shipping port.

I think, you know, we provide a wide variety of engineering services in the nuclear industry, with the common theme being the concept of trying to take the rigor and depth and quality of the naval reactor's approach to engineering and apply it to commercial industry. So, that's sort of where we're coming from.

FirstEnergy asked us to take a look at this issue, the HPI pump issue, just because it's a fairly complex issue, and, you know, all the solutions seem to be difficult.

And, I guess, and also the idea that the pump we have works well. So, what we looked at was the idea of, rather that replace the pump, can we come up with an approach in which we modify the pump, so the postulated degradation mechanism won't occur. So we can be confident, a hundred percent confident, that in the event of a loss of coolant accident the pump will work acceptably.

Which given, I can just tell you my own personal opinion, we know several other people, pump experts who've looked at the pump, who think there is a very good chance that the pump would work as is even without modifications. But in order to be sure, in order to be safe, we want to make sure we have sufficient safety margins in the plant. The idea was, we would come up with a design approach to

modify it to get that level of confidence.

And, I'm going to show you in just a moment what the concept is, just so people, because people haven't seen it before, but basically, what it comes down to, the approach we laid out involves a number of steps. The first is to design modification. We do have to make some modifications to the pump itself.

Our approach involves not just modifications to the pump, but a rather detailed testing approach, using both mockup testing and some testing in the plant, to demonstrate that the approach is acceptable and the modification performs its intended function, and the pump would work acceptably under the design conditions.

We also have some analyses that we do to support the modification. We'll do some motor dynamics analysis to show the pump will still function properly; we won't have vibration problems; won't run at critical speeds.

We do some hydraulic analysis to demonstrate that the changes we're making won't affect the ability of the pump to perform its intended function from a pumping capability perspective. And since we're making some modifications to the pump; not the, what I'll call, ASME code pressure boundary parts, but there are parts in the pump in which would be, that do react a pressure difference. Since we're making modifications to them, we

want to do some stress analyses to confirm that the stress levels remain acceptable.

We've already done the preliminary versions of all those analyses. I'll talk about that later. But, moving forward, we have to do the final versions.

We would do the mockup testing. We'd implement the modifications, and once again, do a post modification test program to ensure everything worked out okay.

If I could get the next slide, Marla. Just to get everybody, make sure everybody is on the same page.

This is the fourth stage pump volute from the Davis-Besse HPI pump. This piece right here, this component is stationary inside the pump. It's a stationary part of the element. And, the pump is a multi-stage pump. I think there is 11 stages within the pump. This is the four stage.

And, if you look carefully, there is a hole there and hole there. Those are the take-offs for the flow which goes from this volute back to the hydrostatic bearing supply. And, that's sort of, you know, the flow is inside here, goes out that hole to the bearing, basically coming out this hole. They're 180 degrees apart; same basic function. And this hole is about 3/8 of an inch in diameter.

The tubing back to the bearing has an orifice in it,

which is only about 110 ~~mills~~ mils, .11 inches in diameter. And there are some clearances in the bearing itself, which are only I think about 15 ~~mills~~ mils. And so, given that the sump screen is about 3/16 of an inch, the mesh; clearly, I could get particulate into pump flow, which could plug not this hole, but could plug the orifice and could plug those clearances.

So, this is sort of what we start with. And, we say to ourselves, well, what are we tying to do? We're trying to keep debris from going down that hole, because if we can keep it out of that hole, the pump should work acceptably.

So, if I could get the next slide, Marla.

The concept we've come up with, and I apologize, we've sort of, for the hole in the top, this is a backwards view. This is a see-through, looking at the hole in the bottom right corner from the last slide.

The concept we've come up with is to basically go in and create a recess or small excavation on the volute, just enough room to allow us to put a strainer on the surface. If you want to think of it this way, it's essentially just another sump screen, just like inside containment.

This strainer has a considerable number of smaller holes, such that the overall flow area through the stainer is much larger than the port size, so that they prevent

getting debris through the hole into the port; and also a size, so in the event 90 percent in our concept, even if 90 percent of these holes got blocked with debris, we would still have satisfactory bearing operation.

And by inserting this screen basically flush with the surface, one of the key advantages this approach offers is that the pumped flow itself is going to make this sort of naturally clearing. We expect that what's going to happen as the pump is pumping, to use a phrase, it will be self-flushing. Any debris which is filtered by the strainer will just get reintrained in the pump flow and pumped right back into containment into the sump.

So, some of the earlier question, some of the earlier design concepts from a month or two ago, which had various filters and strainers installed outside of the pump itself, they had the problem of how do I get the particulate, filter particulate back into containment. This approach solves that problem by never letting it get out of the main pump flow.

So, if I could get the next slide, Marla.

It turns out, as Mike talked about before, one of the issues that is still being resolved, is cyclone separators on the low pressure injection pumps. Well, it turns out there is a very similar issue on the high pressure injection pumps.

If I remember correctly, I think the LPI pumps, it was found as the ~~extended~~ extent of condition on this one, where there is a cyclone separator in the flow path from the pump, pumped fluid back to the pump seal. And then in this design, this is a different location on the pump, but that right there, is a flow port through the pump casing itself, going out to the cyclone separator.

That is only about an 8th of an inch in diameter; smaller than the 3/16 inch sump screen. So, theoretically, I could also plug the intake to that port. So, the design concept is to take the same kind of approach where I take this strainer, I'm going to create a slight recess in that pump part, and install that over the flow path of the cyclone separator.

And, we believe that those modifications would work. We're very confident they can be made to work. We're confident that the strainers will be self-flushing. We've had discussions with the pump vendor. We've had discussions with other pump vendors to confirm those assumptions, and everyone is very confident.

So, what we would do is, we would do those modifications; and in parallel, we would go through a rather extensive testing, mockup testing procedure, to verify the pump will still function properly and the bearing will still work.

So, in terms of -- the next slide, Marla -- sort of where we're at, what's the status.

MR. SHERON: Bob, before you go on, how do you hold those strainers in place? Are they welded in or what?

MR. COWARD: As of right now, that concept is welded, but that's not been finally determined yet.

Where are we at? We have conceptual designs for the modification and the mockup fixtures. We actually need four or five different mockup fixtures to fully demonstrate the satisfactory satisfaction of this modification.

We've done preliminary analyses. We've done preliminary rotor dynamics analysis, preliminary ~~hydrolic~~ hydraulic analysis, and preliminary stress analyses. So, we've done the preliminary analyses, and we're in the process now of getting ready to do the final analysis.

At this point, sort of the key activity we're working on that we're just starting in the last few days is the detailed procedure and specification of the mockup testing. We think that's critical to demonstrating the success of this approach.

In particular, as an example, one of the things we have to come up with, is we have to come up with a recipe for the soup. I think people have used that phrase, where

we want to demonstrate that the hydrostatic bearing will still function properly with the strainers installed. And so, one of the things we have to do for our mockup testing is, we have to load the pump flow path with debris, which would, you know bound, considerably bound the type of debris we would expect to see in the plant following the LOCA.

So, that activity is in process right now to come up with that approach and we're confident we can do that. There has been a lot of work done by, you know, sponsored by the NRC in the last 20 years, plus there's been a lot of work done specific for Davis-Besse in the last year looking at the regeneration and retransport within containment within the sump.

And so, other than developing a test specification, you know, we're also finalizing the detailed designs for the modification and mockup testing fixtures.

MR. GROBE: When you say mockup testing fixtures, you're not actually going to use the pump?

MR. COWARD: No, what we found was, it was impractical to test this, although we think the pump would pass, it was impractical to test the pump, the actual pump.

Trying to take the pump out, take it to a test

facility, and test it with debris, given it's contaminated, was sort of, you know, it wasn't a nonstarter, but it was close. And, we don't want to test the actual pump with debris, because we don't want to introduce debris into the plant.

So, what we've come up with, it's actually a sequence of separate effects touch testing with some collective testing at the end to show that all the various features and portions, items of interest will still be acceptable.

MR. ZWOLINSKI: Bob, have you ever encountered an issue such as this before?

MR. COWARD: Such as?

MR. ZWOLINSKI: The problem with this HPI pump.

MR. COWARD: This specific problem?

MR. ZWOLINSKI: This, or something like it?

MR. COWARD: No.

MR. MYERS: Let me ask him a question. Is this same approach used elsewhere in pumps?

MR. COWARD: We've done some surveys; and clearly, the concept of installing a strainer in a flow line to the hydrostatic bearing is not unusual,

that's a common design approach. Installing it in the pump itself where we're installing it is not, I'm not sure if we found a specific application of that design; however, we've spoken with pump designers and pump vendors, and they've agreed there is no reason it shouldn't work.

MR. ZWOLINSKI: Are you far enough along with your thinking that you would be able to do this in place; or would you have to move the pumps?

MR. COWARD: That's mostly a workmanship issue. We would want to have people who are very good at doing pump breakdown and maintenance do this; and our expectation is they prefer to do that in a controlled setting, rather than in the pump room.

MR. MYERS: That's right.

MR. ZWOLINSKI: So, if you embarked on this particular fix, you would probably be taking the HPI pumps out of that room?

MR. COWARD: We would be taking the -- I'm not sure, are you familiar with the design of these pumps?

MR. ZWOLINSKI: Yes.

MR. COWARD: There is an element that's inserted into the casing.

MR. ZWOLINSKI: Um-hmm.

MR. COWARD: The element which

is inserted in, the pump part, the guts, we will be removing that component from the pump room; yes.

MR. MYERS: Not the whole pump.

MR. COWARD: Not the whole pump.

MR. ZWOLINSKI: I was trying to garner a sense of the amount of work required to get after that particular pump.

MR. COWARD: We had four people do walkdowns of the pump removal last Thursday and Friday. They were in there all day. And their conclusion at the end of the two days was they had developed an approach for taking the pumps out. There is some effort involved, yes, but they're confident they can do it.

MR. GROBE: Do you have a sense of the relative flow rates to these two ports?

MR. COWARD: Oh.

MR. GROBE: Just in rough terms. I would imagine it's fairly low.

MR. COWARD: Yes. The one to hydrostatic bearing, I think is measured in less than 10 gpm. If I remember correctly, the one to the cyclone separator I think is only 1 or 2, but don't quote me on that.

MR. GROBE: And in the, what you call soup in the concoction for the soup, the recipe for the soup.

MR. COWARD: Yes?

MR. GROBE: Are you considering the hardness of the materials as well as the physical size?

MR. COWARD: Yes.

MR. GROBE: I would think that would be a critical component.

MR. COWARD: That's, yes, that's in the full parameter; it's the size, the shape, and the hardness.

MR. GROBE: That's an interesting challenge.

MR. COWARD: Yes. The whole project is.

MR. PASSEHL: Yes, I have a question.

MR. SHERON: I'm sorry. We would probably like, once you firmed it up, learn a little bit more about your separate effects test that you want to run, in terms of how it would appear or compare with, say, the integral test, because my understanding is you don't plan on doing an integral test; right?

MR. COWARD: Not of the whole configuration, no. And, also, we already recommended to FirstEnergy that as part of the approach in the near term, although we feel very confident that this can be made to work, we also recommended to FirstEnergy that we suggest that they assemble a small team of experts, you know, a murder board, just to go through the whole concept to make sure that nothing has been missed.

MR. MYERS: We have to talk about Safety Conscious Work Environment, to use a different term.

MR. GROBE: I'm not sure I heard you, Lew. Your mike wasn't on.

MR. MYERS: We would use a thorough, rigorous hearing board, rather than a murder board. I've got to do a safety conscious work environment, okay?

MR. COWARD: Sorry, Lew.

MR. GROBE: You don't have a spare pump, spare HPI?

MR. MYERS: We have a spare rotating assembly, but we don't have a whole pump, no.

MR. GROBE: So, you really don't have the capability of doing integrated testing?

MR. MYERS: That's correct.

MR. COWARD: The spare was actually removed from the plant last year, so it's contaminated.

MR. MYERS: If you go look at the testing, what we would be doing though, and compare that, we would have more testing of this type than I think anyone in the industry for this particular application.

MR. ZWOLINSKI: I believe I heard one of you gentleman say something to the effect that a number of industry experts have looked at this particular pump and associated scenario, and call into question the need for any change whatsoever.

MR. COWARD: Correct.

MR. ZWOLINSKI: So, you all are talking about a lot of effort whatever way you go. The third option of not doing anything is off the table?

MR. MYERS: That's not something we have on the table at all now; not doing anything. No. It's off the table.

MR. ZWOLINSKI: So, you've concluded that, that you disagree with these experts and you want to go forward with one of these, at least two options, and whatever else you may come up with?

MR. MYERS: I think, I think it's important that we, we look at these options. Either

one of these two options gives us a very good, thorough and rigorous approach to make sure that the quality of our pumps for these designated efforts, the quality of our pumps would ensure good reliability.

And I think it's important that since we've had the issue, that rather than just have an opinion, that we go do something to improve the over, ensure that we have that reliability.

So, really, our intention right now is one of these two approaches now. The idea of doing nothing is not something we considered. I think that's correct; isn't that right, Gary?

MR. LEIDICH: That's right.

MR. MYERS: We believe the pump would work as is. We believe that. But we, you know, it would be very difficult to really validate. We think this approach would give us pretty thorough validation. And, also, the new pump installation, the way we're designing the new pump with the hardnesses, and the, the amount of clearances would give us a very good reliability too. So, both approaches are pretty sound.

MR. RULAND: As I understand it, you'll need to submit a license amendment for only one of these options; is that correct?

MR. MYERS: No, that's not,

that's not true. It depends on the, the approach we take for installation.

One of the things, if our Mode 4 Test slipped out, there were some technical issues, that would probably go ahead and make the modification or install the pump, one of the two.

But, you know, right now, the way we're looking at the situation, the Mode 4 Test, assuming it's near term, gets rid of a ton of issues. I mean, it ensures that equipment is working properly. It allows us to do a lot of PMT testing. Allows us to ensure the head we bought doesn't have any leaks in it, you know. There is a lot of components up there, and gaskets and stuff.

So, if you look at what the NOP Testing does, it allows us to do a bottom head inspection, ensure that we don't have any leaks there. So, assuming we can do that in the near term is something that we would go forward with.

MR. PASSEHL: I just had another question. You mentioned there is, you believe there is a self-limiting feature on the screen that would flush itself. Is part of your mockup testing intended to verify that?

And the second part of my question is, you mentioned a 90 percent debris loading where you feel you would still have the adequate loading to the bearing. Would your

mockup testing verify, you know, at what point your screen could be loaded and have debris on it and still have the proper flow to the bearing?

MR. COWARD: The mockup, the tests concept as we pointed out so far, would clearly validate that the strain, the strainer is self-flushing. I mean, that's a critical element of the whole approach. If we can't show that, then we can't show the thing will work.

And the second is, at this point, we had not planned on doing what I'll call the limit test, where how much can we block before the hydrostatic bearing stops working properly. We had planned on basically just demonstrating the 90, 95 percent blockage, it will still work properly. I guess, so, we're not, I don't know the firm answer to that question yet.

MR. PASSEHL: Okay, thank you.

After this section, and before Mark starts, we would like to take a ten minute break. Everybody gets a chance to stretch their legs.

MR. MYERS: I was going to suggest that.

MR. PASSEHL: Okay. So, 20 minutes until, we'll reconvene.

(Off the record.)

MR. PASSEHL: Okay, next on the agenda is Mark Bezilla.

MR. MYERS: You know, before you start, we were talking about the pump. And you know, if the no option was an option. I guess overall I thought about it during the break talking to Gary.

I think it's an issue that we have to address. And, I think from a Safety Culture standpoint, that we might be from an analysis process to demonstrate, or from an analysis standpoint, we think it's okay.

But we can gain a lot of margin by either installing a new pump or the mods to ensure the pump operates these couple of small scenarios in a very reliable manner. So, it's our intention at this time, you know, to go forward with one of the two options; and I validated that here for you. Okay.

MR. ZWOLINSKI: Thank you.

MR. BEZILLA: Okay, thank you.

I've got two Desired Outcomes today. First, I would like to tell you a little bit about my previous and current Davis-Besse experience. And also, I would like to present some of our recent Operations Section's accomplishments and our status on readiness for restart in the Operations Section.

As Lew stated, I was previously at Davis-Besse

during 1987, 1993 time frame, and I held an SRO, Senior Reactor Operator's License at Davis-Besse. I was a shift supervisor, and then I was the Op. Superintendent. And as Lew said, I had a couple of other stops on my way before I ended up at Beaver Valley as the Site Vice President about twelve months ago.

In my new assignment as Vice President at Davis-Besse, as well a Plant Manager, I'm excited about the opportunity to restore Davis-Besse to safe, reliable service. And even though I was a Site Vice President at Beaver Valley, I have been involved in the Davis-Besse restart activities for about six months or so.

Lew asked me to sponsor the Restart Readiness Review Process for Davis-Besse. I helped create the process and was involved in the Restart Review Meetings prior to Mode 6 and Mode 5. And this involvement helped me get up to speed on some of the challenges and issues.

Let me now shift gears and tell you about some of the recent Op. Section accomplishments and our status on Readiness for Restart.

We have developed and implemented Operations and Operations Leadership Plan. And, what we did was, we had the Institute of Nuclear Power Operations come in and do an assessment of Operations, as well as a number of internal assessments.

We bundled up those assessments and came up with, I'll say, an improvement plan. And we've accomplished about 90 percent of those actions to improve our performance; and there is about ten percent that will be an ongoing activity for us. We suspect it will take about 12 to 18 months to finish out those actions.

We've developed and implemented a comprehensive Expectations and Standards document. We trained all our operators on the Expectations and Standards, and we use shift turnovers to reenforce specifics out of those Standards and Expectations on a daily basis.

We've issued an Operations Leadership Statement; and what this is, I'll say, it's Management's expectations for the Operations leadership and the requirements for an operationally focused and operationally led site.

We've expanded the Operator Observation Program. What we want from each of our on shift Senior Reactor Operators is a minimum of eight observations a month. And we use these observations to watch our people, watch their behaviors and performance, and then coach those folks on those areas that need to be improved with the overall goal being the improved performance.

We've completed an NRC Appendix R Fire Inspection. And, some of the positives that were noted out of that inspection was that the plant support was recognized as a

positive in support of that inspection. The NRC also acknowledged that our self-assessments had been pretty thorough in regard to Appendix R and fire protection. And the NRC recognized our documentation process and website as a good configuration management tool.

Additionally, out of that inspection, there were a handful of questions that were asked that we've entered into our Corrective Action Program. We need to do some follow-up, and we will have interface with the staff to provide answers to those questions.

MR. GROBE: Mark, I appreciate you bringing up that inspection. Let me just provide some additional detail on that.

We have a routine inspection program called The Baseline Program; and that includes once every three years performing a very comprehensive design inspection. We always talk about this as fire protection, but it's really not fire protection per se, it's more focused on the ability to safely shut down and maintain the plant in a safe configuration in the event of a fire in various areas of the plant.

Davis-Besse was due for that inspection prior to restart. And as I mentioned, it's a very intensive inspection. And we evaluated the need for that inspection, and concluded that what we wanted to do was perform a kind

of a scoping effort, where we brought in three engineers that are expert in this area for a week and ran you through your ~~bases~~ paces. And the results of that inspection were fairly positive.

We concluded we don't need to do the Intensive Design Inspection prior to restart. We'll put that in the schedule for calendar year '04.

But what we did find, one issue, the panel received the results from the team in one of our internal meetings, and concluded that we don't need to do that full inspection prior to restart; but there was one issue that's outstanding that we need to come back and look at prior to our ability to close out that Restart Checklist item, and that's the firm hydraulic calcs that we expect to be done prior to us arriving on site. They weren't completed.

So, once those calculations are completed, if you make sure we are aware of that, and we'll schedule time to come back to take a look at those analyses.

MR. BEZILLA: Thank you. We'll do that.

Okay, Significant Training Accomplishments. Through the shutdown period here, we've continued our operator requalification training, and I think that's a positive.

Also, we've successfully completed the annual

requalification training and testing for all of our operators, both licensed and nonlicensed; and we did have a couple of failures, but we successfully remediated those individuals.

We completed License Operator Responsibilities Training. What this was, we provided training to the operators on what a Nuclear Regulatory Commission ~~issue~~ issued Senior Reactor Operator/Reactor Operator License meant to them personally, and we completed that training.

We also completed Operability Determination Program Upgrades and Training for our Senior Reactor Operators, select engineers and some select support staff that deal with Operability Determination. And as part of our upgrades, we used industry peers to help us upgrade our Operability Determination Process.

A couple of plans for going forward in regard to operator training; we're in the process right now of doing a Just-In-Time Training on our heatup to Mode 3, our hold at normal operating pressure and temperature, and then subsequent cooldown, as well as some casualty and contingency plans that may be encountered during those evolutions.

MR. THOMAS: Mark, I would be interested in hearing what having an SRO license means to you personally. What your viewpoint on that is?

MR. BEZILLA: Okay. I have had the opportunity to have two Senior Reactor Operator Licenses; one was on Three Mile, as you know, back in the early 80's; and Davis-Besse, back in the late 80's, early 90's.

The way I look at it, that was you all, the federal government, giving me permission to operate and oversee the operations of that facility, if you will.

I would say it's a lot of responsibility and authority. What it means to me is that I'm, as a Senior Reactor Operator holder, I'm imbued, I would say, with the responsibility of protecting the health and safety of the public. So, first and foremost, is making sure I'm operating that facility in a safe manner, so I would not challenge the health and safety of the public. Then, of course, I want to be as safe and reliable as possible.

MR. THOMAS: Thank you.

MR. BEZILLA: Back to the training that we're doing. The simulator instructors and evaluators; they're going to emphasize a few things for us. These are things we think are real important to, I'll say, successful error-free operations. And, that's proper communication techniques, Senior Reactor Operator command and control responsibilities, use and compliance of procedures, focus on technical specification compliance,

to reinforce other operation's expectations and standards, and thorough prejob briefs.

In addition, the training scenarios will closely match the planned evolutions to make sure that our guys are seeing how the plant is going to respond during the heatup, during the hold, and during the cooldown.

The operation superintendents will also evaluate each of those sessions and then provide coaching on areas that we can improve at the end of those training sessions.

And, finally, I would like to talk a little bit about some Operations led major evolutions since the beginning of the year. Since the beginning of the year, Operations has successfully conducted the following major evolutions; integrated electrical bus testing, and there were four tests that the guys performed. Integrated safety features actuation system testing. There were two separate tests there. Reactor Coolant System fill, drain, refill, and then pressurization here to 50 pounds to do our initial leak checks in the reactor coolant system, and comprehensive high pressure injection testing on both pumps.

The reason I mention those, is that those are fairly complicated integrated type of tests and it requires a lot of coordination between the Operations Department, as well as some other support organizations from the site.

Next slide, please.

Industry Feedback. I would like to spend a minute just to let you know about some of the industry feedback we've gotten in the Operations sections. The Institute of Nuclear Power Operation has made three assist visits to Davis-Besse. Two of them were specifically focused on Operations, and one of them was a site, I'll say, visit; and that site visit had twelve senior management members from other nuclear facilities as well as senior ~~INPO~~ INPO personnel.

Additionally, there were seven Operations assessment conducted by various management level personnel from other nuclear power stations. And you can see some of the power plants up there on the slide.

Then, lastly, the FENOC Corporate Nuclear Review Board Operations Subcommittee has recently performed an assessment of the plant looking particularly at Operations Department Readiness.

Next slide.

Some of the positives we received from those bodies that were taking a look at us; was that the "Shift Managers are stepping up to their new leadership roles." This is best evidenced by their challenging of engineering conclusions; physical involvement in an observation of field activities, most recently in some maintenance and

refuel sequence activities; pursue the plant proper resolution, and their ability to articulate their role.

"Standards are equal to or above industry norms." Operations is being recognized as the site's lead organization.

"Ownership of equipment in plant is improved."

"Vertical alignment in Operations is very good."

And, "Every interviewee complimented the greatly improved management attitude toward, and expectation to identify problems."

Lew will talk a little about Safety Conscious Work Environment, but that's what that's talking about.

Next slide, please.

The industry also left us with some areas of opportunities. I'll say these are the highlights. They said, we need to work on "Establishing consistent implementation of the Expectations and Standards when stressful situations occur."

What this is, we want our operators to behave the same way in a stressful situation as they do in a routine situation. We want habits and behaviors to be second in nature. We need to work on that.

We need to "improve facility housekeeping", overall cleanliness. We just can improve in that area.

"Improve use of Pre-job Brief Checklist" for routine

activities.

There are opportunities to improve in our three-way communication; and the implementation of our procedures is not always consistent with our standard. So, they saw areas and provided us feedback on procedure use and appearance.

The last slide, please.

MR. GROBE: Mark, before you go onto the last slide, were those last three issues related to stressful situations or are those separate issues?

MR. BEZILLA: Randy or Mike?

MR. STEVENS: Separate.

MR. BEZILLA: Separate issues.

MR. GROBE: Okay. What specifically are you talking about when you talk about consistent implementations of inspection, expectations and standards in stressful situations; what other observations were made that, where the operator's performance slipped, what areas did it slip in?

MR. BEZILLA: Lew would like to answer this.

MR. MYERS: There was some indications present when we were running drills in our simulator that our operators didn't, could have proofed the

plant more quickly than they did. There was some reluctance to, quickly to do that. So, we're going back and reenforcing that standard that, you know, if you're down, go to a conservative approach. So, that was one indication that they taught us.

They also indicated that, that three-way communication sometimes let down, while we were on duty. So, those are the kinds of feedback we got.

MR. GROBE: I understand now, I think. These were training induced stressful operations, stressful situations.

MR. MYERS: Right.

MR. GROBE: So, the rest of the findings were field work and that first finding was training oriented. Okay, got it.

MR. BEZILLA: Yes.

Okay, then this last slide.

Just like a minute to talk about continuing improvement plans within the Operations sections. We're continuing our Just-In-Time Simulator Training; and that's the heatup, hold at pressure, and then depressurization.

We're going to complete our assigned actions from the Ops Section's Business Plan, that's that ten percent of the improvement plans that are going to take us 12 to 18 months to complete.

We're going to have continued emphasis on Safety Culture and a robust Safety Conscious Work Environment.

We're going to continue to coach the operators in establishing their ownership role at the site.

MR. THOMAS: Mark, could you expand on that one a little bit?

MR. BEZILLA: Yeah. That's just we need to continue to reinforce, I will say, Ops leadership and Ops ownership at the site. I'll give you example today.

We had an activity planned to stroke a motor operated valve. And the on-shift SRO took a look at that, and based on the current plant conditions he said, I'm not sure if this is the right thing to do or the right time to do that. He raised that up through his Ops management chain.

They made the decision not to proceed with that activity. Then he went and provided coaching to the scheduling organization, provided them feedback on why they had decided not to do that evolution. And they thought there would be a better opportunity to do that the next day or two.

So, that's the kind of leadership we're looking for from our operators.

MR. THOMAS: When you say

operators, what does that include?

MR. BEZILLA: That includes Senior Reactor Operators, Reactor Operators, and the Field Equipment Operators.

MR. THOMAS: Thank you.

MR. BEZILLA: We're going to take look at our secondary plant startup plan and make sure if there is any additional training that we need to provide to the operators, that we will do that.

And then, lastly, I think this is a good news story here. We're going to be recommencing the initial Senior Reactor Operator and Reactor Operator License Class, and that's scheduled for the June time frame. And that's making the next group of operators for us; and that takes anywhere from, I'll say, 15 to 18 months to complete that training course. So, I think that's a real positive for us.

So, that concludes my remarks. Any questions?

MR. ZWOLINSKI: Mark, focusing in the control room, are there very many workarounds in the control room?

MR. BEZILLA: Mike, would you answer that for me, please?

MR. RODER: There are currently seven workarounds, all scheduled to be completed

prior to startup.

MR. MYERS: Gentlemen, we've been through our A-1 systems, our operator workaround, our temporary mods. Right now, I believe every one of those three, every one of those issues will be completed prior to startup and on schedule.

Is that correct, Mike?

MR. RODER: That's correct.

MR. THOMAS: So, you'll start up with no level one workarounds; is that a correct statement?

MR. MYERS: That's what I said.

MR. THOMAS: That's why I asked if that was a correct statement.

MR. MYERS: All the ones we know about we will solve. We could gain another one during the startup.

MR. THOMAS: Based on what you know now, the plant is not to startup with the current.

MR. MYERS: That's correct.

MR. ZWOLINSKI: I guess I asked the question in the context, if there were a lot of workarounds in the control room, have they been mimicked over on the simulator, but if you don't have many, and it

sounds as if you're essentially having zero, then the simulator reflects the control room as you expect it to be, and you are ready to restart.

MR. MYERS: That's a standard we would expect. If we have a temporary mod or it's a long term temporary mod or an operator workaround, we would mimic it during training.

MR. ZWOLINSKI: Thank you.

MR. GROBE: During February and March, there was a rather large work evolution that was underway related to reassembly of the reactor coolant pump motors and the reactor coolant pumps themselves. And there is, it's just an interesting story to read about.

There was a number of learnings that came out of this. There was some mechanical maintenance challenges. I'll just highlight a couple here; overtorquing flanges, incorrect bolt engagement, some differences between various alignment procedures for different components.

There was some planning issues, pump motor alignment checks weren't adequately identified in the initial scope and the plan for accomplishing work. There was some challenges with draining the reactor coolant system cold legs, some operational type challenges, coordination. There was some RP direction that deviated from the initial work plan as far as what RP believed was appropriate

radiologic protection practices. Then a number of delays in handoffs between work groups, operational tagging delays.

Like I said, in reading through this, there is a number of learnings I think that come out of this.

We heard about maintenance, mechanical maintenance and some efforts that are underway there to identify opportunities to improve and to implement some changes, but I would also, I would like to hear about what you've seen as a result of those changes in the maintenance organization.

But I would also like to hear a little bit about work coordination from the outage management group, operational support, and particularly in this activity, you're in increased risk configuration. And these various activities significantly extended the time period that you were in that increased risk configuration.

So, I would also like to hear from an Operations perspective as far as risk management what you've learned from this and what you've seen over the last month or two?

MR. BEZILLA: Jack, if I could, I would defer that to Randy.

MR. FAST: Jack, let me first, we'll start with the end in mind.

Working through that sequence of work, which was the

replacement of four reactor coolant pump seals, we went into that well knowing that we would be at reduced inventory. That represents a higher challenge of risk to the plant, because the time of boil is shorter. Through that evolution, we, as an Operations Group, noted that the work was not proceeding as we expected.

I was very pleased that our Senior Reactor Operators were very vocal about what was going on. And they elevated that immediately. In fact, Mike Roder, our Operations Manager, myself, and key leaders from the Operations staff looked at the work that was going on, and challenged the Maintenance Organization to complete that work in a timely fashion; however, it did do, I'll say there was a side benefit in that it changed Operations behaviors.

For subsequent work we have instituted a, measures that have the Shift Manager get directly involved in work preparation and implementation of the work.

And there are two key areas I want to highlight. The first of which is the work comes to the Work Support Center, and before Operations will sign on and grant authority to start that work, we are challenging the Maintenance Organization to deliver the work products, the work tasks that we have put hands-on materials necessary to ensure that the work can be completed in a timely fashion. We're ensuring that resources are allocated. And we're

talking directly with the crafts people to verify that they have every confidence that the work will go well.

I do have examples where the work was not in that configuration and the shift manager turned that work away. And that is the appropriate behavior for Operations.

There is a second issue I want to bring up as well, in this number of issues that you raised. That was the Return to Service after the work is complete, and meeting the standards of housekeeping that Operations requires. And what we've elected to do is walk down those housekeeping, those areas with the Maintenance Organization to ensure that housekeeping standards are managed and we're not releasing the clearance to allow that equipment to be returned until housekeeping meets Operations expectations.

And with that, I'll turn it over to Mike to talk about the things that, the Maintenance Organization has risen to the challenge to take on to ensure that they are ready to perform the work.

MR. STEVENS: Thanks, Randy.

We discussed a little bit last, as a result of that, we put a multi-discipline team together at varying levels, used our decision-making NOP to see what we could learn. There are three major areas.

The first one and largest was lack of preparation, and that was in the Maintenance Organization, as well as

all the supporting pieces, the parts and engineering products. Second was supervisory involvement. Third was work package quality.

From that, we put together an action plan in implementing it. The most recent success I would say we have is the current work we're doing on the [(D-1)bus] Delta one, or increased risk. We did not go into that maintenance activity, because we were not ready. We needed some additional engineering products. We needed some spare parts. There were issues with releasing the relays.

So, it looks like the activity from Operations' challenge and Maintenance thorough review prior to implementing the work is improving our performance; and currently that's going pretty smoothly.

MR. GROBE: Okay. Thanks, Mike.

Fred, have you folks had any observations both in the Maintenance and Operations Management area over the past month or so that you would like to add here?

MR. VON AHN: Yeah, I believe we have, and John, why don't you give us some specifics on those, and also some ones previous to that?

MR. REDDINGTON: John Reddington.

Okay, I'll talk loud. Is that all right?

We have seen Operations step up in their leadership

roles. We've seen, we being Quality Assessment. We have anecdotal evidence where Ops has, at a turnover meeting, at one of the 6:30 meetings says, hey, we don't feel comfortable with the status we're getting. We want better statuses, and it's kind of held the management accountable for that.

So, overall, I would say in the Operations area, we've seen a lot of progress being made.

MR. VON AHN: John, what about Maintenance?

MR. REDDINGTON: The problems we see in Maintenance are still schedule issues, I would say. Right now what we have is, we have a process that is designed for online scheduling. And if you're in an outage, as you guys know, you schedule everything ahead of time and then prepare for it. So, what we're finding ourselves in is, we're doing real time scheduling.

So, compensatory measures, like Randy and Mike have talked about, are really what's driving the schedule. And I see that as the biggest issue, the fact that we don't have a good tight scheduling process.

MR. ZWOLINSKI: What you just described for Operations is maybe some change in management; has nothing to do with the leadership. You're not running the 6:30 meeting the way it should be run, so

now you're going to run it a little bit better.

MR. REDDINGTON: Well, the point was, the operator stood up and said, look. I mean, the operator wasn't the guy running the meeting. The operator said, I need to know a better status of what my plant is, and he made sure everybody bellied up to the bar, so to speak.

MR. ZWOLINSKI: Okay. The question was associated with leadership. Leadership, not just within Operations, but leadership to the rest of the facility. You've already taken as a given that we want leadership coming out of the Operations Department.

MR. REDDINGTON: Right.

MR. ZWOLINSKI: How do we expect our Operations Department to act, and what attributes do we expect them to demonstrate to the rest of the entire Davis-Besse team?

MR. VON AHN: John, I'll talk about that a little bit in my remarks, because we do see improvements in the questioning attitudes of Operations, but you're exactly right, we need to review that in each of the other organizations. And we'll take a look, we'll do further monitoring, especially in the area of maintenance in the upcoming months to see how we're doing.

In my remarks, we see Operations leadership as broad

based at a variety of levels, and in improvements and questioning attitude and the example that, that John brought up where a shift manager was dissatisfied with the cursory level of work reporting, he gave, he demanded actually that the, that his expectations for a higher level of and a better reporting status be given.

That met with some initial pushback from the rest of the organization, but he overcame that. And as a consequence of that, we're getting much better stats. And, I actually talk about that in my slides coming up.

MR. ZWOLINSKI: So in setting the standard or raising the bar, that's leadership.

MR. VON AHN: That's right.

MR. ZWOLINSKI: I understand that one. But running a meeting is a little different or whatever, to me is another category.

MR. VON AHN: Yeah, it's just, right.

MR. ZWOLINSKI: I look forward to hearing some of your comments on leadership.

MR. REDDINGTON: Anything else?

MR. GROBE: No, thank you.

MR. VON AHN: Well, why don't I just roll right in now.

MR. MYERS: It's your turn,

Fred.

MR. VON AHN: Good afternoon.

As Lew indicated, I am Fred von Ahn, the new Vice President of Oversight. And, although, I am most recently from Beaver Valley, I'm not new to Davis-Besse. I was the manager responsible for the original technical root cause on the reactor pressure vessel head event with Steve Loehlein, who is now the Oversight Manager at Davis-Besse.

Additionally, I've worked extensively with Bill Pearce while he and I were at the Beaver Valley Power Station. And I would like to discuss our observations, and we heard some of them from John, for the oversight period from January of 2003 to March 2003. And these activities have been debriefed with the Davis-Besse Management Team in mid April.

First Operations Leadership. There have been noteworthy improvements in operations leadership. We see this as broad based at a variety of levels in the operations organization.

How we see improvements and a questioning attitude, and I talked about the one shift manager demanded that he get a better status on the activities associated with his plan in the work status, was brought to bear on the organization, and the organization and as a consequence we've stepped up the, elevated the report to meet higher

standards.

Shift briefings are improving with better discussion of abnormal action, contingency actions and what can go wrong.

We've additionally seen improvements in safety focus. Operations generated over 400 Condition Reports in the first three months of this year. We see more engagement in this process at all levels in the Operations organization.

One noteworthy condition report I would like to discuss is the Collective Significance Condition Report that Operations wrote on the reliability of the diesel generators. Operations saw a number of lower level issues, and because they saw these lower level issues on the diesel, they questioned the diesel and the collective significance of those issues, so they generated that type of Condition Report. That's what we expect to see out of the organization; that questioning attitude and questioning the safety of our, of our systems.

As well, another example where Operations stepped in, where we were having problems with our fuel handling equipment. Operations stopped all activities until they were satisfied and there was adequate resolution to those issues.

Additionally, we see improved ownership. For

example, on the reactor coolant system cleanliness, Operations championed removal of a part of the reactor to allow vacuuming debris from the bottom of the head area to ensure proper cleanliness.

So, we see a theme here that we've been building on. We've seen previously from previous quarters of Operations taking a leadership role and demanding excellence out of their, out of their plant.

Next --

MR. ZWOLINSKI: I think the, I think the sensitivity I have to management and leadership; at least, I want to talk about it just a little bit.

You're using leadership in the way I would use the word management; and you're trying to manage more effectively. Leaders tend to lead people, and managers tend to manage programs and projects and what have you.

Your last bullet on reactor coolant system cleanliness sounded like someone took a leadership role. And, if you're saying your folks, you're observing a leadership role being taken, exhibiting the attributes of a leader, then that's played out in the way the individual's managing these other tasks.

So, I think you're really talking about Operations management in some of those successes.

MR. MYERS: Can I help with

that maybe a little bit?

MR. ZWOLINSKI: Sure.

MR. MYERS: Sometime ago, Bob Saunders and the Senior Team of FENOC signed a letter on Safety Culture. Shortly after that, we at the VP level, myself, we worked very, a lot of long hours, and carried things around the country on duties and responsibilities of our shift managers, on shift, and their role in the organization, and from a leadership perspective.

But the way we, I would sort of in my career define leadership is the ability of a person to get someone to jump off a cliff or something, not follow in our standards, you know. And, I think relative to root cause, that we shared earlier, that was an example of maybe not the best leadership in the world, you know.

Finding and fixing problems, setting the right standards are all examples of good leadership. What we see nowadays with our shift managers, we've worked, our shift managers have all been interviewed by the CEO of our company. I've taken every one of our shift managers at Davis-Besse up to Pete Berg's office, and he's even met with the shift managers and gone over responsibilities.

What we see is a willingness to stand up and say, we're not going to tag equipment out if the work is not ready to go; and setting that standard. We had really

difficult problems with, with operators performing a tag-out; then we get halfway through it and we find out the work wasn't really ready to go, which is a reflection of the maintenance walkdowns for readiness that we have, right?

And, they put their foot down there. And, that's what we want them to do. And shift manager is the senior person on site when this plant is running by itself at night. Okay? They've got to have the authority and decision-making to call in the resources they need, call the duty team at home, and get us out of bed and into the plant to help them when we need them, you know.

I think that our shift managers feel they can do that now. They're not hesitant of doing that. I also see them not accepting the status quo on risk management. You know, well this is going to be out this much longer.

Talk about the reactor coolant pump job, all right? That job really went on event, we didn't have any events there -- if you had to grade, probably grade it as a C minus, C plus, something like that. But was it carried out in a timely manner, organized properly? You know, we have to have those standards when we take that pump out.

The big thing that I want to talk about is skill of the craft, you know. I mean, that craftsman that worked that job did not demonstrate the good ownership and good

skills of that job. Okay?

And we had some vendor support on that. So, our shift managers willingness to stand up and take a stand when they see poor performance with any organization in our plant; that's maintenance, that's engineering giving them a sloppy operability review, or something like that; that's what we consider leadership.

And we've seen good examples of them taking a leadership role in our plant; better than we saw before. More rigor, more, we're requiring more rigor in people bringing them.

We had operability concerns being closed out in engineering, and they would just call the shift manager and tell them. That was what was happening. Now, those engineers come over and convince the shift manager that this operability call is correct. That's what we consider our leadership role; that they have standards, they demand those standards, and help us implement our standards at the site. And we're seeing good improvement in those areas.

Does that help?

MR. ZWOLINSKI: Leadership is difficult to measure.

MR. MYERS: Leadership is difficult to measure.

MR. ZWOLINSKI: And having metrix

and how do you know when things are a little better, are far less clearer in leadership than in management, because if I'm an effective manager, I'm getting a lot of things done. And there is metrix to that. The metrix in leadership are far, far less obvious and much more soft.

MR. MYERS: One example, you see in the past from a leadership perspective, Operations willingness to let tag-outs, tag equipment out, put it back in service when the work hasn't been thoroughly ready. They're standing up and saying, we're not going to accept that standard. In my mind, that's leadership. That's setting the requirements. And, we see evidence of our shift managers taking on that responsibility fairly regularly now.

They, when we were getting ready to load the core, you know, the shift supervisor came to us and said, you know, we only have to have one RHR pump to load the core, but we would like to have two. Guess what? We stopped and waited a week until we had two decay heat pumps, based on that discussion.

So, they're willing to take that leadership, and that's what we're after them to.

MR. ZWOLINSKI: Thank you.

MR. MYERS: I don't know if I helped or not. Tried.

MR. VON AHN: Next we'll discuss Corrective Action and the Condition Reporting process.

Here, implementation continues to be challenged. Effectiveness of Corrective Action needs work and has room for improvement. As oversight, we've taken a look at a number of Condition Reports and Corrective Actions that we have tagged for post closure review, and in some cases we see the issue has not been fully addressed.

We've made two process improvements recently to help us in this arena. We've started an internal assessment writing trending Condition Reports, so we have a database or data readily available to support conclusions and allow us to readily evaluate that. As well, we've put into place previously Condition Report analysts in each section, and we're expecting these Condition Report analysts to evaluate these Condition Reports and take a look at the trends in each section to help the section with this issue that we see.

MR. ZWOLINSKI: Fred, in the area of Condition Report, when we have somebody raise an issue, does it go through a review board in which it gets prioritized as high, medium and low, or 1, 2, 3, 4?

MR. VON AHN: Yeah, there are several conditions. The three conditions we have are, there is November, Charlie or Sierra. Significant

condition adverse to quality, condition adverse to quality, not a condition adverse to quality.

So, there is that high, medium and low ranking, as well as a multi-memory board actually takes a look at that, so you don't have tunnel vision. A management team looks at those on a daily basis, evaluate those, and as a peer group decide which ones are significant or conditions adverse to quality or simply not significant.

Finally, at the end, a Corrective Action Review Board will take a look at those Condition Reports that are of higher significance to ensure that the issue has been fully addressed.

MR. ZWOLINSKI: Does the higher category require that you do a root cause?

MR. VON AHN: Absolutely. There is a matrix we use and the higher category will require root cause.

MR. ZWOLINSKI: Can you give us a sense of the type of Condition Report you are seeing today versus all the Condition Reports that you saw yesterday? I would, without, without giving an answer, I would like to think you should not be finding very many significant issues that would require root cause, so you're in that middle or even low group. That would be my instinct.

MR. VON AHN: Yeah. We would

want to identify the problems at their lowest possible level, so we see that, and we see that we're addressing the problems at the lower levels, so they're not becoming more significant. That's what we strive for.

We look at that with a number of different ways. We look at that with a number of Condition Reports we generate to see that we're identifying problems and fixing them at a low level, as well as taking a look at and grading certain Condition Reports which we're doing.

Do we have specific data, John, on that for Davis-Besse?

MR. REDDINGTON: Since I can't handle that microphone again -- I'm John Reddington.

The threshold is very low, the initiation rate of Condition Reports has been good. What we're seeing, what QA has been seeing is the implementation. When they go out and they generate a Corrective Action, they actually go out and do that corrective action. So, that's the kind of problems that we're finding.

The actual initiation is very good. Shop people, I mean, all over, everybody.

MR. VON AHN: So to answer John's question, we are identifying questions at a lower level. It doesn't sound as we're getting as many root cause or the higher level Condition Report.