UNITED STATES NUCLEAR REGULATORY COMMISSION

BRIEFING ON URANIUM ENRICHMENT, PART 2

+ + + + +

THURSDAY

February 5, 2009

+ + + + +

The Commission convened at 1:30 p.m., the Honorable Dale E. Klein, Chairman presiding.

NUCLEAR REGULATORY COMMISSION

DALE E. KLEIN, CHAIRMAN

GREGORY B. JACZKO, COMMISSIONER

PETER B. LYONS, COMMISSIONER

KRISTINE L. SVINICKI, COMMISSIONER

PANEL 2: NRC STAFF

MARTIN VIRGILIO, Deputy Executive Director for Materials, Waste, Research, State, Tribal and Compliance Programs

BRIAN SMITH, Chief, Uranium Enrichment Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards (NMSS)

MIKE WEBER, Director, Office of Nuclear Material Safety and Safeguards (NMSS)

DAN DORMAN, Director, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards (NMSS)

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

CHAIRMAN KLEIN: Good afternoon. This is round two. I thought we had a very good discussion this morning and so we certainly look forward to hearing from the staff on your perspective of how we're doing on the enrichment activities. Any comments before we start? Marty, do you want to begin?

MR. VIRGILIO: Thank you, Chairman, and good afternoon Chairman, good afternoon Commissioners. I'd first like to thank you for scheduling this opportunity for us to showcase our program and our activities.

I also would like to take the opportunity to thank our stakeholders for the feedback that they provided us at this morning's session. I thought it was very good.

There were a lot of compliments to the staff, but we also heard a lot of suggestions and opportunities for us to maybe improve our program.

For example, we heard suggestions about the guidance that we have in the environmental review area. We heard suggestions about how we might do our stakeholder meetings even better. And so, we've got a long list of notes from the meeting and we will look at those suggestions and recommendations.

While we did receive compliments about being timely and supportive I hope they feel like we were tough regulators, too, because that's our job. I want to assure you that while we were working hard to support their schedules and activities we were insuring that safety and security was preserved.

So, I know that and it was foremost in the staff's mind as we did work with

them to ensure that we did accommodate their interests.

I would say that there's several factors that contributed to our success and it was the support from the Commission to develop the rulemaking, Part 70 that we put in place long before we received the first application for these new facilities. The training that we provided our staff, the qualification programs we developed for our staff, the procedures that we put in place I think all contributed to our success.

And if I look forward to additional opportunities that could come up in this area I think we need to take the same approach. We need to have the rules in place. We need to have the guidance in place. We need to have the right skills for our staff and we need to have them adequately trained and qualified. So, just a thought.

One of the things you'll hear today is how we're leveraging the construction inspection experience into the reactor program. Some of what we're doing today as we're out at LES and some of the other facilities in terms of inspecting as they're building these facilities, we're dual qualifying some of our inspectors, so as we get to the reactor construction inspection program we're better prepared.

Now what I'd like to do is just make sure you're familiar with the people at the table. Of course, we have Mike Weber who is the Director of our Office of Nuclear Material Safety and Safeguards. We have Dan Dorman who is the Director of the Division responsible for fuel cycle safety and safeguards. And Brian Smith, who is the Chief of our Uranium Enrichment Branch.

Brian is going to be doing the bulk of the presentation today, but we're here to supplement if there are other questions and we have a number of people in the audience with us today, including Jay Henson who has come from the Region and has actually been on the ground conducting the inspection programs at some of these facilities. So, with that, Brian?

MR. SMITH: Thank you, Marty. Good afternoon, Mr. Chairman, Commissioners. For my presentation today I'm going to be talking about the successes and path forward in the areas of licensing reviews, construction inspection and public outreach.

Protecting people and the environment through conducting our licensing reviews is done primarily through evaluating and verifying that their license applications comply with our regulations. The public can participate in these reviews through petitioning for participation in a contested hearing. And also because these are uranium enrichment plants, our reviews are subject to review by administrative law judges through a mandatory hearing.

Our involvement does not stop with the licensing reviews. We will be performing construction inspections and performing operational readiness reviews prior to them starting operations.

Conducting public outreach and being open in our activities has been a priority and is key to our gaining the public's confidence in our ability to carry out our mission.

Our presentation will primarily address the licensing of the new facilities.

But we will also touch on a couple of our existing facilities, the gaseous diffusion plants, one of which is enriching uranium today. Next slide.

Because of the diversity requirements a uranium enrichment plant must meet all the major program offices in Region II have provided support to NMSS over the last several years and continue to do so. Our success in this area is due to the support and cooperation provided by each of these groups.

Our first license application that we reviewed was from USEC, Inc. for their Lead Cascade. It's a demonstration facility with really no net enrichment. It's located at the Portsmouth Gaseous Diffusion Plant near Piketon, Ohio. We completed our review and issued an environmental assessment and SER in one year. The license was issued in 2004. This facility is currently operating.

Our first major application that we received was from Louisiana Energy Services for their National Enrichment Facility, which is located in Eunice, New Mexico. We issued our safety evaluation report and final Environmental Impact Statement in 18 months.

I'd like to note that issuance of that EIS in 18 months was the fastest that our agency has ever issued an EIS of that magnitude. It was a tremendous feat.

We did complete two hearings during this licensing process; one a contested hearing and also a mandatory hearing. We completed our licensing review and we issued the license within 30 months as directed by the Commission in the hearing orders as was mentioned this morning by the licensees. And as Gregory Smith mentioned this morning that facility is currently under construction.

Next slide.

The second major application that we received was from USEC, Inc. for their American Centrifuge Plant. This plant is also located near Piketon, Ohio at the Portsmouth Gaseous Diffusion Plant.

We issued this SER and final EIS in a little more than 18 months. There was no contested hearing for this licensing process; however, we did complete a mandatory hearing. We did complete our reviews and issued a license in a little more than 30 months. This facility is also currently under construction.

The last licensing action a major one that we did was for the GE-Hitachi test loop. This facility is located at the Global Nuclear Fuels America's Fuel Fabrication Facility in Wilmington, North Carolina. It was licensed through an amendment to that license. This facility is also a demonstration facility with no net enrichment. This facility is also currently under construction. Next slide.

Licensing of these facilities relied upon the successful resolution of various issues raised during the review process. One of these issues was decommissioning financial assurance -- part of the big issue we discussed this morning.

These applicants had to address not only the decommissioning of the actual enrichment facilities themselves, but also had to address the disposition of the great amounts of depleted uranium tails that are generated. This was a major issue during the licensing reviews and the hearings for both licensees.

The licensees or applicants had two potential disposition options. One was

a commercial route in which a depleted uranium deconversion facility would have to be constructed and operated.

The second route is through the Department of Energy. Under Section 3113 of the USEC Privatization Act the Department of Energy is required to take the tails from an enricher at their request so long as the DOE is reimbursed for the cost of that disposal.

DOE provided assistance to the licensees through providing them a cost estimate for the DOE disposition route. DOE also provided us assistance in our review of their cost estimate. As part of our review we had to evaluate the adequacy of that cost estimate. So far, the DOE disposition route has been the only acceptable method.

The Lead Cascade and the American Centrifuge Plant are located in facilities that are leased from the Department of Energy to USEC, Inc. Because of the potential for dual regulation and oversight two separate Memorandums of Understanding were developed that lays out the roles and responsibilities of each agency. Both MOUs were issued prior to issuance of the licenses.

The success in completing these MOUs was based on our existing good working relationship with DOE with respect to the gaseous diffusion plants. Speaking of the GDPs, they are regulated under a Certificate of Compliance instead of a license.

As I mentioned before the Paducah GDP located in Paducah, Kentucky is currently the only operating enrichment facility in the United States. We recently

recertified the GDPs for an additional five-year period and as required by law we prepared a report to Congress that was issued in December of last year. Next slide.

For those facilities that are currently under construction we have experienced a higher than expected level of licensing requests. This increase is expected to continue through this year and into the next.

We will continue to review each of these licensing requests like we did the original applications ensuring that the regulations are met while maintaining an adequate safety margin.

Depleted uranium -- that was a big issue this morning. As mentioned previously, this is an important issue. During the licensing of the LES facility there was a contested hearing where this was an issue.

During that proceeding the Commission issued an order directing the staff to evaluate the disposal of large quantities of depleted uranium and to determine whether or not changes need to be made to the regulations.

In responding to that request the staff submitted a Commission paper last October and we're currently awaiting the Commission direction through an SRM. Next slide.

We're building on the experience from prior application reviews and applying those lessons learned to the new applications reviews. We have learned a lot about the relative risk significance of design of the enrichment plants through the reviews of the ISA summaries that have been submitted. We are applying

these risk insights into future reviews and in conducting our construction inspection.

We're currently utilizing a mix of new and existing staff for the review of these new applications providing an opportunity for the new reviewers to gain experience in performing these types of reviews and to also facilitate knowledge transfer.

We are utilizing the expertise and experience of the staff at the Center for Nuclear Waste Regulatory Analysis to assist us in performing these reviews. They were involved in the LES and USEC reviews as well, so we're going to reutilize that same experience and knowledge base again for these reviews.

On the environmental side we're utilizing a single contractor that is experienced in performing these environmental reviews for the development of these two EISs. Next slide.

In addition to what I've just previously mentioned we have several other initiatives underway to facilitate knowledge transfer. Following the publication of the new amended Part 70 I already referred to earlier, licensees are required to submit ISA summaries to us for review as well as the applicants had to submit ISA summaries to us.

During those reviews some issues were raised where there really was no clear guidance already provided. As a result there were several interim staff guidance documents developed. We currently have an initiative underway to incorporate the guidance in those ISGs of those lessons learned from the two

previous application reviews into our Standard Review Plan, NUREG-1520.

We've also been utilizing senior staff to provide presentations to our more junior staff on their areas of expertise as well as historical events. We plan to continue this in the future as well.

In each of these license applications there are various types of sensitive information that must be protected and it's important to protect this information from release to the public as well as to competitors. For example, we have multiple licensees using the same technology, so whenever we communicate with our licensees we have to be careful with what we say and how we say it, unlike on the reactor side.

The agency position following the rulings in the Diablo Canyon ISFSI case is that we will address terrorism and environmental reviews for licensing actions only for those facilities located in the area under the jurisdiction of the Ninth Circuit Court. Accordingly with the AREVA plant proposed to be located in Idaho which falls under the jurisdiction of this court we will perform a terrorism review in this EIS. Next slide.

We intend to establish an aggressive schedule for these licensing reviews. It's imperative that members of the review team from each office are dedicated to the project. A commitment to the schedule is needed by all involved at every phase of the project. Changes in the personnel could negatively impact the schedule; therefore, a dedicated team helps to ensure this consistency and aid in timeliness.

Contested and mandatory hearings can be resource intensive and at times have aggressive schedules. We learned lessons from going through the hearings for LES which we applied to the mandatory hearing for USEC. We've also learned lessons from that hearing, which was a lot different from the LES mandatory hearing. We'll apply those lessons learned into the mandatory hearings for GE and AREVA.

Looking forward, we have budgeted the necessary resources for these hearings and we will balance the workload necessary to support those hearings while also addressing our licensing activities for other licensees. Next slide.

Moving into construction inspection now. There are two groups in Region II involved in the construction inspection: the Division of Fuel Facility Inspection and the Center for Construction Inspection. These two groups share the responsibility for inspection of new fuel cycle facilities.

We also have utilized the Center, the CNWRA, to provide inspection assistance during these initial inspections primarily because of their experience in doing the reviews for those applications.

We recently performed a risk ranking of the items relied on for safety for both LES and USEC. These IROFS as we call them are identified in the integrated safety analysis that are performed. We are using this information to tailor our construction inspection program to those areas of the most importance. This has resulted in an effective application of our resources.

We are sharing inspectors between the fuel cycle facility and the reactor

programs to perform these construction inspection programs for the new enrichment plants as Marty mentioned earlier. We are taking advantage of these on-the-job training opportunities identified during the fuel cycle construction.

By participating in these inspections these new inspectors gain an increased understanding of the codes and standards used in safety related construction. Next slide.

Effective implementation of a quality assurance program is vital to ensuring that facilities are constructed as required. We've implemented a philosophy that focuses on the implementation of effective quality assurance programs early in the construction process. This results in early identification of potential issues which would be harder to correct later on in construction. Based on some in the inspection findings so far licensees have made changes to their programs and in a few instances have stopped work to correct deficiencies.

We have utilized lessons learned in the development of the construction inspection program. During implementation the NRC and licensees have a heightened awareness of past lessons of facility construction through training and communications.

Issues identified during construction today are being effectively communicated internally through communication forums and externally through generic communications. We have also given some presentations at industry meetings similar to what LES has done and as they talked about this morning. Next slide.

We are improving construction inspection and efficiency, while maintaining effectiveness. The staff implements a strict philosophy of inspecting construction at the right time with the right talent. Implementation of this philosophy is facilitated by the use of planning and scheduling tools and risk informing the inspection samples that we look at.

We are increasing the degree of automation in the planning and scheduling processes similar to what's already in place with the other inspection programs.

Based on lessons learned, the staff are developing a generic fuel cycle facility construction inspection manual chapter that clearly defines the construction inspection program that can be used for new facilities in the future.

Construction schedules can be fluid at times as was referred. As a result the staff will continue to maintain frequent communication with licensees to discuss their schedules and the appropriate timing of our inspections so we're able to see what we need to see.

Generic inspection manual will also address conducting operational readiness reviews. We will utilize the lessons learned from the Lead Cascade operational readiness review and the recent readiness review that was conducted for the LES Centrifuge Assembly Building which was just conducted over the last couple of weeks.

Subject to available resources we are initiating the development of a new fuel cycle oversight process. We will take into consideration the model of the reactor oversight process and their lessons learned. This new process is also

expected to address licensees under construction. Next slide.

Moving into public involvement. For both the LES and USEC reviews we conducted a series of five public meetings starting prior to the application being submitted and ending after the licenses were issued.

The meetings were well attended in all areas and the public was interested and appeared interested in what we had to say and asked a number of questions. And in some meetings a lot of questions.

During most of our trips out for these public meetings we did try to coordinate with the local officials in the area. By doing this we were able to keep them updated on the project and to allow them to ask questions of us.

Also as part of our review process for the recertification of the gaseous diffusion plant a public meeting was conducted at each of those sites. The purpose of those meetings was to discuss our review process and to seek whatever public comment they had for us to consider during our review. Next slide.

We plan to conduct the same series of public meetings during the licensing reviews of both GE-Hitachi and AREVA. As was mentioned here by both GE and AREVA our initial public meetings have already been conducted. Both were very well attended by the public and the press.

We also met with the local elected officials from the communities around each of those proposed locations.

We will continue to reach out to the local officials near LES and USEC.

We're going to continue a process that was started during our licensing review where we plan to conduct periodic management meetings with them at the site.

These will be open to the public. While we are out at these meetings we'll try and take the opportunity to meet with the local officials as well.

Another way that we keep the local officials informed is through keeping them on our mailing distribution list for communications with our licensees.

Another way of enhancing our openness is through our public web page. Similar to what was done for LES and USEC Web pages have been developed for AREVA and GE-Hitachi. This will allow the external stakeholders easy access to information and documents as well as to provide the status of our project as they move along the review process.

That concludes my presentation.

MR. WEBER: Thanks, Brian. As you can see we're achieving success in our program protecting the public health and safety, promoting the common defense and security and achieving openness in our regulatory process through licensing, the construction inspection program and public involvement.

We're also not resting on our laurels, but we're building on our successes by continuing to apply lessons learned, making those lessons learned lessons implemented and we certainly appreciate the feedback as Marty started the briefing from our stakeholders, the licensees, the local elected officials, other officials, members of the public, all of those with whom we interact throughout this process.

And I would like to end the staff's briefing by recognizing that while you see NMSS staff here and Brian is our principle Branch Chief in this area it really has succeeded through a team effort. And I'm talking about a team that includes a number of offices here in headquarters, NSIR, FSME, as well as OGC and certainly our Region II inspection staff. All of these people have worked together to achieve the successes that we've experienced in this program. Thanks.

CHAIRMAN KLEIN: Well, thank you very much for that presentation, Brian. We'll begin our questions with Commissioner Jaczko.

COMMISSIONER JACZKO: Thank you, Mr. Chairman. I think we had a very good discussion this morning and I think we heard a lot of good things that were happening in this program and I think as Marty said, some areas where we can improve.

One of the areas I think as I said this morning that I have some interest in and it goes back to the LES proceeding that we had, that is on the depleted uranium. I don't think you all were responsible for the paper, so Marty, maybe I'll drop this to you.

MR. WEBER: We were involved with the paper.

COMMISSIONER JACZKO: Okay. I'm not sure how to ask this question. The problem I guess we got into was in our regulations it says something like if a radionuclide is not listed in the waste classification tables it's by definition Class A waste. The depleted uranium is not listed or I don't think any of the relevant daughter products of the decay are listed in a way that would easily

allow us to classify that based on the waste classification, which is not a requirement of Part 61. We just have to do it.

It's kind of an advantage or an enhancement, I guess. If it's in there, then you know where to put it. You put it in a Class A facility if it's a Class A waste.

Other than somebody came up with this issue which I find is always a good example of how intervenors, I think, can add something to the process and people recognize that we kind of got a problem here because we never really analyzed in the EIS and never really analyzed in the development of Part 61 large quantities of DU disposal.

So the Commission asked the staff outside the adjudicatory process to come back and tell us what you think. You told us what you think. I'm not sure I understand it to be quite honest and I think it comes down to a simple thing. Now, I'm not -- I have to admit I don't know this stuff as well as I should. I don't look at Part 61 as much as I look at Part 50 and Part 52.

It seems we've got some characteristics for what Class A waste is supposed to be. One of the big ones is that it's got a 100 year requirement for institutional controls. The reason is that most of the radio nuclides that we would have in Class A waste would not be hazardous beyond 100 years. So, we don't have to worry about intruder protection and all those kind of things.

When I read the paper from the staff what the staff said was that -- I guess I'll read this. This was in the technical analysis that went out along with the paper. What the staff said there was that "because of the in growth of radon and other

daughter products periods of performance of 1,000 years or less result in a significant truncation of estimated risk." I think that's a fair way to say that 100 years is probably too short of a time period. I would think that that immediately disqualifies this as Class A waste.

Maybe you can explain to me where is the technical -- where is my misunderstanding in the technical argument for why this would still be considered Class A waste?

MR. WEBER: I think we have Larry Camper here from the FSME.

COMMISSIONER JACZKO: I thought you guys said you did the paper?

MR. WEBER: We participated in the paper.

COMMISSIONER JACZKO: But you don't want to take responsibility for it.

[LAUGHTER]

MR. CAMPER: Larry Camper, Director of the Division of Waste Management and Environmental Protection. The quantities -- the Commission asked us --

COMMISSIONER JACZKO: I know what the Commission asked. Explain to me how that statement, which was a summary conclusion from the technical analysis -- explain to me how that's consistent with what's currently in Part 61 for Class A waste.

MR. CAMPER: The technical analysis that we did, Commissioner,

was to determine whether or not depleted uranium of the quantities involved coming out of the enrichment facilities were suitable for near surface disposal. We did not undertake a technical analysis to determine the classification of depleted uranium.

COMMISSIONER JACZKO: I know. The Commission by an order established that uranium was low-level waste -- depleted uranium was low-level waste. That was in a previous order. That was not the issue under consideration here. The issue under consideration here was what was to the classification?

I can read what the Commission asked but it said, tell us do we need to modify 61.56(a) or 51 whatever it is -- 56. This says "analysis of depleted uranium disposal." It says, "The summary conclusions from the technical analysis" -- and I can read all of them -- "near surface disposal, i.e. less than 30 meters as defined in Part 61 may be appropriate for large quantities of DU under certain conditions. However, unfavorable site conditions can result in performance objectives not being met. Examples of unfavorable conditions include shallow disposal less than 3 meters depth and humid sites with a potable groundwater pathway."

I can go through and read all these. "Shallow disposal is not likely to be appropriate for large quantities of DU regardless of site conditions. Depleted uranium can be disposed of under arid conditions and meet the Part 61 performance objectives for 1,000 to 1 million year performance period if the waste disposal depth is large or robust barriers are in place to mitigate radon."

I don't understand how any of these conclusions are consistent with what

we say in Part 61 is Class A waste. That's what I'm trying to understand. Where is the disconnect?

MR. CAMPER: May I answer?

COMMISSIONER JACZKO: Sure.

MR. CAMPER: I'll try. We undertook a technical analysis as I was saying to determine whether this material was suitable for near surface disposal. The Commission asked us to look at one of two things. Do you need to modify the regulations in 61.55(a)(vi) or do you need to modify the waste classification scheme?

We went back and researched the history and determined at the time that the draft Environmental Impact Statement was done -- the staff determined at that time that the quantities and material in question were not in existence at that time and that there was no reason to create a waste classification for depleted uranium.

COMMISSIONER JACZKO: All of that was the basis for the Commission's direction to the staff.

MR. CAMPER: We evaluated the quantities of depleted uranium in play at this time to determine if it was suitable for near surface disposal. As you pointed out we determined under certain conditions that it was.

We also went on to say in the technical analysis that "depleted uranium can be disposed of under arid conditions and meet the Part 61 performance objectives for 1,000 to 1 million year period performance if the waste disposal depth is large or robust barriers are in place to mitigate radon."

So, we did point out and attempt to take on the question of the longer period given the end growth of the daughter products producing radon and so forth. But the staff did not specifically undertake a technical analysis to identify what class of waste is depleted uranium.

COMMISSIONER JACZKO: Right. Under the rule, it is currently Class A waste.

MR. CAMPER: By default, yes sir.

COMMISSIONER JACZKO: The staff's recommendation was that it should continue to be Class A waste by default. So, now you're telling me that that's not accurate. The staff does not believe it should be considered Class A waste.

MR. CAMPER: We did not focus upon whether it was Class A waste or not. We focused upon in our technical analysis whether it was suitable for near surface disposal. We determined under certain conditions that it was.

COMMISSIONER JACZKO: Right. And all of -- Class C is also suitable for near surface disposal. All the classes in Part 61 with the exception of greater than Class C are near surface disposal. That doesn't tell us that much.

The Commission was asking whether or not we needed to reclassify it or whether or not the existing classification was correct. If we do nothing, it stays Class A waste. So, saying that you didn't classify it -- you did -- you're keeping it Class A waste. That was the recommendation of the staff that it may be a loophole, it may be not.

My suggestion is we change and fix the loop hole. We either get rid of the loophole, but with the loophole it is Class A waste. So, are you saying that the staff does not believe it is Class A waste or does not know it is because you haven't classified it?

MR. CAMPER: I'm saying, sir, that we did not undertake a technical analysis to determine the classification of depleted uranium.

COMMISSIONER JACZKO: The technical analysis you did do -- and I don't want to belabor this -- the technical analysis you did do seems to be contradictory to what is in the regulation for what qualifies as Class A waste. Particularly, we are talking about 100 year time frames for institutional controls, no need for intrusion monitoring and protection. The technical analysis you did seems to be inconsistent with that statement.

So, while you did not do a technical analysis to classify it you did enough of a technical analysis to indicate that its probably not going to be Class A waste under the Class A waste characteristics that we have in Part 61.

I don't know how else to reconcile that. And so, again, I understand you didn't classify it. We left it as Class A waste. If we don't think it's Class A waste we probably should reclassify it.

I don't really have a question in this. I'm not exactly sure what the intent and the goal of this has been. The Commission wants to know what this material is. Maybe it doesn't belong in any classification; I don't know. But right now it's Class A waste.

If we do nothing it will continue to be Class A waste. We cannot avoid that unless we change the regulations. I don't see anything in this technical analysis that leads me to believe that its okay to leave it as Class A waste because it's inconsistent what we say Class A waste is in Part 61.

I don't want to belabor this anymore. I think this is something the Commission is going to have to finally resolve and work through. This is a technical analysis that staff did that has some conclusions in it.

I suppose we can say whatever we want to think it means, but I think it means that it's not Class A waste, or at least we don't know what it is. And without knowing what it is it's probably not right to call it Class A waste.

MR. WEBER: I was going to add, Commissioner, we await the Commission's direction. That's why we sent up the paper. I think the staff recommended that a rulemaking be conducted and we heard this morning that there's a desire by at least the licensees and the applicants that a rulemaking be used to resolve this issue. So, that's the very matter that's pending before the Commission.

COMMISSIONER JACZKO: I appreciate that. As I said, I'm a little uncomfortable going forward with proposed language that says this is Class A material when we have -- our own technical analysis seems to call that into question. That, to me, is a little bit disingenuous on the part of us as the regulator to go on with a proposal that doesn't even seem to meet our own ideas of what Class A waste would be.

MR. CAMPER: May I comment, sir? The staff ultimately recommended a rulemaking that would call for a site specific analysis to be performed. The performance of these sites is remarkably different whether it's in an arid environment or it's in a wet environment.

And so, the staff's recommendation was that a site-specific analysis be performed and we thought that was also consistent with language that we read from the Commission during the adjudicatory process where a great deal of emphasis was placed upon the states in which these sites would be operating.

We also identified two other recommendations that included rulemaking. One was to go back and revisit depleted uranium using the same techniques and analytical methods that were used when we did the waste classification scheme back in the late '70s and early '80s or to subject the entire waste classification scheme including depleted uranium to a current technical analysis using the most recent ICRP methodologies current weighting factors and the like.

So, of the four options we discussed, three involved rulemaking. We did recommend option number 2, a site-specific analysis.

COMMISSIONER JACZKO: Again, I haven't gotten the answer to the question that I'm asking which is, how is the statement about the technical analysis consistent with the statements in Part 61 about what Class A waste is? I know what was in the paper. I read it. The recommendation was to keep it as Class A waste. Those are facts.

I don't want to belabor this because I think the rest of my Commissioners

would like to talk about this or talk about something else. None of those things change those facts. I think it's unfortunate when we make a recommendation like this people look to us to make the right technical call. I don't know that we've made the right technical call based on the facts in front of us about what this material is.

I recognize that there are consequences to doing that, but not recognizing what the factual realities are of the risks and the hazards posed by depleted uranium I don't think is the right approach for this agency.

As I said, I've taken far too much time then I should have on this. I apologize for that.

MR. WEBER: If I could just briefly. The central premise --

COMMISSIONER JACZKO: I just want to note this is not my time any more.

MR. WEBER: -- of Part 61 is meeting the performance objectives. So, that analysis that you're referring to comes out with its conclusions on the basis that if you can show you've met those performance objectives which protect people, not just now, but well into the future, then it could remain a Class A waste. That's the central premise.

COMMISSIONER JACZKO: But also by it being Class A waste we've also made the point that you don't need to demonstrate in any other way then going to a Class A facility that it meets the performance. Again, this is an inconsistency as we go forward. The proposal is that we're going to put in a

provision that says it's Class A waste, but then you have to do something else to it.

The whole purpose of having the class designations was that you don't have to do any additional analysis. The analysis was done by rule. We had an EIS that examined the issue. Again, there's an inconsistency there about what we're trying to say.

If what we're saying is you need a special analysis and the analysis has to go well beyond the time periods that we considered for Class A waste, it calls into question why we're calling it Class A waste. It continues to be an inconsistency. That was my additional time. I apologize for that. Thank you.

CHAIRMAN KLEIN: We may come back to Larry for some more questions.

MR. CAMPER: All right, sir. That would be fine. Thank you.

CHAIRMAN KLEIN: Commissioner Lyons?

COMMISSIONER LYONS: I'm debating whether to follow that, but I think I'll just go in a different direction.

CHAIRMAN KLEIN: Larry is still standing if you'd like.

COMMISSIONER JACZKO: Actually, Larry has sat down.

[LAUGHTER]

COMMISSIONER LYONS: In any case, I did appreciate the briefing this morning and just now. And certainly many, many kudos to the staff, especially Brian, that you heard this morning. I greatly appreciate it.

Brian, in your comments I noted you mentioned the involvement of -- I

always have to look carefully -- CNWRA -- I think I got it right. I tend to reverse a couple of those letters. Given what I think is the very substantial importance to the agency and to the nation of maintaining CNWRA as a strong organization -- technically strong -- I really do appreciate that you're finding ways of using that group and exercising some of their capabilities in an appropriate way. Probably enough said.

Brian, you mentioned the requirements for mandatory hearings. I have been one of the ones fairly skeptical on the benefits of the mandatory hearings. They're required, so we're doing them.

Could you make any comments or would you care to make any comments on any lessons learned, useful or not useful, that came out of the mandatory hearings?

MR. SMITH: We went through two mandatory hearings. The first one was for LES and the second one was for USEC. The LES mandatory hearing was the first one that the agency had been through in many years. So, it was basically a new experience for us as well as the ASLBP. We really didn't know what to expect during that one.

Compared to the USEC hearing -- mandatory hearing -- they were really different. There were some commonalities, but we had to expend a lot more resources for the USEC mandatory hearing. So, going from one to the next we really weren't sure what to expect. If there's some way to maintain some consistency there that would be a good thing.

The risk significance of these facilities I mentioned before about reviewing the ISAs, we're able to gain insight into that. The industry mentioned this morning about criticality being a low concern. Criticality can occur at these facilities; however, the forms of the materials that it's in -- it's in solid UF6 and cylinders, mostly in gaseous form, in very small quantities.

We do agree that chemical risk is a more significant concern, but in comparing these enrichment plants -- these new enrichment plants to the other existing fuel facilities I consider them to be of lower risk from a health and safety standpoint than the other facilities. I don't know if the actual risk of these facilities warrants a mandatory hearing.

COMMISSIONER LYONS: I guess my question might be stated differently. Did an issue come out in the mandatory hearing that had not already been thoroughly considered by staff or contested either way?

MR. SMITH: I believe in both hearings the findings of the judges resulted in no changes to either the license or our safety evaluation.

COMMISSIONER LYONS: Thank you. Another question. There's been several references today to the language I think in the USEC Privatization Act about the ability to take advantage of the DOE disposition path.

Could one of you just give us a few sentences on how that path -- how DOE currently defines that path and what our role is in that? We have some role, but limited, I think.

MR. SMITH: I believe the way it would work in following the

regulations and some discussions with DOE the way it's written at the request of the enricher. So, I think the way, say, LES would contact --

COMMISSIONER LYONS: Enricher requests to the DOE?

MR. SMITH: -- they would talk to the Department of Energy and they would enter into a contract in which there would be an agreed upon cost for the disposal of their depleted uranium tails. That's the way I understand it.

COMMISSIONER LYONS: But DOE -- what I was really getting at was DOE currently has a disposition path which they are following for the tails generated in DOE sponsored work at Paducah and Portsmouth. I was just trying to remember exactly what that was. There's the deconversion and then I don't know what the next step is after the deconversion. Maybe they don't either. Is that defined for DOE? Does anybody know?

MR. SMITH: I think they have the option of storing it for a certain amount of time as an oxide. I think their plan is to evacuate the depleted UF6 in the cylinders that they're in and run it through the deconversion process and put the resulting U308 back into those same cylinders. Basically, cut one end of it off and put it in and that way they could store it on site if they wanted to or some other location or it could be disposed of in that form and that container. I don't know exactly what their plans are at this time.

MR. WEBER: You may also be aware, Commissioner, that the DOE Inspector General recently came out with an analysis that was critical of the department's program saying that it was premature in going forward with the

disposition program; that there are useful applications of the depleted uranium such as shielding purposes and therefore urging the department to consider those other applications.

I think the answer to your question is it is uncertain what the ultimate disposition of the uranium would be.

COMMISSIONER LYONS: And to some extent that is getting back to the question of this morning of at what point is it waste and up to what point is it still a useful asset?

MR. SMITH: When we do our licensing review we do consider it a waste and therefore they are required to address it in their decommissioning financial assurance. That's the way we've done the first two license reviews and that's the way we plan to do the next two. That way in case for some reason they go out of business, go bankrupt, there are resources set aside to do something with those tails.

COMMISSIONER LYONS: Thank you. Thank you, Mr. Chairman.

CHAIRMAN KLEIN: Commissioner Svinicki?

COMMISSIONER SVINICKI: Thank you. I want to add my compliments to Brian and his staff and all of his colleagues. I know you represent a lot of folks' work here today, but I also appreciate that Marty started off by calibrating and speaking for everyone and saying that what gratifies -- although you'll take the compliments you got this morning -- what gratifies all of the staff the most is that these accomplishments were done with absolutely no compromise to

the primary mission space and there's continued vigilance to that and that is as it should be. So, thank you for reminding us of that.

I know that's what gratifies and motivates the staff. I appreciate hearing that.

With that being said it's always nice to be complemented and it's interesting when I threw open the floor and allowed some applicants to ask for something they said just don't do anything to impede the way things are going. I think that's a real testament to the hard work. So, I wanted to compliment you on that.

I think we've had good discussion today on DU. It seems to be emerging as one of the big topics of this meeting and the very vigorous discussion we had just now and this morning.

I was just going to ask a couple -- I didn't want to cover the same territory, but I would just ask a couple of process related things and maybe this is principally for Brian.

A couple of things we heard this morning were really important is to kind of keep team cohesion as a review is going forward. At NRC here we like to cross train people and allow them mobility and rotational assignments.

So, of my two kind of administrative related questions the first was what are the practical challenges of that and do you think that you can sustain that approach as you get even busier in the future?

The other thing we heard about this morning was the choreography on the construction inspection. You've talked about even within Region II there's two

groups there that you're coordinating with on these facilities. Are there any ways that we could better optimize that process or any challenges you'd like to talk about if you were to just think on that a little more deeply?

MR. SMITH: I'll take the first question. That is a challenge. And since we went through the first two licensing reviews we have had some staff turnover. We did have a couple of senior staff leave through retirement. Some through promotions to other parts of the agency. So, maintaining that core team is a challenge.

Also recognizing that these will go through a potentially contested hearing, but definitely a mandatory hearing, we want to have our senior staff involved as well in these reviews so they can provide that expert testimony when needed.

We are, as I mentioned, including some junior staff along with these reviews as a training exercise, knowledge transfer, such that they can step in in the future as well. We do like to see staff rotate through. We have a number of NSPDPers within our division and they rotate out.

I've also through the first two reviews had open postings for NSPDPers to rotate through our division to help support us in our technical reviews, which has been beneficial.

MR. WEBER: I would just add another component of that is the qualification program where we put license reviewers through the qualification program. That's not just to familiarize them with the regulatory process, but also with the technology.

Along that line we take advantage of the opportunity to acquaint the staff with the technology being protective of sensitive information, of course. What Felix Killar said this morning is really important. It's not a reactor that we're licensing. It's not even a fuel fabrication facility. It's an enrichment plant. And so, it poses its own set of challenges from a technology and security perspective.

It's important that the staff have enough opportunity to familiarize themselves with the technology so that they can do a thorough and credible review.

MR. SMITH: Jay Henson will address the inspection issue.

MR. HENSON: Good afternoon. I'm Jay Henson from Region II. I'm the Chief of Fuel Facility Inspection Branch 2. Regarding your question, yes, we have two organizations within the Region, the Center for Construction Inspection and they handle the LES facility and they will handle the commercial construction for the GE-Hitachi facility and AREVA. Within the Division of Fuel Facility and Inspection we maintain oversight for the USEC construction of the American Centrifuge Plant because we have the lead for the Lead Cascade. We have that body of experience.

And for the ACP it's not so much construction as it is adding new machines and doing inside work as opposed to outside buildings.

Communication as we've already heard today is the best way we choreograph everything we do. That's both internal and external. We have weekly briefings with the CCI staff and my staff. We talk about what's going on for

each of us from our different inspection experiences, what the schedule is for the different plants.

We certainly, within DFFI, have the operational inspectors. So, for OR type reviews we lend most assistance for that to CCI. They have the construction expertise. They have the civil engineers, the electrical engineers and so we depend on those folks when we do our inspections of the ACP.

So, choreography-wise, again, we talk a lot, getting information and communication from the licensed community, knowing what's going on with their schedule.

With LES we're having weekly calls with ACP because they're not quite as fast-paced right now in their construction effort -- every other week. That's how we choreograph that and again make sure we have the right staff at the right time to do the right inspection.

COMMISSIONER SVINICKI: As long as you're at the microphone is the approach to try to develop what I'll call "bench strength" or will you have experts that say one employee is an expert on a certain type of pump. So if that's being installed at five different construction sites that individual would have to be very tightly scheduled of where to be. Are you going to try and cross train and cross fertilize?

MR. HENSON: We're trying to cross train. We have civil engineers. We have some that have more, say, concrete experience then maybe welding or radiography type experience, but we're trying to cross train.

We also do debriefings after every inspection so that all the inspectors hear the experiences of the ones that were most recently on an inspection and can gain from that knowledge. And again, both organizations, CCI and DFFI share in those meetings.

COMMISSIONER SVINICKI: Okay. Thank you. Thank you, Mr. Chairman.

CHAIRMAN KLEIN: Brian, you had commented in your early part of your presentation that you had more licensing requests than you had anticipated. Could you elaborate on that a little bit?

MR. SMITH: Yes. When we originally did the licensing of this we really didn't expect to have a whole lot of licensing requests. Primarily they've come in two areas. One of those is in the security area; the protection and classified information aspect of it. Because these technologies are classified the components themselves can go up to the secret restricted data level. The facilities have to be cleared first for them to actually install equipment and then to use it. We've had a lot of requests for that as a construction area. That area has to be cleared before they can put any of the components into it.

Also related to that area is the classified computer networks. We'll talk about this a little more this afternoon. The licensees have told us that they have the need for installing these classified networks to process information and to run their plants. And so, we've had numerous requests for those over the last couple of years.

The other areas, the licensees in looking at their programs from the way it was licensed to the way they want to actually operate or the way as Greg Smith mentioned this morning. They're looking at the design of the facilities to see are there better ways to construct the facilities to make them more safe, more effective, more efficient, less costly as well.

We have had amendment requests come in from both the LES and now USEC in which they are redesigning their facilities, pieces of them anyway. And so, we're having to evaluate those requests.

CHAIRMAN KLEIN: On the protecting sensitive information there's sort of two issues there. One is proprietary information that they may prefer their competitors don't have and the other is classification for national security issues. Do you feel we have a pretty good handle on that?

MR. SMITH: Yes. Protecting the classified information has been a significant issue for us since we have received these applications. It's not something that was unfamiliar to us with BWXT and NFS. We've receive classified information from them through licensing actions as well, so it wasn't anything new for the staff and our division.

But we have provided training to the staff at various key milestones during the review such as just prior to the hearings where oral testimony was going to be given. We wanted to refresh the staff's training there, kind of just-in-time training to ensure that no classified information slipped out.

MR. WEBER: I think one of our observations is that there is a lot

more security work than we thought there would be. So, we're making adjustments in cooperation with NSIR and the Regions to make certain we have the proper staff in place to support those needs and we'll be coming to the Commission in the not to distant future with recommendations and options for how do we go forward.

CHAIRMAN KLEIN: Thanks. This may be a Region II question, but I'll maybe start with Brian, and see if it goes on. What kinds of surprises have you found on your inspections?

MR. SMITH: I've been out on a couple of inspections. There was just an inspection last week out at LES. I mentioned that there was recently a readiness review. LES would like to start up operation of their centrifuge test facility. It would be the first time they'd bring UF6 material on site and will be utilizing this facility to test some of their first centrifuges that are assembled to qualify their assembly process.

We were just out there last week. I was out there for other reasons, but I interacted with the inspectors that were out. One of the issues that came up is they were looking at the accuracy of an item relied on for safety, IROFS. Those are one of our key things that we look at during our reviews. The licensees know that.

And so, when we were doing our licensing review there was -- which was a couple of years ago -- so when you're explaining your IROFS and your ISA summary at that time it's somewhat speculative, if you will, all the details of that

IROFS.

The explanation they gave gave us reasonable assurance about that IROFS that it would be able to perform its function. It was reasonable to us that it could do that. It wasn't out of the ordinary.

And so, the licensees, both USEC and LES, are creating what we call IROFS boundary packages. So, when we come out to do these inspections we focus on looking at those boundary packages to ensure that the management measures that are being applied to the IROFS are sufficient to justify its availability and reliability that was called for in their ISA summary.

In looking at a couple of those IROFS we found that there were some that the justification wasn't there for the reliability they were looking for. So, we're working with LES now on resolving those issues before we go forward. That was a little bit of a surprise there.

MR. HENSON: And I think from the Region II experience, certainly from the Lead Cascade that was our first opportunity for an ORR enrichment type activity. One of the things that kind of surprised us a little bit is their lack of understanding of how we do an ORR, the depth and detail at which we look at things and their preparation for that ORR.

So, we did the first one about midweek. They determined that they really were not ready for that ORR and they asked us to cease and come back when they thought they were ready. They instituted a very tight internal readiness review. I think that's one thing we noticed that kind of surprised us is people not

being ready.

The other thing, I think, is not understanding the degree to which we expect the quality assurance program to be filtered down not only at the licensee organization, but all the way down through the contractor, subcontractor, supplier level and I think the industry has been surprised at how difficult that's been as well. So, I think those are probably the two things is the readiness review and the QA expectations.

CHAIRMAN KLEIN: Thanks.

MR. WEBER: That's not unique to the enrichment facilities. We've seen that for, for example, the mixed oxide fuel fabrication facility.

CHAIRMAN KLEIN: Thanks. Commissioner Jaczko?

COMMISSIONER JACZKO: I don't have any more depleted uranium questions.

CHAIRMAN KLEIN: Good.

COMMISSIONER JACZKO: I'm not sure I had too many to begin with. One of the things we heard a lot about this morning about ISAs and I think some of the progress that's been made in that area and we had a meeting yesterday where we talked a lot about risk informing and we heard from folks in the materials arena about risk informing in that area.

We maybe didn't explore that too much, but I thought maybe you could touch on. One area that I think is an important first step in doing this is trying to develop some kind of performance indicators that I think would give us the ability

to begin to measure some kind of performance and help risk inform performance base our oversight process.

I know that's not a high priority from a funding standpoint, but perhaps you could touch a little bit on what the staff's thinking is in that area and what they might want to do at some point if there are resources to do it.

I think one of the reasons why I think it's important here is now we're talking four potential facilities of the same class. I think one of the arguments in the past has been that fuel cycle facilities are so diverse that there may not be a common element. Now we've got four facilities. Maybe at a minimum we could come up with something in that area. I just thought maybe if you'd want to comment on it.

MR. DORMAN: First, I would say that the implementation of the ISA and Subpart H I have found it permeates everything that we do and in the discussions that I'm having with my staff on licensing issues, on inspection findings, on enforcement issues working through the process the ISA is informing everything that that we do. That's not to say it's a perfect process.

There are a number of challenges that are coming up in some of those dialogues. I think one of the issues that you discussed yesterday was the vulnerability of the PRA process on focusing on the bottom line number. ISA is more qualitative and so we perhaps don't have that vulnerability in risk informing, but there are other aspects of the ISA process that can produce unintended consequences in terms of how to apply that and how valid the insight is and you have to be careful in applying that.

Having said all of that ISA is informing for the operating facilities how we are planning inspections. It's informing how we are assessing the significance of inspection findings and applying the supplements of the enforcement policy.

What we haven't done is institutionalize that in our processes and procedures in a way that the outcomes are as transparent and predictable and reliable as what we would like to have. So, you alluded to the resource challenge of that. We've been working with Region II and scoped out, I think, what we think would be the right way to approach this and we're looking at trying to implement the lessons learned from the ROP development and looking at how do we use the risk insights from the ISAs to inform significance determination process and make it a rigorous process.

I think our initial look at what it would take to do that significantly overwhelmed our capacity and current resources. So, what we're looking at now is what are some things that we can do in reprogramming space within the '09 and 2010 proposed resources and probably looking at the bulk of the effort it will be something that we'll be building into the 2011 budget proposal.

But in the near term we're looking at options including going to -- for example, the Center has done a lot of good work on the ISAs for us. One option would be to work with them on an initial framework that we can then bring to the table on how to apply that to SDP.

Another option that we're looking at is can we go forward on a pilot basis with one facility recognizing that there are going to be aspects as we work across

the full spectrum of fuel cycle facilities that we'll have to work through as we try to bring those lessons more broadly.

I think one of the questions that we're looking at there is is that an effective and efficient use of resources in the short-term that won't have to turn around and be repeated in the longer term to expand those lessons?

So, we're looking at options of what we can do in the near term, but I would go back to where I started and say that we are incorporating those risk insights into what we're doing today. We want to build that into a more rigorous process.

COMMISSIONER JACZKO: I appreciate that and I recognize the resource challenges. As I said earlier, the performance indicators I think are perhaps one way where we could start to make a direct movement in that direction. I think it also gives us an ability to deal with one of the challenges I think we still have in the fuel cycle arena, which is communicating risk significance of an inspection finding or performance. We're still really relying on the older, essentially, more narrative description of plant performance or facility performance.

I think having some kind of quantitative measures that we can demonstrate how we think licensees are performing, I think, is really helpful with communicating with the public. Thanks.

MR. VIRGILIO: Just one point to add on that, Commissioner. Earlier attempts on this developing performance indicators in our risk oversight process have not been successful. I'm more optimistic today because the lack of success

was due in part to the lack of industry cooperation.

At the time we tried this in the past we were trying to roll out Part 70 and conduct the ISAs and there was a lot on their plate. They said, "Not now." But I think now is the time where they've turned to us and said, "Yes, we're willing to participate in this." I'm much more confident that we can do something.

COMMISSIONER JACZKO: Great. I probably should have asked this question this morning.

MR. WEBER: We're also working with our international colleagues. For example, the French regulator applies a system of performance indicators which they've been using successfully for fuel facilities. So, we're anxious to learn from their experiences and use that to feed into our oversight process revision so that we can benefit from that foreign experience.

COMMISSIONER JACZKO: Thanks.

CHAIRMAN KLEIN: Commissioner Lyons?

COMMISSIONER LYONS: I'll just thank you for the presentation and it's been a very good discussion after the presentation. Thank you very much.

CHAIRMAN KLEIN: Just one last question, Brian. In terms of you talked about the number of QA issues that has developed. Could you talk about of all the quality assurance issues that have come up, how many we identified versus how many the plant identified and what the slope is?

MR. SMITH: I can talk about it in a general way. We do communicate with the Region on their inspection findings. We have a phone call

on LES every week to talk about what's going on with the readiness reviews that we're doing now. But, getting back to your question.

Early on for LES we did go out and perform, like I said, focusing on the QA Program implementation itself. We did identify a few issues. LES in following up on the issues that we identified found even more and as a result they stopped all QL Level 1 work for a significant period of time to improve their program.

One of the key issues there if I recall correctly is the amount of oversight that they had to provide to their constructors and contractors on site; verifying that they were following their QA Program. Greg mentioned it this morning about having people out in the field to verify that they are pouring the appropriate amount of concrete as required by the design.

The number of QA issues here recently identified by us has gone down. They are -- the region does identify a few issues now and then. I think they have issued one or two surveyable violations to LES.

But in our communications with LES they have a very robust corrective action program and whenever an issue was raised by someone on the staff they'll enter that issue in their corrective action program and address it.

So, I would say right now they're finding a lot more issues than we are. I'll have Jay talk about USEC if he has any insights there.

MR. HENSON: I believe it's the same for USEC. They're there every day looking at their QA programs, so they are finding more. We have found a couple, but as a result of that they've certainly increased their game and stress

the QA Programs all the way down through their subcontractors.

I think the message used to be "close enough for government work" was a good term for quality. Over time it became the opposite. I'd like to think through our efforts here at the NRC and the nuclear industry we're reversing that and "close enough for government work" means something now.

CHAIRMAN KLEIN: We should say, "close enough for NRC work." I think that's the kind of trend we would sort of expect and would hope that over time they would start finding more than we would find as their programs mature. Any comments?

Thank you very much for a good presentation. I thought this morning went well and this one went well. We will adjourn this part and move into our classified part.

(Whereupon, the meeting was adjourned.)