for the expertise that will be needed to fill those sites.

Finally, you mentioned site visit policies and we can talk more this afternoon, but in general we do do objectivity visits. Every resident goes out for a week at another plant. That continues to this day. We also do that cross-regional so where we have these utilities being cross-regional, we'll send an individual to a Dominion plant down in Region 2 and we get a very good cross-feed between the regions and of course, the plant knowledge, so that happens.

Finally, you asked about management

oversight visits. We kind of pride ourselves here in Region 1 to almost double kind of the management type visits that, at a minimum that's called for in the manual chapters for all regions and that. So we keep a high presence out there. And Sam mentioned the feedback forms. Historically they're 90 percent or above very positive, 95 percent are positive on interactions. One just recently we had was an issue where a utility said, you know, it's hard at the exits for us to really see significance, not in the findings but maybe in the observations that residents bring up in their exit, things you don't see in an ROP report, but still at the exits they're observations.

And so our quick response was to make sure the Branch Chief is out there at the next several exits with you with the senior residents to make sure those go well, that's one example.

MR. COLLINS: Yeah, to tie a few parts together, thank you Brian, we talked about stakeholders, these visits and the training of the staff. What we're finding here in a corporate sense is that the ability to communicate professionally and efficiently and effectively is one of the key attributes that we're looking for in the staff in the future. It did not always be that way. Back in the

`80s when I was hired, it was technical expertise, understanding of the industry, background. The stakeholder environment was very different. The opportunities for interface were very different. You weren't dealing with Corporate Vice Presidents on site. You were dealing with Plant Managers. The corporate individuals were dealt with by the region.

In today's environment, when we hire people, we look at their ability to communicate. And we hopefully train them in this area as they move through because we have to be able to efficiently and effectively transmit the message both to the licensee and to the stakeholders in order to be an effective organization. The feedback forms that we get from licensees, the predominant issue was communications. It's not the validity of the technical finding. It's not the regulatory impact, it's mostly communications. And it revolves around some ownership and some emotional issues, obviously, but it's still communication of that technical information. And you probably see that as much as anyone with the presentations and the staff, you have a lot of opportunity to see the NRC.

In a regional basis we have to be able to transmit findings, operate in emergencies, operate in

extremis, be present in the situation because or credibility is at stake. That's the first thing people see is the body language and the ability to communicate before they ever transmit the information. Quite interestingly, if people we're hiring in, the staff that we're bringing in through the NSPDP program are very good at that. At a young age, you know, the exposure to the technology, the opportunities that are afforded in school, there's usually extra curricular activities. They represent programs, they belong to societies. They're very good and they're very effective. Adults listen to the younger generation when they're transmitting information. It's fascinating to watch, but they are very effective.

That's it.

VICE CHAIR SHACK: The next presentation we're working to move into is knowledge management but based on our schedule, I think it would be appropriate to take a break and then go into that if that's all right.

SUBCOMMITTEE CHAIR SIEBER: It makes no difference to me. It's time for a break.

VICE CHAIR SHACK: We will break to 10:35.

(A brief recess was taken.)

MS. GAMBERONI: I'm Marsha Gamberoni,

Deputy Director in the Division of Reactor Safety. In this next session we're going to talk about knowledge management and specifically address the question, does the NRC offer sufficient training towards developing new inspectors. Before we get into the issue, I wanted to introduce some of the other team here to discuss this topic. Louis Manning, the Branch Chief in Division of Research Management, he's previously been a qualified HP inspector so he's gone through the qualification process. We also have two recently qualified inspectors, Jeff Kulp, coming with experience from the outside, mostly in the Navy, about 10 plus years in the nuclear side of that and Michelle Snell, a recent grad from NC State and in nuclear engineering.

I also want to introduce Chris O'Rourke. She's our Human Resource Specialist in charge of our training program in Region 1. So before we get into the specifics of knowledge management, I just wanted to talk a little bit about the flow path, I guess of the inspectors and it's something I necessarily wasn't familiar with until I came to the region. And that is we talked about how the NSPs come into the Division of Reactor Projects and our experienced inspectors come into the Division of Reactor Safety.

Well, there is a lot of mix that goes on back and forth through their career. After the NSPs complete their qualification program and NSPDP requirements, they move over into Division of Reactor Safety and often times our Division of Reactor Safety inspectors, after they've completed the qualification program in a few years as inspector for DRS type inspections, will move into the resident ranks. So we continue to get the cross-knowledge and diverse experience, diverse skill sets to continue the development of inspectors and we'll talk more about that as we go through the slides.

Really, on Slide 4 we broke down our training and development program into four areas; the qualification program which is the formal program required by Inspection Manual Chapter 1245; our person-to-person interface which involves not just the interface between the employee and their supervisor, but also mentors and assigned peer sponsors; on the job training, we'll talk a little bit more about that. References are obviously key. One thing I'll point out, I know often times you deal with the licensing side and when you consider the ROP being a new process, even though inspection has been around relatively young, since 1999, the references are newer

and their continually updated, the inspection procedures by information provided from the agents. So I think that's -- having dealt with the licensing side, that's the difference between thinking about the standard agent and some of our inspection procedures.

Then there's some other references we'll cover and then additional training. Even though there's a lot of training involved with the qualification program, training continues on and it's a big part of the regional program to develop experts in particular areas. So with that I'm going to turn it over to Louis to go through those five components.

MR. MANNING: Hi, I'm Louis Manning. One of the things that Marsha already pointed out that we have two types of inspectors that we hire. They're experienced reactor inspectors and entry level reactor inspectors. And I'm going to cover the experienced reactor inspectors first and the qual program process. They're assigned to the Division of Reactor Safety where there's generally more need for extensive knowledge in the reactor industry, specific areas like fire protection, electrical, et cetera.

And also the qual process is a formal training program that they go through. It could take approximately a year for them to complete it because

they're coming in with experience so you can already leverage that. They're also assigned a peer sponsor and I'll get into the peer sponsor role later on. And they complete the Manual Chapter 1245 that's already outlined, the formal process for inspector qualifications.

VICE CHAIR SHACK: How do you decide they're experienced? Is one year of experience enough, five years, nuclear Navy or you know, what's an experienced inspector? I'm sure he's not an experienced nuclear, you know, NRC inspector.

MR. DAPAS: This is Marc Dapas, let me just comment on that. With any particular job vacancy that we have, we have different grading factors. So we may have a full performance GG-14 physical security inspector or a GG-13 health physicist, and as part of the package submittal each of the applicants have to address the rating criteria and then they also -- they draw from their experience in addressing the rating criteria. For example, the rating criteria may say knowledge and comprehensive understanding of the full rated operation of a nuclear power plant to include systems, et cetera. And then each applicant would have to address how their experience has given them the expertise or technical capability in response to

that particular rating criteria.

So that's how we really get at gauging the experience and we just use that to differentiate between a recent college graduate that's going through our entry level program.

VICE CHAIR SHACK: Thank you, Marc.

CHAIR WALLIS: Chapter 1245, means there are 1200 chapters in this manual? It's somewhat daunting.

MR. BARKLEY: That particular Manual Chapter is a Manual Chapter. I think they skip a lot of numbers on the way up.

SUBCOMMITTEE CHAIR SIEBER: Yes, they do.

MR. MANNING: Okay, the entry level reactor inspectors are usually recent college grads. They go through a formal training program which is to say a professional development program, which is a two-year program and it takes these individuals approximately two years to complete the process that is the NSPDP part and also the inspector manual chapters and I'll get into the next slide.

They are also assigned a peer sponsor and mentor to help them navigate the process, acclimating to the agency and coming up to speed with regard to their inspector qualification process. Again, it's a

formal training program. They have the Manual Chapter 1245 to complete. One of the things that we do in Region 1 which is unique to us specifically, we assign a reference site where the individuals get assigned to a specific BWR, PWR site so that helps them through their process of being able to now look at what that site has, what they're seeing in theory, if you will, and now being able to look at some practical applications.

One of the things that the NSPDP requirements is a two-year program as I said earlier but there are requirements for rotational assignment. They will -- the NSPDP candidates will complete a three-month rotational assignment at their reference site and will also typically go to headquarters for three months as well to gain greater insights into the agency particularly in OR and how the things work there.

VICE CHAIR SHACK: And that comes where in the program?

MR. MANNING: It varies. Typically it might come at the end of their first year to their second year when they look at the types of rotations. It depends on how they work out. There's a formal training guide that they go through that --

CHAIR WALLIS: Does anybody fail?

MR. MANNING: There are individuals I guess that --

MS. GAMBERONI: Through the NSPDP program I'm not aware of any in the region who have failed. There are, though, certain tests that are required with respect to the TTC courses and so there's an opportunity there to test knowledge and skills. And ultimately when you complete either one of the qualification programs, the last step is a qual board.

CHAIR WALLIS: Well, let's say not just failing; do they drop out for other reasons? Do those who start finish typically?

MS. O'ROURKE: Chris O'Rourke, Human Resources. There have been a number, a small number of individuals since the beginning of the program who have been dropped from the program or have left the program voluntarily. I don't know the exact numbers.

CHAIR WALLIS: It's not a significant number.

MS. O'ROURKE: No.

CHAIR WALLIS: Those who come in usually finish and go out to be inspectors.

MS. O'ROURKE: Yes, sir.

MR. DAPAS: I have one comment. This is

Mark Dapas, Deputy Regional Administrator. One of the things that we do focus on is insuring that our new employees are gainfully employed. We have a mentor program. We have staff that is assigned to help in the training and qualification program in addition to the Branch Chief, I'll call it a training coach, but we want to insure that our new employees are getting our of their NRC experience what they had hoped to and what they had signed on for. So we do monitor that very closely to insure that we don't have someone that's leaving the agency because they were disillusioned or feeling unfulfilled. They say, "Gee, this is not what I thought this was going to be", but we do get some that have left on occasion voluntarily because they have decided they want to make a change and pursue another career opportunity.

But I think we've had very good success with our retention rate for the new employees because of the level of attention that we focus. But you certainly can ask the NSPDPers in the room to speak, you know, as opportunities here, either during lunch, et cetera, to gain insights on the care and feeding that we are providing to them.

MS. SNELL: Yes, this is Michelle Snell, the Division of Reactor Safety. To answer your

earlier question about when we do the rotations, usually you have -- well, first if we do an orientation offsite, you usually have your training classes down in TTC in Tennessee which is seven weeks of usually pressurized reactor training, so you have an idea of what you're getting into before you go to the plant. Then you do your three months, depending on also what's going on in the region and what's going on in your branch, and usually your rotation to headquarters is towards the end, after your qualification board.

So that's just kind of how we do business. It might be different in another region.

MR. MANNING: Now, I'll go to the person to person interface with -- specifically with peer sponsor or mentor. This individual is assigned to help the NSPDP candidate or new inspector, who then would be experienced as well, get through various topics of knowledge management subjects which we'll cover a little later, to teach throughout the training and development process, because as I said earlier, there's a template, if you will, for NSPDP individuals, specifically that they have various training which includes -- may include external training, required training at the technical training

center, and to get through those various courses. And it's important that they stay on track, if you will so that they complete the training process and become a qualified inspector.

In addition, we discussed goals and options. Some of the individuals who are going through the NSPDP program may want to eventually want to become a resident inspector and some of the DRS inspectors might want to become a resident inspector as well. We're just becoming more specialized in the various areas. So there is movement across the various areas. And then also, not to usurp, if you will, the role of the Branch Chief, but there may be some informal discussions that the peer sponsor may have or mentor helping understand branch expectations, and things of that nature.

SUBCOMMITTEE CHAIR SIEBER: Who is the peer sponsors?

MR. MANNING: The peer sponsors typically is an experienced inspector that's gone through the program, already has done various things and kind of a matching up, if you will, of the individual coming in. The mentor is typically someone in management. It could be, not their Branch Chief, but it could be someone, Deputy Division Directors or --

SUBCOMMITTEE CHAIR SIEBER: Okay, two different people then.

MR. MANNING: Two different people, two different --

SUBCOMMITTEE CHAIR SIEBER: And the trainee, does he keep the same peer sponsor and mentor throughout the program or do you switch off depending on what field you're currently training in or how does that work?

MS. GAMBERONI: For the most part, I'll just answer in general but we maintain the peer sponsors and mentors throughout the program. And one of the things the peer sponsor does, just to get into a little more specifics is preparing somebody for TTC, they might study, you know, the individual who is going through the program might do self-study on systems and then the peer sponsor will meet with the individual to check to see if he has questions and that sort of thing. But for the most part, we maintain the peer sponsor through the program and then mentor through the program also.

SUBCOMMITTEE CHAIR SIEBER: Thank you.

MR. MANNING: Okay, the knowledge management component, there are various meetings that are conducted in the knowledge management area to deal

with subjects including current and historic events, Q&As as well. Some of them include the ROP process allegations, enforcement, the enforcement process, pertinent sections of 10 CFR as well. And also during the semi-annual inspector seminar, there is another opportunity where we have all the resident inspectors in, including the reactor inspectors to really share a lot of knowledge from the experienced inspectors and the technical aspects that they gain, the value added findings and things that they can apply to their inspection techniques, if you will, to get at the heart of some issues.

CHAIR WALLIS: So by knowledge management, you mean something like classes? They actually go in and learn formally from experienced people, they take exams or is it a much vaguer thing than that?

MS. GAMBERONI: This part that we're talking about the conducting weekly experienced inspectors' discussions is more informal. It's at a set time. It's Thursday mornings at 9:00 o'clock.

CHAIR WALLIS: And they're advised to go read up on this for the --

MS. GAMBERONI: Yeah, one of the things that happens is we do have daily meetings on plant status and issues come up during those daily meetings

that the newer people may not understand and they come with lots of questions, whether it's regulation or it's some term that was used or more specifics.

CHAIR WALLIS: So it's more like learning on the job with current issues rather than learning a lot of stuff which is more general.

MS. GAMBERONI: A little bit of each. It's a little bit of each. We usually have our -- and we have a couple sitting over here, our SRAs, Senior Risk Analysts, who are always in attendance and maybe one or two Branch Chief. So sometimes it depends. It's a mix every week, who's available, but it's -- sometimes they come with subjects that they want to provide to everyone or sometimes the individuals are and/or the individuals who are attending promote questions.

CHAIR WALLIS: How do you evaluate that they've learned what they're supposed to learn?

MS. GAMBERONI: Ultimately through the qualification board and also through discussions with their peer sponsors.

MEMBER ARMIJO: Does that board go through some sort of an oral exam or written exam? What's the -- at the end of the one year, is there some sort of a test or interview process that says, "Yes, these

guys really did learn what they were supposed to"?

MS. GAMBERONI: The inspection manual chapter requires an oral board and it's comprised of a couple of Branch Chiefs and another Senior Inspector. Usually it's not their supervisor who chairs the board and that's as a minimum. And then sometimes a senior manager also is in attendance. It's a series of questions both hypothetical or related to the reference site and how long would you said it lasts, a couple of hours?

MR. KULP: One to two hours.

MS. GAMBERONI: Anything else would you want to add, Jeff, to the board process?

MR. BLOUGH: If I might, Randy Blough. That board happens after they've completed the TTC courses, they've completed a qualification journal, a lot of self-study, inspection accompaniments, the plant tours. Their Branch Chief has spent sufficient time to believe they're ready. That's in the office and at the plant, and the other -- we intensely focus on helping the candidate be ready for the certification board and we will -- if we think the candidate needs more work, we'll actually delay the certification board and then there is an option to -- there are several options at the certification board.

One is pass, one is pass with look-ups which usually happens. The next is pass with look-ups that must be completed and then discussed with management before you actually certified as an inspector and the other one is you fail, in which case, a revote would be necessary. But the point is, there are a lot of steps and an extensive journal and certifications that the person is ready before they even progress to this board, which is a demanding oral certification board.

SUBCOMMITTEE CHAIR SIEBER: And I take it that the candidates for the inspector position are graduate engineers? Is that true or not? Pardon?

AUDIENCE MEMBER: I think we hire engineers.

MS. GAMBERONI: Engineers.

SUBCOMMITTEE CHAIR SIEBER: So they would have some kind of technical background before they get there but not necessarily nuclear power, correct?

MS. GAMBERONI: Correct, mechanical, electrical, some nuclear engineers, there's a variety.

MR. COLLINS: Yeah, this is Sam Collins. The staffing plan for the region, which is part of our overall human capital plan which includes training and staffing and diversity initiatives, each position has

a series designator and that position, as Chris can explain, designates the series 840.801. They have certain education and/or experience requirements in order to be eligible to fill that position. So people come into the position as defined by the staffing plan with the requisite background based on the position. It can be health physics, it can be sciences, it can be IT and other aspects as defined by the staffing plan. And we define the staffing plan based on the workload and the program definition.

SUBCOMMITTEE CHAIR SIEBER: So for somebody from outside the agency, I take it that the significant part of the training is familiarization with the regulations, what they mean, and how they apply and how the agency wants them to be applied.

MS. GAMBERONI: Correct.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. DAPAS: Marc Dapas, I have just one thing to add, when I referenced the rating factors in that process, there will be examples in there where it will say, "This expertise can be satisfied with a nuclear engineering degree or a technical degree", in a certain area. To give an example, there's a process where when you have applicants, there's a rating panel and you go through and you evaluate the quality of the

individual's experience and there is a crediting plan that's developed that will outline what is considered an A candidate and B candidate against each of the rating factors and that will highlight the level of experience and give examples of what would constitute satisfaction at that particular grade level.

SUBCOMMITTEE CHAIR SIEBER: Now somewhere during this two-year program, does a candidate get an opportunity to do anything with, for example, a simulator, plant simulator?

MR. KULP: Yes, there is a two-week simulator course at the end of the TTC training.

SUBCOMMITTEE CHAIR SIEBER: Okay, so they have some kind of operating experience.

MR. KULP: Yes.

SUBCOMMITTEE CHAIR SIEBER: Okay. Good enough.

MR. MANNING: Additional training that the individuals go through, not only their required training according to the manual chapter and NSPDP required courses, but there may be some external training which we call 368 training where several dollars are set aside for courses that are outside of what the NRC offers and the help the individuals develop various expertise and specific specialties.

Some of it could be independent spent fuel inspections or fire protection, things of that nature. And they also may help an individual, a person may be looking at taking advanced college courses or degree masters level courses and it may lead to a degree or a certification, special certification, things of that nature.

There's division specific training that is on a more informal basis that may cover various topics of interest and one of the things that everyone has to do is strategic workforce planning. This is an annual requirement. We go and update our skill sets and what we have. And it's used for determining gap analysis and hiring strategies and find out where we need to go as far as what we need to do to insure the success of the agency, if you will, and then finally maybe some probabilistic risk assessment or analysis basis for individuals as well.

VICE CHAIR SHACK: Does that mean, they learn to use the SDP notebooks?

MS. GAMBERONI: I'll let our SRAs --

AUDIENCE MEMBER: Yes, as part of the TTC training they have SDP training and then as we go through the various counterpart meetings and continuing training, if there's any revisions, we do

additional training with any new revisions that come out.

SUBCOMMITTEE CHAIR SIEBER: Do they use SPAR?

AUDIENCE MEMBER: Excuse me?

SUBCOMMITTEE CHAIR SIEBER: To they use the SPAR?

AUDIENCE MEMBER: The inspectors typically use the SDP Phase 1 and Phase 2 notebook. The SRAs, the Senior Reactor Analysts are applying the SPAR model.

CHAIR WALLIS: They use the SPAR. These folks don't get that far.

AUDIENCE MEMBER: No.

VICE CHAIR SHACK: My understanding was they sort of dropped that screening and you really ended up with an SRA, is the right, or have I got that wrong?

AUDIENCE MEMBER: No. The way we do things in the region, though, the SRAs will review all the findings to make sure we have consistency in the findings between all the inspectors. The inspector when they have a finding, they'll apply it to Phase 1 if it doesn't apply to Phase 1, then they'll apply it to Phase 2 and then we'll support that if they need

any help in Phase 2. If it goes beyond Phase 2, we'll take that up and take it through a more detailed risk analysis with a SPAR model.

MR. MANNING: One of the other components is on the job training. We also help individuals that are going through their formal training process or external training. The specific things that they do on the job; they make the observations as part of an inspection team or they may be a part of just observing what's going on to kind of see how things are interfacing, the interactions at the plants, to becoming a contributing member of the team where they actually may do some smaller subsets of the actual inspection effort to becoming maybe more of an independent inspection as they continue going through the process.

And there, of course will be some oversight as well, depending on the level of expertise developed with these individuals that are exhibiting as they're going through a qual process. And finally maybe leading up to becoming a team leader of an inspection team as well.

Expert development, there could be any technical topic areas or procedures or processes of interest, NOEDs, Notice of Enforcement Destruction for

example, can be discussed as part of expert development. Independent study assignments where they could look at various historical events if you will and look at the significance of that and on an independent basis and report back what they've learned through that assignment.

Job rotation opportunities, I noted previously that the NSPDP candidates go through rotations but there may be opportunities where folks may have some flexibility to maybe go and interface with maybe another region for like a six-week period or something like that and then benchmarking objectivity business to make sure that there's consistency, if you will, in implementation of the regulations and the inspection procedures as well. So that's part of the OJT process for helping individuals get to their qual.

And then finally, the last slide deals with the reference section. There are inspection procedures, which are overarching, if you will, of what the individuals learn as their qualification process. We have our regional website, where we post various topics of interest to help leverage maybe IT, operating experience, which you'll have a briefing on that later on and also construction inspection page,

which deals with construction inspections and various topics of interest with regard to that.

The regional instructions and divisional policies and procedures, they're the last reference guides and there may be individuals who have a specific expertise in some of the areas that are covered in these regional instructions or division policies and procedures that can help facilitate and make sure that the individuals going through the qualification process have what they need in the tools for success as an inspector, and inspector field observation and best practices is the last.

MS. GAMBERONI: We wanted to pass that around.

MR. MANNING: Any additional questions that you may have that we didn't cover in the presentation?

MEMBER MAYNARD: Do you get feedback from the students after they've been out in the field for awhile, any feedback for improvements to the training program, something that they thought they would have benefitted from? Is it kind of a living thing, or is it pretty much --

MS. GAMBERONI: Well, there's feedback associated with each class, and so there's feedback

forms with that, whether it's TTC or -- and then real time feedback to their peer sponsors and continue the feedback forms associated with the inspection procedures and also our individual policies within the region and processes.

MS. SNELL: This is Michelle Snell, DRS. We also do feedback to Marc Dapas. He meets with us every -- I don't now how often.

MR. DAPAS: I was striving for quarterly.

MS. SNELL: Quarterly, and it's a pretty open meeting where we can discuss any questions we have or we can supply pretty open feedback on any issues we have or ideas we have for the program.

MS. O'ROURKE: This is Chris O'Rourke, Human Resources. I also get feedback from all the NSPDP participants and often times from the experienced participants also as they complete their program on what the went through and any suggestions they might have for changing during the programs.

VICE CHAIR SHACK: I think Otto's question was sort of a year or two later after they've been out in the real world, you know, "We should have learned this", do you solicit that kind of feedback?

MS. GAMBERONI: Well, part of that I think, comes through with our discussion annually,

semi-annually on our training. We talk to individuals about what sort of training they want and this past year I think we had at least over 50 courses that were provided to DRS inspectors, the experts. And so some of that, we'll have discussions about the basics. We'll talk about maybe a pump course that was given and it would be -- so we'll get the feedback that it would be helpful if how to tailor that course in terms of the basics for the basic inspector and who should take that course when, if that should be given earlier, that sort of thing.

MR. BLOUGH: Did we mention that the Region 1 Training Council has a role and there's an agency steering committee on that Manual Chapter 1245 as well.

MS. GAMBERONI: And as far as discussing the training, we do have, as Randy mentioned, a training council. We meet monthly to discuss the training, not just the 368 training which costs dollars and is external but to discuss, we have monthly training, DRS, DRP, where we talk about topics and they could be historic issues, Browns Ferry Fire, TMI, or current events. We also have then the Thursday weekly training and then there's a number of courses that we hold in-house. So we have -- Chris

has put together a whole training calendar and for a month, it's actually -- any one month there's probably at least half dozen to 10 training opportunities on that. And that's continuous, and so that's something as Randy said, we have a training council and we talk about whatever feedback we have whatever input we have, whatever requests we get, we prioritize those appropriately.

We mentioned the strategic workforce plan. That's another opportunity to determine whether it's an individual saying, "Here's something I don't know", or it's a supervisor recognizing a gap within that discipline. So there's an opportunity to feed that in and determine whether that's something we can train in-house, capture the knowledge from somebody who has the knowledge in-house or we need to bring that experience from outside or go down to NRR research and get information from them, ask them to come up or send some HR rotation there. So with our gap analysis this year we actually identified maybe a half dozen gaps and have an action plan associated with how we're going to close those gaps. So I think that's a source of feedback also.

MR. DAPAS: This is Marc Dapas, one thing to add to your question about what type of feedback do

we receive on the quality of training; one of the things that we do do which is a function of the training council is, we assign a senior manager as a sponsor of any course that we are bringing in-house and that individual attends the training, evaluates the quality of the instruction and then reports to the training council on the value of the training and then, of course, talks to of course participants to obtain their feedback.

Another avenue in terms of feedback as I mentioned, we do have NT managers and others that mentor some of our newer employees. I mentor some folks and one of the questions that I ask when I meet with them is, "How are things going", to get a sense to what degree those individuals feel that they are gainfully employed. I talk about the qualification process, to get a sense of how that is proceeding and I have gotten some valuable feedback there that I've been able to address appropriately through the management chain. So that's another venue that we have to gain feedback on the training process.

And then the other thing I wanted to mention is, as part of the appraisal process we expect each supervisor to engage in a discussion when they're going through the performance review about training

that they should receive during the following year and that feeds into the training plan that is then brought before the training council as we prioritize the expenditure of funds. That's another opportunity to talk about training and I would offer as a forum for someone to communicate, "You know, I supported this inspection and I really didn't feel that I had the training I needed to be successful," and that would be an avenue to engage in that type of discussion and then target specific training to address that.

MS. GAMBERONI: And then Randy also mentioned the steering committee for Inspection Manual Chapter 1245.

MS. O'ROURKE: Chris O'Rourke, Human Resources. Region 1 as well as the other regions, are part of a working group that continually looks at the Inspector Qualification Manual Chapter 1245 and presently they are working on developing another set of appendices to go beyond the basic qualifications for inspectors into some of the more advanced qualifications such as fire protection, electrical and mechanical. And we, with other teams, are working on developing those appendices as well.

MEMBER ARMIJO: Do you benchmark your training program with the other regions for

consistency or identification of best practices or --

MR. MANNING: We had a senior reactor management out of the meeting that was held in the fall that came out with -- actually dealt with that specific subject matter for the regions and we've -- myself and Chris O'Rourke actually sat and represented Region 1, specifically where we looked at how the regions implement training for experienced entry level training councils and we kind of benchmarked, came up with best practices, if you will, and we have a paper that's out or with -- that deals with specific areas where we've come to agreements on what's the best practice and training and trying to leverage that now as we go forward in our training process.

MS. GAMBERONI: Any other questions?

MR. BARKLEY: Thank you, Marsha. Our next presenter is Karl Diederich. Karl?

MR. DIEDERICH: Good morning. My name is Karl Deiderich. I'm an Inspector in the Division of Reactor Safety. Don Jackson is my Branch Chief and Bob Marshall and Marsha Gameroni are the Divisional Management. Next slide.

My agenda for this talk is to discuss the history of the Operating Experience Program, where it comes from, how it's used, what processes support that

and then give some example applications here in the region. The view is going to be the regional view of the Operating Experience Program, how it integrates with the one up at headquarters. Next slide.

So what is operating experience. And we just talked about knowledge management. So here is a type of knowledge management, a body of knowledge that comes from industry activities and that can beneficially inform our actions, both our actions and industry actions. And so it's going to have two primary characteristics; one is generic applicability and the second is that it has some safety significance. If it's going to be a benefit, it will have some safety significance associated with it.

This is just a brief history, it's obviously, not complete and comprehensive, but operating experience was brought to the limelight after the Three-Mile Island accident and the formation there of NRR of an organization to specifically look at it, and jumping to the more recent times, with the Davis-Besse task force lessons learned came out with a set of recommendations and also at that time, an internal organization looked at operating experience and so in the `03, `04 time table they came out with the expectations and came up with attributes for a

program and they've been implementing it. So some of the key implementations are NRRs, you know, rolling out, clearing out in `05 and the regional implementation with policy a little bit later.

And so it's been a phased approach to implement the operating experience program, where first we implement the collection of the operating experience items, events and then actually employing it's use to greater and greater degrees. And it's relatively new and its current information and so it's -- the process is still ongoing in its development.

CHAIR WALLIS: I notice that this experience and what's in this book seems to focus on negative aspects of observations. You noticed something wrong. Is there any guidance on what makes a plant good?

MR. DIEDERICH: Guidance on what makes a plant good.

CHAIR WALLIS: What you look for -- what to look for that they should be doing that you can say, "That makes them a good plant". Is there some positive aspect of this experience that you've learned that's useful to inspectors?

MR. DIEDERICH: I think it's primarily appropriate program implementation but that's, perhaps

a question that's better addressed.

MR. COLLINS: This is a policy issue and -- this is Sam Collins.

CHAIR WALLIS: Policy?

MR. COLLINS: And the way I would explain that is when the reactor oversight process was formulated, there was a debate over whether the reactor oversight process should include positive observations as well as those observations on compliance and performance in a negative light or meeting the requirements as a threshold. A Commission decision was made at that point that we would not enter into the coaching, I won't say consulting but coaching aspect of putting forth what, in our view was best practices or good practices in a formal sense.

We have matured since then to the point were it's recognized and it's contained within the process that we have the formal inspection results, which is conducted at the exit, which is the basis for the agency's conclusions that's articulated in the inspection report, and we also have -- we also have the observations. Those observations do contain positive aspects of performance as well as observations of individual's performance and processes that would be looked at as a good practice

that the inspector would take away to observe, perhaps, on other places.

So that's where we are today. Now, your question is do we have formal training to recognize those? I would say, no. We do have operating experience, on the job training. We have individuals who are I think keen observers who understand what's effective and what's not, but we don't go into a formal practice in that sense.

MEMBER MAYNARD: And I think that what now is probable is -- is valid at the appropriate level. I think it's difficult for the regulator to get into the role of formally documenting best practices. It starts becoming a blurred line then as to what's required versus an expectation that's not really part of the regulation.

The industry has a group that does, IMPO and they have other mechanisms for doing that, and I think from a regulatory perspective that's probably what's being done right now.

CHAIR WALLIS: Well, I would think some of what's passed on from these role model people, the mentors, has got to involve some of the thing that you look for in a plant which gives you assurance that they're on the ball doing what's right as well as

looking for things that are wrong. There must be something like that. Maybe it's not a formal thing but without that, it's very difficult to do your job properly.

MR. COLLINS: I understand. I think it's almost a threshold and maybe it's the way it's articulated. We look for effective and efficient processes that result in compliance with our regulations. That can be done a lot of different ways. Some are more effective and more efficient than others. Some are ineffective.

CHAIR WALLIS: You could say -- you could go to a plant and say, "Well, they're not exactly out of compliance" or, "If they continue doing these things, they will be". So you're looking for things that are sort of indications of not having the best practice maybe.

SUBCOMMITTEE CHAIR SIEBER: It seems to me that you're either in compliance or you aren't. You read the inspection report, the inspector identifies and lists everything that he looks at and makes a statement as to whether they're -- whether violations came out of that. And that's the regulator's role, you know. That sets the minimum standard. Beyond that is the industry and management of the licensee's

role which is X and once the NRC, as an agency, moves beyond what's required by law into an area that's less well-defines as to what a good practice is, I think that that's sort of dangerous territory.

MR. COLLINS: I would like to think that particularly in response to events, when we do a follow-up inspection in 90-002 to findings, I'm just reading now the inspection report at Oyster Creek that M.C. McNamara had as a result of the two white findings in EP. A reading of that report will come to a conclusion that whether the licensee's corrective actions as a result of their shortcomings in those events was effective enough, that's the threshold.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. COLLINS: But in the way that the narrative is articulated, it sends a direct message of what was effective and what was not effective. And in this case, one effort was effective, the other one was not. So I think we can do that --

CHAIR WALLIS: So it does reinforce the --

MR. COLLINS: -- by requiring that the licensee attain that goal.

SUBCOMMITTEE CHAIR SIEBER: Yeah, well, there's another aspect where you actually -- you know, a licensee can perform a minimum corrective action and

just solve that specific problem or he can take a more comprehensive view and say, "This problem looks like a number of other problems, I'm going to solve all these problems". I think that it's appropriate for the agency to say, "You did a good job, a more comprehensive look, your problem-solving and corrective action program was effective", as opposed to minimally effective and just answered the violation. I think that's where the leeway is.

MR. COLLINS: And we approached that through the question of Criterion 16 of a significant condition adverse to quality as opposed to a condition adverse to quality. The requirements for a response in trending is much more significant at that higher level of significant condition adverse to quality. Now, the industry would say, "NRC, you've got to be sure you know the difference between those two".

Many times we engage and we get feedback from the industry of what's a significant condition and what's not.

MEMBER MAYNARD: There's a big difference between say this represents an acceptable way of meeting the program as opposed to saying, "Plant X does an excellent, we think everybody should be doing it like that". I mean, there's a huge difference

there. It's fine to show an example of what is acceptable but you have to be careful when you start judging the best and implying that you want everybody to change to match the way somebody else is doing it.

SUBCOMMITTEE CHAIR SIEBER: Well, and for a plant that you think is excellent based on random observations may have little thing in there that can destroy it and you in the process.

MR. COLLINS: I mean, an astute licensee, if they know that they have a challenge on site, and they have particularly one of our DRS inspectors who sees multiple sites, come on site, they will engage that inspector and say, "We have a challenge here. Are you aware of a high performing program", and that's on the observation side. That's not on the regulation side. That's on the observation part. And we will provide those observations with no onus or no requirement that the licensee implement it or adhere to it.

MR. BLOUGH: And that's an important point whereas with the ROP we're very careful to stay within that framework. Licensees are hungry for our observations, so long as they're sure we won't abuse them, we won't come back the next time and say, "Hey, I told you this. It wasn't in the report but we

talked about it in the exit, you didn't do anything", because that's --

MR. COLLINS: It's a two sets of books issue.

MR. BLOUGH: Yeah, so we're careful in that. Actually, operating experience, that's one place where it can have a role be because if, for example, we got to the point of a generic communication that was informational in nature and the inspector becomes aware that this plant doesn't have a problem yet but they really didn't pay enough attention or they aren't doing a number of things that, you know, you would need to do according to the generic communication to avoid the problem that some plants have had. That would be the sort of thing you would expect the inspector to discuss when he's discussing his observation and that would take you right back to operating experience.

MR. COLLINS: While I'm here, I want to recognize your question about do we associate feedback two or so years, I think it was your question, on training. The direct answer to that is, no, and we should. We received input also from a TTC instructor who was at our last counterpart meeting, who interfaced with the staff and listened to the

presentations. He raised that same issue. He said it would be very valuable to the TTC if a number of years after an individual is trained once they are a practitioner in the field that we get feedback on the effectiveness in the scope of our programs. We will take that away.

SUBCOMMITTEE CHAIR SIEBER: Thank you.

MR. DIEDERICH: All right, thank you, Sam. This brief history, we're going to focus more on the recent and how the regional implementation interacts with the NRR implementation of operating experience. So the first is uses of operating experience. Next slide, please. On the left are some of the sources and on the right are some of the uses and so here the sources are grouped by where they come from, whether they're items that the NRC picks up and has or whether they come directly from industry or whether from international operating experience. And on the right are some of the applications of operating experience.

The informing both internally and of course, we inform externally through information notices, and informing comes in both a push format where we put out information, operating experience at different levels, either an information notice or a communication from the operating experience

management. It also works in a pull format, from that storage down there when that inspector goes to inspect and he reviews operating experiences, so that's a pull function. It's used to evaluate events.

When an issue comes up at a plant and management needs to evaluate it, we can look at past cases and again, that's a pull function from the storage, and it can influence ANC programs and it does in regulatory actions, and so that's principally at headquarters but a --

CHAIR WALLIS: What is a morning report?

MR. DIEDERICH: A morning reports is an item from a plant, some issue that has come out of a plant. They'll make a morning report on that item.

CHAIR WALLIS: Because it's not very descriptive of what it is, is it? It's always done in the morning or something?

MR. BARKLEY: Let me try to help you. FAR Part 50.72 defines criteria for morning reports and --

CHAIR WALLIS: So it's a technical term.

MR. BARKLEY: It is a technical term. Depending on how much information is available and how much time they have, they vary in the level --

CHAIR WALLIS: It's illegal to give it in the afternoon?

MR. BLOUGH: Can I interject here? I think we may be mistaking terms here. I think what Rick, you're talking about event notifications on your industry operating experience.

MR. BARKLEY: Yes.

MR. BLOUGH: I could be wrong, but, you know, a morning report is an NRC collected document and it's where there may be an event notification where -- or there may be a generic issue that's identified and some aspect becomes known at a plant and it's where the NRC wants to amplify on some information that's already known within itself. So it's one of our own -- it's one of our own --

CHAIR WALLIS: It's not a generic issue but it's something which is important enough that it might someday become one or something like that. It gets more attention than it would if it weren't a morning report in some way.

MR. BLOUGH: It's really a chance for the region to add specific amplifying information on something that may be --

CHAIR WALLIS: Is it to bring itself to the attention of headquarters? Is that what it is? Here's something you need to think about and maybe it applies to other plants and that sort of thing? Is

that it?

MR. BLOUGH: Right.

MEMBER MAYNARD: Really it has a very broad -- it can be something of interest that may make the newspapers. It may be something technical that happened. It's just kind of a heads up on --

CHAIR WALLIS: We get that too. We get something and we are not quite sure what they are. This was in the morning report. What should that mean to me?

MR. DAPAS: This is Marc Dapas. Let me attempt to address where I think there may be some a little misunderstanding in the communication vehicles we have. As Randy mentioned, the morning report is a vehicle that we use to communicate things such as there's been an organizational change at the engineering manager level or plant manager level, where we want to communicate that to a certain internal audience. What has happened is the event notification has colloquially been called the morning report because you typically come into the office in the morning and you have the plant status and then you have any event notifications. And then so someone will say, "Gee, is there any morning reports here".

And that's why, I think there's sometimes

been confusion. The formal term as Rich pointed out, is the Event Notification and as Randy pointed out, the morning report is a separate communication vehicle. And then we also have things that we call EDO daily notes and that's a communication form to elevate things to the Commission's attention. So there is guidance on what each of these communication vehicles are and that's information that's put out by the EDO's office and we have regional instruction that addresses those to insure that the staff understands to the extent that we can insure success that the difference between those communication vehicles --

CHAIR WALLIS: It sounds as if something could be hidden in a morning report and you have a morning report that's full of A was assigned to here, and B is moved to there and that something has happened in --

MR. DAPAS: Well, we --

CHAIR WALLIS: -- and all of a sudden down there, there's an incident you want to highlight is hidden in this morning report.

MR. DAPAS: Well, just to clarify, the morning report is something we generate. We would not include something that's significant, let's say, in a morning report. We would use another communication

vehicle like preliminary notification, if we decide we need to communicate or an EDO daily note, or depending on the issue, we would have direct verbal communication on the issue to make sure the appropriate stakeholders are aware. So I just want to make sure that there's not a misunderstanding that the morning report in its formal context is something that a licensee generates.

They generate an event notification and there's specific reporting criteria. Does that help, Dr. Wallis?

CHAIR WALLIS: Yes.

MS. SEILLER: May I ask -- this is Nicole Seiller, I work in DRP but I just completed a rotation to Operating Experience Branch in headquarters. A morning report doesn't come out every morning. We may have one a week, one every few weeks and it usually pertains to just one item. So nothing is going to be lost at the bottom. The two main uses that I've seen for morning reports is to relay an organizational change that other plants might be interested in. A morning report is not only accessed by the NRC, it's accessed by all of industry and that makes it an effective way for us to relay information that we think other plants might want to know but it's not too

critical, too important.

The second way I've seen them used besides organizational changes is if we get a Part 21. For the Part 21, the vendor making the 21 notification, has to notify all the effected plants, but we typically like to let all the plants know that this is going on, just in case they may have this part and that went under the radar and we'll often use a morning report to let everybody know, "We got this Part 21, we spoke with the vendor. We believe only three plants are impacted but you should check your own site to make sure that you're not impacted as well", and I've only received one of those a week.

SUBCOMMITTEE CHAIR SIEBER: Actually, on Part 21s, the manufacturer only knows the first person he sold it to and you know, that could be traded from plant to plant or sold as scrap and then reclaimed. There are a lot of things that could happen.

MR. DIEDERICH: Particularly shared within fleets and so the point is that NRR collects all these different sources that may potentially be relevant operating experience items and then they're going to screen them and we'll look at that process here in the next slide. And they will then communicate them and apply them as applicable. And so that will depend

upon their applicability, their generic applicability and their safety significance.

Some of these sources of operating experience could also be grouped by a different maturity level. Some of them are at the event notification level. We know in effect, something happened at one plant and a greater more analyzed level would be inspection findings, information notices any generic letters. So there's also a different maturity level grouping that you could do on these different sources of operating experience. Next slide, please.

So some of the sources there are --

CHAIR WALLIS: How much input do you folks have on generic letters? Headquarters sends out these documents from on high.

MR. DIEDERICH: Right.

CHAIR WALLIS: Do you folks have a chance to give input as to feasibility and reasonableness of the requirements in the generic letters and things like that?

MR. DIEDERICH: I believe there are a number of feedback processes. I have not done a generic letter, though. I know people who have --

CHAIR WALLIS: Well, we often ask these

questions as a committee.

MR. DIEDERICH: Right.

CHAIR WALLIS: Here you're making this statement, a plant must do this in 90 days, or something, and we say, well, is that a reasonable requirement. I would hope that you folks have already given your advice on that issue.

MS. GAMBERONI: Well, on some of the technical issues when it's started at a particular plant and we might have the inspector who is most familiar with that, our technical experts will interact with NRR. More frequently are the information notices, so we definitely have involvement with them. The generic letters, we do have discussion but once you get into that process as far as the time frames associated with that, NRR might request our subject matter expert in that area for some information but they are really the ones more involved with the --

CHAIR WALLIS: But the problem is when there's some kind of pressure, maybe it's pressure from the Hill or something to resolve some issue and the generic letter is put together at headquarters. It's going to request something which can be actually implemented sensibly in the field. And I just hope

that they get input soon enough to enable us --

SUBCOMMITTEE CHAIR SIEBER: Well, that's what --

MS. GAMBERONI: Well, and depending on the issue, usually NRR who has the lead on those, will put together a team, and for some of the ones that are really critical, the generic letters go into the bulletins, they're going to request information from all our stakeholders, including the region. So they will ask --

CHAIR WALLIS: So you will send people to headquarters --

MS. GAMBERONI: It might be a telephone call or something like that, but probably our most involvement is really with information notices and then -- or we'll actually write portions and provide information on what's occurred at a plant and you submit that into --

MR. DAPAS: Just one thing to add, this is Marc Dapas. I think a good example of the type of communication you're talking about is the generic communication on the steam generator tube inspections. There's been a lot of back and forth on that. There is an effort to identify guidance criteria in the communications, and I'll offer that the regions have

had an opportunity to weigh in and be involved in that but when there is a decision to communicate an expectation in terms of what constitutes an appropriate method for addressing the regulatory requirements, as you know, generic communications cannot -- are not in and of themselves, a requirement. They outline viable and acceptable approaches to address a regulatory requirement.

There are vehicles such as temporary instructions that is the inspection piece where we would receive guidance on how to go out and inspect the degree to which the licensee is meeting that particular requirement and if they choose to adopt the approach that's embodied in the generic letter, that TI or bulletin, if you will, temporary instruction, will prescribe inspection guidance and we have clearly input into that process regarding the viability and expectations, number of hours and things that we would be looking at as part of the inspection process.

CHAIR WALLIS: Well, when you inspect these new sump screens, you're going to be going in and you're going to be verifying that what's installed is what they said was installed. You're not going to be doing anything to check that they work.

MR. DAPAS: I don't know if the temporary

instruction has been developed yet but I know that licensees need to respond saying, "Here is the screen design".

CHAIR WALLIS: They will respond.

MR. DAPAS: Right, and then NRR looks at that and decides whether that is acceptable and then there will be an inspection piece. What exactly that consists of though, I think we're still in the process of refining that.

CHAIR WALLIS: It probably will be verifying that they've done what they said they'd do.

MR. DAPAS: Correct, essentially, from an over-arching perspective, yes.

MS. SNELL: Michelle Snell, DRS. The TI has actually has been developed. We actually have inspected Indian Point. We've inspected what they've done so far. They installed most of the modifications during their most recent outage, so we had inspectors on site and we looked at the modifications they had done up to that point. They still have some modifications to be done outside of the wall and they still have to do some procedural changes and things like that.

Headquarters has not done their aspect of the inspection yet and so we still have some

continuing inspection left.

MR. BLOUGH: Thank you. Would you agree that when we inspect, it's mostly that they've actually done what they said they're going to do?

MS. SNELL: Yes. For instance there was a TI for the sump at Indian Point, we're looking that they meet the improvements that they've committed to to headquarters. Headquarters is looking that they're actually doing the proper -- they're installing the proper screens.

CHAIR WALLIS: So you go and you count the modules. They say, "We're going to put in 100 modules of this design", or something and you count the modules and yes, there's 99 plus one so that's okay.

SUBCOMMITTEE CHAIR SIEBER: Yeah, the regions would not do any technical evaluation of -- for example, the flow across the screen, the ability to trap products, the head loss, that's somebody elses.

MS. GAMBERONI: But if there were issues there would be coordination.

MS. SNELL: Oh, definitely. There would definitely be coordination. I mean, headquarters, we were coordinating. We were there at the same time the headquarters group was there and they knew what we

were looking at, we knew what they were looking at. If we had any issues we brought it to them and vice versa.

MR. DAPAS: If we were performing a temporary inspection against the TI, and there's a test that the licensee conducts and it appears from the test that the design criteria is not being satisfied as borne out by the test, we would communicate that to the program office and then the program office would do the technical evaluation on the acceptability in light of that test information. As you pointed out, we think we'd be getting into the technical viability that gets into design evaluations.

But there is a certain level of technical expertise that you need to understand whether there is a technical issue that needs further exploration by the program office.

CHAIR WALLIS: If you're a smart inspector, you might not be able to help asking yourself is it going to work right and satisfy yourself.

MR. DIEDERICH: I believe all our inspectors ask exactly that question.

MS. SNELL: I agree and we did sit in on -- we went to the headquarters meeting on the

downstream effects and all the other meetings, so we were involved with the technical issues, so we understand what the issues are, if a sump screen was appropriate or not.

MR. LEW: My name is Dave Lew, Deputy of DRP. I just wanted to add to that in terms of regional review for requirements such as generic letter. We do go through an organization, a panel called CRGR which does involve representation of at least one of the regional deputies is on that panel.

MR. DIEDERICH: All right, thanks. So I talked about the sources. I'm going to talk more a little bit later about the applications but right now, I'm going to talk about the piece in between the black box of the process for the operating experience. And so it happens on both the local regional level and it happens at headquarters at NRR and so there's parallel functions and multiple interactions and I'll try and briefly describe those for you.

CHAIR WALLIS: These INPO SEE IN reports, is there a history that they're coming out with useful information?

MR. DIEDERICH: I've looked at those and reviewed them prior to going to my inspections and I know the Operating Experience Branch looks at them

when they come out. They review those.

CHAIR WALLIS: They find that without them they'd be lost or are they -- they're not a key element of what you get.

MR. DIEDERICH: It's as we said earlier, we don't make recommendations so many times INPO will. If a plan identifies a generic issue, we will eventually put out an Information Notice if it has the right criteria. Industry, on the other hand, has a parallel path, INPO, those CN notices, SOERs and SERs.

MEMBER MAYNARD: And I'm not sure on the CN report but for a number of years basically INPO would not and couldn't share their information but ti took a big effort with the NRC and INPO to figure out ways to share their industry operating criteria without violating some other criteria. So I take it just recently they've been able to share some of that.

MR. DIEDERICH: Yes.

SUBCOMMITTEE CHAIR SIEBER: The CN's are more good ideas as opposed to information notices from the NRC which is this thing doesn't work right.

CHAIR WALLIS: They're causative.

SUBCOMMITTEE CHAIR SIEBER: Yeah, well, but that's the different roles of the two different organizations.

MR. DAPAS: If I could again offer -- Marc Dapas. We have different generic communication vehicles. We have a risk, right, which can communicate lessons learned, let's say regarding -- and I'll just pick something outside the reactor program, decommissioning. You know, it will go through what we have seen in a number of decommissioning plants as an example, and we will communicate back to the industry as a means of helping them be positioned when they then need to make a submittal to the NRC, they can benefit from some of the lessons learned of their counterparts that have already gone through that process.

The same thing with risks in the reactor program. So I offer from that perspective, it's a positive in that you are providing guidance that will help the industry be successful when they are engaging in different regulatory applications.

SUBCOMMITTEE CHAIR SIEBER: I think overall one of the important communications methods that the agency has is their website. I think it's very good. Does the region have a website?

MR. DIEDERICH: Yes, specifically, in fact, I'll discuss that some right here on this --

CHAIR WALLIS: I have one other question,

John, sorry. You have this international incident reporting system. Is that useful?

MR. DIEDERICH: Yes.

CHAIR WALLIS: Are there instances where something has shown up internationally which you didn't know about which really made a difference.

SUBCOMMITTEE CHAIR SIEBER: That's why we're doing sumps.

CHAIR WALLIS: Well, we're way behind in doing --

SUBCOMMITTEE CHAIR SIEBER: Well, I can't speak to --

MR. JACKSON: This is Don Jackson. I have an example from last week I provided to the management team and also sent that international event out to the senior resident inspectors. It had to do with blind flanges being found in the AFW system backup supply to steam generators. So like your service water, cross-connect to the steam generators, one of the plants, I think it was Sweden, found blank flanges as a result of construction.

CHAIR WALLIS: There's no connection. It's just closed off?

MR. JACKSON: No, it's closed off. And I know from my experience of being an SRO, if you do a

valve lineup on that, you never actually push water from the river or lake or whatever to the steam generators. So I sent that out to the senior residents so when they do their --

CHAIR WALLIS: This goes out pretty quickly, this sort of thing?

MR. JACKSON: The same day I got it, screened from headquarters, it went out to the senior residents.

MR. BLOUGH: Well, that part of it. The information from overseas can vary quite a bit, I think, in when we get it, but once we have it, we recognize it for what it is, it goes forth through the agency just as quickly as anything else, I think.

MR. DIEDERICH: Right, and so that's an exact case here, where the thing was identified, screened in by in this case a clearing house, NRR up here and evaluated to be of substantial significance. They put it on their website, the NRC internal website that headquarters maintains, and they e-mailed it to us and then we furthered that onto the residents.

And so in this case, we're finding out directly from the communication to push that out in case it was something that the residents could find useful in their inspection activities. And so NRR

does that with the operating experience role. We have a parallel role here in the region where our inspectors will identify issues that may have generic applicability. I have some examples in the next slide. And they'll evaluate them. They'll -- the inspector will perform a screening, "Hey, this may have generic applicability", you know. It can undergo evaluation there in the region and then it could either be communicated back up to the region or up to headquarters and then out. And so we have that good example.

We can also store operating experience information on our Region 1 website. Louis Manning and Rich talked about our knowledge management and our Region 1 website and we have an operating experience section where we maintain specific information on that, particularly some of the information that we send out, so that it's available for later retrieval.

MR. DAPAS: Karl's very familiar with that through the effort he expended to get that operating experience website up and running in Region 1.

MR. DIEDERICH: Also when we communicate operating experience out, if we have a piece and we send it out to the inspectors, we can get feedback frm them to say, "Yes, I've seen that, too", or maybe if

we don't hear anything back, and we're not then -- or we find out that's not as significant. So there's feedback and just communicating an early event.

And then also we do on a six-month, a semi-annual basis, what's called the TRG, Technical Review Group. NRR is divided into 30 different groups, areas that these operating experience events fit into. And semi-annually technical review groups will review these to try and get a trending, a synthesis of those different events. And we participate on that. We have a member on each technical review group here in the region. Each region has one member on each technical review group, several members from NRR on each group.

CHAIR WALLIS: This feedback from community is all from the licensees, essentially.

MR. DIEDERICH: It would be more from the inspectors. One case that we had, for instance, for some vials from Swelapack on some cards and so we -- they wanted to find out whether or not this was the case on other plants on some of their systems installed. So we put out that operating experience and in that case, there was a high enough importance that we simply asked for the feedback and so then we will find out whether or not and the degree to which

it has generic applicability.

So again, information is to be pushed out to the inspectors and also it can be pulled when the inspector is getting ready for an inspection, he can go to the operating experience and it's been a longstanding practice, though in some cases it's hard to differentiate whether or not our new implementation here, our operating experience, is having a dramatic big effect. I mean, I've always and we've always had a policy to check operating experience when we were preparing for an inspection to help you with your samples.

And so that's becoming much easier. It's becoming more thorough, a whole collection of links all in one spot and it's much easier to search now, so the degree to which that's helping is sometimes difficult to determine because we've always done it just, I think we're doing it a lot better now.

So the subject matter is evaluated and helps us to communicate the information and some of the subject matters are designated technical review group members that provide the semi-annual review and the synthesis stuff as well. So with that, I'll go into a couple of examples.

I'm going into the application here. And

I guess the one other point that I'd like to make is that -- and I've already made it, is that operating experience supports many of the inspection and nuclear safety functions that we do here in the region and in the NRC. It helps you collect samples, help you evaluate events that come from licensees and it will also aid in the internal communication because when you do a broader number of cases before we sent out an information notice or a generic letter.

And you'll notice from an operating experience for example, that's coming down and the idea there is to provide instead of just a spot array of events, and some communications on different operating experience, there are recommended samples for inspectors and the potential that that has, amongst other things, is that inspectors can call out in a report they looked at this voluntary sample and specify -- and then NRR can go up and see whether or not there were any findings and then we'd be able to better determine, you know, its direct impact of the operating experience.

The other thing that voluntary samples can do is by putting out that we need to look at or that there's a potential generic issue and that, "Hey, here would be a great sample to look at in your next

inspection", is that out of the 100 plants, if 10 plants get looked at and that feedback goes back to NRR, then they can have a better idea of whether or not they need to put out some generic communication, particularly the generic letter that have requirements attached to it because they'll have had the feedback from in-plant and they'll have had that without having to go to the licensees and the residents and separately task them to look at. So it has the benefit as well.

Obviously, operating experience forms some of our regulatory decision making and processes with respect to procedure, revisions and rulemaking and licensing issues. All right, so I have three quick examples here. One is that Millstone had tripped to a "tin whisker" in a circuit card. A tin whisker happens due to the way the items are soldered onto the board. It was the first case that was identified here in the nuclear industry. One of our inspectors was at the plant when the plant licensee personnel identified that this was an issue.

His research indicated that this had potential generic applicability. It had been seen in other industries to a number of cases and so we communicated that within the region because this

reactor system card and it's a function more of how it's soldered on there, the type of solder and whether it's low in certain trace elements and the we informed NRR. So this is a case where we were communicating it up. Eventually NRR also communicated it across the broader agency. This is also a case where it became an information notice that was drafted here at the region. We, obviously, had it put on the generic communication. That has been sent out.

The second case I want to mention is a Barton gauge. We had -- one of our inspectors was informed by the licensee that they had received a letter from a manufacturer that cleaning Barton gauges in a certain way can potentially damage them, and the inspector wondered why or whether or not this had some generic applicability and handed that to the Branch Chief and then it went to the subject matter expert and his evaluation was that this potentially should have been a Part 21 letter to all residents, just a letter to the plant. And so that was passed up to NRR. So operating experience, in this case, has made a regulatory process a little bit more effective.

And fire prevention and internal flooding, there's been some samples that -- cases that have come out and so it's helped inspectors better develop what

they're going to look at and this is related back to that voluntary sampling I mentioned earlier, where it's aiding that sample selection issue and hopefully that will be fortified.

With that, are there any other questions? I thank you for your attention.

SUBCOMMITTEE CHAIR SIEBER: Thank you very much.

MS. GAMBERONI: I'll just add, Karl did recently complete our regional instruction on operating experience and if you're interested, we can provide you a copy of that.

MR. BARKLEY: Mr. Sieber, based on our schedule, what I was hoping to do at this point in time was do this next presentation by Mr. Bhatia. And this Bhatia actually, to support it, we've asked two inspections who are on inspection at Pilgrim right now to listen in via phone, so I'll make a phone link here in a second. Then we can go to the lunch break and then have the Limerick discussion after that, if that's acceptable to you.

SUBCOMMITTEE CHAIR SIEBER: That sounds good.

MR. BARKLEY: Okay, and we can discuss possibly shrinking the lunch period maybe just a

little bit to try to make up some of the other time, if that's okay. The food is already here and we'll be dining on these tables right over here.

SUBCOMMITTEE CHAIR SIEBER: All right.

MR. BLOUGH: Grid reliability, the same branch that has fire protection in Region 1 has electrical issues and it turns out this week most of our inspectors are in the field. In fact, we've got a fire protection team inspection going on at Pilgrim. So Rich is dialing into them and we'll just take a second here. But in the meantime, I'll just tell you our presenter will be Mr. Ram Bhatia and he's got extensive experience, I guess, best described as many years as an electrical specialist and he's been an inspector for many years as well.

This is Randy. Ram's about to start. The -- you're with the ACRS, so when you speak and you're by telephone, so please identify yourself by name. If you want to speak and speak loud so everyone in the room can hear us. We've got staff throughout a large conference room. Thanks for joining us. Okay.

MR. BHATIA: You know, the heat wave is all over the country, so this is a good subject today to -- I'm going to present the Region 1 perspective from the grid reliability point of view. What -- I'm

going to cover the Region 1 grid environment, offsite power temporary instruction results which we have been doing it for the last three years, to cover the summer activities and the Limerick Station, I understand you're going there, so I'll spend a minute or two here to give you perspective of the Limerick operability readiness and then I'll outline two or three issues in the region.

The environment in Region 1 is like this. We have 17 nuclear sites or 26 nuclear operating plants and we have no vertically integrated utilities. What it means is all parts of the utilities, transmission, operation, and generation, they are split up based on the devaluation now in the Region 1 area. And we have three ISOs in our region, ISO New England and New York ISO and the PJM which covers quite a bit territory.

SUBCOMMITTEE CHAIR SIEBER: I'm surprised that there are no longer any vertically integrated utilities. That's something new to me.

MR. BHATIA: Well, I agree, our Region 1 territory is the first one which is fully regulated. So obviously, by regulations they have to split up. And as we know, each site communicates with respective transmission operators. So we have a different

communication level from different plants and based on the utilities and the transmission operator. All right, this is just a general overview of the transmission network throughout the country and new one is basically sitting up on the northeast corner. This slide shows our nuclear power plants with the red dots on the northeast Region 1 territory.

CHAIR WALLIS: So Vermont's attempt to buy power from Canada didn't --

MR. BHATIA: Well, there is a big DC transmission line coming from the Canada, basically which imports power to our country.

CHAIR WALLIS: It doesn't seem to go to the State of Vermont.

MR. BLOUGH: I guess that would be a tortuous path to try to get into Vermont or is it not even possible?

CHAIR WALLIS: Now, we know that Vermont Yankee supplies Philadelphia and New York.

MR. BHATIA: It's possible but most of the power comes into New England comes into the northeast corner, comes down to the New York area and then --

CHAIR WALLIS: And back up.

MR. BHATIA: So they are running kind of behind the demand in the New York high demand area

basically. We've been very actively involved with the headquarter on these TI issues preparation review, and, you know, feedback to them. We were part and parcel of the questions that were put together back in 156, 163 and 165.

And this is the general responses which we have received and we have forwarded these responses in April 3rd to the headquarters for the review on the latest TI 165. And as a result of how these TI's, we have made a lot of improvement in procedures for post-trip voltages inadequacy which was existing before but with these TI's we have made a lot of improvements at the plants procedures and a lot of them have realized what the real time contingencies are and how they are monitoring them.

And overall results are the Region 1 has no outliers with respect to the TI responses and we had general feedback from the rest of the region.

MEMBER MAYNARD: Have most of the plants been able to meet the requirement with their existing equipment or have some of them had to install tap -- automatic tap changers or, you know --

MR. BHATIA: Certain improvements they have been making based on their design basis at like Oyster Creek had outage low tap changes and up in the

northeast possibly in the Nine Mile area. That was a part of overall design basis compliance as well as the general improvement in the liability in the --

SUBCOMMITTEE CHAIR SIEBER: I think the interesting things is that there was a time frame of maybe 20 years ago when a lot of line loss load flow studies were done that caused utilities to either put in tap changers or capacitor banks or what have you in order to be able to insure the quality of the offsite power, that all of those changes were based on analysis of 20 to 25 years ago and I'm sure the conditions have changed since then. And so I wonder if all that is still adequate.

MR. BHATIA: I was, in fact, on the web yesterday looking at the ISO New England and ISO New York. Each one of them have put up a report on the liability aspect and the other aspect. So it seems to me every year they are coming up with a complete package of improvement on individual ISO territory.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: So there a lot of discussion was what they want to do in the future at the transmission lines where they want to add capacitor banks. So I found that on both the ISOs special report in with the PGM is also earning almost $2.3

billion transmission line to improve the, you know, transportation going out in the different regions.

SUBCOMMITTEE CHAIR SIEBER: I understand that -- and I think it's in Region 1, you can tell me whether it's true or not, that they may be operating the system out of the best economic balance and making cash charges for that in order to balance the voltages in different places. And I suspect that the process for doing that is to support the higher quality at some of the nuclear power plants. Is that taking place in Region 1?

MR. BHATIA: What I have heard is they were going to come up with a megabar per unit dollar figure value so that the utilities, our generation units would sell that to improve the quality of the area, but I haven't heard the complete assessment.

SUBCOMMITTEE CHAIR SIEBER: That's something, I think, I'd need to follow because grid reliability is my responsibility to the Committee.

MR. BLOUGH: From the site, did you have anything to add so far?

MR. SCHOLL: No, I had a little difficulty hearing the last question.

MR. BLOUGH: Okay, and the last question was yeah, whether there were operating areas of the

grid outside the best economic setup and whether there were short voltages throughout this system and they were coming up with an economic compensation and Ram said he's heard that they were trying to come up with a dollar value per megabar but that was all we know right now. So I was just asking was there anything to add on what you've heard so far or on that point specifically.

MR. SCHOLL: Well, I think at that point that Ram is correct. I think that if they financed to put out additional megabars, they get compensated for that.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BLOUGH: Okay, thank you.

MR. BHATIA: Okay, since you're going to Limerick, I have added these three elements here. At Limerick there's no transmission operator, obviously, PJM. And then transmission owner is PECO Energy. We are part of the same system but one is regulated and one is deregulated. So I'm qualifying it as vertically not integrated.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: And the agreement exists between the Limerick and the PECO and the Limerick and the PJM for the notification requirements. And the

last bullet say, the Limerick has not experienced a load event in the last 20 years. So it's a pretty good strong system in this area.

SUBCOMMITTEE CHAIR SIEBER: My impression was that PJM was pretty strong every place where it hits. Is my impression correct?

MR. BHATIA: PJM is probably the leading ISO right now in the nation. They have a bigger territory and the largest power generation in the dispatch area.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: And I can give you a figure, basically. Just, I'm going to go over later our new record in the PJM area so we can talk about it.

SUBCOMMITTEE CHAIR SIEBER: Okay, thank you.

MR. BHATIA: Okay, there are two, three grid issues which we have figured out may be of interest to you. The Seabrook station, which is -- I believe it's putting onboard 1225 megawatt electric. It varies basically on the terminal.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. BHATIA: And we found out there is an agreement with an ISO New England PJM and the ISO New York. And what -- the stability limit in that part of

the country, because it's towards the end of the transmission line, they have done the study way back and it has limited the largest unit in that area to be 1200 megawatt. And that agreement has been there from the last two decades and they have recently evaluated and they still want to stay with the 1200 megawatt.

So since the Seabrook exceeds the limit of the largest stability limit, occasionally around the country the agency arrives in either one of the ISOs and Seabrook has requested to down-power from 1225 where they are and they have to go down to 1200. And that's very unique circumstances which our Seabrook Station is experiencing.

SUBCOMMITTEE CHAIR SIEBER: Huh, interesting.

MR. BHATIA: And we understand that Seabrook has talked to the -- we are involved, headquarter is involved and the FERC is involved and the station is involved and so are the ISOs and there's an ongoing dialogue on this thing.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: And my understanding is they are going to review the study and see if the number 1200 gets to upgraded because otherwise I know there are 1225 and there is another set of upgrading at the

Seabrook Point, too. And that's the kind of thing to down-power.

MR. BLOUGH: And when they're asked to down-power it could be several times over the course of a day or a few days, down, up, down, up, down, up and of course, that's --

SUBCOMMITTEE CHAIR SIEBER: It's a small amount.

MR. BLOUGH: Yeah, like two percent.

SUBCOMMITTEE CHAIR SIEBER: On the other hand, those are revenue dollars also.

MR. BHATIA: That's --

MEMBER MAYNARD: At certain times of your fuel cycle, even small changes are --

SUBCOMMITTEE CHAIR SIEBER: Are not good. Yeah, well, the issue is if you're putting power out beyond the stability limit, if you trip, then you're going to have a low voltage event because of the existing system configuration at the time of the trip which creates a new vulnerability.

MEMBER MAYNARD: Based on the reserve.

SUBCOMMITTEE CHAIR SIEBER: Well --

MR. BHATIA: It's the largest unit disappearing from the grid which causes the instability.

SUBCOMMITTEE CHAIR SIEBER: That's sustaining the voltage at that end. When you take the unit away, the voltage that exists at the trip terminals goes down further than it otherwise would.

MR. BHATIA: Yeah, and the phase will change and then you could isolate from each other.

SUBCOMMITTEE CHAIR SIEBER: And spending reserve has no impact because all these things take place within 15 or 20 seconds.

MEMBER MAYNARD: Yeah, it can either be the larger plant or it could be one of the lines. If you have three lines going in or out of a station, you lose one it's not big deal. If you have one out and then you lose a second one, one line may not be able to handle it to get to a grid stability. So there's other plants that if one of the main power lines is down, they may have to reduce a little bit for grid stability for that, but that's usually once every three or four months as opposed to four or five times a day.

MR. BHATIA: Yeah, but there is another avenue to this one is when they are pushing power heavily towards New York and it's being consumed in the New York area. Then all of a sudden if you lose the largest unit, then you could go into an

instability mode and --

SUBCOMMITTEE CHAIR SIEBER: Where it all starts to fall apart.

MR. BHATIA: It all depends on how the configuration is at that point. Okay, the second issue here is the Fitzpatrick 4160 volt AC safety bus relay. This back in March 29, 2005, all of a sudden there was a large hydro-station in St. Laurence in the New York area, still in our site. About 1,000 megawatt of power was tripped off. So as a result the 345 carry line at Fitzpatrick area which normally feeds the Fitzpatrick Station and generally loss a part of it. It passed from 358 to all -- all the way to 325 which was since down 4160 volt bus and as a result the graded one or the other was actuated, where fortunately it was only for a couple of seconds only because there was a timer which counts the time so that it -- because momentarily, you don't want to disconnect the off-site power, the mono-power and go to the standby power.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. BHATIA: So it was sensed and then the Fitzpatrick Station called them, the TO's the national grid and it was confirmed that they are a disturbance back there due to the trip-off of the large unit in

that area.

SUBCOMMITTEE CHAIR SIEBER: Is this alarm part of the under-voltage relay system?

MR. BHATIA: That's right.

SUBCOMMITTEE CHAIR SIEBER: So ultimately it resulted in a trip?

MR. BHATIA: No, since it had the 90-second timer, it's only went on for two seconds, so it was considered as a disturbance for a few seconds and was normalized.

SUBCOMMITTEE CHAIR SIEBER: That's so you can start heavy loads on 4160.

MR. BHATIA: That's correct, yeah.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BLOUGH: That's if it had continued for 90 seconds.

MR. BHATIA: It continued for 90 seconds, maybe it would be going from here to over on standby power which --

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. BHATIA: Yeah.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: So this was a good chance to see our communication between our Fitzpatrick, Nine-Mile and the TO's in the grid. And the second example

is also basically along the same line. The Nine Mile Unit 1 had one of the A-phase line open due to some unknown reason and one of the Phase 1s stayed open for a good amount of time, 20 days. And even though there was a monitoring system at Nine-Mile, A phase was indicating some current. B phase was -- A was not showing any current, B was showing some current and C was showing nominal current. It is not normally connected. It's a standby power.

SUBCOMMITTEE CHAIR SIEBER: Yeah, on the other hand, it still has relay protection phase on balance, so it should have tripped the alarm.

MR. BHATIA: Yes, it had relay balance. As I showed the picture up there, standby A way up close to the breaker. The conductor was open at the transmission line.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: So it wasn't visible. Only it was visible at Nine-Mile where the metering is available. They were reading the phase A zero, B as some current, leakage current only.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: And the C was also --

SUBCOMMITTEE CHAIR SIEBER: There was really no load on this.

MR. BHATIA: There was no load on it. It was just a standby.

SUBCOMMITTEE CHAIR SIEBER: Go ahead.

MR. BHATIA: So, it stayed in this condition for almost 20 days until we got a phone call from TO, Transmission Officer of the national grid.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: And then we went back, the station people went back and checked them physically on the A phase was in open condition.

MR. BLOUGH: So the station was interpreting the currents as you're very low on two lines and zero is -- being essentially zero and okay on all three lines, but that wasn't the case and then they found out --

MR. BHATIA: My belief maybe their metering is not in good condition. I mean, metering was showing some error.

SUBCOMMITTEE CHAIR SIEBER: It's hard to say because those currents --

MR. BHATIA: So simply the two phases were energized.

SUBCOMMITTEE CHAIR SIEBER: Yeah, but the currents are probably very low so --

MR. BHATIA: Very low.

SUBCOMMITTEE CHAIR SIEBER: -- so you wouldn't see anything on an analogue meter. A digital you might see something.

MR. BHATIA: Yes, so this was a very good example where the TO called us and said, "Hey, I'm seeing something different here. A phase is not showing me anything". And since these lines are the GDC17 offsite sources, and being energized not connected is hard to see. So it was a good example where good people helped the plant.

Basically, what I was trying to show is we are a good communication between the transmission operator, ISOs and the plants.

SUBCOMMITTEE CHAIR SIEBER: Well, it's better than none, but this condition existed for 20 days. So you have to decide how good it is.

MR. BHATIA: Yes, from the data.

MR. SCHOLL: This is Larry Scholl at the site. One thing, at Nine-Mile they did have the current indication that it was correct. It was a low current on two phases and the third phase they attributed it into an indication problem, that actually they hadn't found the actual cause in the conductor. They did recognize the mismatch but again, didn't find the right cause.

SUBCOMMITTEE CHAIR SIEBER: Okay, thank you.

MR. BHATIA: This is a -- I thought since we were addressing the heat waiver, we were, I can give you a perspective on the PJM now. This is on July 17th, they broke their old record of July 26th, 2005 which was a 133,765 megawatt and the recent, last Monday they delivered 139,746. This is the new record for the PJM. And I checked the web on the New York site and same day the New York website also broke their record also. The record they made was 32,624 megawatt. And the recent record the following day the ISO New England also made a new record, 27,374.

So as you can see, the records are being broken in all these three ISOs in the recent heatwave.

SUBCOMMITTEE CHAIR SIEBER: And that's happening all over the country.

MR. BHATIA: All over.

SUBCOMMITTEE CHAIR SIEBER: I think the California grid hit 54 yesterday.

MR. BHATIA: Yes, California also broke their -- they've been breaking --

SUBCOMMITTEE CHAIR SIEBER: Bonneville is -- it's hard to tell there because they -- you know, they have so many independent transmission companies

around there that you're not sure where everything is going but they hit a record, too, over 100 degrees.

MR. BHATIA: Yeah, in fact California breaking record every other day now.

SUBCOMMITTEE CHAIR SIEBER: Yeah, well, they stabilize because of the rolling blackouts.

MR. BHATIA: So anyway it gives you a little perspective here. Now, California ISO is around 50,000 megawatt and it's EZM ISO it's almost three times the capacity and then you can see the New England is 32 and 27,000 category.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. BHATIA: New England and New York.

SUBCOMMITTEE CHAIR SIEBER: It sounds like you're right up to the minute on the information that -- particularly during this stressful period and that's a good thing.

MR. BHATIA: Yes, headquarters and region have been following the information and there is enough information available on the web and independent lab also, that you can see the minute-by-minutes information at that point.

SUBCOMMITTEE CHAIR SIEBER: Yeah.

MR. BHATIA: Every five minutes it gets updated.

SUBCOMMITTEE CHAIR SIEBER: That's good for me to know. And --

MR. BLOUGH: Well, our headquarters is looking at all the ways get -- monitor the information and trying to consolidate it all, but you know, the fact is, honestly, we don't have good protocols for anyone to tell us from the ISOs you know, NERC has been designated as an electric reliability organization but they've got a lot of work to do before they get to where they've met their objectives. Just last week we started asking all the plants every morning if there's any grid alerts or anything and then we use that to compare with what we've seen ourselves and what headquarter is saying. So there's still work to do at this area, but when the situation gets tight, we're watching is as closely as we can using the sources we have and our Branch Chief, John Rogge, who is tending to a sick relative this week out of town, has cultivated relationships with the -- with the PJM and the New England, New York people as well.

And so we still have work to do in that area, but you know, we've got a lot of effort going on to watch the situation.

SUBCOMMITTEE CHAIR SIEBER: Well, I think that until the rule is fully implemented and Americans

have established a consistent protocol, it's going to be difficult, as I'm sure you're now experiencing, to figure out what everybody is doing.

On the other hand, we're better than we were a year ago. Well, I appreciate that, thank you.

MR. BHATIA: The last slide, basically, put everything together as I mentioned, the knowledge and utilities are working on integrated utilities here. All three ISOs are fully regulated and then I got this pointer from basically the headquarters because I can't compare with the rest of the region. So they were telling me that Region 1 ISOs are pretty proactive, progressive and forward-thinking for ability to go to the other regions.

All Region 1 offsite power TI responses are in line with headquarter expectations and no outliers. And at the same time, the Limerick Generating Station and others we think they are ready for 2006 summer, which so far has been demonstrated pretty good, you know.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BHATIA: And that's basically what I have.

SUBCOMMITTEE CHAIR SIEBER: Okay, thank you very much. I appreciate that. And it's

consistent with what I've heard from other sources on the other end. I feel good that you folks are on top of this every day and because I think that's also important. Thank you.

MR. BARKLEY: Mr. Sieber, if it's okay with you, I'd like to break for lunch and if we could come back say at 10 minutes after 1:00. Would that be workable, 45 minutes?

SUBCOMMITTEE CHAIR SIEBER: I think so.

MR. BARKLEY: Okay, we'll reconvene at 10 minutes after 1:00. The hoagies are next door and well bring that over here and eat right here.

(Whereupon at 12:25 p.m. a luncheon recess was taken.)

A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

1:16 p.m.

SUBCOMMITTEE CHAIR SIEBER: I'd like to introduce Carey Bickett and Jim Trapp to tell us about Limerick.

MR. TRAPP: I'm Jim Trapp. I'm a Branch Chief here in Region 1. I've been in the nuclear industry for 26 years. I've been with the NRC here in Region 1 for 17 years. I've been an Inspector, a Senior Reactor Analyst and for the last four years a Branch Chief here. We'll add -- I don't know if anybody else added this, but this is a great place to work. I think we all like it and I've certainly loved the 17 years I've been here. So seeing the other side and this is just real fascinating work for us.

I have an MS and a BS degree in Nuclear Engineering and I'm one of those guys they were talking about before. I was a former SRO and I worked at Indian Point 2 for a number of years in outage management and reactor engineering.

SUBCOMMITTEE CHAIR SIEBER: And you and I have met before.

MR. TRAPP: We spent a couple of nights looking at diesel generators.

SUBCOMMITTEE CHAIR SIEBER: Diesel

generators, sequencers.

(Laughter)

MR. TRAPP: Jack was like the NCO, Chief Electrical Engineer at Beaver Valley for a number of years and I was the AIT Team Leader for a number of AITs, so we've spent some time together.

SUBCOMMITTEE CHAIR SIEBER: Right, we were a profit center.

(Laughter)

MR. TRAPP: I wasn't going to say that. Carey.

MS. BICKETT: My name is Carey Bickett. I've been with the NRC for about three and a half years now. I've been the Limerick Resident for just over a year. Before that, I was a DRS Inspector. Before I came to the NRC I was actually working at the Charleston Naval Prototype as an instructor for about six years and that's about all my experience. I have a Bachelor's Degree in Chemical Engineering from Penn State University.

MR. TRAPP: And our Senior Resident Inspector is also a previous SRO, Sam Hansel, is down in Chattanooga for training this week, so he won't be able to join us but next slide, please.

We're going to give you a real brief

overview of Limerick. You know, tomorrow, we're going to spend an entire day there and you're going to get all sorts of information from Exelon and others on Limerick, so we're going to kind of keep this brief. What we're going to try to do is just kind of give you -- whet your appetite for what we're going to see tomorrow. Both plants at Limerick are owned by Exelon, owned and operated by Exelon Corporation. They're twin GE BWR 4s with a Mark 2 containment, so they have a suppression pool. I guess for Region 1 this is about as typical a BWR as we have in the region. There's not much --

AUDIENCE MEMBER: Whatever a typical BWR is.

MR. TRAPP: Right, well, I'll point out some of the differences but I mean, in Region 1 we've got a lot of the Golden Oldies, so I mean the diversity in BWR is just astounding and if you think you know something, on the site, you probably don't. But these two sites, Susquehanna, Hope Creek and I think we have a few here that are similar. These are our last operating license. These two plants went on line in `85 and `89. So this was -- Unit 2 was actually the last construction plant here in Region 1 and luckily when I joined the NRC, I had an

opportunity to actually get down in the vessel and fool around down there. So It's our last one on line and they're large. They're 1134 megawatt BWRs.

There is a few interesting aspects to Limerick that I'll point out. They have the redundant reactivity control system installed. This is an ATWIS mitigation system. So they have an automatic slick system. They would cut back the feed pumps, cut the recirc pumps and they have an alternate rod insertion off of that. So that's kind of unusual for us here. I think we have three sites in Region 1 and have that feature installed.

Onsite power, they have a lot of these little generators at Limerick. They have eight installed diesel generators. They're large, three megwatts each. They're Fairbank Morris diesel generators and they're set up with four diesels per unit. Offsite power, they also have -- they have two offsite power lines, one coming off of 500 KV, one coming off a 220 and they have the ability to hook up a -- they call it the Moser line which is a direct line in from a fossil plant in the Pottsdown area that they can directly hook up into Limerick if they have one or the other alternate off-site power sources out of service, but that does take quite a bit of time.

It takes them about 72 hours, I believe to get that line hooked up.

Cooling tower makeup, as we -- Limerick is just about 20 minutes up the street and you can see the plumes from almost everywhere around here. So on your way up, you'll see the large plumes. It's kind of flat ground around here and the cooling towers really stand out. And one of the interesting aspects is --

CHAIR WALLIS: Does it rain from the plume?

MR. TRAPP: It does, yeah, and we'll go right up 422 and if the wind is blowing right, you'll see that.

SUBCOMMITTEE CHAIR SIEBER: We should come here in the winter.

CHAIR WALLIS: Then you get freezing rain.

SUBCOMMITTEE CHAIR SIEBER: Yes, that's true.

MR. TRAPP: And the makeup sources are kind of interesting because there's really no large water source, no river near them, hence the need for the cooling towers but they have a number of interesting ways to get makeup to the cooling towers. The most interesting would be as they can pump from

the Delaware River to a reservoir. The reservoir dumps into the Perkiomen Creek which is kind of a small creek and they can bring it down the Perkiomen and then pump it out of the Perkiomen which runs near the plant into the cooling towers.

A second way would be the Schuylkill River which is also not a very big river up around Pottsdown. That's their primary source of makeup water to the cooling towers. But an interesting aspect here is up near Tamaqua I believe there are some mines that they have that they pump water out of the mines, dump it into the Schuylkill and they use the Schuylkill River sort of as a conduit and then they take the water out, down here near the plant and use that for makeup.

VICE CHAIR SHACK: The EPA let's them pump water out of mines?

MR. TRAPP: Interesting, yeah. Carey and I were just talking yesterday because they found a lot of manganese in the cooling ponds and we were saying, "Gee whiz, I wonder, you know, with all you hear in the Western States with heavy metals getting, you know, out of the mine leach, I wonder if that could be the source", and we were just kind of throwing that around yesterday, but another interesting aspect of

the way they can get water to Limerick and then the Perkiomen Creek which is kind of tiny, is another way they can just directly take water out of that.

SUBCOMMITTEE CHAIR SIEBER: What's the ultimate heat sink?

MR. TRAPP: The ultimate heat sink are cooling ponds, both for RHR service water and ESW. They have spray ponds.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. TRAPP: And we'll see those on our way in tomorrow. Another interesting aspect is there's an airport. As we go up 422 if you'll look right, you'll see an airport, a small airport. You look left, you'll see the plant. And basically, I'm not a pilot myself, but I think if you lined up for this runway, you would kind of line up on both cooling towers and you'd try to go right between them which, of course, others thought of this and the design basis for the plant includes a small plane crash. It's actually a Lear jet. And interesting enough Exelon owns the airport, so they can control the length of the runway, control the size of the plane and there's just one part of the diesel building, one wall, that I believe that couldn't easily be hit by an airplane that isn't designed for a Lear jet crash; reactor buildings,

control building, the rest are. So that's pretty much the things that, you know, when you look at Limerick, I find kind of fascinating or different.

MEMBER MAYNARD: You say that Exelon owns the airport. Is it open for public use?

MR. TRAPP: It is.

SUBCOMMITTEE CHAIR SIEBER: Yes.

MR. TRAPP: Yeah, and they can tell this, they can talk about this better than I, but I think they're talking about leasing it out now. So you know, they no longer want to be in the airport business.

SUBCOMMITTEE CHAIR SIEBER: You used to have an inspector here who owned a plane that flew in and out of that to his assignments.

MR. TRAPP: Yeah. He was actually the Branch Chief of Beaver Valley.

SUBCOMMITTEE CHAIR SIEBER: Right.

MR. TRAPP: Performance, currently licensee response column, I guess if I could describe it in a nutshell, and I don't know if this is good because this is being transcribed, but they're kind of a perennial good performer at Limerick. We don't have a lot of issues with them. The last green findings we had at Limerick or the last greater than green

findings we had are back in 2001. Now this was almost at the start of the ROP and the finding was an EP drill where they didn't declare the emergency correctly. They were in a general emergency and they didn't get there in time. So that was one of the findings.

The other is a little bit more interesting. Back in the 2000 time frame they had a lot of trouble with SRVs failing open, they had target rock SRVs, something a little unique. They have three stage target rock SRVs at Limerick and they and one fail open at power. Obviously, they had to shut down but this is kind of an interesting aspect. Limerick is the place that got the suction strainer thing for BWRs going. They actually had an SRV, and this is maybe one of the top ten inspector findings ever, we had an inspector in the control room and the SRV opened. He was watching the RHR amps gauge, saw fluctuations in the amps gauge, followed up that finding and ultimately that resulted in the whole BWR suction strainer issue.

So you know, great finding on his part and again, they had trouble here. Since that 2001 period they've taken corrective action and we think they have control over their SRVs much more proactive in

shutting down. They shut down this last year to address some leakage in shoes with them and they're being much more proactive in getting the plant down before they have one inadvertently fail open on them.

Six screen findings full plant in the last 12 months which is below the average. The average runs six to eight per plant, so about maybe half of the average that we'd see out there. Last Scram was in October 12th, 2005 and this was an EHC card failure and interesting enough the corrective actions we were talking about before is to install a digital EHC system. So that's where they're probably ultimately headed. Occupational RAD safety, we'll be taking a whole run around the plant and I suspect we won't even pick up more than a millirem or so, a very clean plant. And refueling outages are -- have always been short and getting shorter.

VICE CHAIR SHACK: What kind of water chemistry do they run? Is it no metal water, hydrogen?

MS. BICKETT: Yes, no metal hydrogen and water chemistry.

SUBCOMMITTEE CHAIR SIEBER: For your information, when we choose the plant that we would like to go to, we try not to choose a plant that's in

trouble.

MR. TRAPP: Okay.

SUBCOMMITTEE CHAIR SIEBER: And that's because we don't want to add additional burden either on the staff or the licensee in those kinds of circumstances and so Limerick fits a plant that is not in deep trouble.

MR. TRAPP: Okay, that's a good perspective, because what I was thinking, oh, they picked Limerick. I said, oh, that's kind of disappointing, there's not a lot of -- and Carey is going to go through some of the things that are going on there but not a lot of issues going on there for us.

SUBCOMMITTEE CHAIR SIEBER: Yeah, well, that's the intention.

MR. TRAPP: It was intentional, good.

CHAIR WALLIS: We also went to Davis-Besse because it was supposed to be a good plant.

SUBCOMMITTEE CHAIR SIEBER: It was until the instant we were there, it was a good plant.

MR. TRAPP: Hopefully, that's not an omen. At this point, I was going to turn it over to Carey to talk about some of the plant issues.

MS. BICKETT: Okay, I'll just give a real

brief description of some of these plant issues. As far as license renewal, they won't be allowed to apply actually until 2009. That's when Unit 2 hits their 20-year point. So that will be something coming up in the future. Currently, no power upgrades are planned.

CHAIR WALLIS: All BWRs seem to be going for power upgrades, so presumably they will one day.

MS. BICKETT: Possibly. I haven't heard anything on the horizon.

MR. TRAPP: They did a small one in the past.

MS. BICKETT: Yeah, they had a small operating --

CHAIR WALLIS: They didn't have the big ones.

MS. BICKETT: No.

MR. TRAPP: Yeah, Susquehanna is actually going for the seven and seven, they're going for the 14 percent power upgrade but you know, a good question to ask them tomorrow but no indication yet.

MS. BICKETT: One of the big projects right now is their Independent Spent Fuel Storage Installation. They just had a vote in the middle of July with the township and the township actually approved the cement pad and the buildings are going

along with the ISFSI. So right now the schedule looks like they'll complete their storage facility in the third quarter of 2007. They'll do their first dry run in the fourth quarter of 2007 and they'll be ready for their initial campaign in the second quarter of 2008.

MR. TRAPP: This is kind of interesting because there was a whole lot of public interest up there and the township supervisors provided them a lot of support because a lot of the public thought the township supervisors were licensing the ISFSI, not the NRC and they wanted to make it clear that they were licensing a pad, you know, and water run-off, that they had nothing to do with the safety of casks and pursuit of our efforts up there with headquarters folks.

VICE CHAIR SHACK: I was sort of astounded here today that they're population density is like Indian Point.

SUBCOMMITTEE CHAIR SIEBER: Yes.

VICE CHAIR SHACK: That's amazing.

MR. TRAPP: It is amazing.

VICE CHAIR SHACK: Is it the suburbs that grew out there?

MR. TRAPP: If you look at the original FSAR, they're whole license period, they've already

hit the population target that the original FSAR thought the region would end up license life. It's just a booming area, a lot of issues with -- they were going to put a casino up at the access road and that had a lot of negative repercussions. That deal has been killed, but it's just a booming area.

MR. DAPAS: Marc Dapas, Sam and I were talking about that. I think the difference is when you look at the total number of folks within the APZ, it's similar but the density of population when you look at Indian Point and where it's centered, I think, there's a stat park there, versus it's more distributed around Limerick.

MS. BICKETT: Like all the other Exelon plants, they have a pretty wide tritium monitoring program at Limerick. They have sampled about 14 miles on site. Some of them are from construction days, some of them are new wells. They've only found one well that had any indications of tritium in it and that was only around 4300 millicuries per liter. But they do have some followup actions on that to see, you know, how far spread it is and whatnot. They have drilled a couple of new wells and they're still waiting on information on the results of those samples.

MR. TRAPP: Yeah, Limerick would believe it's all on site at this point.

MS. BICKETT: Right, nothing has been found offsite yet as far as tritium.

MR. TRAPP: It's likely a CST scope.

SUBCOMMITTEE CHAIR SIEBER: Well, they do have some radioactive discharges from the processing equipment there. Where do those discharges go?

MS. BICKETT: Well, after the rad waste processing, there's actually a hold pond on site. That is sampled before they release that anywhere. They have taken tritium samples on that and they were all found to be, I think, less than the lower limit at the temperature.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. TRAPP: Ultimately rad waste goes to the scoop hole.

MS. BICKETT: Right, and they've sampled the scoop hole and all those areas and haven't found anything substantive.

VICE CHAIR SHACK: How's their fuel departments, do they have any leakers?

MS. BICKETT: Right now, they do not have any leakers. They had a minor leak in Unit 1 prior to the shutdown which was in March and they had one on

Unit 2, not this cycle, but the cycle before, but as of right now, they don't have any leakers.

Something else coming up for Limerick is they will be involved in Initiative 5B which is the pilot risk informed technical specification surveillance intervals. Basically what that will do, that will take the intervals out of tech specs and put it in a licensee controlled program that we approve. Surveillance requirements will still remain in tech specs. It's just they'll take the surveillance intervals and base it on risk insight, equipment performance, reliability and that kind of thing. So they were going to implement that at around November of this year.

They just had a meeting recently in July talking about more requests for additional information, so it looks like November is the target date. The last think is alternate source term. They are in the process of getting a license amendment request for alternate source term and the target date for that amendment issuance is August of this year.

MR. TRAPP: I guess in a nutshell, Jack, that's kind of what you'll hear tomorrow and like I said, I know they're set up for you and they're looking forward to hosting you folks up there

tomorrow.

SUBCOMMITTEE CHAIR SIEBER: And we are, too. Thank you.

MR. TRAPP: You bet.

MR. BARKLEY: I think you may have met the next presenter here once or twice before. He's been before the ACRS I think more than anybody else in Region 1, so he's going to go over license renewal.

SUBCOMMITTEE CHAIR SIEBER: Okay, thank you.

MR. MODES: Nothing you haven't heard already.

SUBCOMMITTEE CHAIR SIEBER: You'd be surprised.

MR. MODES: I thought first I'd tell you where we've been, where we are and then sort of where we're going in the region. Next slide. So these are the applications we've completed so far. Of course, Calvert Cliffs was the very first ever ever done and when you do the very first ever, apparently you get stuck with all the rest, so I had the pleasure of doing Peach Bottom, Ginna, Millstone and we just did Nine-Mile. ACRS did the full review on July 12th. I didn't have the pleasure of coming but I was on hot standby on the phone, if you'll recall.

SUBCOMMITTEE CHAIR SIEBER: The big time is yet to come.

MR. MODES: Yes. Speaking of which, next slide, the current applications, we have Oyster Creek, which we received as an agency on July 27th and we actually completed the onsite inspection in March of this year and we're waiting for NRR's resolution of an open item on containment liner integrity, you probably -- I know you've heard about that one already. And of course, that's tied to the understanding of the refueling cavity leakage, the analysis for the lower portion, the pressure eliminating analysis for the upper portion, et cetera.

I just heard yesterday that Sandia National Laboratories finally received the original seismic design data which was somewhat difficult to acquire because it is an old plant, and we're anxiously awaiting the model results which will be -- they're still staying to the original schedule of August 25th. We're going to get the output analysis on 9/29. The reason I'm saying that is because we go to the subcommittee on the 3rd of October. So we're going to get the 29th and then the 3rd, so it should be interesting trying to pull all this together.

We're not getting the consolidated report

until after the subcommittee presentation.

Another one is Pilgrim. We received that one this year and the inspection is already in the IPM plan for September of this year as well and it's surely going to show up on the website. The next one. We received Vermont Yankee concurrently, both of them are Enerty plants. This one we are still waiting for the dust to settle a little before we figure out when the inspection is. Tentatively, it's sort of a TBD. We're putting it somewhere in the November/December area, a lovely time to go up to Vermont Yankee but got to go.

The next one, so for the current challenges, Oyster Creek, of course, is the former sand bed area.

CHAIR WALLIS: This inspection at VY, how will that differ from the inspection that was done for power upgrade?

MR. MODES: Well, it is a license renewal inspection, so its guidance is completely deferred.

CHAIR WALLIS: Will you not be redoing what you did before? You're just picking other areas to inspect?

SUBCOMMITTEE CHAIR SIEBER: No, you have an inspection and audit section on the scoping and

then examination of --

CHAIR WALLIS: So paperwork?

MR. MODES: Oh, no, heavens, no, no, no.

SUBCOMMITTEE CHAIR SIEBER: You go out in the field and --

MR. MODES: There's multiple parts to the process of arriving at a license renewal. And if you will, the paperwork portion is the audit function. So there is a scoping and screening audit review and that's to check for conformance with the goal. Then there's the --

SUBCOMMITTEE CHAIR SIEBER: The amps.

MR. MODES: -- the amps audit. Again, that's trying to make a nexus between the application and the goal and what's actually the supporting document. The license renewal, I try to tell people this, it's like doing a tunnel from two ends, we try to meet in the middle. So these guys are working from one end and then the region comes from entirely the other end. The thrust of the examination that we do is two parts. It's pretty obvious that you can't discern the non-safety effects safety portion of an application through the application with a drawing, so that's where we find out greatest strength. We're the guys who usually walk around the plants anyway. We

know our way around. We know the weaknesses. So we -- and I'm jumping ahead a couple of slides here on how we do this.

And so what we do is we do the non-safety effect safety. On inspector an entire week does nothing but take our guidance, the one that we've embraced, licensing structure and then the application and he walks through the plant and he looks for weaknesses in how they applied it and how it should be applied. And it's -- and then we parse out a representative sample on all these management programs and even go deeper. We start completely at the back end. We look at the health reports, the system reports, the aging reports, the corrective action reports and then work our way toward the procedures to try to ascertain whether or not you can give them credit in that area.

SUBCOMMITTEE CHAIR SIEBER: A way to look at it is that licensees use PNIDs for the most part to mark up and identify systems that are in scope.

MR. MODES: Correct.

SUBCOMMITTEE CHAIR SIEBER: PNIDs don't show anchor points. PNIDs don't tell you what room their in. You can't tell a two over one configuration from a PNID. The only way you can do any of those

things is to go out and use your feet and your eyes and go look for them, which is what the inspection does.

VICE CHAIR SHACK: Well, hopefully the licensees --

SUBCOMMITTEE CHAIR SIEBER: Well, you'll find out after the inspector finishes his inspection but that's one phase of it. And the same way you have to look at really how aging management programs are implemented. You know, what they write on paper and what promise they make is only one item and one issue compared to does the program really work, do they have detailed procedures to implement it? Is it effective and so forth. And so there's a lot of work, there's a lot of field work that has to go into these things in order to make them effective.

MR. DAPAS: Correct me if I'm wrong, but in it's most simplistic terms, I would offer that the licensee submits the renewal application which describes that aging management programs and the inspection piece consists of verifying that those programs can be practically implemented and that the commitments to licensee makes in terms of programs that they are actually going to institute that there is -- through the inspection process, we're validating

that structure is in place and that's the level of scrutiny that the inspectors apply. So that's how I would differentiate it in its more simplistic terms. Is that a correct understanding?

MR. MODES: Sure, sure. Well, we obviously can see that Mr. Sieber has some experience at this. He's run the Subcommittee for -- Oyster Creek, obviously, you've already heard about stakeholder involvement here. Oyster Creek is obviously one of the applications that has a lot of external interest. There is the NRRs petition which ASLB refined to the sand bed and accepted. Amergen then responded on the docket with a number of commitments. ASLP, I would say attempted to vacate the contention but gave it a 20-day timeout. NRR's rebuttal was immediate and inadequate. They really didn't have the strength of the rebuttal. So what they did is they begged the ALSB to defer for an additional time. They were given until yesterday to rebut in full, which they did.

The rebuttal which we received yesterday, not only rebuts the Amergen response, it focuses their contention and now it expands it in other areas. So the story here, the story is not done. ASLB still has this, it's still going back and forth. Next one.

The New Jersey state petitioned as well in the area of severe accident management alternative. The interim compensatory measures, spent fuel pool, vulnerability attack, fatigue cumulative usage, SBO combustion. The first three of course, I'm not going to talk about but the last two we took up as part of the inspection. The inspection attempts to focus on areas that are of contention and so we looked at the fatigue cumulative usage factor and the SBO combustion.

In the area of fatigue cumulative usage factor, essentially the contention was the reactor vessel was originally designed to a CUF of .8. The state felt that it was inappropriate to use 5059 to move from that design basis to a CUF of 1 and there is some disagreement even now about whether that's acceptable. I looked -- personally looked, since I'm a metallurgical engineering, I personally looked at their new proposed usage factor monitoring program bases calculations and found it to be a very rigorous and well-structured program. So the contention is really about how you move from one to the other. It is a Section 8 vessel. It was built prior to all of us embracing all of the new design features.

VICE CHAIR SHACK: But this is basically

the thermal fatigue on a nozzle, is that --

MR. MODES: No, it's just -- no, the contention was an over-arching contention. Yeah, it was just about could they move from the more conservative .8 CUF design input to a 1, yeah, through 5059.

VICE CHAIR SHACK: I'm just trying to figure out where in a BWR vessel you get close to either limit.

MR. MODES: That was the contention. As you well know, you're not going to get near to that on anything except perhaps --

VICE CHAIR SHACK: A nozzle on some of the others.

MR. MODES: Yeah, right, maybe a nozzle, maybe.

SUBCOMMITTEE CHAIR SIEBER: Actually, to my mind this is looking at an issue that we're just now beginning in the ACRS to examine which is what are the margins and who owns them.

MR. MODES: And what do you do as you drive closer to 1.

SUBCOMMITTEE CHAIR SIEBER: Yes.

MR. MODES: How do you embrace 1?

SUBCOMMITTEE CHAIR SIEBER: And do --

MR. MODES: Yeah, what are the underlying inspection processes that you're going to use as you get closer and closer. Really, I question the philosophical reality of 1, right. The Japanese data has thrown a cast of confusion over it because it's you know, water inputs et cetera, so this was about how you go from one to another. It wasn't about how near they were.

The SBO combustion turbine control, the contention was essentially that they didn't have -- well, the SBO combustion turbine is not owned by Exelon. It's actually owned by FENOC and so there was -- they proposed putting in place some aging management program so then the question was, yes, exactly how are you going to put them in place if you don't own the turbine? So we got that sorted out through both legal departments talking to each other, finding a nexus in the contracts, understanding how the programs were going to be implemented and then apply. So the team looked at that as well, from the aging management program.

SUBCOMMITTEE CHAIR SIEBER: Who did you say owned the combustion turbine, FENOC? That's First Energy.

MR. ANDERSON: It's First Energy by GPU a

number of years ago.

SUBCOMMITTEE CHAIR SIEBER: Oh, yeah, all right.

MR. MODES: Right, so they still own that turbine, even though it's an SBO turbine. So the question was, okay, that's great, you say you're going to put these amps in place but exactly how are you going to do that if your competitors standing out there with the --

SUBCOMMITTEE CHAIR SIEBER: Sell them the turbine, they're cheap.

MR. MODES: Well, they said they tried to buy it. They tried to get around it by buying it. Next. Well, that was especially worrisome for me with trying to understand how you apply the --

SUBCOMMITTEE CHAIR SIEBER: That's right.

MR. MODES: Here the contention is, is the State Attorney General Petition has intervened. Here it's in a point of back-fits spent fuel pool and Pilgrim Watch hopped on it by adopting the contention. So you can see it was the pre-starter load Pilgrims and the next one is VY, Vermont. Here the Department of Public Service has a state action for the certificate of public good. There is legislation moving through the state currently to codify that.

It turned out it's been reported to me, it's not been verified, when Enertgy took over the plant they agreed to going to the state in order to require that approval for the license renewal and you get a sense that Energy is okay will all of that, except that they also have contended the containment concrete aging and failure to consider the fuel storage and the environmental impact, that would be a late arriving issue as a consequence of Diablo Canyon, et cetera and the failure to scope the security, so you can see that VY has got a couple. Next one.

The Mass. Attorney General petition to intervene, failure to state a contention and the next one, New England Coalition has intervened, petition to intervene on those issues. It's early in the process. I haven't looked at the technical veracity of the issues but there obviously quite a few. And that's all the kind of stuff that you have to roll into the inspection. You have to be sensitive to the stakeholder involvement. And the last one is the Town of Marlboro. The EP planning is inadequate and there I would offer that the ASOB strongly encouraged the agency to discuss these kinds of planning issues when it was Millstone's turn.

As you recall there was the County of

Suffolk petitioned at Millstone for the same thing and the EPA at least surprised everybody when they said, "Well, you really need to listen to these folks and talk about it". So it's not one of those, it could be a minor issue. So the reason I mention that as you see, the Department of Public Health, the Massachusetts Attorney General, the New England Coalition and the Town of Marlboro all ready, all involved so it's a highly contended application.

Which brings me to how do we integrate all of that kind of stuff into an inspection and I briefly talked about that earlier. What I tried to do is I tried to take an inspector with a large degree of operational background and dedicate that one inspector for as long as that inspector feels is necessary but certainly I don't think it can be done in under one week on site and that's to just tackle the non-safety oversight. That's to look for those anger points, to look for those relationships.

For the aging management program, you have to divide that up into the existing programs that they're taking credit for. The existing programs, which they've revised in order to take advantage of and then the new programs. Of course, you certainly want to focus your limited resources on new programs

to see if they're going to work and you try to structure the team in a way that the mechanical, metallurgical, electrical, structural and operational, so it tends to be a pretty large game.

At Nine-Mile Point for example, 16 systems were walked down. At Oyster Creek we walked down 12 systems on the non-safety effect safety. At Oyster Creek we looked at 29 of 36 programs reviewed and at Nine-Mile Point, I think we looked at -- there were some 65 programs. We looked at half of those, that was two different units of older Unit 1. The process also includes an optional one-week inspection and I don't know if anybody recalls, we took advantage of that one-week question when one of your sage gentlemen asked somebody about Peachbottom and a charcoal filter that we couldn't answer. I ended up crawling all over the off-site ES system trying to get the answer. So that one week is for late breaking issues, to get the answers that any of you guys need, to find the kind of things that we need.

And then the commitments inspection is going to be implemented prior to the extended period beginning, which leads me to the next one. Once again, Region 1 is going to lead the way. Oyster Creek's extended period for their original license

will end on April 9th of 2009. Nine-Mile Unit 1 is August 22nd and Ginna is September 18th. Those are the first ones in the fleet to do that. So we're the first ones to do the commitment inspections. Next one.

So let's talk about Oyster Creek. If they are going to go into the extended period on April 9th, they're going to start implementing some of their liner commitments during the outage this year. They've already started working through some of the commitments that they're going to have to implement before. They're going to have to implement the remaining commitments during the outage of `08 and currently there are, obviously, because we're in the process of running through the license, an indeterminate number. Next one.

Nine-Mile Unit 1, that application just was presented to the committee so we're late in the process but the finalized license says commission so we don't know what the number of commitments is. You can take a guess though. The SER contains 16 commitments for Unit 1 that have to be verified. So you can guess that they'll show up as licensing conditions. Next one.

And Ginna, what we've been doing is

attaching the commitments to the procedures. So Attachment 15 to 71-003 includes the commitments that will be required to be inspected; in that case, there are 40 of them, 40 commitments that have to be listed and we've already received notification from Ginna that there might be one of them delayed into the extended period. And that delay is due to the industry continuing to develop new guidance, for example. So it's not something that they're doing callously. It's just it's not available, they're still working toward it into the extended period.

SUBCOMMITTEE CHAIR SIEBER: Will other plants be effected by that?

MR. MODES: Yes.

SUBCOMMITTEE CHAIR SIEBER: Because the NIP program is applied.

MR. MODES: It's pervasive, so yes, other plants will be affected.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. MODES: As far as additional applications, we have Fitzpatrick just about due. We're already starting to work on the schedule for that. Susquehanna, September, Beaver Valley is going to be the second quarter of `07 and Three-Mile is going to be the second quarter of `08. So we have

quite a few in this region to go through.

SUBCOMMITTEE CHAIR SIEBER: Do you have the amended Beaver Valley application yet?

MR. MODES: Not yet, no.

SUBCOMMITTEE CHAIR SIEBER: When do you expect that?

MR. MODES: I expect it to be September of `06. That's when they committed.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. MODES: So the last slide here says pretty much we have 20 weeks of license renewal inspection in the next 20 months and somebody, probably me, is going to be standing before the ASCR seven more times to present our findings. Any questions?

MEMBER MAYNARD: Not so much a question but a comment, it's probably more for NRR than it is for you, but it sounded like a number of things in some of these plants, Oyster Creek, for example, are going to be coming together just before the subcommittee meeting. And it's really not appropriate to be coming to the subcommittee when things aren't quite ready and answering all the questions by "We're still reviewing that", or, "We just got it and it's under evaluation", or whatever. So I think that's

something we'll be having to take a look at for the ACRS subcommittee review of some of these plants and stuff. It's more of a comment probably for NRR but it's kind of a heads up for everybody.

MR. MODES: I most gratefully will leave it as a comment for NRR. Anything else? It's been my pleasure, gentlemen, see you the next time around.

SUBCOMMITTEE CHAIR SIEBER: Thank you.

MR. MODES: Thank you.

SUBCOMMITTEE CHAIR SIEBER: I think the next time around will be soon.

(Laughter)

MR. BARKLEY: Another one of our Branch Chiefs, who you've met before as well is Larry Doerflein. He's going to discuss power uprate activities in the Region 1.

MR. DOERFLEIN: As Rich said, my name is Larry Doerflein. I'm an Engineering Branch Chief in the Division of Reactor Safety and I'm here today to discuss power uprate activities in Region 1 specifically, expended power uprate activities. With me, I have Steve Pindale, who is one of my Team Leaders for CDBI, I brought him in case any questions come up on CDBIs. Next slide.

I plan on discussing two things in this

presentation. One is the inspections performed under the reactor oversight process that are associated with EPUs and then the second will be the actual EPU status for the Region 1 plants. Next slide. Under the reactor oversight process, there are basically two procedures that address EPU activities, two inspection procedures. The first is IP 71-004 which is entitled Power Uprate, and the other one is inspection procedure for the component design basis inspection for CDBI.

The power uprate procedure is a procedure that coordinates EPU inspection activities. It only applies to power uprates greater than seven and a half percent. It was issued in July of `02 and recently updated to improve inspector guidance and referenced the effort done by the CDBIs. It is not a baseline procedure but rather a special or infrequently performed procedure which we all Appendix C procedure and I mention that because even though some time is dedicated, some inspection resource time is dedicated to the 71-004 procedure, most of the inspection effort and samples will be charged to other baseline inspections.

The power uprate procedure also involves both resident inspectors and specialists from Region

1 and about the only other thing I need to say about that is a sample size dictates that there be at least one sample in seven areas, which I'll cover in the next slide, as a minimum. The component design basis inspection or the CDBI, the purpose of that inspection is verified at the design basis had been properly implemented for a selected sample of risk significant, low margin components. That procedure was issued in December of `05, recently updated to improve the kinds and define margin and doing the margin reviews and the thing about that procedure is it specifically refers to when doing the margin screening, to look at licensing basis changes such as EPUs which would effect the available margins when you're selecting components for detailed design release. Next slide.

I mentioned the power uprate procedure looks at seven areas, a minimum sample in each of thse seven if applicable. For instance, one of those areas is major plant tests and I know Beaver Valley is not going to be doing major plant tests so that would not be looked at, but basically, the areas that are looked at are 5059 evaluations, plant modifications, post-modification and surveillance testing, power ascension testing, major plant test, erosion and full accelerated erosion programs, and licensee actions

based on commitments to address the impact of EPU on initiating event likelihood.

An example of that would be VY committed to putting in a capacitor bank in their switch yard to help grid stability. That was just a licensing commitment and we did look at that. The parenthesis, the inspection procedure numbers in the parenthesis is, as I said, is just where we actually end up charging the inspection efforts in samples under the baseline procedures. Any questions so far?

Okay, the CDBI as I mentioned, it reviews changes in margins calls by the EPU and that comes into play when the inspectors are identifying their components or a detailed engineering review. We start out with a large number of risk significant components, do the margin review to come up with what we're going to do detailed design reviews on and the margin reduction by EPU is one of the screening criteria.

CHAIR WALLIS: How do you define margin reduction?

MR. DOERFLEIN: Well, the procedure -- if you're talking about quantity, I'm not going to go there. And what we found is useful is you look at analytical or design margin, operations margin which

just could be complexity or time available to do certain things, maintenance margin. If you're looking at a component and every time you calibrate it, it's always lower in the band. Some of it's judgment but it's just a reduction in -- something decreased, the margin decreased. A design margin, for instance, if you to have a pump that the design says, have something putting 10,000 gallons per minute into the vessel, and it can put in 11,000 gallons, and you put in an EPU that knocks it down to 10.5, that's significant. Some of that's --

CHAIR WALLIS: So you've decreased some kind of performance.

MR. DOERFLEIN: Yes.

CHAIR WALLIS: It's not clear that this changes any margin. This is a question that we wrestle with, too. I mean, the NRC headquarters doesn't really give us very good answers about what they mean by margin either.

SUBCOMMITTEE CHAIR SIEBER: Well, the margin is built into the 10,000.

CHAIR WALLIS: So if you get below some limit, like 10,000, have you lost the margin or just changed it or what?

MR. DOERFLEIN: It reduces -- what we're

saying at that point you might reduce the margin but some of the things that Larry refers to is we'll look at modifications, for example, that would also likely dig into the margin. We look at test data. For example, if a pump degrades to some degree, that reduces the margin from its design value in terms of flow. Those --

CHAIR WALLIS: So design value has a specified margin?

MR. DOERFLEIN: The margin, as we would define it would be design value versus its operating value. And if there's a reduction in that difference then --

CHAIR WALLIS: So margin is when it works better than design?

MR. PINDALE: Well, most pumps, for instance, are going to have --

CHAIR WALLIS: It looks as if what you mean by margin depends on the particular thing that you're looking at, if a pump has a certain kind of a margin. Other things might have other sorts of margins.

MR. PINDALE: Absolutely. Well, pumps are easy because there's going to be some design value or there's going to be some design value.

SUBCOMMITTEE CHAIR SIEBER: The problem with the easy ones is that you can really be wrong. For example, a designer, a hydraulic designer, when he designs a flow loop, he will build into the specification for the pump margins so that when the pump reaches it's safety, okay, its surveillance when it -- the system will still work with margin. On the other hand, when you buy the pump, it will do better than the manufacturer says and that's margin, too, but it's a different kind of margin. And it seems to me that the owner of the margin is whoever the regulating authority is between the safety limit and the minimum that's allowed for a system to work.

The owner of the margin between what the pump is able to do on a surveillance test and the surveillance limit that owner is the licensee and he can allow the pump to degrade to the survey or the safety limit.

VICE CHAIR SHACK: What I want to know is what the inspector thinks margin is. All of us can have a definition of margin, the one I want to know about is what the inspector says a margin is.

SUBCOMMITTEE CHAIR SIEBER: All right, let's -- now that I've tried to prompt you --

CHAIR WALLIS: I'm also trying to find out

if each inspector has the same definition of margin.

SUBCOMMITTEE CHAIR SIEBER: Or an even better question is, do we need to know what it means from the standpoint of inspectors, designers, regulators? You can tell us that because it will tell us how hard we have to work on it.

CHAIR WALLIS: If you're going to go to a licensee and say, "You have changed this margin and now it no longer is acceptable," then you have to have some idea of what you mean by it. You have to have some way --

(All speaking at once)

VICE CHAIR SHACK: No, we haven't gotten to the acceptable margin yet. We're just decreasing it. I want to know what -- give me an example of what you mean by a decreased margin.

MR. PINDALE: Let me take a shot. I'll tell you what we do in terms of the things I've been on and led. And we view the starting point from the licensee's margin standpoint where we have an operating parameter or an operating limit and as that becomes reduced, it might be that we're looking at the tech spec or licensing value, but nonetheless, that's a margin that might get reduced for whatever reason, whether it's a modification that changed it or reduced

it or degradation due to some hardware issue. So we have an operating parameter that we're monitoring or researching to see if that's reduced in terms of capacity.

MEMBER ARMIJO: Specifically, how would you address steam dryers in a PWR with extended power uprate? What margin would you measure against --

(Laughter)

SUBCOMMITTEE CHAIR SIEBER: An easy one.

MEMBER ARMIJO: No, let's stick with that one.

CHAIR WALLIS: Let's have this one.

MR. COOK: My name is Bill Cook. I'm a Senior Reactor Analyst and I helped out with these inspections to try to focus on what components or systems we're going to look at and in the case of the dryer, we wouldn't look at that because it's not modeled in TRA. We're focusing on safety systems or mitigating systems that are modeled that are high risk, that is they have a high raw value or a risk reduction group and as we're all struggling trying to define low margin, it can mean a pump, it can mean a torque value, it can mean a variety of physical parameters but it can also mean reliability aspects. This pump failed 10 times in the last year. That's in

our view low margin because it's not as reliable as it once was. So I don't know if that helps you.

VICE CHAIR SHACK: Let me just sort of -- let's go back to the pump example. Suppose I have a pump that under the pre-EPU condition could pump 10,000 gallons per minute after EPU because the temperature has gone up, it can only pump 9,000 per minute but it only needs to pump 7500 to meet my PRA success criteria.

MR. COOK: It's a candidate.

VICE CHAIR SHACK: It's a candidate, okay. So it is reduced margins even though it still meets all the requirements.

MR. COOK: That is correct.

VICE CHAIR SHACK: So you're really just looking at a reduction in capability.

MR. COOK: That's right.

SUBCOMMITTEE CHAIR SIEBER: In the PRA space that wouldn't show up because --

VICE CHAIR SHACK: No, it doesn't show up in the change in risk. It shows -- it's a new definition of what you want to preserve. If you're looking at changes in risk, it's a no, never mind. If you're looking at changes in margin, the margin is --

CHAIR WALLIS: Well, why would you want to

preserve over-capacity if you don't need it?

SUBCOMMITTEE CHAIR SIEBER: It's to get margin.

MR. COOK: Margin is a good thing.

VICE CHAIR SHACK: I mean, it's defense in depth in case you're wrong, that you really -- it isn't that you just need 7500, in fact, you do need 8500 but you just don't know that.

CHAIR WALLIS: Well, now you're giving your definition.

VICE CHAIR SHACK: You asked me why you'd want to preserve something that was not risk significant and I just gave you the answer.

CHAIR WALLIS: Well, I'm not sure I was asking you. I think -- we're the ones who ask the Region the question.

MR. BLOUGH: But he's right, in terms of that, that is part of what the team would be looking at if they've reduced the amount of margin they believe they have to see if everything that goes into deciding what they really need is 7500 is right, or whether they're darers or what is relevant consideration for --

VICE CHAIR SHACK: So you would look at the decrease and then you'd go back and sort of

double-check whether 7500 was really good enough. Is that --

MR. PINDALE: That's part of it but recall, we're picking high risk low margin components to take a deep look to see if there's vulnerabilities or deficiencies in that component, which the reason for picking those is to have some impact on safety. If we find a deficiency, then there would be some risk associated with it. We're not just trying to preserve the margin. We're looking for vulnerabilities or deficiencies in those components, or operator actions.

MR. COOK: In recognizing one of the basis for changing this inspection approach was that under the previous program, safety system design inspections and functional inspections, we looked at basically ECCS systems and we've done this -- those inspections for so many years, we've started recycling over the same systems that we looked at so the CBBI inspections allows us to broaden our view of systems, mitigating systems that are modeled in the PRA, not the same ECCS that we've been looking at.

CHAIR WALLIS: Can we go back to the steam dryers? They are one of the issues with our operator, they're a major issue. You can't just say they don't effect the PRA; therefore, we're not going to even

look at their margin or some other way of evaluating this. It has to be evaluated somehow.

MR. DOERFLEIN: But that's not some inspectors actually evaluate -- you know, we look at the ISI on the steam dryers, MOS to the steam dryers that kind of stuff for inspection --

CHAIR WALLIS: Don't you look at --

MR. DOERFLEIN: But the --

CHAIR WALLIS: Don't you look at the cracks and that kind of thing?

MR. DOERFLEIN: Oh, yeah, we look at that but all that stuff is really evaluated by NRR. I mean, in the case of --

CHAIR WALLIS: You report to them.

MR. DOERFLEIN: Yes, in the case of VY, they did, you know, a couple years worth of review on the models and everything of the steam dryers. We can only report the testing, the mods that were -- or not testing, but the inspection and the mods done to the dryers, which we did at VY. NRR in their review, looked at all the licensee's analysis.

CHAIR WALLIS: There's no measure of performance so there's no measure of margin for steam dryers?

MR. DOERFLEIN: Well, I guess --

CHAIR WALLIS: They measure steam, it would be attached to some sort of margin.

MR. DOERFLEIN: Yeah.

SUBCOMMITTEE CHAIR SIEBER: Yeah, but it's not a safety issue.

VICE CHAIR SHACK: Would you be performing that inspection under the margins inspection procedure? When you look at the steam dryer, is that what you're -- is that the reason you're looking at it is the margins or it's looked under another --

MR. DOERFLEIN: That's part of the ISI program, somewhere under --

SUBCOMMITTEE CHAIR SIEBER: Well, you've got your own --

VICE CHAIR SHACK: That doesn't even enter into the margins.

SUBCOMMITTEE CHAIR SIEBER: No. It's just structural integrity is what it is.

VICE CHAIR SHACK: I was trying to look at the things that you're looking at in terms of margin.

CHAIR WALLIS: Things you're looking at in terms of margin appear to be the things that you know how to calculate a number from, like pump flow, but steam dryer, you can't calculate any numbers so you can't prepare anything; is that the problem on the

steam dryer? There isn't a measure of performance you can compare with.

SUBCOMMITTEE CHAIR SIEBER: Well, we haven't decided what that measure is. And the measure, to be important from a regulatory standpoint, the measure should somehow reflect its safety consequences. And so the dryer's destruction ultimately going down and blocking a stop valve or something like that is a measure that the inspectors would be looking for as opposed to does it make a lot of noise, does it separate out the moisture that kind of stuff, that's up to the licensee. If he's got money to buy turbine generators forever, he can run wet --

MR. DOERFLEIN: As far as just the licensee, the NRC took VY dryer analysis very seriously. That was really scrutinized for years.

SUBCOMMITTEE CHAIR SIEBER: Well, let me say that the idea of margins, I'd just make a comment to let everybody think we don't think of this as simple, but margins and risk space are different than margins in deterministic space and I think applying 1.174 is easier than applying 50.59 where it says you ought to reduce your margins. Okay, and so how do you do that because every change you make is a changing

the margin somehow. And so is there a margin you're allowed to change and other margins that you aren't allowed to change? That's a big question.

This is sort of a philosophical thing that we and NRR research, all are going to have to try and figure out. I think it's important for the practitioners, the regions to eventually get a better idea about what margins are but we're not prepared to tell you right now, until we understand --

VICE CHAIR SHACK: They clearly know what they're doing, we just haven't understood it.

(Laughter)

MR. DOERFLEIN: We take a shot at it anyway.

SUBCOMMITTEE CHAIR SIEBER: I couldn't have said that better myself, Bill. So why don't we -- now that we've scared ourselves, why don't we move on.

MR. DOERFLEIN: We agree it's a difficult area and that's I think, the agency agrees and that's why the procedure was tried --

CHAIR WALLIS: So next time you guys come to Washington --

VICE CHAIR SHACK: Is the procedure available on the web? Can I --

MR. DOERFLEIN: Absolutely.

CHAIR WALLIS: -- testify about some power of --

MR. DOERFLEIN: I can get you a copy real quick.

CHAIR WALLIS: We'll ask the margin question again.

MR. DOERFLEIN: And I'll be --

AUDIENCE MEMBER: That sounds like a threat.

MR. DOERFLEIN: One thing I wanted to mention for that last slide, Steve kind of eluded to it, once we do pick the -- once we get through the risk significant margin screen, we do do detailed design review and part of that detailed design review also will dig into the mods.

CHAIR WALLIS: Risk significant margin screen?

MR. DOERFLEIN: Pardon me?

CHAIR WALLIS: You said there's a risk significant margin screen?

VICE CHAIR SHACK: You look at a component that's risk significant.

MR. DOERFLEIN: Yeah.

CHAIR WALLIS: What's the margin screen?

MR. DOERFLEIN: When we go in there, we'll identify about up to 100 components that are risk significant based on numbers and other things. Then we use margins --

SUBCOMMITTEE CHAIR SIEBER: You screen them with margins --

MR. DOERFLEIN: -- to try to narrow that down, so that --

CHAIR WALLIS: Well, I don't understand how you do that because I mean, you've got a pump which is -- closer to a marginal, you have other things closer to some value. How do you decide which one of those is significant unless you have some way of evaluating the effect of this change in what you call margin? It's all sort of a feel thing, that you look through, "Oh, this one is getting close, I think we ought to do something about it"?

MR. DOERFLEIN: No, no, it's the --

MR. COOK: He looks at the raw. He looks at the risk significance of it without --

CHAIR WALLIS: But sometimes it doesn't show up in there at all.

SUBCOMMITTEE CHAIR SIEBER: Well, the margin won't but the raw --

CHAIR WALLIS: It doesn't effect CDF? You

don't worry about it at all?

MR. COOK: That's basically it, yes.

CHAIR WALLIS: Oh.

MR. COOK: Your starting point is the PRA model and the most risk significant components for operator actions.

CHAIR WALLIS: So all the other components can do anything they like and it doesn't matter.

SUBCOMMITTEE CHAIR SIEBER: Plants can shut down as long as it does it safely.

MR. DOERFLEIN: I still think some of it is more obvious than you're giving us credit for. At VY -- at VY they had, prior to the EPU they only needed two out of their three heat pumps. After the EPU they needed all three, so you knew --

CHAIR WALLIS: They had a run-back of some kind.

MR. DOERFLEIN: Yes.

VICE CHAIR SHACK: But that would show up as a delta CDF because I now need three pumps. Whatever the reliabilities are, my delta CDF is changed.

MR. CAHILL: My real value would increase for each pump so therefore, it would be more likely to screen into sample.

MR. COOK: You're right, it would result in a change to the model. Now, the logic for success is three out of three versus two out of three.

VICE CHAIR SHACK: Right, but that would also give me a higher CDF because now I have to have more things work. You can see that already in the 1174. I'm interesting in things that I don't see changes in delta CDF but I see changes in margins. So if the success criteria remain, you know, to me your first example was clearer, where the success criteria was met in either case.

CHAIR WALLIS: The problem is that in 1174 you have to look at the risk. But then in addition to that, you've got to evaluate the knowledge. It's a separate thing. That's what 1174 tells you to do.

MR. LEW: David Lew again, just I want to let you know some time later we will also have an ROP session where we can have a number of inspectors that we can also post them on watch, but part of the discussion here I think, is, you know, I think is how you're defining margin and -- the PRA is a go, no-go. The equipment either works or it don't work. Okay, so where you have equipment, the margins are decreased. They may be larger. The reason inspectors go after those parts because it is -- if they're looking for

problems, okay, the problem may reveal itself more or impact itself on margins and if you get close to the margins, you may -- they may impact risk. So that's one of the strategies that we're looking for to have smaller margins.

MEMBER MAYNARD: I don't think it's quite as difficult as we're all trying to make it here. It does require some judgment and I don't think it all just boils down to CDF or there are changes or not. Whenever you do a power uprate, you're taking a look to see are you operating something closer to its design capability than what you were before and if so, how much? I mean, if something had a design capability of 10, you used to need two, now you only need three -- now you need three, that's probably not a real significant change but if you used to need nine and now you're at 9.8, the capability is 10, there's a pretty good judgment that's something you may want to take look at harder and just see really.

I really think if you take a look at those things that are now being asked to operate closer to their design capability.

SUBCOMMITTEE CHAIR SIEBER: In PRA space, it either works or it doesn't.

MEMBER MAYNARD: That's right.

CHAIR WALLIS: I think the problem we have is take a look at. It doesn't really tell you how to evaluate it.

SUBCOMMITTEE CHAIR SIEBER: Well, that's a future --

CHAIR WALLIS: Anyway we should probably move on. This could be an endless discussion.

MEMBER MAYNARD: I think it's our level of understanding of what to do versus their level of understanding. I think that's why we're not doing inspections.

SUBCOMMITTEE CHAIR SIEBER: We would never get past the first item, but go ahead.

MR. BLOUGH: We're not claiming we're experts in any -- to any extent really on margin, but for our context, what we do is we take when we're to look at risk significant items in the inspection, so if you come up with a list of components and procedures that maybe this long and then some assessment of margin will help you to narrow down that list to something more in line with the design basis, inspection procedure that we do. So we're trying to whittle down the things we look at. Then once we've done that to decide what we look at, you have your whole suite of attributes that you look at for the

system.

MEMBER ARMIJO: In your evaluation, do you look at core components as well, fuel channels, control blades? You don't?

MR. DOERFLEIN: No.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. DOERFLEIN: I just wanted to make one more point.

SUBCOMMITTEE CHAIR SIEBER: See if you can move into some area that --

MR. DOERFLEIN: It's unlikely but I have one more point to make on the CDBI procedure. Once we do select those components for a detailed design review using our judgment and what have you, we do look at modifications, 50.59, testing done on that component that was effected by the EPU. I mention that because we don't always do 71.004 for every power uprate, before the power uprate. So they're kind of interchangeable.

Okay, that's the two procedures that we use and I just -- I just want to mention some of the advantages and challenges with the EPU inspections. The advantages, you can probably see it, the ROP inspection process is pretty flexible in this area. The sample selection itself is flexible. I don't need

a minimum of one in each area. The timing is not real prescriptive. Obviously, they're going to do power ascension testing. You're going to have to do that after power uprate, but everything else can be pretty much where it fits, where you've got time.

Also it's flexible in the fact that it doesn't even require to actually witness a test. You can actually look at the results. Those are some issues with the ROP advantages, I call them. Specialists are involved, that's the good part. The Region does supply a specialist. They have to get involved in things like erosion, corrosion programs, 50.59. We have to send electrical specialists up there, mechanical, HP operators, operator examiners. So that's a good thing.

There are probably more challenges. Being flexible is kind of like a double-edge sword. It requires a great deal of coordination between the Division of Reactor Projects and the Division of Reactor Safety and NRR to come up with a good inspection plan. Obviously, the resident inspectors know what's going on at the site. They know the schedules. They know the problems. NRR has insights from their power -- their amendment reviews that they can share with us and we have to provide the necessary

resources when needed, so that is an issue.

Good coordination is a must. Timing, I mentioned some of these procedures could be interchanged. Timing is always an issue, do we have the specialist when we need him? Do I have to look at the mods before the power uprate actually takes place, things like that.

VICE CHAIR SHACK: What is the answer to that question?

MR. DOERFLEIN: No. And I'll explain that in my last slide a little bit. It will become obvious in the last slide.

Another timing issue that kind of bothered me on VY was license -- what I call licensing issue resolution up there and the example was containment over pressure. I've got guys out in the field looking at RHR net positive suction head which takes credit for containment over pressure. At the same time ACRS is debating Reg Guide 182 and I kind of knew where it was going to come out but I wasn't sure, but there was also an ASOB contention on that very issue. So I'm out there a little bit. So, licensing, you know, that effects my timing of the inspection.

Sample sizes selection, that's a challenge. How much is enough? Do you have the most

important things selected because even though there may be a minimum, the baselines also have a maximum, so I just can't inspect to my heart's content, there are limits on the upward side, too.

Accounting, this is probably a personal challenge for me. That's the bookkeeping. The way this process is set up, there's no easy way for me to go back and say how much time did I spent on VY regarding power uprating activities? If I punch in the power uprate procedures, excluding the engineering team, it would -- which didn't all acknowledge power uprating activities by the way, the process would say I spent 64 hours regular time looking at power uprates over three years. I know I spent a lot more doing that, so the accounting system is not quite there because a lot of this stuff is charged to baseline procedures.

To me that's an issue because what did I do, how do I plan the future, what if I get audited, you know, things like that. The last thing is stakeholder involvement is a challenge. You know, that the stakeholders in Region 1 are pretty active. I'm convinced they really influenced what we did at VY to a large degree. And they haven't let up. I mean, the planned trip a couple weeks ago, I lost a pump and

they called up and the first question was, "Was it power uprate related". So it's a challenge.

That's the quick and dirty of the reactor oversight and inspection procedures that we use. Next slide. Now, I want to just quickly go over the DPU status. This is what's been done or are on the books so far. Vermont Yankee requested a 20 percent increase in power. That request was in September of 2003. The ACRS made its recommendation to the Commission in January `06. The amendment was issued in March of `06. They are currently operating at 120 percent of pre-EPU power levels.

Regarding the inspections that were performed, we did do Temporary Instruction 158 which was the engineering pilot inspection and the predecessor to the current CDBI.

CHAIR WALLIS: Have you been there since they've been operating at 120 percent?

MR. DOERFLEIN: I've got a team up there right now.

CHAIR WALLIS: And there's nothing that's been detected that's reportable or --

MR. DOERFLEIN: They're only in their second week. I'll let you know after the week four.

SUBCOMMITTEE CHAIR SIEBER: Reportable.

MR. DOERFLEIN: The team is in their second week.

MR. DOERFLEIN: I haven't heard, the projects may be better to answer that but I haven't heard of any big problems.

MR. BLOUGH: You know, as they were coming up, there were numerous times --

CHAIR WALLIS: There were various holes because they got some vibration of some kind.

MR. BLOUGH: Yes.

CHAIR WALLIS: But then they somehow got around that?

MR. BLOUGH: Right.

CHAIR WALLIS: We heard about the problem, we didn't hear about the solution, which somehow presumably, they made the problem go away or they decided they could live with it, or what was it?

MR. BLOUGH: They had trigger values for additional engineering evaluation and when they did the additional engineering evaluation, they concluded it was normal and we agreed.

MR. DAPAS: We agreed. We reviewed their evaluation, concluded that it was acceptable. In fact, the whole point the 91, 96 hour period of time they were on hold to allow us time to look at the

engineering disposition and assure that we were -- had no issues. That was a license condition and it was built into the --

CHAIR WALLIS: So they got higher signals from the steam lines or something? Was that what it was? What was it that made them --

MR. DOERFLEIN: I think there was a couple of things, and again, I'm not first-hand knowledge but one of them was just a strange acoustic signal they got.

CHAIR WALLIS: It's still there presumably.

MR. DOERFLEIN: Again, I just --

CHAIR WALLIS: It's just -- it's not significant. It's still here.

MR. DOERFLEIN: And another one they had mismatch in steam flow, feed flow and that was, I think, they didn't calibrate their instruments right or something. They didn't account for steam density.

SUBCOMMITTEE CHAIR SIEBER: They sustained that over a long period of time.

MR. DOERFLEIN: Yeah, but that's as much as I know because I wasn't involved in the resolution of it. Back with VY, the power uprate procedure, to 71.004 was completed and I would -- to answer a

previous question, most of that except for the power ascension and the major plant test was done prior to the upgrade being approved. That's only because we had the luxury of three years to do it and I should mention, I said there was a minimum of seven samples required. Because the SRA kept a pretty good matrix, we did it -- we actually chalked up 47 samples over that three-year period of mods and testing and everything else, so VY, I think, got a pretty good scrub.

Ginna, they requested a 16.8 percent amendment in July of `05. The ACRS made it's recommendation to the Commission in May of this year and their amendment was issued July 11th. Ginna cannot go up in power until after its October outages because they've got a lot more mods to put in. We have developed an inspection plan based on the SER. The SER had specifically 12 areas that they wanted us to look at, 12 items for inspection. We considered that. We'll probably add more but we have a mod, modifications in 50.59 bi-annual inspection was conveniently scheduled in August. That will go up and look at, at least five mods that have been completed. We have the flow accelerator corrosion program review scheduled in November. There are other -- these are

just examples. The point is, the plan's been developed, we've got HP's going up there. We're going to look at porous stem valve issues. That was an issue from ACRS, in August, so that's all developed and we're working the plan. There will be no CDDI until September of `07, that will be kind of an after the fact thing.

Beaver Valley 1 and 2, they requested the eight percent power increase in October of `04. The ACRS made its recommendation in May of this year and the amendment request was just issued last week. Beaver Valley is a little different here. Unit 1 is likely to go up -- Unit 1 had all its mods done. It is likely to go up three percent next month, in August. It won't go up the other five percent. They said there's more engineering work to do. They have some scaling changes to make based on TAV changes, things like that. That engineering work isn't even done, so I don't expect the other five percent for awhile.

Unit 2 won't be able to up even three percent until after the fall outage. They do most of their mods during the fall outage. They won't get them all done, do they'll only be able to go three percent after that till they shut down some time

during the cycle and replace the AP turbine. So they're going up in steps. The only thing, we are working on an inspection plan per 71.004, the power uprate procedure. It isn't very far along right now. The only thing we really got scheduled is the floats corrosion inspection in December. However, we did do the CDBI that was just completed last week. That's the engineering team. We did -- out of the 20 components that were actually picked for detail design review, nine of them were EPU related, so they got the good scrub on mods 50.59 as was one of the six operator actions that was an operator action that was effected by the EPU.

So they got that scrub prior to going to power. There were two other requests submitted. Susquehanna submitted a, I think 13 percent Unit 1 and 2 and Hope Creek had submitted a 15 percent but those submittals weren't suitable for docketing, so those amendments were withdrawn. I had no inside information when or if those will be resubmitted.

CHAIR WALLIS: And Limerick is not on there?

MR. DOERFLEIN: Limerick I have heard nothing from them.

CHAIR WALLIS: I think VY wanted to do

that power up for all their licensed -- that was our intention to do it at that point.

MR. DOERFLEIN: That's it for what I was going to say. I'll try to answer any other questions.

VICE CHAIR SHACK: Just when you do the fact thing, I mean, obviously, they haven't gone through the uprate, so you're not looking at -- you're just looking at the program, but it really wouldn't be any different from any inspection you do in a FASH program.

MR. DOERFLEIN: Yes, it would because --

VICE CHAIR SHACK: It would?

MR. DOERFLEIN: Because we don't do FASH inspections now.

VICE CHAIR SHACK: That's right, that's an industry --

MR. DOERFLEIN: Yeah, that was dropped from our ISI inspection program awhile ago, under a new reg oversight process as I understand. So it is kind of like a new look. It's something we haven't looked at in years.

VICE CHAIR SHACK: So you really get to look at something quite differently at this point.

MR. DOERFLEIN: Yes, yes. We spend a full week looking at it.

SUBCOMMITTEE CHAIR SIEBER: Any other questions? If not, thank you very much. And I guess we'll go next to safety culture.

MR. BARKLEY: Yes, Art Burritt will be making this presentation. I'll give you a little background on him.

SUBCOMMITTEE CHAIR SIEBER: Good afternoon.

MR. BURRITT: Good afternoon, Art Burritt. My name is Art Burritt and I'm one of the Region's Senior Inspectors. I've been asked to talk on safety culture today. The primary reason for that, I was a team lead of the most recent Salem/Hope Creek Safety Conscious Work Environment Inspection which wrapped up at the end of June. I'm still in the process of documenting the inspection results and hope to have that out in the next few days.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BURRITT: Next slide. What I plan to do today is give a brief presentation. I want to talk about the background at Salem/Hope Creek, provide some context for any questions I think you might have. I'm also going to focus in on some of the lessons learned and how they translated into changes in the ROP relative to safety culture. Be happy to take

questions at any point as we go through. Next slide, please.

In 2002 during our end of cycle process, we identified a substantive problem identification resolution cross-cutting issue. This PINR cross-cutting issue remained open through the end of 2005. In late 2003, the NRC initiated a special review at PSE&G Salem/Hope Creek work environment. This was primarily based on allegation information but as well as some inspection insights and the continuation of a substantive cross-cutting issue. This point is also noteworthy from the perspective -- well, no, not actually.

January 2004 we issued a interim results letter and it identified that while there were no serious violations identified by the NRC, we had concerns in the way that PSE&G handled emerging equipment issues, their operational decision making, management openness to alternative views, as well as the effectiveness of the corrective action process and work management process as well as feedback associated with both of those processes.

In May, next slide please, in May 2004 --

CHAIR WALLIS: So when you identified these concerns, what happened? What's the follow-up?

Management hasn't been listening to alternative views, apparently. And is there some follow-up or do you just note that and go on?

MR. BURRITT: No, what it -- I missed a point here I want to bring out, too. Based on our interest, our questions and our special review, the licensee also initiated a safety culture survey.

CHAIR WALLIS: So they agreed to do something in response to your concerns.

MR. BURRITT: Correct.

CHAIR WALLIS: And then you're going to look back at them and see if things can resolve satisfactorily?

MR. BURRITT: Again, this is the beginning of our development of a concern at the site. They began to do things to assess their safety culture and as you see, as we go on, they began to do assessments to validate the results they got as well as we began to put process in place --

CHAIR WALLIS: Well, I guess that's what you're going to go onto the next slide.

SUBCOMMITTEE CHAIR SIEBER: Well, this all comes out of --

MR. DAPAS: Well, it's how we got there, right? My understanding of how we got there and how

the licensee responded.

SUBCOMMITTEE CHAIR SIEBER: But the trigger is the ROP. The regulatory response column cross-cutting issues which means a special visit and public meeting and --

MR. BURRITT: Right, what --

SUBCOMMITTEE CHAIR SIEBER: -- and commitments.

MR. BURRITT: What I'm going to try to do is going to lay out the experience we had at Salem and Hope Creek and then be able to correlate that to the recent change in the reg and oversight process.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. HOLIAN: And then just as a reminder, Brian Holian, DRP, at this time, you know, a very complicated time really for Salem/Hope Creek. At this time you not only have the ROP cross-cutting issue that you had as a prelude that Art will talk about and at the same time you had a very vocal public lecturer come in that had been a management consultant down there and that OI eventually opened on for over a year of interviews on site. So that was a separate kind of trigger both at the same time and I'll let Art continue from there.

MR. BURRITT: So as of the beginning of

2004, the licensees digesting their survey results, NRC is beginning a special assessment really, not something within the ROP by -- at least by the process at that point. In May of 2004, PSE&G did two additional independent assessments and got similar results, again, concerns around problem identification, resolution, work management, openness to alternative views.

In July of 2004 the NRC issued the special review final results, confirmed the interim results and identified the oversight process going forward. So again, we don't have necessarily the framework at that time but this -- in this letter, we established that framework. We established that an exit criteria, PSE&G needs to make improvements and at the point that they conclude they've made substantial sustainable progress in improving the work environment. They need to have a peer assessment come in and confirm those results and then inform the NRC.

MR. DAPAS: Just to clarify, you made the comment that we initiated a review that was outside of the reactor oversight process. Maybe, Brian, you can provide some context. I don't know if that was a follow-up addressing the allegation we had received but which process were we in exactly?

MR. HOLIAN: It was both combined at the time. The ROP was obviously, you know, covering it from the PI&R viewpoint and what will eventually be the first safety conscious work environment inspection finding in the ROP in any region. So those came in at about the same time and the utility was well-aware of the -- what may have been hundreds, you know, close to 100 interviews by OI of onsite folks because at the management level there had been high management turnover and it was the high profile alleger who's still active with a suit against the company in the State of New Jersey, so that is still to come and is still open.

But we have closed out all our OI issues but at this time, as Art was going through the chronology, that's very active and that's going on, on site, so did the ROP get their attention, yes. Did OI also being down there interviewing quite a few including senior managers, all the way up to the top also get their attention, yes. So both of those --

SUBCOMMITTEE CHAIR SIEBER: And the lawsuit caught their attention.

MR. HOLIAN: That's right and the lawsuit, that's right, so all three things helped to get their attention and commit them towards a program here of

improvement that is just really -- will be, we think, culminating at this mid-cycle time here as we go into it this year.

MR. DAPAS: Thanks for that, Brian. I just wanted to clarify, so it wasn't the impression that we're operating outside the confines of the Act oversight process, because that would dictate a deviation and as you know, there's a process you go through with that.

MR. HOLIAN: Which is on the next slide, which is on the next slide.

SUBCOMMITTEE CHAIR SIEBER: You have policies in place that point you in the direction that you took and that's the way the system is supposed to work. Okay.

MR. BURRITT: Next slide. In the August 2004 mid-cycle assessment we identified safety conscious work environment, substantive cross-cutting issue based on the special review results and the continuation of the PIR cross-cutting issue.

This would also be the point under the new process where we would have considered a substantive cross-cutting issue, so the -- one of the points I'll make later on is the new process was informed by this experience. Also in August 2004, the EDO approved a

deviation memo to the ROP to monitor the safety conscious work environment at Salem/Hope Creek. This was subsequently renewed a year later. In effect, the memo provided for periodic meetings with senior NRC management and site management which were done on about a six-month periodicity.

We established an internal NRC coordination team. This included or agency allegations advisor, key people from research at NRR with good human factors and safety culture background as well as the resident office, the regional office,. We provided increased ROP inspections primarily in PI&R. We did that in a number of ways. We included additional baseline hours primarily focused on the PI&R aspects of the baseline procedures. We provided additional annual PI&R samples. And we actually doubled our PI&R biannual reviews. What we did is we did biannual reviews but we included both sites as we did them. So in effect, we did each site once a year.

Some of the other things that we did, the licensee committed to provide us metrics related to the safety conscious work environment.

CHAIR WALLIS: Are there recognized metrics for safety conscious work environment?

MR. BURRITT: You know, I wasn't involved

in at the beginning when the metrics were established and I know they evolved over time.

CHAIR WALLIS: Were they established by the licensee?

MR. BURRITT: They were established by the licensee.

CHAIR WALLIS: I take it the agency doesn't have such metrics.

MR. BLOUGH: That's correct.

MR. BURRITT: Right, no, the metrics were generally around availability of key systems and again, their problems at the site were predominantly longstanding equipment issues and inability to resolve problems in a timely fashion, so they were effective at monitoring problems at that site.

MR. HOLIAN: Brian Holian again, DRP. Their metrics, as Art mentioned, corrective action backlogs, issues like that, if you'd have talked to Exelon management as they came in and took over from PSE&G management, their view is that yes, the workforce is reluctant at times to bring forward certain issues based on management over the years, maybe not listening as well. As the new management came in, their view is that if we fix the corrective action system and get that working well, you know, we

install that confidence in the plant workforce and that was the tact they've taken and at the same time increase their kind of honest communications about management changes and what's going on, on the site. So those two areas are two areas that they stressed and a lot of the metrics don't report those.

SUBCOMMITTEE CHAIR SIEBER: If you -- according to your slides, if you go back to where you began to take action on this problem it's in 2004, on the other hand, the problem existed prior to that to some extent. When would you say that it was recognizable to inspectors that these kinds of issues were there prior to May 2004?

MR. HOLIAN: I see Randy's come back in the room. Randy lived through it a little bit more than I did, so maybe I'll ask Randy to --

MR. BLOUGH: Yeah, I think inspectors were scratching their heads and talking about things they saw late `02 and early `03 in terms of what do the findings mean. And there were some events on site where management, you know, had extensive discussions with the crew about operating decisions and there was some unresolved conflict in that. So I mean, and some of these issues were similar issues that went into our designation of cross-cutting issue and PI&R. Other

things were things we knew about but didn't result in inspection findings. They were just curious things, things we talked to management about.

And you know, so that's when we start seeing things and there were probably roots in it before that and you could say it went on quite a long time before there was NRC intervention. On the other hand, you could say, well, the NRC had some kind of -- had some beneficial, I believe, intervention before the problem like any serious safety consequence. To one extent, you know, it takes us a long time to get there. To the second extent, it's, you know, somewhat strange territory for us, novel territory to us and we got there.

SUBCOMMITTEE CHAIR SIEBER: Yeah, I wouldn't want you to take I question as a criticism, because you know, it's like anything that floats just below the surface for a long time --

MR. BLOUGH: Right.

SUBCOMMITTEE CHAIR SIEBER: -- till the signs become obvious that somebody's got to do something. I'm just trying to put in my mind could you have detected it earlier and the answer so far in my mind is probably not to the extent that you would have needed to and do something about it.

MR. HOLIAN: I think that's a good summary.

MR. DAPAS: Just to offer a perspective on that, this is Marc Dapas, I'd offer that we were wrestling with a threshold for determining when are you in substantive cross-cutting issues phase and there was guidance at the time and it talks about if you'd issued a chilling effect letter to the licensee and you know, as Randy identified, you've got some indicators there and the problem identification, resolution. You know, you have the inspector piece, where you go out and do a sampling and SCWE. You know, we had the special review results. So when you looked at those collectively, and you go through the assessment process, which is the mid-cycle review and you have the end of cycle, the conclusion was, yes, there is a substantive cross-cutting issue and we put the licensee on notice.

When you go back and you look at were there SCWE indicators there before that? Yes, but how many of those do you have and how many does it take till you reach that threshold and if I recall, this was the first agency substantive cross-cutting issue in SCWE. And as you know, the program has evolved, lessons learned. Back during that time frame

you had the discrimination task force review where they made a recommendation that there should be rulemaking in the SCWE area. The Commission weighed in. You had the industry lobbying because they felt that they could police their own SCWE if you will, and didn't need prescriptive NRC engagement.

And I'll offer that that all is transpiring and as we move that forward, and so now with the safety culture initiatives, I do think we have clearer guidance and if there is an event or an issue where you're in 95.002 or 95.003 space, you have the flexibility of going in and requiring a safety culture review, again, lesson learned from Davis-Besse. So I would just offer that when you step back and you look in hindsight, were there indicators, yes, but the threshold that we exercise there, given the evolving nature of the issues, we tried to use the tools we had in place at the time.

SUBCOMMITTEE CHAIR SIEBER: I appreciate the comments. It really helps me understand how these kinds of things evolve, when you act and when you're still evaluating.

MR. HOLIAN: And your question, Brian Holian, DRP again. Just to get back to the presentation but looking forward to the next few

slides here, Art Burritt, one of our Senior Project Engineers here and has led the second team, he -- the first team was led by the Senior Project Engineer in Branch 3. The Branch Chief is just on annual leave today. His name is Gene Coby, who's lived through this time frame, and Gene also went down for an extended three-month rotation to headquarters as they worked on the policy now that has just been put in place. So Gene was there to work with the Office of Enforcement personnel and knowing his in -- what he's learned and seen at Salem/Hope Creek and also to benchmark kind of the agency actions and would it catch something like Salem/Hope Creek with the procedure changes we're putting in.

So I know that's coming up on the slides and I just wanted to mention Gene's name who's not here today.

MR. BURRITT: Well, thanks. You took the better half of my presentation. Another thing that we provided for mentioned in the previous slide was the two SCWE inspections, so 2005 we did, we performed the first Safety Conscious Work Environment team inspection. We found that the utility had made progress in addressing the work environment. However, focused attention was still required in certain work

groups, and some of the more important work groups, like operations work groups at both of the plants as well as security.

The licensee had performed a second safety culture survey in the beginning of 2005. That was a lot of the framework and input we used to really focus our first safety conscious work environment inspection in September. During our end of cycle process, we closed the PI&R cross-cutting issues. So again, you can see the evolution and now things are starting to get better at the site as indicated by safety culture surveys, independent assessments, in that case it was a self-assessment of the ability and then by independent NRC inspection. Next slide.

In April, also in January of 2006, the licensee performed the third safety culture survey so they're doing them about once every year. They had peer assessment performed in April of 2006. The licensee had concluded that they had made substantial sustainable progress in the work environment. This was evidenced by the Safety Culture Survey. It was confirmed by the peer assessment. Then in June of 2006, the NRC went ahead with its second safety conscious work environment inspection.

The results --

SUBCOMMITTEE CHAIR SIEBER: Do you have the results of that?

MR. BURRITT: We do. It's still pre-decisional. We expect to get that out in the next couple of days.

SUBCOMMITTEE CHAIR SIEBER: Okay. I'll look forward to it.

MR. BURRITT: Okay, in July we plan to use the results of that inspection in our mid-cycle process and then determine what the next action is relative to the safety conscious work environment cross-cutting issue. Next slide.

Some of the lessons learned, the key things coming out as Brian already mentioned, is the key coordination team members. So if you remember back, we established a coordination team that has been monitoring the -- providing oversight for the site, monitoring the metrics and such. Those individuals were actually used as part of our group to develop safety culture changes to the ROP. Gene Coby, the Branch Chief, who had project responsibility for Salem/Hope Creek, was one of the key technical leads for safety culture initiative changes. Next slide.

Okay, one of the key changes or one of the key lessons learned that was incorporated into the ROP

changes involved the criteria for substantive cross-cutting issue. The criteria now is again one green finding with a safety conscious work environment aspect or chilling effect letter, or significant enforcement action involving discrimination and there's an impact -- the impact on the safety conscious work environment is not an isolated instance and the agency has concerns with the scope or level of effort by the licensee to address the issue.

Now the first criteria, one green finding, we did have that at Salem/Hope Creek. After -- the first thing we had was a chilling effects letter. This is around January 2004 time frame. This is when we initiated our special inspection. The preliminary results coming out of that was in effect the chilling effects letter. Subsequent to that, there was an actual finding related to an executive review board that was not performed and this was a measure to mitigate the perception of retaliation. So we've met both of those two criteria over the course of time.

And another reasonable criteria would be enforcement action related to discrimination. This is a severity level 1, 2 or 3 type discrimination issue. So that has been incorporated into the ROP and that is the measure for substantive in the safety conscious

work environment area. Next slide.

One of the things we've found at Salem/Hope Creek is that weaknesses in the work management and corrective processes are the precursors to a substantive cross-cutting issue. Essentially when employees are -- become hesitant to raise concerns when they become apathetic. When they put it into the process, the issues don't get solved, there's longstanding equipment problems. They stop putting them in. So that is a precursor and that's why we have safety culture not -- doesn't only reside in the safety conscious work environment cross-cutting aspect but it also has been infused into the human performance in our aspects.

We revised Manual Chapter 305 to provide the option to request licensees perform safety culture assessment in cases where we have the three consecutive substantive cross-cutting issues. So over a year and a half time frame for three consecutive assessment periods, if we have a PI&R cross-cutting aspect, substantive, or even performance and that gives us the capability of the cross-cutting status of a nature that it relates to safety cultures and we can request the assessment. And again, going back to 2002, that's the first time we established the PI&R

cross-cutting issue for Salem/Hope Creek so by mid-2004, we're at the point where by the new -- by our new process we would be able to request the survey be performed and that's where we got to using the process that we did with out special review. Questions.

SUBCOMMITTEE CHAIR SIEBER: I'll wait just a little bit more. Like the evolution of the Salem problem, my question is --

MR. BURRITT: Okay, one of the things, another lesson learned coming out of this is the importance to develop the regional expertise regarding these inspections. We used to do the safety conscious work environment inspections and we used resources out of headquarters, again, out of the enforcement, our of NRR, people with specialized expertise that lends itself to evaluating safety culture. We also used regional inspectors, people like myself and others, and it created a good blend of call it synergy to be able to understand and evaluate safety culture aspects.

I would promote continuing to do that in the future rather than -- one of the things that the agency could consider is to run all of these with a specialized group out of headquarters, but what we've found during our 2005/2006 inspections is the synergy

that was developed by the team was very useful. The regional inspectors had a lot of credibility with the licensee; however the specialized techniques and capabilities of the people from headquarters complimented the team well. Next slide.

That's it.

MR. HOLIAN: Just to comment, Brian Holian again, on one aspect that I would mention, pre-decisionally inspection report, you can expect an inspection report that looked at the second -- our second SCWE inspecting per another deviation memorandum. You can look for that to go out next week, although that result is pre-decisional, the utility had to, before we initiated that inspection, come in with an assessment of their own that claimed we would not initiate our inspection until they determined that they had significant and sustainable progress. They did initiate a peer group, eight to 10 individuals led by Bill Kottel, the former South Texas CEO and they did put that on the docket, that their review and what they looked at for several weeks on the site id conclude that.

So that's out there on the docket. Our inspection report will be out there. Our inspection report would point also, it will give a good status of

the inspection and then it points towards our mid-cycle assessment process which is our process where we will address the cross-cutting issue itself, and you can expect a letter out on that, by the end of August.

MR. BURRITT: I did have a couple of other points I wanted to make. So if you ask where are we at today with the ROP and the safety culture initiative? Our inspectors have been trained. They have been trained through two mechanisms; one, computer based training in the March/April time frame and then that was followed up with more detailed presentation as well as discussions during the regional counterpart meetings for the inspectors and this was a substantial, about a four-hour session that included examples. The procedures have been rolled out as of July 1st. They're just beginning to implement them now. We really haven't gotten much feedback yet. We expect that will change probably around the September or October time frame.

We feel that the process enhancements coming out of the safety culture initiative provide us a better opportunity to identify safety culture weaknesses and allow actions before performance degrades to any level of significance. And yet we have the ability to engage the licensee and request

surveys when we're still in the green findings range. And obviously, we have a graded approach that if performance does degrade beyond that, we can engage them quicker and more.

SUBCOMMITTEE CHAIR SIEBER: Does anyone have any questions?

CHAIR WALLIS: I was interested in this bullet about licensee confidence in the SCWE team inspections. That's a little bit tricky, isn't it? You're questioning how the licensee runs the plant.

MR. BURRITT: Yes.

CHAIR WALLIS: Do this kind of thing. Giving confidence to the licensee isn't going to be that easy.

MR. BURRITT: Well, where we were going with that bullet or that thought was credibility in the team we bring in on site. And with the inspection team that I led, we saw issues with the operations group at one of the plants. What we did to accommodate that to maintain that credibility is we actually brought operations examiners in on the team. This was an add-on as we began to do the inspections. All right, so who are the best individuals we had to get at the issues in that department? So that's really what I'm talking about and that's why I'm --

CHAIR WALLIS: It makes a difference if the utility is part of a bigger company, so that you're not just dealing with them, in a way, you're dealing with the whole like Exelon or somebody else, with a bigger entity than just management at the --

MR. DAPAS: I'm not sure I'm following the context of the question.

CHAIR WALLIS: Well, this whole business of you say licensee confidence, does the licensee, those are the folks who run that plant. And now they're getting to be part of a bigger corporation who runs six plants or something like that. So that must make a difference.

MR. HOLIAN: You know, maybe in -- this is Brian Holian, DRP, just to comment on that in general. I have seen Entergy, you know, taking a look at other fleets. They've taken a look at Salem/Hope Creek and on Entergy at the Indian Point plant they put out a newsletter to their entire Indian Point staff and on it, it listed every Entergy plant and it listed arrows, how they all have done on safety conscious work environment surveys by their utility and it had arrows up and down, average, above average, below average.

CHAIR WALLIS: It must make a difference.

MR. HOLIAN: And it helps.

CHAIR WALLIS: Sort of bringing up the low guy.

MR. HOLIAN: It does, it does and Impo is going into this a little bit more with their inspections. So you know, that does help. But the confidence here that I think Art's talking about also is the utility did complain a little bit about our inspections, but to that --

CHAIR WALLIS: Who are --

MR. HOLIAN: That's right, who are you, how can you do it in a snapshot time frame? And they wanted to make sure we had a mix of regional inspectors on there that see it day-to-day and improvements besides headquarter specialists. So that's a little bit what the confidence --

SUBCOMMITTEE CHAIR SIEBER: I'm sure that there can be a lot of things that a licensee could do to try to pick apart your process. On the other hand, you hold the ultimate decider which is revoke the license.

MR. HOLIAN: That's right.

SUBCOMMITTEE CHAIR SIEBER: And that sort of deals with a series of questions that travel through my mind. For example, what do you do if the

corporate CEO is the influence, is creating the bad culture? And the answer is use your ultimate weapon.

MR. HOLIAN: If you have to, that's right.

SUBCOMMITTEE CHAIR SIEBER: That's why I didn't ask that question. And that answer applies to situations that arise from problems at the very highest levels or issues of size or what have you. That's the ultimate weapon and it's not clear to me that it's ever been used exactly that way but there are some people how have given up fighting it because they knew the weapon is out there.

MR. DAPAS: Just off the issue, I'm glad there was a question regarding the last bullet in the slide here because if you read that, you could be left with the impression that if it isn't done by the regions it could be problematic here and I think the intent or what Art intended to communicate and correct me if I'm wrong, is that we need to insure that we staff these inspections with the folks that have the right competencies here because the industry has pushed back and challenged the NRC's ability to assess safety conscious work environment and as we've attempted to be more prescriptive in our inspection in that area, they have claimed, "You don't have the expertise, it's a soft area" et cetera, that our

experience is that you need the right discipline, the right mixture of folks, having someone that has operations experience when they're engaged in a focus group and talking to operators, lends credibility because you understand what operating a plant entails and you have that, if you will, SRO background, pedigree, et cetera. That's what I think is the overall context here, not this can only be done by the regions. It's the mix of the team.

SUBCOMMITTEE CHAIR SIEBER: Well, I agree with you 100 percent and there are some situations that would be extremely difficult.

MR. BURRITT: Right. The compliment of the team we brought to bear in the last inspection was everything from PhD in psychology through there were several SROs, inspectors with a lot of experience.

MR. HOLIAN: Allegation specialists.

MR. BURRITT: Allegation specialists. No one person had all the right attributes to be able to assess safety culture but the team, I think, did. And we actually gained a lot of credibility with the licensee by using that approach. And that's really what we're driving at like Marc said.

SUBCOMMITTEE CHAIR SIEBER: Well, if there's a word of caution out there, there is in some

plants and it's growing lesser and less, that there is a management workforce issue. You don't want to get yourself in the divide between them. Okay.

MR. BARKLEY: All right, at this time --

SUBCOMMITTEE CHAIR SIEBER: It's time for a break and we're about to enter the best part.

MR. BARKLEY: Yeah, can we reconvene at 3:20?

SUBCOMMITTEE CHAIR SIEBER: Yes, we can.

(A brief recess was taken.)

MR. LEW: My name is Dave Lew. I am the Deputy Director for the Division of Reactor Products. This session here is a little bit different than the previous session, as opposed to a presentation, we'll have a round table. Actually, in this case, it's a J table. The intent of this is really to have a forum to interface directly with the inspectors who are daily in the field. This is an opportunity for you to get their views on how the ROP, Reactor Oversight Program, is working and how they implement the ROP in the field.

We've prepared about five simple slides. The intent of the slides is really just to stimulate the conversation. I think the over-arching goal of this session is really to try and address any

questions you may have. I know you have some questions on how we select samples, have questions on whether or not there's an adequate level of effort associated with some of the procedures. And I think we'll give you --

CHAIR WALLIS: Wait a minute, are you going back or forwards?

(Laughter)

CHAIR WALLIS: Are you going backwards here now?

(All speaking together)

MR. LEW: Now, with that background and with that format and goal in mind --

CHAIR WALLIS: Are you going forward again now? What you're saying has nothing to do with what we see up there.

MR. LEW: Yes.

CHAIR WALLIS: I can ask you questions about the slides?

MR. LEW: Yes, you can ask questions about the slides. I was just setting the stage relative to what the session -- the purpose of the session is intended to be a roundtable for you to interface directly with the inspectors. And we just have the slides there just to stimulate the discussion. You

know, we know you have questions that you had shared with us ahead of this meeting and you're to ask those questions, but, you know, the way we're set up, I thought it would be worthwhile to at least have each of the staff here at the table introduce themselves and provide a little bit of their background.

Before I have them introduce themselves, I just want to give you a brief overview. They do represent a good cross-section of the inspectors in the region. Half are with Division of Reactor Projects. The other half are in the Division of Reactor Safety. All the staff here at the table at one time in their career were resident inspector. All of them have been DRS inspectors, have led inspection teams, engineering teams, problem identification teams. They've conducted licensing exams.

Collectively, there's about 90 years of NRC inspection experience. There's another 50 years experience in the industry, Navy, other NRC. So with that let me just start at the other end with Art Burritt just to introduce himself.

MR. BURRITT: Okay, I'm a Senior Project Engineer in Region 1, Division of Reactor Projects, 15 years with NRC, have been Operations License Examiner, Resident Inspector at Millstone, Senior Resident at

Limerick, currently at SPE. I've also got 15 additional years of nuclear experience, both in the commercial industry and Navy, including licensed SRO and BWR.

MR. PINDALE: Steve Pindale, I've been with the NRC about 22 years, the first 12 years in the Resident Inspector Program. I was at Beaver Valley, and then all the plants in New Jersey and then I came to the Region and I'm a Senior Inspector in Division of Reactor Safety.

MR. CAHILL: My name is Chris Cahill. I've been with the NRC approximately nine years. I'm a Senior Reactor Analyst. I've also been a Senior Inspector in DRS, a Resident at Oak Creek and an Inspector in DRS. I'm a licensed Fire Protection Engineer and I also have about nine years of Navy nuclear experience prior to joining the NRC.

MR. COOK: My name is Bill Cook. I'm currently a Senior Reactor Analyst here in Region 1, Division of Reactor Safety. Prior to that I was a Senior Project Engineer in the Division of Reactor Projects and prior to that a Senior Resident Inspector and I hit most of the New York State sites. I've been with the Agency since 1983.

MR. BLAMEY: Good afternoon, my name is

Alan Blamey. I've been in the commercial nuclear power industry for 22 years. Nine of those years have been spent with the NRC. I've been both a Resident Inspector, Senior Resident Inspector in my current position, as well as a Licensed Examiner. In the industry I've had a BWR/SRO license and I work mainly in the engineering and operations areas.

MR. LEW: And again, my name is Dave Lew. About 24 years of nuclear experience, five in the Navy. I'm a Resident Inspector at three different sites, working in Region 2 as well as Region 1. I worked in headquarters in Research for a couple of years and currently my position, I returned to headquarters a year ago.

So with that, let me turn it over to Chris Cahill to do the next slide.

MR. CAHILL: As Dave already said, this is sort of -- it's a roundtable, so we're here to answer any questions that you have and we put together some slides to introduce some topics and stimulate some thoughts. So if you want to talk about something else, this is your time, so feel free. But just starting with the overview, the ROP provides a solid framework for inspecting and assessing plant performance and it's an improvement over the pre-2000

NRC inspection program.

We went through quite a revolutionary change in that time frame, and the program is working quite well and we can discuss that a little bit more as we go along. The region does face unique challenges. They've gone over some of that previously, some of our stakeholder interests, the ages of the plants, the -- being some of the first for many of the events and conditions that have occurred, whether it's license renewal or some of the other things.

And that's going to be tough to read. So as more experience is gained areas for potential enhancement and refining continue to be identified. So this really gets into the ROP is a living process and as we continue to go through it, we continue to identify areas where we can make an improvement, where things are working well, where they're not working as well and we can address, of course, as we move along to make the program better and to be more safety focused.

SUBCOMMITTEE CHAIR SIEBER: I think that the NRC staff and perhaps, licensees, agree that the ROP is an improvement over the self process. On the other hand, there are other stakeholders out there,

like the financial communities, they love the self-process because they can count the numbers and decide whether a plant is doing good or bad and that would include some analysts rating, financial rating of a company. Have you heard from any place along the line from these third party independent stakeholders about whether ROP is better or worse than self, whether it suits their needs or does it just suit the regulatory needs that the NRC seeks?

MR. LEW: Well, I think there's a number of different stakeholders out there and when you go out to the financial community, I always find that the financial community will find ways to count numbers.

SUBCOMMITTEE CHAIR SIEBER: Yeah, they do as a matter of fact.

MR. LEW: And I think they still do that now --

SUBCOMMITTEE CHAIR SIEBER: Yes, they do.

MR. LEW: -- whether it's the self-process or it's the ROP process. I think relative to external stakeholders, at least my experience, we engage them out there during annual assessment in meetings and we have these presentations, generally there was some feedback. We will always have our critics. I think for the most part, some of the folks that have engaged

us tend to have a better understanding of the process. It's a lot clearer and I think that, if anything, makes it a much better process for them to stay with the plan.

SUBCOMMITTEE CHAIR SIEBER: When you have a meeting close to the plant site, where the public attends, do they contest your ability to determine what the licensing is doing and how they're operating their plant or do they just sit and listen?

MR. BLAMEY: I'll speak specifically for the plant that I'm assigned to right now. It is fairly quiet as far as other external stakeholders. Typically, I think the only questions that we've seen in the past that come to mind really are understanding some of the new cross-cutting issues and how cross-cutting issue plays into the inspection program.

SUBCOMMITTEE CHAIR SIEBER: Okay.

MR. BURRITT: You know, if I could add on, I think there's a wide spectrum of what we see in our annual assessment meetings. We've got some very vocal plants, New York, Indian Point, a few others as well as we have a lot of plants where there's very little participation. It's primarily listening. But I think typically we see at least a few critics at each of the plants, although they generally will walk away with a

good understanding of why we did what we did which is our intent.

SUBCOMMITTEE CHAIR SIEBER: Well, and that's a good outcome and probably as good as you can expect it to be. On the other hand, in my view, the ROP has as primary stakeholders, the agency itself because it allows them to allocate resources and determine where they're going to go next with a given set of behaviors by a licensee. And the other stakeholder, of course, is the licensee, but the public is an important stakeholder and they have to understand that the agency is correctly enforcing its roles and Atomic Energy Act and other rules that apply on their behalf and I don't think that we should pander to the public. On the other hand, I think we need to keep in mind that that's where the communication really is.

And from the reports that I've read, I think you're doing a pretty good job of that but somewhere in your list of reasons why you're doing things, that should be an important one.

MR. BURRITT: That's one of the things we do do during our annual assessment meeting, is we do provide feedback forms. We do solicit feedback, so we continue to try to improve the process, anything from

the times that the meetings are held to the forum that the meeting is. And typically, the criticisms are around the public would like a forum to talk with the licensee directly. We conduct a meeting with the licensee. We conclude that meeting and then we go into address comments and questions from the public.

Typically, the licensee is either in the back of the room or they've already left and sometimes they ask specific questions that the -- while we'll address the answers to the best of our ability, they're really specifically to the licensee.

SUBCOMMITTEE CHAIR SIEBER: Well, I guess in my view, I think that the way you're doing this is the right way and if you facilitate a direct confrontation that that's not going to work. And so what you're doing in my opinion is the right way. Of course, I'm just another stakeholder at this point. But I think overall, it's been well handled in almost every case.

MEMBER MAYNARD: Most of you have worked under both processes, the old process and the ROP process. Does the ROP process prohibit you or keep you from looking at something that you think is a safety issue or a safety concern?

MR. PINDALE: I think it's probably just

the opposite. I think previously with the structure of the program, we were limited to looking at safety related components and with the incorporation of risk, we can get into various areas non-safety related, secondary plant, so I think it gets us into more areas that previously we would have liked to get there which this allows us to go.

MR. BURRITT: If I could add onto that point, it also puts more of our time on the most risk significant components. We have -- in the old process we did have the capability to go to a lot of different areas but some of them were not risk significant. Now, we are focused on the most critical aspects that you can evaluate. So I think it is significant in that regard.

MR. DAPAS: If I could offer my perspective, you know, when you talk about risk, I look at it, it cuts both ways. We have had licensees that say, "Oh, this system would be available here", and from a risk perspective they get to take credit for that. By the same token, there may be a system that we're looking at that is not identified as safety related but is important in terms of risk that we are now able to look at in the risk informed approach. So I see it as cutting both ways and allowing the

inspectors to focus on some areas where in the past they may not have had that safety related and while you could use deterministic, that was subject to more challenging versus if you're on board with a risk informed approach, then you have a solid basis for why I'm looking at this component, even though you may not have a number of controls, pedigree QA requirements in place, your own PRA identifies that it's risk significant, so we're looking at it to understand what you've done to insure you can address the equipment and vulnerability, et cetera. So I think it's valuable from that perspective.

MR. CAHILL: And we've been given some more tools, too. The Revision 2 to the SDP notebooks has just rolled out along with some pre-SAW sheets for that and that provides a lot of guidance for picking risk important systems or operator actions as a starting point, plus a lot of explanatory notes to put in the context of why it's important.

VICE CHAIR SHACK: Does the inspector get essentially PRA results for his plant? I mean, does he know what that SPAR model, you know, and what the rankings for the various importance measures are? Is that information provided to him?

MR. CAHILL: Well, the importance measures

or the role values are in the SDP notebook for everything that we have in the notebook. Table 4 of that has a comparison of what our results are, benchmarked against what the licensee's results are for that model. So that's not as detailed as the SPAR model is going to be but for like HKSI and RKSI, it's going to give you the big hitters. It's not going to get down to the valve level.

VICE CHAIR SHACK: It gives you the big picture, right. That's what I'm really looking for. Okay, he really knows what the big picture of the plant looks like in risk space.

MR. CAHILL: Exactly, and they can do a quick screen on that, too, because they'll also use that raw value and the licensee CDF value and say, "Well, if this component is out for a year," based on this raw value it would be green, white, yellow or red", so they know if they come up to a C or D pump that wasn't going to work for a year, they can look and get a pretty quick sniff on hey, was this significant or not.

VICE CHAIR SHACK: Or even know which pumps to look at to find out what their maintenance records look like.

MR. CAHILL: Right.

MR. BURRITT: For example, should you select a core spray, do an equipment alignment or is this an RHR versus another system, you can use the notebooks to facilitate that besides.

MR. COOK: We try to advertise the plant specific notebooks are really a simplified SPAR model or PRA. They know what all the significant initiating events are. They know that if it's in the notebook, it's risk significance. If it's not, don't bother with it. So that notebook, Phase 2 notebook, is really a simplified tool for the inspector, not only to take a finding and identify its risk significance, but when he's planning his inspections for the next month, he can look at that to say, "Well, I'll look at the RHR pump versus the city water pump at Indian Point".

MR. BLAMEY: And I think the other thing that you have to realize as well, these SPAR models aren't the only thing that we use. The licensee has their own PRA analysis and typically, we'll end up with their top 10 risk significant systems as well --

VICE CHAIR SHACK: Well, I'm hoping that they look alike at some point.

MR. BLAMEY: Pretty close, yes. And the other thing we like to take a look at as well as the

risk significant operator actions, so that we can understand how the equipment as well as how the operators and procedures have to interface.

MR. CAHILL: And many residents also have access to the risk monitors, ES or whatever for their particular site, so they can look at the day-to-day configuration changes and see how that effects the -- how risk is effected that day.

VICE CHAIR SHACK: Do many of your plants use risk monitors on the line?

MR. CAHILL: I know Oak Creek and Salem do and --

MR. BURRITT: Most of them do now.

SUBCOMMITTEE CHAIR SIEBER: Are they real time or are they -- do you have to type a bunch of stuff in and wait 10 minutes?

MR. BURRITT: They usually have the daily picture of risk on there and you can do what if, so if you want to --

SUBCOMMITTEE CHAIR SIEBER: Well, this is how you would plan it out --

CHAIR WALLIS: And they schedule maintenance in some way?

SUBCOMMITTEE CHAIR SIEBER: Yes.

MR. CAHILL: But you'd also see the effect

of change in an unexpected failure in a piece of equipment to see what the change would be.

CHAIR WALLIS: So everything is perfect. I just wonder what the gaps are in this process. You suggest here that there are areas for a refinement. Where are they?

MR. CAHILL: One of the areas in risk that we're working on refinements are in external event development. NRR has an issue where we've developed STP notebooks for five plants or six plants, I forget the exact number, seven plants for external events so we can basically take a finding all the way through in a Phase 2 notebook. So we're fortunate in the region then. We have Salem, Limerick, Nine-Mile and Indian Point, Nine-Mile 2 and Indian Point 3, that external event notebooks have been developed for and although they're specific to those plants, we have a pretty broad variety of plants there that we can apply some of the lessons from that to some of the other plants that we have to evaluate.

CHAIR WALLIS: What does the ROP say about steam dryers? They're not risk significant and other than the PRA, they just need to be ignored or what? Can they rattle as much as they like? What does it tell you about things like steam dryers in there or

does it not?

MR. CAHILL: It wouldn't necessarily be modeled. If there was a performance deficiency that we had to evaluate for a steam dryer, we'd be looking more at an initiating event. We'd almost have -- there's no specific.

CHAIR WALLIS: There has been steam dryer failures, pieces broke off and things like that which we seem to be not insignificant event. I don't think it appears in the PRA or the ROP, does it? So how does -- so there must be some things like that, that are not covered by --

MR. CAHILL: Well, for something like that, for example, you have -- it's essentially a transient initiator. So you have a transient model. What causes the transient really for the risk assessment part isn't that important compared to what take --

CHAIR WALLIS: Well, I was thinking in terms of retro-oversight. You still have to oversee steam dryers.

MR. BURRITT: If I could offer something, you know, we just built in through the safety culture initiative use of operating experience. So now we do have the ability to look at this from a transient

initiator. We do have event follow-up if an event occurs, but operating experience may be a took to look forward. If you're seeing events occurring in other plants because of power uprates or whatever, to reflect that back into inspection processes.

SUBCOMMITTEE CHAIR SIEBER: Yeah, but you have to really look at that realistically. If the dryer fails and it disintegrates, it's likely that you're going to get a reactor trip which is an initiating event but not a -- the low probability event is if you have pieces of debris that somehow or other get lodged in main steam isolation valves and it's going to hit two valves in order for it to be a bypass kind of a thing. And I don't -- I'm not aware that that's in the PRA.

MR. LEW: I think for the most part, the ROP does focus on the risk event issues. We also have other tools to -- they have PI's that track trips and plant transients.

CHAIR WALLIS: Some risks are not significant, I mean, the plant has a lot whole other unexpected scraps that may not be very risk significant, but you'd still pay attention to it.

MEMBER MAYNARD: Right, and that's an ROP process.

(All talking at once.)

CHAIR WALLIS: If you only risk inform that you need 60 SCRAMs a year or something to make it significant.

SUBCOMMITTEE CHAIR SIEBER: Well, they have artificially set the threshold for that PI, so that something -- a number of occurrences which isn't particularly risk significant; however, it does trigger the PI. It's a little artificial but it's conservative.

MR. LEW: And we do have our inservices inspection procedure which were expanded and it did look at a large range of areas which may not be significant but, you know, we have --

AUDIENCE MEMBER: As I understand your question, how does the ISI program get us into looking at something like the steam dryer. The ISI program has a segment in there to take a look at repairs and modifications that have been made and we've done all that, so the cycle before last I got into the steam dryer on that basis and the work in progress and what I immediately hit on the resulting mechanics --

SUBCOMMITTEE CHAIR SIEBER: The current requirements are small because the dryer is not a pressure vessel.

AUDIENCE MEMBER: That's true, that's true.

SUBCOMMITTEE CHAIR SIEBER: And --

AUDIENCE MEMBER: But there is still a mechanism to get to that.

SUBCOMMITTEE CHAIR SIEBER: Yeah.

MR. COOK: We still have a tool within the ROP to deal with that from the standpoint of the significance determination process. It really falls outside any specified appendices in the STP but we can capture under management review. So if we identified a finding, performance deficiency, which we wanted to characterize and put out for public review and scrutiny as well as exercise the licensee to take corrective actions, we could do that under the management review process which is a unique process that takes advantage of or allows us to deal with those unusual circumstances or issues. So there is a method within the current ROP to deal with that.

SUBCOMMITTEE CHAIR SIEBER: But something short of a collapse or a disintegration of a dryer, even if you found a violation, I doubt that you could make a greater than green.

MR. COOK: I wouldn't argue with that base on the fact that it's --

CHAIR WALLIS: Yeah, but in terms of public confidence, steam dryers breaking up, there's a lot to undermine public confidence. If it happens frequently and if they're rebuilt and it happens again and then a new design is put in and it happens again, the public extrapolates this to other parts of the devices which are safety significant.

MR. DAPAS: If I could address that aspect, let's look at Quad Cities. There was a case where there were concerns about steam dryer integrity right, and extended power uprate conditions and we weighed in on that and as a result of looking at that, the licensee went back to pre-EPU power levels and they went in and they replaced the steam dryer, they implemented enhanced monitoring. I would offer that we have a concern in terms of the safety significance, because obviously, integrity of the dryer is important, but I would offer our operating experience at -- you know, at 100 percent power levels have not been such where we were having a number of dryer cracking events and looking at a generic safety issue but an extended power uprate as a result of the Quad Cities experience, we wanted to insure at Vermont Yankee that there was not a structural integrity issue.

I'll offer that that is focusing on what is potential safety significant. It doesn't have to be a dryer when you go in and look at risk achievement work and screen-out at some value. Here is a case where operating experience tells you that at a higher power level, you've got potential flow induced vibration concerns with a dryer that can result in cracking and pieces fall off. You can have problems with moisture carry-over impacting the turbine, right? And you can have an exulted turbine trip, a reactor trip, or can some of those pieces get down into the fuel and blow your reactor. So I would offer that the program does allow for a look at that and it is appropriately focused to give you the flexibility independent of what does the PRA exactly say about the importance of the steam dryer.

CHAIR WALLIS: So what we're doing is looking at the ROP and saying are there some gaps which need attention. You're saying there are other ways to fix these things which may not show up in the PRA.

MR. DAPAS: I would offer to answer that question directly, using operating experience and leveraging that, we can determine are there areas that we need to enhance the ROP and identify an inspection

module, create one to go out and look at that, is there information we need to obtain? We can send out a request for information to provide us information and we can assess what's the degree of a safety concern that we have. That gets to generic safety issues, et cetera. So the ROP has the flexibility to be modified to include an inspection piece if we determine that there's a certain component or activity or operator action, whatever that needs to be inspected. I would offer that.

MEMBER ARMIJO: As an example, could you sort of summarize what you've done or are going to do over the issue of BWR controlled delayed insertion with the channel bow problem. You know, that's been an issue over the last year or two --

MR. DAPAS: At Susquehanna.

MEMBER ARMIJO: And just how are you dealing with that, what's going on and would you expect the channel bow problem to get more severe with extended power uprate? You know, it's a burn-up related or exposure related --

MR. DAPAS: This is a perspective I would offer. A licensee identifies there's a channel bowing issue. Resident inspectors become aware of that. They engage a specialist inspector with some

engineering expertise in the Division of Reactor Safety. There's discussion with the program office NRR and the particular systems branch where someone has knowledge of you know, the fuels. And then there will be a discussion is this a potential generic safety issue? You know, we're engaging the licensee. We're understanding what is the licensee doing to determine the safety significance of this as-found condition.

I think Susquehanna is an example. We are following licensee actions very closely. They just conducted an outage. They went in and did some inspection. There were a certain number of rods that were identified as having bowed. They did an operability evaluation at the time they identified if, saying if X number of rods are inoperable, can that -- in a SCRAM will the reactor be safely shut down, et cetera. I would offer that's an example of the process we would follow to insure that that issue is addressed.

MEMBER ARMIJO: Extending from that now, do a power uprate on that, a large power uprate on that, you know, the predictability of what happens with the next step, I don't know if we addressed that.

MR. DAPAS: The licensee would have

responsibility for evaluating that and then we would have a responsibility to look at the licensee's evaluation and insure it's sufficiently bounding. And if there's contractor expertise that we need to invoke in order to insure we have looked at it with sufficient technical veracity, that's what we would do.

SUBCOMMITTEE CHAIR SIEBER: Do you have technical specifications that determine -- that tell you the rods must operate and they have to do so fast and there are surveillances conducted where the licensee has to demonstrate that and if he fails to demonstrate it, they're inoperable. And it's not the ROP that's doing that, it's the tech specs that are doing it. And once you get a limiting condition and LCO of operation, you've -- in those cases, you shut down and you don't run until you fix it.

MR. LEW: Unless the mechanism is understood and the problem is fixed, why do you uprate the power?

MR. BURRITT: You know, I think we should let Alan talk to this because we have lived through this. Okay, Alan.

MR. BLAMEY: I guess I'll start out, there's really three competing mechanisms that are

actually seeing creating this interference. There's a typical channel bow, which has been in the industry for years, and when you look at that, you're going to have, because of the fluids across the fuel assembly, you're going to have the channel bow. The other one that they're seeing, they're seeing shadow corrosion as well. Now, shadow corrosion is a product of having the control blade near the channel itself with the two dissimilar metals, and as you do that, that's when you reduce the gap between the control blade as well as the fuel channel.

And then finally, the last one is the bulge in the fuel assembly and that's really due to the differential pressure between the inside of the fuel assembly and the outside of the fuel assembly. Now, in the particular case, I'm not sure how the other plants in the Midwest work, but in the particular case that I'm familiar with, one of the issues that they had at this facility, number one, when they went through and designed the core, the core design there removed some of the gadolinium, so typically for higher burn-up cores, if you don't put the gadolinium in, that means you're going to have more rod density through the life of that particular cycle. The more rod you have the more shadow

corrosion that you're going to have to deal with. So from that perspective, that's one of the issues that they've reconstituted now and they're going back to the normal GAD loading.

So for the two-year cycle their rod density should be less. They should reduce part of that component. The second thing that they've done, they've gone back and they've looked at using and they currently are using 100 mil channels versus 80 mil channels. With the 100 mill channels there's more rigidity there. So from the perspective of the channel bulge, there's less channel bulge. From the perspective of the shadow corrosion, they believe right now with some of the data that they have that they also include the shadow corrosion aspect. And that deals with the hydrogen pick-up and the deformation that you can get from hydrogen pick-up.

MEMBER ARMIJO: More dilution, less hydrogen and less bulge.

MR. BLAMEY: Yes, so from that perspective, they're working through those issues. Regardless of the conclusion they come to, they have to make sure that they continue to meet tech specs. When this first occurred a couple years ago, I believe the positive impact that the NRC had while we observed

this, we monitored this. We also pushed the licensee. One of the issues we had was when they do a surveillance they weren't always forward looking, taking the data that they had an projecting to the net time the surveillance was run, will those control rods still be operable or will they not be operable at that point?

And I think one of the items that the NRC had, the positive influence that the inspectors working with the headquarter specialist as well as the DRS people, we were able to have them change their philosophy and for the control rods were getting close to the limits that they have, they would project out whether they would actually be able to still be operable by the time the next surveillance came around. So from that perspective, I think we had a very positive influence on the way that they monitored them.

SUBCOMMITTEE CHAIR SIEBER: But it's the surveillance testing for specific tech specs and the running condition of operation which is the regulatory instrument that controls this process, what the fuel vendor and the licensees do to eliminate the problem is up to them. Now, the only thing they have to do is meet the tech specs and if you don't meet them,

there's a price to pay, you don't run the plant.

MR. COOK: And I'd add to that, that the other piece of leverage we have is Appendix B, the corrective action program.

SUBCOMMITTEE CHAIR SIEBER: Yeah.

MR. COOK: What are we doing to fix this thing? Is it going to be effective?

SUBCOMMITTEE CHAIR SIEBER: Yeah, well, that's a question you ask after they are inoperable.

MR. COOK: But do you feel they now have a model that's adequate to predict how many blades will stick in the next cycle under current power limits as well as extended power operate conditions. I just think that -- I'm just trying to understand how you can reach the conclusion that --

SUBCOMMITTEE CHAIR SIEBER: I think they use a --

MR. BLAMEY: I believe that the answer to that currently is, yes, and the reason I say that is not because of the uncertainty because there is a lot of uncertainty that goes with this, not because they shrunk the uncertainty but because they increased the population of the susceptible control rods that they've been testing on. And because they've increased that population, when this first occurred,

probably a year or two ago, there were a lot of rods that they found that were slow and when they found that they were slow, they weren't predicting that they were slow. Today with testing -- with the testing they're doing, they aren't finding control rods that are slow outside of the susceptible population but you have to understand the way they address that problem was increasing the susceptible population with the best data they had rather than trying to reduce the uncertainties that are associated with that.

CHAIR WALLIS: So they can predict when -- how long they can operate before they stop meeting tech specs? Can they do that now?

MR. BLAMEY: Yes, yeah, that --

MEMBER ARMIJO: I think sort of, it's closer than that.

MR. BLAMEY: You have to be careful, because when you look at this, there's a lot of uncertainty involved when you first start to see a control rod exhibit the slow to settle condition and that's why they've increased the population, the susceptible population. But once a control rod exhibits this, it's fairly predictable as to how long it remain operable.

CHAIR WALLIS: Can you predict how slow it

is? I presume they get slower as it gets worse till eventually, it doesn't move at all.

MR. BLAMEY: Well, yes, I can actually tell -- the way you can predict that is through scram timing, okay. They have some other methods that they use to go through and take a look to see what the frictional forces are. You're also concerned with bundle lift as well, depending upon the uplift that you would have with the fuel assembly. And there's criteria they look at for that as well.

MR. DAPAS: But from a process standpoint here, the kind of questions you're asking are questions that our technical staff should be engaging the licensee to insure the licensee is sufficiently bounded the condition that's been identified to insure that they can continue to operate the plant safely. And he has to question regarding extended power uprate. We would expect the licensee to address that and then our technical staff at NRR would evaluate the licensee's analysis of that in the context of extended power uprate. It wouldn't be something that Region 1 staff would evaluate whether that is acceptable for extended power operation. That would be the responsibility of the program office, where they have the technical expertise and can evaluate those

conditions in the context of the extended power uprate criteria. I would offer that's the process that we would follow.

Alan is providing you with an explanation why we have confidence right now in terms of the licensee's operability evaluation but when you start to get into extended power uprate and those type of extrapolation questions, then, you know, those are appropriate technical questions to put on the licensee's plate.

MR. BLOUGH: And I would think that part of those questions would be to look at the tech specs in terms of the population that has to be tested and the frequency of the testing and such, you know, verify whether that's okay as is and the extended power --

SUBCOMMITTEE CHAIR SIEBER: Especially the thought prediction, basically the same as a fact prediction. You make measurements and you draw a line and you say, can I make it till the next time I do the measurement.

MR. DAPAS: There's different pools we could use. Let's just assume for the sake of discussion that we have a concern in this area and the licensee does an evaluation and we don't think it's

sufficiently adequate. I mean, ultimately you could issue a demand for information and provide us information as to why there is not substantive safety concerns. So there's different tools that we can engage in to insure that we have confidence that there is not a safety issue for continued operation.

MR. BURRITT: If I could offer one other perspective, we're talking about ROP framework being solid. I think this is a good example where our ROP framework, particularly our operability procedure, our testing procedure, status procedure, a lot of us, all the tools that we needed to engage a licensee and insure the plant was operating safety. So I think it's a good example.

MEMBER ARMIJO: That's why I wanted to get the discussion going to understand how it was treated.

SUBCOMMITTEE CHAIR SIEBER: It's not the ROP that does that. It's tech specs. You know, before the ROP, this forum, you approached these kinds of issues the same way then as you are today.

MR. DAPAS: Absolutely, absolutely.

SUBCOMMITTEE CHAIR SIEBER: And so there's nothing new. I think it's important to step into the mind of a licensee and the licensee is out there to destroy his turbine with pieces of moisture separator

trying to go through it or slugs of water. I mean, the licensee wants to protect the plant and the licensee will do a lot of things that aren't, you know, risk based to make the plant run better, more efficiently, safer from an industrial standpoint and be efficient. And so the agency concentrates on those things that are safety significant and I do have a few questions to ask about that.

CHAIR WALLIS: And while you were saying that, I was thinking this is fine. We're looking at the ROP, though, you want to be sure the ROP with its focus doesn't distract the licensee from doing these things that you've been saying he does so well.

SUBCOMMITTEE CHAIR SIEBER: I don't say he does them well, I'm saying --

MR. BURRITT: He eventually will do them.

VICE CHAIR SHACK: He has different incentives.

CHAIR WALLIS: -- before the ROP and so on.

SUBCOMMITTEE CHAIR SIEBER: Yeah.

CHAIR WALLIS: The ROP comes in and does some good things. By focusing on these things, does it take away some of the traditional focus on other things which are also important.

SUBCOMMITTEE CHAIR SIEBER: Well, the way I look at it, on a -- and you can say yes or no, but if you're the manager of the plant and you have a certain basket full of regulatory kinds of things to do, and your vision of the work that's out there is a lot bigger than the regulatory basket, you run out and get the resources to do it all, to make the plant run as reliably as you can without destroying itself and without, you know, running afoul of the regulations or jeopardizing the safety of your workers or the public. And if you can't do that at a reasonable cost, you go to your board and say, "I don't think we ought to run this plant". I mean, that's basically the way it is.

MEMBER MAYNARD: I think the ROP program brings a lot of things to -- a lot more consistent priorities between the licensee and the regulator. I think the things that the ROP get into are also the things that the licensee needs to and would be getting into. So I don't think it distracts from those important things. And the licensee has different motivations in some of those areas where you get outside of the risk or safety significant, you know, you get into the economics. If the plant's not running properly, shut down to fix the dryers or if they've got parts falling off, there's an economic

incentive to fix those things and make them work well, too.

But I think the new ROP process probably aligns the priorities better than what the old mechanism did.

SUBCOMMITTEE CHAIR SIEBER: I agree with that.

VICE CHAIR SHACK: I notice here you have a blurb about safety culture. Have you actually had a chance to run through the new safety culture inspection procedures yet? Is that something that you've done already or this is kind of something that you think will happen now that you have new procedures?

MR. BURRITT: We are using -- the documentation for our second quarter occurs at the end of the second quarter, so after the new process has been rolled out. So it's a tool for the inspectors to use. We've -- OA's when we identify cross-cutting aspects, we've done that for a long time. We now have revised cross-cutting aspects at a line with the safety culture elements for lack of a better word. Inspectors are beginning to use those, even though they're not required to be used at this point.

MR. DAPAS: For the program I thought July

1st.

SUBCOMMITTEE CHAIR SIEBER: Correct.

MR. DAPAS: We have received training on those inspection procedures, and the inspectors should be implementing those now and identifying whether they're a safety culture, cross-cutting aspects, findings with those that the process is being implemented. What we agreed to as part of the transition, is that we wouldn't go back and look at, okay, there's been a substantive cross-cutting issue that would X for three consecutive assessment cycles, so now, go conduct a safety culture assessment, Mr. Licensee. We agreed that we would start July 1st and then subsequent to that, at three cycles later, there's a subsequent cross-cutting issue, you have the option so there's a transition period there, but correct me if I'm wrong, Brian, but I think we, as of July 1st, have implemented those new procedures.

MR. HOLIAN: Yes. Brian Holian, DRP and the only thing I was going to add to that, that is correct, is ACRS might see some correspondence here in this -- these coming few months from interested stakeholders on that transition period as we call it, as we go into it, why, NRC, aren't you looking back and there were some reasons for that.

For example, Indian Point had a PI&R cross-cutting issue for six or seven assessment periods. It closed a couple of assessment periods ago but it had a longstanding one. And so the stakeholder and I think Dave Locbaum raise this in a public meeting during this transition was, NRC, are you going to go and look back and maybe have them do on.

NRC thinks, you know, we know enough at this time and we could always use a deviation memo through our assessment process, to require that, should we think that was there, but that will be an item you might see correspondence on.

MR. BURRITT: I guess what I was talking about was kind of the microscopic pieces or tools. That's the macroscopic assessment tools. I'm talking about inspectors are beginning to use the new cross-cutting aspects, to use those to inform their inspections, gather the information that's key, and beginning to document it. That's the point I was making.

AUDIENCE MEMBER: 95.003, is that also being now implemented?

MR. DAPAS: 95.003, thanks for asking that, there is a yellow binding, I think. You meet the criteria for conducting a 95.003, you would follow

the new process and you ask the licensee to conduct a safety culture evaluation and then we assess that evaluation after. So in that context, yes, the new process, the 95.002 and 03 would exercise the safety culture review option that's built into the procedure. In fact, I don't know if that's been issued. That was the last set.

MR. BLOUGH: It's out for comment now. 95.003 changes to conform with safety culture or actually we have it for comment sometime in the next 20 days or something like.

MR. DAPAS: But that's where we're going clearly.

MEMBER MAYNARD: What kind of process do you go through for closing out some of the cross-cutting issues? Is that something that stays open for a long time? I'm kind of interested in the process, how defined it is and how you close out an issue.

MR. BURRITT: Our process is, you know, you have to have more than three findings, so four or more. You have to have a common, cross-cutting aspect and the NRC has to have concern with the licensee's ability to address or resolve those issues. And when you no longer meet any of those components, then we would close out the cross-cutting aspect. That's the

simple answer.

MR. DAPAS: Let me just add to that. We have a mid-cycle and a new cycle assessment. The mid-cycle we'll be conducting, we're going to do that one next week, Brian? In two weeks, excuse me, thanks. We look at that criteria. Each branch, when they present their assessment of performance of each facility, we look at the criteria met, number of findings, a common theme and then as Art mentioned the last criteria is do we have confidence in the licensee's understanding of the scope and is there sufficient progress being made.

You have to meet all three of those criteria in order for us to conclude it's a substantive cross-cutting issue. So each assessment cycle we evaluate that. And the findings that you're looking at are over the last 12 months. So a mid-cycle is not just the last six months, it's the last 12 months and then when you do the end of cycle, so there is a period there where, you know, when you do the end of cycle, you've already looked at the first six months, and you're looking at the second six months as part of that 12-year look, I mean, 12-month look. So we assess it each time.

Now, in the case of the SCWE cross-cutting

issue at Salem and Hope Creek, we have defined a specific criteria that needs to be met and that is that the licensee concludes that there is substantive sustainable improvement and our independent assessment validates or is in agreement with that licensee conclusion once the licensee makes that. If I recall correctly that's spelled out in a deviation memo, but that's just the unique case where the SCWE cross-cutting issue that we defined a criteria that had to be met.

MR. LEW: I just want to add, this assessment decision is made by a lot of the people. The inspector is involved and first line supervisors, the management team here in the region. The other offices are all tied in as well, including the headquarters office, OEE, so this is a collective agency decision. It's not made in isolation.

MEMBER MAYNARD: A comment, it's still quite subjective and it's probably one of the most difficult for the licensee than the other stakeholders, too, if I understand exactly what criteria that -- what they're going to have to do to get out of the great cornerstone area because it still relies back on judgment on the part of the NRC's senior staff and a lot of people to come to that

conclusion. And I'm not sure that there's a tremendously better way but it is still fairly subjective and not as visible to others as to what it takes to get out of it.

MR. LEW: Just a clarification, just the columns that they're in the action matrix is different than the decision on whether they're the subject of cross-cutting grade. And there are defined criteria for how long a particular finding is inputted into the assessment, that's well-defined. I will say that there is still some subjectivity associated with this but there is also some objectivity towards the process. With the number of findings that are actually inputted, the aspects or the theme that has to be defined, those criteria are somewhat objective, more objective.

MEMBER MAYNARD: And I agree that there are some objective criteria. I don't mean that it's all subjective but you still have the one override criteria and the NRC's confidence and their ability.

MR. LEW: That's correct.

MR. BLOUGH: And I believe they all seem to be regulatory judgments. To the extent, you accept that, you'll always need to like weigh things and achieve regulatory judgment, then there's going to be

some unpredictability where there are people from outside the NRC might be weighing the same things on their own and say the NRC is going to do this, and we do something different. So I think that's part of it. And we actually -- you have to look at all those areas and see if we can make it more predictable. You know, some of them, you know, ESEP is one the areas you asked about. But it's an area where we have to try to make it a bit more predictable by focusing on the areas where we don't really have tools for the external events, you know, shut-down events, shut-down issues are difficult to do.

Some of the non-reactor safety the fleet of STPs in the emergency preparedness area and health physics area, industry says they're not properly balanced with reactor safety ones and you know, to some extent we're disagreeing on that and we're thinking -- you know, we're thinking we'd like some of them the way they are, others we're looking at. And so but I guess my key point is, you try to look at the areas where regulatory judgments have to be made and where there's some unpredictable and you're looking to see if you can narrow it down on those some but I would still say that there will always be a need for regulatory judgments.

MEMBER MAYNARD: And I would agree with that, that there will always be a need for some. I think part if it is you periodically step back, take a look and see are you being consistent, are you handling the various licensees consistently and everything but I don't think -- I think it would be the wrong thing to do would be to totally remove regulatory judgment.

MR. DAPAS: And I think we do that with annual assessment in the reactor oversight process. You had asked that question earlier and as I recall frankly, regarding we get feedback relative to comparison of the old program where you use the systematic assessment of licensee performance ourself and the new program.

MEMBER MAYNARD: I think that was Jim.

MR. DAPAS: I'm sorry, yes, it was Jim. My apologies, but you know, as part of this survey of external stakeholders, you know, they provide input. They gauge -- we ask a specific question, do you consider the ROP to be scrutable, and there's feedback that we get and one of the areas that we're addressing is STP time limits which is a particular criticism that we've received as a result of that survey and then each year there's an assessment report that's

generated and then a briefing of the Commission communicating the results of that annual self-assessment that's in the vein of continuous improvement and then there's action plans that are developed to address the areas where we determined there needs to be some additional enhancement. So that's a forum to get that feedback and evaluate to what degree are we satisfying the criteria.

There's specific criteria that are identified that represent success and we gauge ourselves against that.

VICE CHAIR SHACK: Since you brought it up, are your SDP response times 1n providing --

MR. DAPAS: Our SDP response time in Region 1 is very good.

MR. COOK: It's always been good.

(Laughter)

MR. DAPAS: But I did want to mention, there had been an initiative, a benchmarking initiative to look at as we need timeliness across all the regions, individual -- Dwight Chamberlain, who is the Division Director of the Division of Reactor Projects in Region 4 led that effort. Just completed that. He's preparing the final report with recommendations as the best practices that can be

adopted to insure timeliness. But an example of that was he came out an interviewed our folks here, the Senior Reactor Analysts, the staff, to understand how we implement the process and why we have been so successful in reaching that 90-day goal.

But I think that's a good example of leveraging lessons learned and improving in efforts to address that specific issue, timeliness where we've gotten feedback externally where the industry has said it takes the NRC too long to reach a final significance determination.

MR. BURRITT: If I can go back and make one more point on the criteria for substantive cross-cutting issues, we talk about our program being a living, evolving program. The agency has concern and would like to see scope of effort. That's been -- in the most recent revision of our assessment document, that's been further defined. I believe we've actually got four sub-bullets which we've added to give ourselves a better framework to make these what will always be subjective decisions. So I wanted to call your attention to that.

SUBCOMMITTEE CHAIR SIEBER: I'd like to go back to the SDP process. To what do you attribute your great success?

MR. DAPAS: I can try that. I'll give you the long-winded answer, but I'll let Bill give you the succinct answer.

SUBCOMMITTEE CHAIR SIEBER: Were they easy?

MR. COOK: No, I think there's a fairly simple reason for it. First off, Chris and I are fairly newly qualified, but the SRAs, the third one in the region right now, Wayne Schmidt has been qualified for three or four years and prior to that Jim Trapp and Tom Shedlosky and Jim Coby and I think the success that we can attribute to timeliness is that they've always been very approachable. They've made themselves available early on in the inspection process to engage the inspectors to understand what the finding is to start early on assessing the risk significance of those findings so that when the report is issued, we're basically done or close to being done with the risk assessment and we can meet all those timeliness goals.

MR. CAHILL: So we're only dealing with the licensee too, to understand how their plant is modeled, to do logic checks between our two models so that we can iron out any -- not that we come to an agreement but we understand the logic of the models

and we're in agreement with what the models are producing and then we can argue about the assumptions and the finding later.

SUBCOMMITTEE CHAIR SIEBER: That was my next question. How many contests to you get into with licensees? What are the issues? What are the outcomes? That's one of the controllers of the time.

MR. DAPAS: You're absolutely right and I would offer it as something we're looking across all the regions. There comes a point where we say we understand the point you've offered, Mr. Licensee and we understand your view on the assumptions that we're using. Here is our assessment, here is our preliminary assessment of the safety significance getting into the next step of the process. Where it can be difficult is the back and forth, I need additional information, the licensee provides, the challenges, that assumptions, and the key is, we need to look at the information the licensee provides and insure is our model sufficiently comprehensive because the licensees typically have more refined models and we need to understand, do their assumptions made sense. But there is a point there where you have to decide, here's is our assessment. We have an adequate basis for that and then you get into the next step of

the process.

SUBCOMMITTEE CHAIR SIEBER: Does the approaching deadline help you decide when that point is?

MR. DAPAS: But I think -- well, yeah, but the key is early engagement here, I would offer so that --

SUBCOMMITTEE CHAIR SIEBER: What can you do in the cases where the SPAR models do not model the plant condition, like shut-down or the event like an external? How do you deal with that because you don't have any really sophisticated mechanism to deal with these kinds of events?

MR. CAHILL: Right, at shut-down, we do have an SDP module for shut-down risk. We also have good support from headquarters for addressing some of the nuances. A lot of times the shut-down issues really revolve around operator actions and HRA analysis. So sometimes we'll get support on those. Those tend to drive the issues.

SUBCOMMITTEE CHAIR SIEBER: And they're usually pretty simple events.

MR. CAHILL: Many times.

SUBCOMMITTEE CHAIR SIEBER: Once you understand them.

CHAIR WALLIS: You do HRA based on some EPRI model or something? What do you do?

MR. COOK: We use the SPAR H on that.

CHAIR WALLIS: SPAR H, is that satisfactory?

MR. COOK: We think it's good.

CHAIR WALLIS: Too bad George isn't here.

SUBCOMMITTEE CHAIR SIEBER: I was just thinking the opposite.

MR. COOK: Well, at least it's a consistent methodology that we use for all the facilities, so whether you like it or whether you don't, at least it's consistent --

MR. DAPAS: Right now, they can come back with a different human error probability basis and we would have to look at that and decide have they appropriately justified the use of the HEP number.

MR. LEW: I think also the outcome of the results here is a determination of where we pull out resources. So that's a different level of assuring that there is a licensing amendment, or, you know, there is a safety impact, there is a resource determination. I was going to say the short answer to why we do the SDP, I think, is we have just great SRAs.

VICE CHAIR SHACK: They won't disagree. I was just curious. I was just reading this inspection thing for the component design basis inspection. While it doesn't answer our philosophical problems with margin, it looks like an interesting inspection procedure. How long has it been in -- you know, is it new? That doesn't register with anything I've heard with the ROP before.

MR. PINDALE: It is new. I'm not sure exactly the date of the -- when it was originated, but our first inspection in the region under the current procedure was early this year, January this year. That was the one that we did at Salem. And it was piloted over several plants. I believe there was one in each region, before this year. So it's a relatively new procedure.

VICE CHAIR SHACK: Now, is it coming out of somebody's hide or do you have more inspection hours?

MR. COOK: It's being performed in lieu of the safety system functional inspections.

VICE CHAIR SHACK: Ah. So you know have a new performance indicator.

MR. PINDALE: Well, it's a different design inspection.

VICE CHAIR SHACK: Design inspection.

MR. LEW: I look at it more as an evolution of engineering specialists.

MR. DAPAS: If I could just -- I have to go attend a conference call with Bill Kane, but I want to take the opportunity to thank the members of the ACRS for coming out to the region. Sam asked me to convey his appreciation as well. He's traveling right now to support a Dominion status of the fleet and he'll appreciate your coming out here and engaging us. Both Sam and I feel it's a great opportunity for the staff to communicate to you the different program elements and their involvement and degree of ownership and offer their insights and perspectives and certainly to hear form you your views on the different issues that we deal with.

So I thought it was a very productive discussion and we do appreciate the time. So on behalf of Sam and myself, thank you and I'll be joining you tomorrow on our way to Limerick, so I'll get a chance to talk to you more. We can engage in some of these discussions on uncertainty with CDVI and talk about risk as much as you'd like. I used to be a Senior Reactor Analyst so that's an area that's near and dear to my heart, not quite at the same level as

Dr. Apostolakis, but I'm certainly willing to discuss that. Again, thank you and I hope this was productive for --

VICE CHAIR SHACK: The bus ride isn't long enough.

(Laugher)

SUBCOMMITTEE CHAIR SIEBER: I guess, on behalf of the ACRS, we owe you a debt of gratitude also for your participation and the honest interchange of ideas and the insights that you've given us and to me, I look forward to these visits and I've learned a lot and I think it adds to our perspective and it's valuable. So thank you very much.

MR. DAPAS: Thank you.

VICE CHAIR SHACK: I think we got distracted before. You were asked the question about what enhancements you thought were necessary and I don't know that we really got into that very much. What enhancements would you like to see to the ROP at this point, more hours, different procedures, areas that you think should be inspected aren't.

MR. CAHILL: Well, one of the areas I think we need enhancement on and we had a good start with the pilot or the initiation of some external event notebooks is the further development of an

external tool and there is some effort down at headquarters of what that's going to be, developed whether it's developed through SMAR or through an external event notebook but that would give us a better or a more independent assessment for findings in the external event arena instead of just relying on the IEEE which is on older document, typically not a living document, and give us some independent assessment of what the licensee evaluates with that. So that's one area that would be beneficial.

And there's been some work in there and it's just a matter -- it's one of those which way are we going to go now kind of questions and --

VICE CHAIR SHACK: Now, is SPAR an external event in this context?

MR. CAHILL: No, well, SPAR is handled two ways. One, we have our Appendix F, which I think has been -- Appendix F to the SDP has been very valuable to us. Some people -- it's long and you have to exercise it a few times, become familiar with it, but it's -- once you do that, you have to understand what it is you're trying to do, develop a flyer, develop targets, and look for flyer propagation, and my shut-down methodologies. And you exercise a few times so that when you walk into a room you know what you're

looking for instead of having to go back to the document, you're much better off.

So we have fire protection findings handled through Appendix F where a finding -- a performance deficiency finding external events and the notebooks that we developed is also evaluated. It's not looking at flyers. It's looking at flyers, but it's -- really, they've taken a component saying what is its impact in a flyer, instead of looking at a flyer scenario development. So it's handled a little bit differently but we have come a long way with flyers. Some of the plants moved to NFTA, Beaver Valley, Ginna, Nine-Mile and Calvert Place, I believe Constellation and so we're expecting to see some improvement there as they transition to 805.

VICE CHAIR SHACK: Will you need new tools when they transition to 805?

MR. CAHILL: We're going to need more -- we're developing the tools to be able to set the 805, so, John Rogge's branch who also has equipment liability, they're engaged with the 05 transition now, and they will be involved in the risk assessment aspect of that.

R. LEW: Maybe I should give you a little bit of my perspective. I think you're asking what

enhancements can happen. It's not the overflowing response here and it's not because we are not thinking to continuous improvement but we are very much continually providing feedback to the program office. They are making adjustments. They call us every week, bi-weekly on ROP. There are a number of activities we're engaged, budget, program development feedback. And there's a lot of changes that have happened as a result of that feedback and you know, as we start implementing some of these new changes, when we implement safety culture. So it's an ongoing I guess activity and I asked the -- one of my staff and said, "Hey, get me a list of the feedback forms that Region 1 generates since 2004". There's just a lot of feedback that we provide to the program office. They do listen. We are partners with them as we make changes.

They get our concurrence and they want to make sure because we have the field experience and you know, we inform their decision making process as well.

MR. CAHILL: And we've also just implemented the MSPI which we'll start exercising that and I'm sure we'll develop -- there will be some development of feedback from that once we exercise that.

MR. LEW: MSPI is a change, the CBBI is a big change, safety culture is a big change, all changes as we're enhancing the current Reactor Oversight Process. And that's why we're trying to say, hey, this is a living process. We are engaging and we have a voice in the changes that are made.

MR. COOK: I can't remember which one of you gentlemen asked the question, you know, those of us who have lived through the old process and are now under the new ROP which do we like better? I'm committed to the new process. I think it's a vast improvement over the old inspection program and self process, probably because I hope to claim that I had the same approach from day one. And that is, you look at the more risk significant, the more safety significant issues and it was very easily under the old program to go off on a tangent and waste a lot of valuable inspection hours and resources as well as licensee resources on things that weren't really very important but were something that the inspector really felt was necessary to pursue. So I think the --

SUBCOMMITTEE CHAIR SIEBER: That as one of the things that killed the old self process because there was a belief that if a licensee wasn't performing well, whether you could prove it or not, if

you can find enough violations, stack them up. That, in itself, even though they may not be safety significant, that in itself would prove your case. And it turned out that in some cases that was, in other cases it didn't.

The process was change. We were not longer faced with that. And so from that standpoint, it's a good thing.

MR. BLOUGH: All right, asking what areas we need to look at or need to adjust in the program beyond what's been mentioned here, the MSPI is coming but we need to look at the PI's as a whole because the original thought is that you would get a lot of assessment information from inspection that you get a substantial amount from TI's and so I think that always you get most of your insight for the assessment from inspection but not that the balance would be this much from inspection and this much from TI's which is really what we're getting now. You know, the PI's are pretty much all green but TI's are involved in the program whereas, you know, if we decide there's a better way to inspect, we, you know, we have complete freedom, obviously to do that on our own but it's an easier process to change the inspection than to change the TI's so that's an area that we have to look at and

with the CDBI, CDBI is -- back to inspection, CDBI is a new program, so we've got to be right on top of that, how it's going. And I know industry feels that CDBI is a big impact on them.

And we believe that, yes, it is but it's worth it. Someone asked, you know, are you sure that you're not distracting the licensee from more important work? I mean, that's a question that would be relevant to that. So we have to work through that. We also have to work through, you know, what's the second rung of CDBI's look like and will there be any changes for that and, you know, if you deliberately go through this methodology, you know, after you've been through it three or four times, will there e some decreasing returns you're getting from doing that. But that's all future questions. But similarly we have to kind of look at everything every now and then and go back and look at what ways are we looking at radiation protection, what's our way of looking at emergency preparedness, what's our way of looking at the various things that resident inspectors look at and is there a better way to do it or even is it worthwhile just to change it up to freshen it up a bit, you know, make some changes, just so we don't become stale. So I think we need to do all those

things.

MEMBER MAYNARD: Well, back to the performance indicators, is there really anything wrong with them being so many green? In fact, from a regulatory standpoint, I would think that you would want to see most of the performance indicators green and not go to a process to where you have a lot more yellow or red.

MR. BLOUGH: I think from a regulatory standpoint, green is not bad.

VICE CHAIR SHACK: Well, I think there was some expectation there were doing to be one or two percent that were not and --

MR. BLOUGH: And it would help inform what plant schedule a little more regulatory attention and so --

VICE CHAIR SHACK: The question is, whether it would be managing the indicators.

MR. BLOUGH: Yeah, from an absolute risk standpoint, it's good that most of them are green. From a regulatory standpoint are we missing opportunities where there really should reasonably be some regulatory engagement and there isn't. You know, there is some -- I believe there are several PI's that have never been anything but green anywhere.

MR. COOK: My recollection the one that was developed, the PI's were to cover areas there the inspection program didn't. So yeah, I agree with you if it's green that's a good indication that we don't need to look there. So that's a positive aspect of it. On the other hand, we want it to be sensitive enough that it will give you some valuable feedback or identification of an issue if there is one. I think that's where the struggle is. That's the principal driver behind the new MSPI. Mitigating System Performance Indicator is to make those mitigating systems performance indicators more reflective of system unavailability or availability and it's reliability or unreliability.

As if, I guess, July 21st there were, I think five or six plants in the US that have white indicators. Will the continue? Will the licensee manage them? Well, it's too early to say. It's a brand new program.

MEMBER MAYNARD: I would just caution you. I think the PI's need to be set at the appropriate level to provide adequate safety assurance for the health and safety of the public. If you're going to drive them down too low just so you start getting some that are yellow or other indications, you could be

inappropriately driving licensee performance dedicated to areas that may not be safety significant. So I would be careful on what you do with the performance indicators.

MR. CAHILL: And they're trying to balance out again, as PI, how much unavailability to take on line to do maintenance during an outage, because, you know, there's different -- there's competing interest there from what IMPO is recommending versus what the MSPI algorithm might be driving as far as an indicator. So industry is wrestling with that as far as managing that, not -- I don't mean managing the PI, but, you know, what information do I have out there, what's the correct way to proceed.

MR. BLOUGH: I just have, if you would indulge me, looking ahead to the ROP, this region is going to be the first region where we'll have a substantial growing number of our plants beyond the four-year point, and so Michael Modes talked about the license renewal inspections. We're putting what I call a just in time inspection that looks at the commitments, right around the time of exceeding 40 years but really these plants will have a new licensing basis and so, we'll have to look at our inspection procedures and the guidance to see if they

need to be changed in any way to reflect inspection of plants that are beyond the 40-year point. And those may or may not be changed, but certainly all the inspectors will need to be trained as well and what is the new licensing basis and what are your new resources and requirements for preparing to and inspecting and evaluating the results of these plants that are beyond 40 years.

And we, in Region 1, will be at the forefront of that just because of our plants.

SUBCOMMITTEE CHAIR SIEBER: Any other questions? If not, somehow or other we almost made up the time. Again, I'd like to thank Region 1, New Jersey and Pennsylvania for being here and our friends from Great Britain. And I think this has been a very valuable day for us and we appreciate your insights and your work and wish you success in your mission and I hope that we can share insights soon in the future that under circumstances that are not adverse.

With that, the meeting is adjourned.

(Whereupon, at 4:43 p.m. the above-entitled matter concluded.)