UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

***

PUBLIC MEETING ON

PROPOSED RULE CHANGES TO 10 CFR PART 70

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Two White Flint North

Room T3 B45

Rockville, Maryland

Tuesday, September 29, 1998

The above-entitled meeting commenced, pursuant to notice, at 9:00 a.m.

P R O C E E D I N G S

[9:10 a.m.]

MR. SHERR: Good morning. I would like to welcome you to our meeting today. My name is Ted Sherr. I'm Chief of the Regulatory International Safeguards Branch, Division of Fuel Cycle Safety and Safeguards, in the Office of Nuclear Safety and Safeguards.

The purpose of today's meeting is to provide an opportunity to further discuss the proposed rule-making for 10 CFR Part 70, which is intended to place the regulations in a more risk-informed basis.

Before we begin, I think it might be useful just to review a little of the history. Some of us know it very well, maybe others need to initiate into this process.

The NRC staff has been working on a revision to 10 CFR Part 70 since 1993, as of the last five and a half years. In that time period, the Nuclear Energy Institute proposed an approach for this rule-making and submitted, in September 1996, a petition for rule-making relating to revision of 10 CFR Part 70.

In June 1997, the NRC staff proposed to the Commission a resolution of NEI's petition. This was in a Commission paper, SECY 97-137. The staff recommendations included some of the elements of the NEI petition, but other elements were suggested, as well, and some elements were not included.

A couple months later, in August of 1997, the Commission approved staff's suggested approach and requested that staff provide the Commission, for their consideration, a proposed rule by July 1998.

Coincidentally, in July 1998, the staff provided the Commission with a paper, providing a draft proposed rule for the Commission's consideration. That paper was SECY 98-185, and the Commission's response to that paper is still pending.

There was a Commission meeting on August 25, 1998, which was fairly soon after the paper was provided to the Commission and made public. At that meeting, the Commission was briefed both by representatives of NEI and industry, as well as by NRC staff, on the proposed rule.

The thrust of the NEI industry presentation, at least as we interpreted it, was pretty much a continued support for the elements of the petition of rule-making that they had submitted in September of 1996.

After -- the same day of the Commission meeting, that afternoon, there was a meeting, a public meeting with the Executive Director of Operations, where representatives from NEI and the industry and others met with the EEO to further discuss aspects of the proposed rule-making.

At that meeting, it was decided that it would be useful to have another meeting to further provide opportunity to further discuss the nature of the proposed rule-making and the types of problems that we might want to consider in any revisions to the draft proposed rule.

Hopefully, you all received this folder on your way in. It includes an agenda for this meeting. The objectives of the agenda are to provide, in the first instance, an overview of what's in the proposed rule, as well as the approach being taken in the standard review plan.

This will be followed by a series of presentations by NEI and industry representatives which will address particular aspects, yet to be seen, I don't know exactly, but aspects of the rule that they would like to see different, I assume.

This will be followed by what we refer to as a round table Q&A session. In preparation for the meeting, NRC staff identified a number of questions that they would like NEI to consider in its presentations and the NRC staff encouraged NEI to provide questions that they would like us to address.

And in these folder are sets of both questions, if the folder was done correctly. I happened to get one that had two sets of NEI questions and no NRC questions. So you might want to double check.

But in any case, to the extent that we don't address these questions in the course of the presentation, I would anticipate that we will address these specifically in the question and answer period, together with any other questions that are tabled at that time.

Before we begin, I would like to introduce the NRC officials that are here in the front of the group. I think you all know Carl Paperiello, the Director of NMSS, and Liz Ten-Eyck, the Director of Fuel Cycle Safety and Safeguards; Tom Cox, who had the lead in putting together the standard review plan -- it's okay if I admit that? And Steve Treby, who is a representative in the General Counsel's Office; and, Rich Millstein, who is the Project Manager for the Part 70 rule-making effort.

But before we begin with the substance of the meeting, just the usual administrative announcements. I think as everybody expects these days, there is no smoking allowed, and that's fine, and, also, there is no eating allowed. So you have to

starve, as well.

As far as the restrooms go, I understand that to get to the men's restroom, when you go out the door you take a left and it's in that direction. To get to the ladies' room, you go to the right and pass the elevators and to the right again.

This meeting is being recorded and a recording of the meeting will be available subsequently.

If there are no questions at this point, we can commence then. I happen to be the first speaker, too.

The purpose of my presentation is, as I mentioned, to give a quick overview of what's in the draft proposed rule. This will be followed by a presentation by Tom Cox to provide insights on how the standard review plan relates to these rule requirements.

What I'm going to cover is what we refer to as the major elements of the rule. The first three elements, the consequence criteria, the graded level of detection, and the performance of the ISA, are what in the rule are probably safety performance requirements. This is the focus of the rule, the major elements of the rule.

Our intention in this -- and these are in Section 70.60 of the rule -- is to set the basis for a risk-informed, performance-based rule, and there are some questions about that that we will be addressing in due course.

The third element deals with the inclusion of the ISA results in the license application and this is covered in Section 70.62 and 70.65 of the draft rule. And other elements we'll be addressing is changes without prior NRC approval, a graded approach

for reporting requirements, and requirements for new facilities and processes.

The first element is the consequence criteria. The rule establishes consequence levels against which licensees must provide adequate protection. As staff had indicated in the Commission paper proposing the major features of the rule, these -- the criteria that are included in the rule are based on existing standards that either have been developed by NRC or other government agencies or professional societies.

The consequences address the impacts on the workers, as well as members of the public, and they're categorized into two levels of severity, high and intermediate consequences.

The consequences address the radiological impacts, as well as the chemical consequences that are associated with the processing of NRC licensed material.

This is an attempt to briefly summarize the consequence criteria that's in the rule. AS noted earlier, there are two levels, the high and intermediate level, and these levels apply to both the worker and the public and they apply -- they include criteria for radiological and chemical.

In the high consequence, in addition to the radiological and chemical consequences, other high consequence events are considered the occurrence of a nuclear criticality and the intake of 30 milligrams of soluble uranium by a member of the public.

The intermediate consequences deal with more moderate levels and they also include criteria relating to environmental contamination.

The second element of the three elements, in terms of the basic safety performance requirements, is the graded level of protection and the rule requires a graded

level of protection to achieve an acceptable level of risk and, at the same time, to minimize the regulatory burden, with the intent of not requiring the same level of protection for all levels of consequence.

In fact, the rule language specifically talks about that the level of protection should be commensurate with the consequences of identified accidents and indicates that high consequence events are to be highly unlikely and intermediate consequence events are to be unlikely.

Highly unlikely and unlikely are not defined in the rule and a lot of aspects -- a lot of the concerns that were reflected, I think, in the NEI questions are tied to this whole matter, and Tom will be talking about this in more detail in the SRP discussions.

So the third element is the last of the three elements which are part of the basic safety performance requirements, and that's the performance of an ISA, which is essentially a comprehensive, systematic safety analysis.

The aspects of the ISA is to, first, identify the plant external hazards and the potential for initiating accident sequences and, on that basis, identifying the potential accident sequences of concern and their likelihood and consequences, and then to identify the items -- what are referred to as the items relied on for safety.

That's essentially the items that are relied to achieve -- that we focus on to achieve our risk goals. These include site structures, systems, equipment, components and activities of personnel that are relied on for safety.

In addition, and not mentioned on this transparency, in addition to the items relied on for safety, the rule requires the identification of management controls to

assure that the items relied on for safety are continuously available and reliable.

The next provision of the rule, major element, deals with the inclusion of the ISA results in the license application. In fact, it's not just the ISA results, but it's also related information, which, again, is, I think, some of the concern that's raised in some of the questions that NEI has identified.

The types of information required in some of the -- in Section 70.65 includes a description of the plant and structures, a description of the processes analyzed by the ISA, an appropriate summary of the results of the ISA, which includes the accident sequences, the consequences and likelihood of the sequences, and the items relied on for safety, and also the companion information and measures established to ensure that the items relied on for safety are continuously available and reliable.

On the basis of what's in the license application, NRC would make a determination on the adequacy of the safety program identified.

In addition, it is anticipated by the rule that the details concerning the items relied on for safety and the measures to assure their availability and reliability will be incorporated as conditions of the license through a license condition.

The rule allows for -- in light of the requirements we just talked about, where the submittals would involve certain commitments, the question deals with, okay, when there are changes to be made, which are inevitable, do they require Commission prior approval before the changes are made, and the provisions of Section 70.72 of the rule address the matter and identify situations where NRC prior approval is not necessary.

Essentially, it says that prior approval is not necessary except in two

instances, where -- so long that the results of the changes results in no more than minimal increase in the likelihood of consequences of an accident previously evaluated or that it creates no new possibility for an accident different from that previously evaluated in the ISA.

The rule also includes -- establishes a graded approach for reporting requirements. The main reporting requirements that's in place right now is available only in Bulletin 91-01, which is not a formal regulatory requirement, and addresses only criticality safety.

The proposed rule includes reporting requirements that would apply to any degradations in the items relied on for safety, such that they would be no longer operational or they couldn't perform their function.

The reporting requirements established in these different time-frames for reporting, depending on the severity of the event and also some other factors, such as whether or not it was an unevaluated accident sequence.

The last element of the major elements of the rule has to do with requirements for new facilities. These basically relate to the baseline design criteria and the preliminary ISA. The notion of the baseline design criteria are criteria that need to be considered in the initial design of a new facility or a new process.

The viewgraph identifies the areas covered by these design criteria. The notion is that if, in the course of conducting the preliminary ISA, it can be demonstrated that the actual facility design does not have to deal with certain design criteria, then they wouldn't have to be included in the actual safety program.

With regard to the preliminary ISA, this would be performed and submitted to NRC prior to construction of the new facility or process. This is, again, one of the issues that was raised in the NEI comments. The purpose of the preliminary ISA is to provide an opportunity for feedback to the licensee early in the process.

It is not something that requires NRC approval. NRC approval is not necessary and it is hoped that it would expedite the licensing review and minimize any costs that would be associated with licensing determinations.

So this concludes my overview presentation of the rule elements, and Tom will be addressing aspects of the standard review plan.

MR. COX: Good morning. My name is Tom Cox. This presentation will not give you a total complete overview of the SRP. I'm going to go through several points here and rather than talk very little about a very lot of material, I'm going to kind of focus in on a couple of hot button items associated with the SRP when we get there.

What you see here is, first off, there were some introductory remarks on our approach, some insight into how we went about this, a look at the overall structure of the SRP, very briefly, and then we'll get to two topics that I think would be of some importance, are actually of great importance, the acceptance criteria, and the ISA itself, which, of course, encompasses an entire chapter of the SRP.

At the very end, though, we'll cover, very briefly, the ISA example, for which there is a document included in the rule-making package to do just that, provide an example of a part of the ISA summary.

The Atomic Energy Act says that the Commission, in fact, can ask for

whatever is deemed necessary to enable it to find that the activities proposed by an applicant or a licensee for renewal will, in fact, provide adequate protection to the health and safety of the public.

Your handout, by the way, may show a quote there on Sections 103 or a referral to Sections 103 and 182. Those aren't the right sections. You can scratch that out of your handout.

So we have a responsibility and unlike OSHA or EPA, the NRC eventually, making the findings it needs to make, will issue a license based on the staff's finding, the staff's finding of reasonable assurance of safety.

So what do we have to find or what do we find in this finding? Let's just run down through a few of the points that we have to cover in the license review. We find that the applicant is qualified by training and experience. And by the way, you will find all this in 70.23, which has not been modified in this latest proposal; that is, with regard to these points. These are still there and have been there.

We find that the proposed equipment and facilities as necessary to safe operation are adequate. We have to actually make a finding on procedures and qualification and training to conduct those procedures and find that they're adequate.

We actually have to look at the applicant's financial qualifications to engage in the activities proposed. This is not to find financial assurance for decommissioning. This is financial assurance or qualification to engage in the proposed licensed activities.

We also find that the fundamental nuclear material control plan and its

controls are adequate to make an environmental evaluation in accordance with Part 54, and you have a physical security plan and an emergency plan.

Now, the staff is accountable to the public for our findings, as represented in a safety evaluation in the issuance of the license.

So what do we see as our licensing responsibilities? I've listed a few here and I will try to quickly -- I will try not to read them verbatim.

But we think that we are providing a uniform regulatory basis when we write a document such as a standard review plan. It's good for the staff. It's good for the applicants or licensees, because all involved know what the criteria are.

We want to make this information widely available. Absolutely clear, explicit guidance for staff and applicants and the public, if they want to read it. We evaluate the information provided by the applicant with respect to this document and we make independent assessments; not on every single minor point or major point, but on selected points that we determine to be important or relatively more important than other things.

It's a -- I forget the buzz word that we sometimes use in the inspection process, but it's a partial kind of review, a sampling review, if you will.

Now, with regard to our recent new proposed rule, we have a defined safety program in 70.60(d) and we must find the material submitted by the applicant, in fact, that would probably and with reasonable assurance comply with those performance requirements and would be accomplished.

To do that, the applicant's safety program has to be sufficiently put before

us to permit the staff to make these reasonable assurance findings and to provide a public record of the staff's findings.

Now, the safety program description, whatever that turns out to be, as we get through this rule-making, will be considered a binding commitment by the licensee regarding their design and operation.

Now, let's just take a look at the structure of the SRP, as you have had it before you since about July. I won't spend a lot of time on this because it's obviously the table of contents from the document and I'm sure that you have all looked at pieces of it, if not all of it.

As you can see, it's organized a little differently than the one that was put out in draft some three or four years ago in that we are going to focus now on the integrated safety analysis as the anchor point, which essentially sets the stage for the development and response by the applicant to other kinds of requirements, those requirements being, primarily and most importantly, radiation safety, nuclear criticality safety, chemical process safety, fire safety, and the standbys that have been around for years, emergency management, environmental protection, decommissioning.

We also have an important area called now management control systems, in which we have here your company systems that manage and provide the assurance that, in fact, the controls, equipment and procedures relied on for safe operation will be around when they're needed.

Let's move on now. Now we're getting into where I said I was going to try to focus on only a couple of points within the SRP rather than try to explain to you in a

few minutes what each of the chapters are. We'll have undoubtedly some dialogue on that.

Let me tell you how we approach the acceptance criteria. In fact, this is classical NRC approach to acceptance criteria from the time that NRR was writing standard review plans back in 1975 in the reactor world.

The criteria laid out by the staff in the standard review plan are those that represent one position or an acceptable approach that's been developed by the staff, usually over years of regulation, and there is no exception in this instance; fuel cycle facilities have been regulated for years. Technical reviewers here at the NRC have developed, through their own experience and interaction with the regulated industry, the acceptable approaches to regulating parts of the facility.

These are presented in the SRP as a way that the staff will find, without question, are acceptable ways to meet certain criteria.

That doesn't mean that the applicants or licensees cannot propose something else. It's just that this is an acceptable way that the staff knows is all right.

Now, what about proposing something else? A key element now in proposing criteria other than those in the SRP is an adequate demonstration, through the applicant's ISA, that the applicant, in fact, has his arms around risk at the plant and knows how to control risk at the plant.

With the new information regarding risk, we should be able to, in some instances, decrease the stringency of the requirements that you see outlined in the SRP.

The SRP acceptance criteria apply to structures, systems and components

and management control system that are involved in the highest risk sequences that we expect to see put forth and described by the applicants. We could not write a series of gradually decreasing requirements in the chapter that would apply to every licensee out there.

So we took a somewhat simpler road and we wrote down those that apply for the high risk sequences, the high risk components, management -- or where components in management control systems are involved with high risk sequences, protecting the equipment, protecting the procedures that will need to be used to control the risk in those accident sequences. That's what we wrote the acceptance criteria for.

But your integrated safety analysis can be used to justify levels of assurance less than that when you have the integrated safety analysis.

Just to talk briefly about the beginning of the ISA chapter itself. Here is something important I think we all ought to get to. There have been some carefully crafted definitions laid down in the front of the ISA chapter, Chapter 3, and this is actually in Section 3.4, definitions of common terms. Perhaps some of them aren't so common. But we think they're going to be common in the dialogue that we have with the industry now and over the coming months and some of them -- I think in the past couple of years, we have different views on these things and perhaps talk past one another at times as we are thinking in slightly different terms about the two-word phrase.

So I would commend to your reading, study and perhaps dialogue with us on what these things do mean or what you think they should mean, because they certainly form a basis for discussions of our approach to risk and the integrated safety analysis. So

these definitions are quite important.

Now, what is Appendix -- what is the integrated safety analysis in the SRP? Well, some of you know it as 47 pages, a lot of material, and you wonder what do we have to do with all of this.

Well, it is, I think, a pretty good attempt to be very explanatory and more explicit than we have been in the past perhaps as to just what it is that is expected.

The chapter is essentially there to define what should be done and how to present a summary of it. That summary is best described through a series of tables in what we call Appendix A to the integrated safety analysis. There are actually about seven tables there. They contain -- when you have them constructed, they will contain all aspects of what work was done to prepare the ISA.

Table A-1 is what I would call the top table, the one that contains the most comprehensive collection of results, and it basically lays out each accident sequence on a single line or record, if you will, if you think in databases. Each accident sequence has its own line. It has some risk indices and consequence of likelihood categories and other information, that I will explain in a couple of pages further. But it's your top summary table.

Table A-2 is the determination of the likelihood category for a particular accident sequence from a likelihood indices, and we'll show you how to use that one.

Tables A-3 through A-5 show where to get indices for various controls and events that have to do with frequencies, probabilities, and even something called a failure duration. It's essentially a series of tables that tell or make information available to an

applicant as to how to select indices based on some reasoned judgments, not necessarily probabilistic risk calculations, but on some reasoned judgments of what these indices ought to be.

A-6 and A-7 are essentially more information tables that would describe in a little more detail, because the top table doesn't have enough room. A-6 and A-7 are places where you put more detail on the individual accident sequences and some more detail on -- to explain certain controls and events.

Let's take a look at how we get to all of this. What you see here is not one of the tables in Appendix A, but this is really how the NRC is looking at risk now. We're all interested in risk-informed performance-based regulation, but how do we get there. You can't do it without risk information, about the operations at the plant. So one of our first objectives is how are we going to get these information and how are we going to organize it and use it when we have it.

We have here a consequence versus likelihood table or a risk matrix, if you will, that in this case has nine boxes in it. It's a three-by-three matrix, but, in fact, you might say where do you get three consequence categories and three likelihood categories, since the rule addresses two. In fact, the rule does address only two and if you have some sort of a marker with you, you might take your marker and circumscribe what we would call a two-by-two matrix, this one right here.

That's what you see in the rule, a high consequence and an intermediate consequence, and a highly unlikely likelihood category and an unlikely likelihood category.

You can assign numbers to these for practical purposes and you see in this risk matrix we have the highest consequence is assigned a risk number of three, the intermediate consequence has a two, and we have a low consequence category here called one, which represents nothing more than those sequences or accidents that would fall below the lowest level in the intermediate category, defined in the rule.

At the other end of the table, you see a not unlikely -- I guess that could be called likely, but perhaps not unlikely is a little more careful term. That's not what you find in the rule either, but, in fact, you will find, if you read the ISA Chapter 3 carefully, that not unlikely simply means a likelihood that's greater than the highest likelihood you find in the unlikely category.

Why do we do this? Because we want to know what sequences applicants/licensees believe are out in those outer fringes of the risk matrix, because that helps us in making independent assessments of the correctness or the -- say, the acceptance of an applicant putting a risk on a particular sequence and putting it in some other box. We know by comparison and we find out what kinds of equipment, what kinds of procedures, what sorts of events actually reside out in the fringes of the risk matrix.

So here in the ISA Chapter 3, we actually think about risk in terms of this matrix and we now look for information so that we can assign each accident sequence that we know about, that you know about, to a place in this risk matrix.

And you can see right away that there is at least one box here that's grayed out, that's unacceptable, and you can understand that from the rule. If you remember -- or

you know the rule reads that high consequences must be highly unlikely. It is not acceptable for them to be unlikely. The unlikely box is right here and that's a box that it's unacceptable to have a high consequence event in.

And, of course, to the right, you see a couple more grayed out boxes. But look at the intermediate consequences line, second line, and you will see that there are actually two levels of risk that are acceptable. An accident sequence of having intermediate consequences might be either unlikely or highly unlikely. So these aren't single point values for accidents based on consequences.

In fact, we're trying to look at risk that is a combination of consequence and likelihood. We have to have this information in order to assemble risk information on sequences in some sort of risk matrix like this.

So how are we going to get it? Let's go to the next one. This, in fact, is Table A-1 from Appendix A of the ISA chapter and it's really shown here in somewhat of a truncated form, because the bottom horizontal line really belongs to the right of and on line with the top line. It's just that we had to cut it off and move it down and to the left to get it all one.

But, in fact, when you read about an accident sequence and as you would put your information down for an accident sequence, you would start over there at the top left with some sort of company identifier for that sequence.

Then you would have an initiating event. You would have controls shown which could be preventive and/or mitigative, and all of those boxes, the initiating event and each control used would have associated with it a likelihood, that likelihood to be

derived from table that lie further on in this presentation and in Chapter 3.

Those are the other tables, A-3, that I mentioned, to which you can go and see how to establish likelihood values for controls based on your knowledge of those controls or procedures or operator actions and your experience, you can select from these indices and make your best judgments as to what you believe it is.

The point is you will have information down on paper with which you can discuss with anybody, including the regulators, just how you looked at that accident sequence.

As you move to the right here, you get out of the controls and you finally come up to a likelihood index, This is a summary index for all of the prior indices. It sums up the likelihood of this accident sequence by, in fact, sunning the index values in each of the boxes to the left of that one.

With the T in the likelihood index box, you then can correlate that with a likelihood category. Those numbers one, two and three are the one, two and three you saw on the risk matrix that we just passed by a moment ago. So you will end up with a likelihood category of three, two or one.

Now we get to consequences. Consequence evaluation reference box is simply a place where you put the document number that corresponds with your company evaluation of the consequence of that particular sequence. We don't expect to find a consequence calculation in a little box that's a half inch square.

But you would have somewhere an evaluation that leads you to specify a particular consequence and that's where you would reference it, so that yourselves or any

regulator could eventually find where to understand and read about that consequence analysis.

The consequence evaluation, of course, has a value at the end of it and whether that consequence is high or intermediate depends on how it fits the consequence categories in the rule and you can determine from that if it's high, it will be a three, and if it's two, it will be an intermediate one, and one is anything lower in consequence than those calculations.

Having now both a likelihood category T, left-hand lower box, and a consequence category, in column G here, you can put those together with a product of likelihood times consequences and arrive at a number between one and nine. Now, if you remember -- can you just throw that risk matrix back in there, it's the one behind, I believe.

The T will sum to a number and the consequence will sum to a number and you will be able to have a three-two-one for each of those two values and multiply them together, you get a number between one and nine, and that's what places it in this risk box.

Now, it all sounds kind of esoteric and maybe cookbook, but I think if you take the time to look over these tables in Appendix A, talk to us about them, as I'm sure you would want to, they are not so unreasonable as you might think, because, in fact, they depend on your experience and your long use of these particular controls and operator actions and procedures, and you wind up selecting these indices.

Let's keep on going now to -- let's just, for a moment, throw up number

ten. Here are the consequence categories and the only difference between this and the one you saw earlier that Ted showed was we've put in some numbers at the left-hand side there indicating that will high will be called a number three and intermediate will be called a number two for use in the table, table A-1.

You see the same values. You can see here what's high and what's intermediate.

Let's move on now to number 11. Now, where do these likelihoods come from? Remember, in the table A-1, we had a likelihood index T that we arrived at. What this table simply tells you is that the values for these Ts are such that highly unlikelihood category, that is number one, is what we call a T of less than or equal to minus five. Highly unlikely, as you can see the note underneath the table there, is considered to be an individual accident frequency of less than ten-to-the-minus-five per year.

You may say that sounds like a very low frequency, but remember this is an individual accident frequency. We have about ten facilities out there, at least, that will use this kind of rationale, and we don't know exactly yet how many accidents of a particular type -- that is, how many accidents will wind up being in the high consequence category.

If it turns out to be 50 or 100, then you would have 50 or 100 accidents per facility, where you're talking maybe 500 or 1,000 accidents total in the industry. So when we set these up, and you may at some point today hear from Dennis Damon, who is our special risk analyst involved in the standard review plan here, these are really based on the strategic goals set by the Commission in our strategic planning effort over the last

couple of years.

There is a straightforward explanation in the chapter concerning just how we derived these numbers.

Unlikely is considered to be an individual accident frequency of less than ten-to-the-minus-two per year. So you will see in line number two there unlikely, the unlikely category is T greater than minus five, but less than or equal to minus two. I don't think it would be good right here to get into a very deep explanation of this. Perhaps in the discussion later we can review more how these numbers come about.

Suffice it to say for the moment you can come up with an overall likelihood category for each accident sequence. Using this and a consequence category, we can bin each accident sequence, potential accident sequence in a risk matrix, and that's how we move on risk-informed regulation.

Let's go to number 12 here. I'll just take a pass through table A-3, which is, of course, in Appendix A. I think you all have handouts, because I don't know if that's going to show up very well. But you can see here for specific types of controls, we have frequency index numbers and taking, for an example, the middle line, a single passive engineered control might -- based on evidence, you might want to say that it has no failures in 30 years for tens of similar kinds of these controls. Tens of these kinds of controls, in service. You wouldn't expect to see a failure frequency index number of higher than minus three.

So that's what a minus three means in this case. It doesn't mean you have to do a long calculation to prove that something fails once in a thousand years. It means

that there's no failures in about 30 years for tens of these things in service, and each of these lines here represents a different type of control, a different frequency index number.

But you can put most of the things you utilize in one of these kinds of lines, or, believe me, if you wanted to create another line for other kinds of controls or put more description in the type of control column here, we'll be glad to dialogue about that.

This table is in Appendix A. There are two other kinds of tables similarly constructed for -- one for those types of controls for which a probability of failure on demand is more appropriate than these number and the other concept that we have here is another table called failure -- duration of failure index, and that's dependent -- that is important for use when you have two controls in front of a consequence, two controls preventing the progression of an accident sequence to a consequence.

You now need to consider with one control failed, how long is it going to be before that failure is discovered, because the longer the second and only remaining control is challenged, while the first one sits there failed, the more likelihood there is of progressing to that consequence.

This division or this effect on likelihoods is taken care of by including an index for the duration of failure of a control in a multiple control system.

There are two more tables besides this one. Lots of instruction in the chapter on how to use them and absolutely none of it is etched in stone, but we think it's a very workable and reasonable approach to measuring and presenting risk.

That's really all I wanted to say on that and I hope, if nothing else, I have wetted your appetite for perhaps digging into this, maybe even challenging us on how we

came up with this, because we'll be glad to talk about it.

What I would like to just say very briefly now is to point out that in the rule-making package, there is an example document, because we received comments that indicated a number of folks did not know exactly what we wanted by way of an ISA summary. Everybody seems to know what an ISA is, but what do we have to put on paper and give to the regulators as a summary.

That's what this document is intended to present and I'll actually show you a summary. In fact, the summary document offered as an example covers really two factors in the ISA, two that seem to be the most problematic in the comments we received from the industry.

That is, what level of detail do we need to tell you about in process descriptions. We tried to address that in this example, I can show you, in a style of writing, what level of process descriptions would be adequate for us to become knowledgeable enough -- of course, including some site visits -- to have an idea of what the process -- how the process really works.

The other aspect in there is, of course, the risk summary; that is, you will use these tables, again, in that example document to show how to put some actual postulated accident sequences into the table.

Basically, I just would summarize then by saying we do have an approach to understanding risk. We do believe it's important to use risk in order to get risk-informed performance-based regulation. This rule and the SRP are not solely based on consequences. We try to establishes consequences and likelihoods for each accident

sequence that meets an importance threshold.

The example document is issued as a draft and we welcome your comments on all of this material.

That concludes my presentation. Thank you.

MR. SHERR: Thank you, Tom. It not only was a helpful presentation, but you finished right on time. We're right on schedule.

We have an opportunity now to have a break for 15 minutes. I mentioned where the rest rooms are. There is also a coffee bar in the lobby level right near the elevators there.

When we reconvene, NEI and the industry representatives will be giving presentations. I suggest that the presenters come up to the front part of the room at that time.

Thank you.

[Recess.]

MR. SHERR: If we could reconvene, please. I would just like to make an announcement before we continue with the agenda. I think we have all signed the attendee list as we came in and we're making copies of that and for those who are interested, there will be copies on the back table when we depart.

The next part of the agenda are the NEI and industry presentations. Marvin Fertel, a Senior Vice President with NEI, will provide an overview.

MR. FERTEL: Thanks, Ted. You guys set a good precedent for starting and stopping on schedule, we'll try and do our part.

Just a few comments. One, first, we appreciate the NRC taking the initiative to set this meeting up. We thought it was a good idea when it came up in a meeting with the EDO. Ted mentioned that. I would like to encourage us not to look at this as the only meeting we may have. Maybe we need more, if there are still some issues outstanding, which is likely the case, even at the end of the dialogue we may have today.

From the questions in the blue book that both the NRC asked of the industry and the industry asked of the NRC, there clearly is potentially some difference of opinion, certainly some lack of clarity on some points. I thought Tom's presentation helped a bit on one of our major issues that Charlie Vaughan is going to talk about in a minute, which is the question of whether or not the intent of the rule is to look at consequence or risk. We certainly believe it ought to be risk, I think you do, too, and I think the Commission does.

I think even after listening to Tom, there are probably still some fundamental questions. The rule does have a two-by-two matrix. The SRP does a broader three-by-three matrix, which is probably much more appropriate.

Just a quick reaction to what Tom said on consequence; again, I think Charlie and Steve are going to talk a bit, criticality comes out de facto high consequence. It may not be high risk. We may need to think about that differently. And even in the frequency table, just from my own background, which I hate to mention because we always say PRAs don't apply, you're looking at an accident sequence, not a point in time, on one particular aspect of the accident sequence, so either the probability or the likelihood may be actually different than just one of the things you have in a table.

So I think it may be a little more complex, though I'm certainly personally encouraged by what I heard Tom say about that. I think that will be one of the areas we need to talk about.

We're focusing today actually on the rule, not the SRP, in great detail and our thought was that if we could get the fundamentals in the rule clear on both sides, that we could either agree to or understand where we disagree and how we would go forward, that the SRP details might fall out after that.

Just on the SRP, we clearly have some fundamental problem with the prescriptiveness of programmatic requirements, as I said before the Commission briefing and we still feel that way with what's in it now. Again, we will focus more of our attention on the rule.

I think Ted covered and Tom, to some degree, covered our second big issue, which is how the ISA fits into the licensing process. Obviously, the industry is committed to do an ISA. It was in our rule. In our petition for rule-making, we've stated that over and over again, over probably the last four years. So we're not debating doing an ISA and I don't even think we debate methodology much on the ISA. I think we're actually pretty consistent with the staff in thinking on methodology.

It's how it fits into the licensing process. As we stated at the Commission briefing, we see a real problem in implementation if the ISA, per se, is part of the license. It creates the opportunity for numerous license amendment requests and both from NRC staff resource and from a licensee staff resource, we think that's a real waste of time if it's unnecessary.

Now, again, we're not saying you shouldn't have the information you need to do your regulatory job, that's not the issue. It's how you get it, in what form, in the process, and I think that we'll offer some suggestions on that, as well as some questions which, during the dialogue, maybe we can get some more answers to.

We will also cover our thoughts on the concept of a preliminary ISA and, again, my background betrays me. I'm much more a Part 50 guy, which gets me in trouble with my constituency here at times. In Part 50, we issue construction licenses and then operating licenses. These are licenses to possess -- and I get reminded in numerous discussions we have in our forum that really it's a license to possess.

I heard what Ted said on the preliminary ISA and, again, the intent is certainly good, if it's trying to expedite the licensing process and make it easier. Unfortunately, the experience we've always had, and that may be changing, is that the more you send in, the more questions you get.

So sending it in early may or may not help us, unless it has some finality, and I didn't hear anything Ted say go toward finality. So I think there is still a question there, though I don't at all argue with the intent and I think we will offer some comments on that.

One aspect that was not discussed by Ted, I don't think, at least not explicitly, or by Tom, was the regulation of pure chemical hazards. We will offer some comments on that. I remember actually very vividly when we were talking to the Commission, as I raised a pure chemical hazard issue, and this was not chemical nexused to nuclear safety. We have no problem with NRC's regulation of chemical hazards that

have a direct nexus to nuclear safety.

This was pure chemical hazard, no nexus to nuclear safety. That as I was saying, we didn't think you should be doing that, Chairman Jackson said we ought to -- shaking his head vigorously, and I said I don't know if he's shaking it that he agrees with me, but if he is, I'm going to be wrong on this, and I'm certainly going to be wrong today and have you guys clarify you have no intent to regulate pure chemical hazards or help us understand why you need to regulate that and in what way.

We are not going to cover some other areas today, though maybe in the dialogue we will get to them, which is still our continuing interest on implementation of the back-fit rule, some questions about the reporting requirements that come out in the rule and the SRP, and the intent of the ISA for decommissioning, which seems a little confusing to us, and maybe, again, that could get clarified.

So I think that from the industry standpoint, one, we really appreciate the opportunity to talk today. I think that the structure that Ted set up of let's exchange some questions at the get-go was a good idea. It forced you guys to ask us questions, which we can think about answers. It forced us to articulate some questions that we thought we were important for this forum.

I would encourage us not to look at this as a single event. I think we've spent five years getting to today. We're probably closer to agreement on stuff and maybe the dialogue for today sounds, even though I think we're pretty close on a few things, and I think that the more we can put it on over the next month or so to resolving some of the issues that we don't resolve today, the better off we'll all be.

And I think that for the next briefing of the Commission, it would be nice to say that the industry and the NRC staff fundamentally are in agreement and are recommending the Commission go forward, which was where we would have honestly liked to have been at the briefing and we should shoot for for the next briefing, if we have one.

With that, I would like to turn it over to Charlie Vaughan, who will start off the dialogue today. And I won't introduce everybody at the table. I'll just let them do that when they come up, because you'll forget them by the time they get here.

Charlie will start off and he's going to basically walk through some questions and some of our view on the risk-informed aspects of the ISA implementation.

MR. C. VAUGHAN: I appreciate the opportunity to be here and participate in this session. I think I need to thank Tom. He took most of my presentation. But I've still got a few little goodies.

I just want to mention that it's sometimes important to look back a little bit and when this whole subject of rewriting Part 70 came up, industry initially took the position that changes in the rule were not necessary Even though we might need to do some things a little different, Part 70 was adequate.

That was a little bit reinforced today with a reference to Part 70.24, which we have always felt provided the basis for what needed to be done. But notwithstanding that, in our dialogue with the NRC early, industry became pretty well convinced that the NRC wanted to upgrade the confidence that people had in the safety of the plant and that while we were a very safe operation and, in our mind, would have ranked our

performance adequate, there was some group that felt that we should increase the confidence.

So what we did is we went back and looked at some of the things the NRC was proposing, as well as some of the things that are done across industry, and we came back with a proposal through NEI that we felt, based on our knowledge of the facilities, the tools to work with, et cetera, what we felt would be the best thing for both of us to do in terms of raising the confidence at the facility.

That was basically a risk-based or a risk-informed, if you will, approach to defining the safety program, wherein you looked at consequences and you looked at likelihood of occurrence of particular events, and you used that information to grade the seriousness of the particular situations that you were looking at, so that both the NRC and the licensee could focus their attention on those situations where the risk was the highest, and that that would form then the basis for a graded implementation program.

And what you would end up getting out of that is a more risk-based application of your efforts and assurances than you do under the current concept, where everything goes on the safety list and then everything on the safety list is equally important. So you get what I call an averaging effect. I don't know whether that's the right term or not.

But the whole thrust was to try to get safety in a better perspective and apply our resources a little bit more effectively in that regard.

What I want to do -- well, a couple other things, too, before I do that. The system that we proposed kind of built off of the AICHE program, which I think we're all

pretty much in agreement are relatively solid programs.

That really only deals with the hazards analysis part of it. It doesn't deal with the graded implementation. But it does feed graded implementation reasonably well.

So we saw using the AICHE techniques as one of the basis to get started on this.

What I want to do is just take a minute -- the first I want to do is I want to just sketch up relatively simply what the industry believes was in the -- at least what we intended by the NEI proposal.

It was a three-by-three matrix. We've heard of a two-by-two matrix, but what was involved here was a three-by-three matrix. We defined risk as the product of consequence and likelihood. So then based on that, each square has a particular score, such as that.

So that the events -- and the first thing that's looked at are the unmitigated events and the reason for that is we're trying to find out just how important the controls that we're using are.

Based on this concept, then we divide that into three populations. For the upper right, the sixes and nines are in the high category. The ones and twos are low. The diagonal is the medium set of items.

Then we propose that the items in the high category would ultimately, out of the graded approach, would receive maximum amount of attention in terms of assurances and the various kinds of things that you do to make sure that those situations

are available when you need them.

The medium probably would not get quite that level, but it would take an educated determination as to what were the things that should be applied in those cases to give you maximum effectiveness.

Then for the lower level, we didn't throw those out because as operators of the plant, they're important to us. But it was a decision that says what we do normally in terms of running the business all be adequate for those particular situations.

So that was the concept that we had talked about with the proposal that industry made.

Now, I want to superimpose over this what we understand from the proposed Part 70, 70.60(b) and (c) I think are the right references. This is what it communicates to us when we read that.

So when we read that, we see a category that should be highly unlikely that is consequence-driven across the top of the chart and we see a medium category which is consequence-driven in the middle of the chart, and, of course, we've got the lower category where we, in a lot of respects, seem to call it about the same.

NRC expresses probabilities as opposed to something more akin to what -- we like to use likelihood because we're operating in a kind of a real dynamic world, and I thought we were over the hurdle that said that we didn't necessarily have to do probabilistic assessments on the facility.

That may be a situation that needs to be discussed a little more, but we were trying to keep it reasonably simple in terms of the way to apply this at the facilities.

There are some other things that -- the NRC probabilities expressed are pretty low, applied at a facility by facility basis. I'm not an expert on reactors. However, it looks to me like some of the probabilities we're dealing with are maybe even lower than what you might expect at a reactor, and I really don't think we have the overall risk that you would find there, but we could probably talk about that a little bit more.

Another item that comes out is that the NRC has placed criticality into the high consequence category, and, granted, a pure criticality obviously goes in the high consequence category, but they have also prescribed that double contingency will be used in the area of criticality safety, and that puts criticality safety on a little different footing than some other things, it seems, unless we've missed the boat somewhere.

There are a few other things. For example, in the industry based system, there is a whole group of six ranked items that we put in the high category, because they are high frequency and pretty good consequence, and the NRC classifies those as medium.

There's also a three, in the way we read this, that gets mixed in with sixes and nines, which generally seems to dilute the overall application to safety; and a two that is elevated an additional level, as we read the proposal.

So it looks like when we read the -- or we feel like when we read the NRC proposed rule, that the NRC is basically projecting a consequence-basesd safety program definition as opposed to one that is based more on risk. Even some of the discussions we have imply some risk, the rule seems to say consequence-driven.

And we think that the industry approach is more of a risk-driven and

should be the area that we work in to see if we can work out some of the differences.

MR. SCHILTHELM: We hadn't quite anticipated this level of formality this morning, so we're a bit maybe unprepared for it.

For those of you who don't know me, my name is Steve Schilthelm. I work for BWX Technologies at the Navy nuclear plant in Lynchburg, Virginia.

Our facility committed to ISA some years back. We've been conducting ISAs at our facility. NRC has been at the facility and your staff has looked at what we've done.

To reiterate what Marvin said, we think we have some pretty general agreement on the conduct of those ISAs.

I'm going to try to build on what Charlie said this morning and also what Tom said was very interesting. We had the same words in 70.60 that we, the industry, interpret one way, NRC apparently interprets a different way. That's clearly an issue we're going to have to work through and come to some resolution so that we have a mutual understanding.

But what I want to try to do is go one step further than what Charlie talked about. He alluded to criticality safety as one of the big issues that we're dealing with. The ISA clearly identifies the criticality safety controls that are in place at the plant.

One of the things that we read at least implicitly in the rule and one of the things that has been stated by NRC, I think it's even written in one of the guidance documents, is that criticality safety controls would receive the highest level of assurance.

Building on what Charlie said about a consequence-driven approach, we

see that there are any number of criticality controls that fall into any number of slots in the scenario development. If those criticality controls must be placed at the highest level of assurance, that's clearly consequence-driven.

So we believe the rule implies that -- we've heard NRC staff say that in meetings and I believe there is a guidance document that says that also.

To illustrate this, let me throw up a fault tree. I hate to do this, because I am in no way advocating fault trees, but I think a fault tree is a very valuable tool in certain circumstances; in others, it's not. But I'm not advocating their use everywhere, but it is very helpful to illustrate the point that we're trying to make.

I will try to overlay the consequences and the words that Tom used also on this. I didn't write them on there.

One of the consequences that we're trying to protect against is a criticality. This example is actually built out of the example in the ISA draft document, where you do a "what if" analysis. It's an element storage area for finished elements, dry storage area where elements are stored in racks and whatnot.

If you build a fault tree, you have any number of things that can get you to a criticality being possible. I'm not suggesting this is an adequate level of protection. The only reason I did this was to illustrate how different controls can require different levels of assurance.

If you start at the left, if you lose geometry control, most of us are required to model our facilities such that even if we lost geometry control, if we did not lose geometry control, that facility would survive being fully flooded. We would have to lose

both the geometry control and the moderation control before a criticality would be possible.

In our mind, that's a doubly contingent situation. Going down below that, you may have any number of scenarios that lead you to losing geometry control. There could be additional "and" gates below that or, as shown here, there could be an "or" gate below that.

How do you lose moderation control? There could be several scenarios that lead you to losing moderation control. They could be separated -- it could be a pass-through with an "or" gate or there could be additional scenarios through "and" gates that let you lose moderation control.

In this model, one way for criticality to be possible is to lose geometry control and moderation control. Another way -- and moderation control. Another way for criticality to be possible is to lose moderation control and lose poison control on the racks.

A third way for a criticality to be possible is to lose rod geometry control during cleaning. If I look at the controls listed in the example that's put in the draft guidance document, you've got seven different controls. The failure of one of these controls -- in the case of number seven, for example -- can lead you straight through an "or" gate into a criticality being possible.

Obviously, control number seven requires the highest level of assurance. The loss of control number six has to go through an "and" gate to get you to a criticality being possible.

If you just take a very upper tier and say high, medium and low, those would be intermediate level controls.

Then if you look down at four and five, those have to go through essentially two "and" gates before a criticality is possible. In our mind, those require a low level of assurance.

So in looking at the risk and looking at the scenario development, how do you develop these scenarios will tell you what level of assurance you have to apply.

The words we've heard where a criticality control has to be -- has to have the highest level of assurance available, in our mind, doesn't account for this type of a situation. What it says is that numbers one through seven have to have a high level of assurance.

Let me do one thing that might help illustrate this a little bit.

Suppose I had the situation where I didn't model the facility such that if the storage was properly controlled, the geometry was properly controlled, if I lost moderation in that facility, a criticality were possible. That is, you didn't -- I think all our licenses would require us to model it such that if it were fully flooded, a criticality wouldn't be possible.

But if you didn't do that and a criticality becomes possible, that dramatically changes these assurances. Number three obviously becomes high. Number four and five become intermediate. You still have double contingency through that "and" gate. You still have a double contingency situation.

The point of putting this up is not to debate it here today, because I know

we could have a very long debate on this issue and we probably will and we'll need to. This is an area that I think we need a lot of discussion between the industry experts and the NRC experts.

But clearly, in our mind, if you use a consequence-driven approach and say that all criticality controls have to be at the highest level of assurance, then like Charlie said earlier, you're diluting your safety program such that you're taking care of things that are less important and possibly missing the bigger picture to take care of those things that are important.

That's really all I have to say.

MR. ELLIOTT: I am Mark Elliott, BMX Technologies in Lynchburg. I'm going to talk about having the results of the ISA in the license, but, first of all, I want to go back over what we feel the regulation should contain.

One, we feel it should contain a requirement that all licensees perform an ISA, document it by a certain date, using qualified personnel and qualified methods.

We feel like that the regulations should require a licensee to, upon completion of that ISA, modify their facilities and equipment and programs and practices as necessary to provide reasonable assurance that the consequences of concern will not be exceeded.

And if such modifications necessitate a license amendment, then so be it. Get those things done.

We think that the regulations should require that the safety controls be graded according to risk and that would include the rigor of the control, type and method,

and also the assurances of it.

Then we think that the rule should require a licensee to establish and maintain procedures to ensure that any proposed changes in the facility configuration, equipment, programs and practices, are reviewed to ensure that we still have reasonable assurance that the consequences of concern are not exceeded once that change is made.

There should be, in that procedure, also, steps to ensure that the changes are within the umbrella of the licensed authorized activities, and, of course, documentation of this change process should be maintained.

Now, going to the elements of the license, I've got one slide. In the license, we think that the license should commit the licensee to performing an ISA which would include, A, a description of the hazards analysis methods that we're going to use; the qualification criteria of the people that are going to be performing these analyses.

It would describe the areas and processes that were to be covered and it would also talk about the types of hazards that would be included in the analysis.

We would be able, though, to modify the facility's equipment and programs and practices that we have as necessary in accordance with the rule above and in accordance with an improved change control process, and that we would maintain procedures for these types of changes.

Now, as far as where the documentation resides, as you can see from the chart, of course, everything is at the site and available for review and inspection. We would submit to you that the potential accident sequences, items relied on for safety and assurance methods for those items and other things, are more of a performance result that

would be under inspection, but would also be enforceable, and that the ISA summary that would be submitted, available on the docket, would provide enough information to make regulatory decisions in support of licensing activities.

We also feel that the ISA summary that would be on the docket would provide adequate information for NRC to conduct adequate work planning for licensing visits and inspections.

The ISA summary and the other things that are included available on the docket and in the license would provide adequate information for assessment during reporting incidents.

In looking at the proposed rule, it proposes that the accident sequences, items relied on for safe operation, assurance measures for those items, and also there's a category of accidents considered in the ISA, but for which no additional protection was necessary, I guess that's all other accident scenarios, would be submitted on the license.

We surveyed our seven major materials licensees in the fuel cycle area and we looked back last year at our changes and for each licensee, it ranged from about 20 to 60 amendments per licensee per year. They would have to be submitted to NRC for licensing action based on the proposed rule.

Currently, our licensees average about three a year. So in looking at that, we end up with approximately 175 to 420 license amendment requests per year, where there are now maybe about 25, and we don't see any improved safety benefit from all that administration.

That's all I was going to say on that.

MR. SHARKEY: I'm Bill Sharkey. I'm the Director of Regulatory Affairs at ABB Combustion Engineering, in Hematite, Missouri. I'm going to talk real briefly on preliminary ISA.

The new rule, proposed rule, presents new requirements for preliminary ISA, the requirement being to perform preliminary ISAs and submit the results to the NRC before construction of the new facility and process.

The results of the preliminary ISA must demonstrate adequate protection from adverse consequences. In the submittal, you need to include a lot of stuff, including facility description, process description, design information, baseline design criteria. That includes things like QA, fire, explosion, environmental and dynamic effects, utilities, inspections, emergency capability, testing and maintenance of controls.

As an industry, I think we're pretty much in agreement that we don't need -- that we shouldn't need to submit results of preliminary ISA. It represents additional administrative burden for both the NRC and the licensees and we feel that we have sufficient business processes in place. We don't take significant change lightly in these facilities.

We go through, in most cases, risk reviews as part of our business processes. A legal review, financial review, and significant changes get a lot of attention from management and the stakeholders involved.

As far as design criteria, the facilities are subject to local controls and building code.

The inclusion of preliminary ISAs represent a radical departure from the

current practice. Right now, we can build prior to submission of licensing information. In a lot of cases, the licensing work and ISA goes concurrent with construction activity, and that is a good practice.

We typically are in communication with our licensing project managers, the region and the changes we make are typically not surprises, and we describe them as we're going along or as we plan them, and we work out a lot of the details in that less formal way and I think it's worked fairly well in the past.

That's it.

MR. SILVERMAN: Good morning. I'm Don Silverman, and I'm with Morgan, Lewis & Bockius, a law firm here in Washington, DC, and I work with the NEI group on regulatory matters.

I would like to finish up our presentation this morning with just a couple of minutes on the issue of chemical consequence criteria in the rule.

I think this may possibly be an area where we all, in fact, agree, but we just have not communicated it clearly and as crisply as we need to. I'm hoping that's the case. What I want to try to do just in the next couple of minutes is do that pretty methodically and hopefully achieve that objective.

Our basic philosophy on the issue of chemical consequence criteria is that they should conform with the MOU, between the NRC and OSHA, and our traditional understanding of what the NRC's regulatory jurisdiction is over chemical hazards.

If you look at that MOU, what I've done here -- it's actually this quote from the categories of chemical hazards that are discussed in that.

I'd like to walk through each one and talk about how they relate to the language that we see in the rule and the way we interpret it.

First off, the MOU provides that radiation risk produced by radioactive materials is a risk, is a hazard that the NRC properly regulates. We agree with that.

Clearly, though, that doesn't justify -- that particular criterion right there does not justify the inclusion of any chemical consequence criteria in the rule itself. So that can't serve as the basis for the chemical consequence criteria.

The second category of risk which we agree that the NRC is proper -- should properly regulate is the chemical risk that's produced by radioactive materials. That presupposes that you have a radioactive material that in and of itself may also have a chemical risk. An excellent example is uranium hexafluoride.

That would justify the inclusion of chemical consequence criteria for radiological chemicals, but only for radiological chemicals. What we see in the rule is a set of AEGLs and ERPGs, concentrations for the wide range of non-radiological chemicals as consequence criteria. That would not be justified by that particular criterion.

So we go to the third criterion, another area where we agree that the NRC has appropriate regulatory jurisdiction. That is, plant conditions which affect the safety of radioactive materials and thus present an increased radiation risk to workers.

The issue there is that a particular chemical, if present in a certain concentration or if an individual was exposed to that chemical, could affect the safety of a licensed material, could have an impact on radiation safety through its interaction with equipment, with personnel or with materials.

The issue in this criterion, though, is radiation risk. The result -- what -- logically what one should have to address this concern is an identification of those chemical consequences that in a given situation could produce an unacceptable radiation risk. This suggests the consequence criterion -- the consequence criterion that's relevant here is a radiation dose. It's not a chemical risk. So this also we think does not justify the inclusion in the consequences of concern of purely non-radiological chemicals, and there are a wide range of those listed.

Finally, the fourth hazard is plant conditions which result in an occupational risk that do not affect the safety of licensed radioactive material. This is where we think many of the AEGL concentration limits and ERPG concentration limits go to.

This is a risk that the NRC has said is not within their jurisdiction. This is a risk that OSHA and EPA regulate and we think that what's happened here, at least the way we read the regulation, is that by inclusion of purely chemical risk -- pure chemicals that are non-radiological chemicals, in the consequences of concern against which the NRC will regulate, that the NRC -- that the rule could be interpreted to cross over the line and to be regulating this hazard right here.

If there is agreement on those principals, the final point I'd just like to make and then relinquish the floor, is that corresponding changes would need to be made to reporting criteria as well, because many of the reporting criteria in the proposed rule are driven off of the consequence criteria.

Thank you.

MR. FERTEL: That completes our presentation.

MR. SHERR: Thank you. We're even ahead of schedule. My original objective was to try to have this completed by 11:00, but based on preliminary estimates, we thought it was going to take an hour for this presentation.

The next page I guess is where we going to get to exchange views a little bit. Unless anybody feels differently, I suggest that we start by going through the questions that NEI has identified.

Perhaps before we work on each one, perhaps if NEI would introduce the question and then we can discuss it. Some of the information that's been provided in the briefings, I think, helps us already to understand better these questions than we did before.

MR. PAPERIELLO: The matrix, I'm not sure I understand the difference between your matrix and our matrix. You think there is, I can't see it, but obviously you didn't say anything I didn't agree with. I thought that's what we were saying.

In my mind, likelihood is probability. Frequency of occurrence and probability are reciprocals.

MR. FERTEL: I think the difference -- and, again, maybe there isn't a difference between them, but the difference that Charlie tried to demonstrate with the different colors up there was at least the way we're reading the rule, and maybe we're reading it wrong or maybe it's not written as clearly as it could be, is we're reading the rule that, from an NRC standpoint, the whole top line is high consequence and, therefore, we need to spend resources to make all of that low likelihood.

That would mean we spend resources in that top left-hand box. It would mean that when you come down to the second line, they're all considered intermediate, and we would say, no, we think that the box on the far right, the second line, requires more attention.

Now, Tom's picture was very consistent with Charlie's picture. I agree with that and that's what I said when I got up here. We're not sure the rule said that the same way Tom drew it or the same way we drew it. So that's one area I think that you agree philosophically with what we're saying.

MR. PAPERIELLO: I do. I mean, that's the point. I agreed with what Tom wrote and I thought I saw the same thing. Maybe flipped a little, but I thought I saw --

MR. FERTEL: We don't think the rule is that clear.

MR. C. VAUGHAN: I think there is a little bit of a subtle difference. If you look at the NRC's writings and the way they put it, the NRC is using consequence as the thing that is control. The focus is on consequence, irrespective of any particular analysis.

So you kind of have to take what I said and the matrix we proposed and add to that what Steve added that gives you an idea of why we see a difference between the two approaches.

The matrix are similar, but the way we read the rule, it's a consequence-driven approach from the NRC and a risk-driven approach from industry.

MR. FERTEL: Would you treat seven and four the same in NRC space?

MR. MILLSTEIN: I would say that that whole issue is not an issue for the rule. It's an issue that's treated in the SRP; what level of assurance for these controls would be required, and I think that's something that's treated in the SRP.

All the rule does is define what is acceptable risk. For a high consequence accident, the occurrence of a high consequence accident has to be highly unlikely, and then you can grade your controls and you can grade your assurances to make sure that that bottom line occurs.

So I would say the rule doesn't really even address that issue, that that issue is really addressed in the SRP.

MR. PAPERIELLO: Can I make an observation here? Listening to this, it reminds me of the reactor side of the business. The fact of the matter is we right now have an evolutionary conflict.

The traditional method of controlling risk from criticality has been double contingency and it's been something we've grown up with in a whole bunch of processes. It's sort of like building reactors with a very defense-in-depth. It's almost the philosophy of defense-in-depth for a reactor.

We now have, in the reactor space, PRA and reactor space of PRA, defense-in-depth doesn't look the same way as it does. And I have the same problem when I revise Part 63, where we had a deterministic process in Part 60 for each of the confinement barriers to high level waste; a sub-system performance, quantitative goals for sub-system performance.

The new Part 63 will not have that. You will still have to account for it

and explain what it does, but there will be no individual goal.

So it's kind of what we -- we're in the same kind of space right now, at least on criticality. You've got to -- I see that as -- I won't say a problem, but just the fact that we need to understand why we're where we're at, because when you do some kind of risk analysis this way and you do it through double contingency, which is very deterministic, you don't come quite out the same place, and that's what we all need to recognize.

Somehow we're going to have to decide where we're going to give. I love this slide because I think it really is -- well, I didn't see anything I didn't like. I'm just saying I think there's an issue there.

The issue of criticality and where it should stand in risk-based I think is going to involve a policy decision by the Commission, I'll be very honest with you. I agree, you can have -- the fact is the public reaction to an inadvertent criticality at a nuclear facility is going to have to be -- that's part of where -- the Commission doesn't say risk-driven. It's risk-based, they say risk-informed. This is one where they're going to have, I think, to make a decision on where they want the criticality loop in this thing.

The staff made a decision or a recommendation, if you want to say, but I think that's going to have to be a conscious decision by the Commission.

I understand your point, but I also think there is another piece, and that is Congressional and public reaction to an inadvertent criticality. The press is going to say it's an explosion. I mean, it won't -- and, you know, obviously, they come in all sizes.

MR. FERTEL: I guess the comment I get back, although I think you're

right, it's going to be an issue for the Commission. I think the staff may do the Commission better service, but if you don't allow something that's not a risk to the public to be treated like a real risk to the public, I think that's part of the problem we have with nuclear energy today is that we've created a perception that anything that happens at a power plant or at a nuclear facility poses a risk to the public.

One of the challenges we in the industry have is to make sure those things don't happen. One of the challenges you as regulators have is to stand up tall when things happen that have no risk and say that has no risk; maybe it shouldn't have happened, but it has no risk.

MR. PAPERIELLO: Right. As I have said in some presentations I've made on the -- on radiation health effects, there is a difference between risk management and a risk assessment. And whereas I might agree with you on risk assessment, I'm not quite sure where the Commission comes down on the risk management side.

I understand. I think the purpose of some of the -- some of the things in this meeting I think we may not resolve our differences, but they will sharpen the decisions the Commission has to make.

MR. SHERR: If I can just add on that, along the same lines. In the course of developing the criteria in the rule, one of the questions that we addressed early on was to review a criticality incident by consequence event like any other radiation exposure. That would be fairly treated the same.

The general notion was that criticality is such a charged situation that -- it's something even more than the fact the -- it's this nuclear explosion happening at a nuclear

facility type thing and they'd be more political than technical.

So I think the suggestion is, well, maybe we need a good look at that and clarify how important this is and I think the -- my perception, and Tom can address this better than I can, the example on that -- it's Steve's example, the presentation, but this was specific to the double contingency requirements of the SRP for criticality.

But those same requirements don't apply to other high consequence events that need to be protected against. What I sense from Steve's presentation is why don't we treat criticality the same way we treat other high consequence events.

MR. SCHILTHELM: Let me address that. I am not suggesting in any way, shape or form we abandon double contingency. It's worked for this industry for a long time and to simply abandon it because ISA is a new sexy buzz word I think would be a huge mistake.

What I was suggestion is that given criticality is a high consequence -- now, that debate can go in whether it is or it's not -- but given that it is, all criticality controls are still not created equal, as demonstrated by this chart.

MR. PAPERIELLO: I would say based on your presentation here, assuming all this is -- I would agree and I would agree.

MR. COX: I would like to just offer the staff's reading on double contingency here to show you that I think we're probably more in agreement than you believe.

You've said this a couple times and I would acknowledge or I'd like to say that the staff does not believe that every single control on that picture, one through seven

is the way I think you characterized, it should be the highest quality reliability, whatever.

What you've shown here is the value of doing fault trees to really look at an accident in series, a number of accident sequences, and really understanding the risk of your plant.

I'm not suggesting either that this has to be done, but you have very clearly shown all that's really involved in proceeding to a criticality in this particular situation.

The double contingency principal and tradition is not nearly as sophisticated as this. What you're talking about with double contingency, and you can read this in the ANSI standard, is two events, not necessarily control failures, but two events must stand in the way of a criticality.

Those two events are the top two left-hand rectangular boxes or the right two or any other combination of two boxes that are directly in front of the criticality event and the controls behind that or below that in this diagram lead up to those events and are really multiple controls behind arriving at the event, which is loss of geometry control and loss of moderation control.

That's where we apply the highly unlikely is right at that level there.

MR. SCHILTHELM: This is not the place to debate this, Tom, but the things that you are receiving 91-01 reports on are those circles. In our case --

MR. COX: I really can't sit here and defend --

MR. SCHILTHELM: So I think we do have a clear misunderstanding of what the control is. In our mind, the circle is the control and that's what we're applying the assurances to to protect against.

It sounds like, in your mind, the rectangle is the control.

MR. COX: We're applying the ANSI standard on double contingency, which doesn't speak to all of those controls behind. It speaks to two events in front of a criticality. That's those two events that are below the "and" gate there.

MR. SCHILTHELM: But this is --

MR. COX: And then we'll talk about the value or the quality and the reliability of the controls below those two boxes, and there may be room for negotiation there.

MR. SCHILTHELM: Clearly we need a lot more discussion on this topic and we need it not between people like you and I, but between our experts at home who can really discuss this issue. So I would propose this as a prime topic for a workshop simply on this topic.

MR. COX: We think when people really understand what chapter three about the ISA says and what the staff intends it to say, that this will all become much clearer. But this is a valuable diagram and I agree with Carl. It's a good teaching aid.

I do think that we will -- I think what we're really saying is we're standing behind those two rectangular boxes or any combination of two of those boxes at that upper level and saying that's what is directly in front of your criticality event and that's what we must have double contingency on and that's what we want highly unlikely failure at, is at those boxes.

MR. SCHILTHELM: Again, I hate to belabor this, but in your example, box number seven over there is in your example and it is not what you just said it is, it is

not doubly contingent.

MR. COX: But you do have a direct line there, too, also. That seems to be on a direct path up to the criticality, not going through any other gates.

MR. FERTEL: The highest risk point.

MR. COX: Yes.

MR. SCHILTHELM: And the example you just described would not be a doubly contingent situation, but it is in the example in the draft ISA document.

MR. COX: Okay. Well, I'm not sure just what -- we'll have to talk about that and look at it.

MR. C. VAUGHAN: While we're on the subject of criticality safety, let me just make one observation. It seems like, to us, and this may not be true, but it seems like, to us, that there is a perception that if you -- in a double contingency situation, and I'm talking up at the -- either at the level that you're talking about or down at lower levels, if you lose a control, if you lose one of the barriers or one of the parameters, the perception seems to be that a criticality is eminent.

I don't know whether that's true -- a true feeling or not, but that's the way it feels on this side of the fence. And some other -- I think we could probably have some discussions about that, because if you look at the definition of double contingency and then you add to that the conservatism in the rules of engagement for doing criticality analysis and all of that, you're really -- you're outside the ground rules that we've all said is the way you're going to play the game. So you committed a foul, but that doesn't necessarily mean that a criticality is eminent.

In fact, that's the reason we designed things the way they were, to make sure, if you did commit a foul to the ground rules, you were not in eminent danger.

That's just a feeling that we have looking at this.

MS. TEN EYCK: When you lose one of the double contingency controls, it puts you in kind of an off-normal situation where the potential for criticality is greater, and that's when we want to be advised to know that this has happened so that we can be more sensitive to the situation.

I think that's what we're saying and that's what the intent of 91-01 was, to have those types of events reported to us, where prior to that, the only time we would have been notified is that you actually had a criticality.

So I think that what we're doing is just saying hey, you're in an off-normal situation, where you've lost one of your controls that makes the probability greater, then some type of criticality could occur, and that's what I think our square we're coming from. Not that if you lose one control, that a criticality is necessarily eminent.

MR. C. VAUGHAN: I agree with what you're saying, even though we're not totally in love with reporting, but we've gotten pretty good at it. But there begins to be questions about, well, the reporting is becoming more frequent and does that mean the plant's operations are getting less safe, and there is a certain degree of added pressure put on the safety system when something goes to an off-normal condition, no question.

But, I mean, we all have reactions to that that will mitigate those kinds of situations, but it just seemed to us that the general feeling was that if you went outside the ground rules by one of those losses, that there are a lot of people that believe a criticality

is eminent.

MS. TEN EYCK: I would couch it more in the terms that the NRC, the antennae goes up at that point.

MR. SILVERMAN: Back on the question of risk versus consequences, generally. I thought it would be useful. We keep saying, well, we don't read the rule the way you read it. I think it's incumbent upon us to point out the language to you that we're concerned about, because it may just be a problem of misinterpretation of clarifying some language.

There's a few places, but most of it's in 70.60 and in particular there is some language in 70.60(c) and if I can just read a short portion of it, it says "The application of a graded level of protection must assure that the occurrence of any of the high consequences identified in paragraph (b)(1) is highly and the occurrence of any of the intermediate consequences identified in paragraph (b)(2) is unlikely."

That doesn't say the identified -- the occurrence of a high risk event. It says if you have this high consequence event, you must protect it at the highest level of assurance. If you have this intermediate consequence event, you must protect it at the next highest level of assurance.

That's the way we read it. That may not be the intended result, but it appears to us to be language that suggests a consequence-driven approach as opposed to a risk-driven approach, and there is some other language in that regulation, too, that creates what may be just confusion, in our minds.

MR. FERTEL: It's coming back to the fact that criticality is defined as

high consequence. Our reading say we need to treat everything across Steve's diagram there the same way, which we don't think is appropriate and we're not sure you need.

MR. MILLSTEIN: Again, all we're trying to do at this point at that point in the rule is to define what we mean by acceptable risk; that every high consequence accident has to be made highly unlikely, and that is what the standard will hold you to for those kind of accidents.

You have to provide a level of assurance, a level of protection so that the risk is acceptable, and that's how we're defining acceptable risk.

MR. FERTEL: Let me just test that with one of our other questions here that goes towards -- within the SRP. Now, I'm an NRC staffer and we haven't changed the word in the SRP. Let's assume it's just the way it is, which we think is very prescriptive on programmatic requirements for, quote-unquote, high consequence risk.

That would say to me potentially that for every picture up there right now, for every path, I'm putting an NQA-1. I'm doing a systematic approach to training for my training of workers in each one of those areas, or I'm justifying why not.

MR. MILLSTEIN: The rule says that you can use a graded level of protection to make sure the bottom line is that the likelihood of a high consequence accident is highly unlikely. You can use a graded level of protection. It doesn't say you have to use the highest level of protection.

So you could easily use different levels of protection just to make sure that that particular accident, that high consequence accident or criticality is highly unlikely.

MR. FERTEL: So what you're saying is just that I could have a different

approach to paths four and five versus path seven.

MR. MILLSTEIN: Right.

MR. FERTEL: That's probably not clear to us in your write-up.

MR. COX: If you had four or five controls in the line to a box that was supposed to be highly unlikely, like one of those boxes near the top, lose geometry control, if you can make that highly unlikely, with several controls in front of that, as seems to be the case, perhaps not each of those controls would have to have the assurances required by the phrase highly unlikely.

When something has to be highly unlikely to fail, like a particular control that has to be highly unlikely to fail, that it would require the top level of assurances.

If this could be designed to be used at a lower level than highly unlikely to fail, which is essentially a T with a minus five or somewhere in that range, then you may not have to have that control really highly unlike to fail.

MR. SCHILTHELM: Tom, let me ask you a question, and you may just be mixing terminology. Losing geometry control only needs to be unlikely. The criticality being possible needs to be the highly unlikely consequence, according to the rule. Is that true?

MR. COX: That is the way the rule reads, I guess. We just read it, didn't we? The occurrence of any of the high consequences is highly unlikely.

MR. SCHILTHELM: You were saying losing geometry control needed to be highly unlikely, and that's just simply not true.

MR. COX: I did say that the double contingency principals require that --

well, actually, I guess the way the rule is written --

MR. SCHILTHELM: Requires losing geometry control be unlikely.

MR. COX: It would be unlikely.

MR. SCHILTHELM: Not highly unlikely. That's right. The use of two controls renders the final event highly unlikely.

MR. COX: That's right. In fact, you've even made the point for me, I guess I misspoke it. That box there is only unlikely, one of those boxes, not highly unlikely, but it requires going through two of them to get to the criticality.

MR. C. VAUGHAN: Let me just mention one other thing that may help us as we go through this. It's clear that the NRC probably focuses up at the loss of geometry, et cetera, at that level. If you think about us poor plant people, we have to deal with the circles because we have to maintain configuration, we have to do calibrations, we have to do maintenance and training and all of that.

And so our world of day-to-day operations to keep us safe requires us to work with the circles. So when we have these discussions, we need to think that the operators' interest and the NRC interests may be at different levels in this overall scheme of things and think about how to communicate better in that environment.

MS. TEN EYCK: I'd just like to pick up on one thing that you mentioned earlier also, that the different programs that you would have to apply NQA-1 and everything.

Basically, the intent of the rule was that you identify the controls and then you identify the program or the measures that would be necessary to ensure that that

control remains available and reliable, and then you grade that based on the significance of that control, whether it's a high or intermediate type of control.

So this reference to NQA-1 all the time I think is not really appropriate. It's going to be graded.

Now, what we did, and I think Tom mentioned it on the SRP, is that what's in the SRP is the higher level, the higher protection level. It gets graded down from there. But because we couldn't anticipate all the circumstances, we couldn't start grading all of these controls.

But from a guidance point of view, that was intended to be like the high level of protection and things would be graded down from there based on the significance of the control.

Now, is that a -- is that how you all perceived it? I'm still trying to understand exactly where -- what your perception is of how all of those programs that are in Chapter 11 would apply and not that they all would apply, and some of them would apply if it was like an engineered control and other ones might apply to a more administrative control, where it depends upon the human to do a particular function and we're looking at his reliability to assure that he's there to appropriately do the control.

MR. SCHILTHELM: I think during discussions, Liz, we're in complete agreement with what you said. Much of our problem is with what we read, not what you guys say.

If you look at the QA section of the standard review plan, the first and only measure of acceptability is NQA-1. It goes on to say some other things, but remember

people ten years from now are going to have to interpret that standard review plan, as well as those of us sitting here at the table today, and that's really our concern.

MR. COX: Perhaps we can all find phrases that support our particular positions, but what I'd like to point out, for instance, at the very beginning of the QA chapter and at the very beginning of the acceptance criteria part of the QA chapter -- in fact, it's on the fourth page of the -- of what admittedly is a lot more pages than four -- it says a sample check list for evaluation of each of these QA elements is contained in this appendix and the -- now, here is the next sentence. The attributes listed in the appendix for each topic are applied collectively only for accident sequences that run the highest level of risk.

Lesser QA requirements may be affected by modifying or eliminating some attributes from selected topics. These kind of things are in almost all of these chapters and it's this approach, this concept, this philosophy is expressed in the introduction to this whole document.

MR. FERTEL: Again, I think Steve couched the right comment. I think in the discussions there is probably good agreement. I will go back to what the current EDO said in the meeting we had after the August briefing. My recollection, and this is not verbatim, but it's pretty close, and we had the same discussion about the inclusion of prescriptive programmatic requirements in the SRP, and staff said that, well, this is just guidance to the NRC, it's not requirements on the licensee.

My recollection is that what Joe Cowan said was, look, we all know that what's in the SRP becomes the minimum hurdle that licensees have to get over when they

bring this stuff in. Unfortunately, that's our experience in general as an industry.

So if the same people in this room were doing the same job, confidently working with us, it may be okay. But five years from now, when those words are there, the simplest bet, and this is the way it's worked when you're on the other side, is you submit your proposal and what you get back is justify why this isn't doing what this SRP wanted as the hurdle which would make me very comfortable as a reviewer it satisfies A, B, C, and D.

So that's the sensitivity on our side.

MS. TEN EYCK: But this is safe to say, I think, that that perception was on a standard review plan that necessarily wasn't based on a graded approach. I think we went to efforts to try in chapter one to talk about the graded approach and how things would be graded, which is a little different than I think at least, and I'm not that familiar with all the NRR standard review plans, but I'm not sure that this graded concept has been around that long that it could be -- that it should be interpreted that that same standard would apply to this SRP when this whole graded concept we're trying to introduce at this time in Part 70 with the standard review plan.

MR. FERTEL: Your comment is valid, Liz. We clearly don't have a track record on a graded approach. So it may be inappropriate to assume the same kind of experience, but that's what caution would tell you.

And I guess our inclination would be to be less prescriptive in your SRP. I mean, first of all, we're honestly talking about until you get new facilities, we're talking about a number of facilities that you just relicensed without any of this. Right?

So, I mean, you've made very definitive regulatory decisions without a volume this thick of detailed requirements for the reviewers for the facilities that are currently operating.

I recognize we may get some new ones and we may get some new DOE facilities. I guess our feeling would be it's riskier, from our standpoint right now, to trust implementation of the graded approach that has no track record than to put a bunch of -- have not a bunch of stuff in there and use the good judgment of reviewers that you have using good sense and some guidance without it saying, okay, here is the hurdle for, quote-unquote, the high consequence or high risk events.

I think just our discussion on this picture would lead us to, okay, which of those do you justify you're not going to the top of the bar on. I think that what Steve's picture would show there is that there is only one that pushes you to the top of the bar and then there are others that you'd come in with something that's different, and whether the top of the bar was even -- and we're picking on NQA-1, we probably shouldn't.

At the top of the bar, there may be not NQA-1. It may be something else that they think is consistent -- I mean, a QA program at a facility can't be I'm going to use QA program A for this process and QA program B and QA program C. I'll have a QA program within which I will grade.

So, again, I think your comment is very appropriate, very insightful. On our side, we're going to learn how to implement and on your side you're going to learn how to regulate this graded approach and I kind of hate to say that maybe less specificity is better, but it might be true for a while until we all shake out what we're doing.

Again, I think the risks are relatively low from your standpoint because the risks from a public health and safety standpoint with facilities are clearly low and they're known entities.

So maybe we need to walk in this process before we get too robust.

MS. TEN EYCK: Well, one thing that I think you might be interested to know is that as we were directed back in 1994 time-frame, four or five time-frame, or even maybe '93 time-frame, by the Commission was to proceed through license renewal at the same time we were developing Part 70.

And this SRP didn't develop overnight. I mean, basically, we used this and it was being refined as we went through the renewal process that we've just completed with the major fuel facilities.

So the fact that you're saying we should really -- that this is too prescriptive, we need to look at -- you know, base it on some real-life situations.

Our licensing renewal process during the past five or six years, that where we renewed all your licenses, this was a document that was being refined at that point.

MR. FERTEL: Speaking now not as a licensee, which I can do easier than any of them, I had the pleasure of this fortune in the early stages after the Bernero report of looking at how the SRP was going to be developed and had the pleasure of spending lots of days out here at White Flint, presenting industry views on various sections of the SRP, and I think that we still had every one with the same statement; this is way too prescriptive, here's why.

That clearly had very little impact, I think, and probably had very little

impact during the license renewal period.

As everybody here knows, when you're in license renewal or any licensing activity, getting licensees to agree to things and imposing things is probably the easiest thing in the world. It's the nature of the beast that I want my license.

I think that we've seen a bunch of folks implement ISAs because they think it's a good idea, but they probably implemented them a lot quicker than they would have in regulatory space because they wanted their license renewed and it was imposed as a license condition.

So I'm not sure that I would subscribe, and I don't want to put the licensees on the spot on this one, that the SRP was shaken down as part of the license renewal process. It may have been used. I'm not sure it was shaken down as a truly, really effective regulatory document. I think it probably still can be shaken down some more through just the questions we're raising now.

MS. TEN EYCK: We totally agree. That's why it's draft and it's a living document. I think it will be refined over time as we gain more experience with it, but it's just a question of the level of detail from our perspective. Really it's an NRC document to give our license reviewers guidance and if anything, it's focusing them on the areas that they're going to be looking at and reviewing.

I think it's a tool to you all to let you know the types of issues and areas that we're going to be looking at. So if anything, I think it's more restrictive to us than it is to you all as far as different things that you can propose. At least you're knowing what we'll be looking at and the areas we'll be focusing on.

Anyway, I think we've probably beat this horse to death. Are there other comments on the SRP?

MR. COX: I would just invite Marvin and folks to be particularly specific in how you would suggest this thing be different, rather than just saying it's too prescriptive, say how it ought to be, in your view.

MR. FERTEL: I think that's a fair comment, Tom. As I stated when we started the discussion, we weren't going to discuss the SRP in depth today. We were really here to talk about how we saw the rule implemented. We obviously can't separate the two because there's a true linkage, but we weren't going to and sit down and go through each of them.

I think that's a good subject for another sit-down-roll-up-your-sleeve-go-through-it and that could be very productive.

Ted, if I could, maybe a subject that we could actually -- this is optimistic now, before we break for lunch, would be to pick up on what Don said when he did the chemical hazards. I mean, my sense is we actually are all in agreement on that, but I'm not sure that we've ever said it that we could truly agree that we are in agreement on that.

So maybe talking the chemical hazards, if you want to, would be a good one before lunch, because I think it might be one we actually truly do agree on.

MR. PAPERIELLO: I would say, speaking for myself, I do. I didn't think we were ever going to be regulating the occupational risk to workers from chemicals that are not involved in nuclear processes.

In other words, the statements, as written, I can agree with. The last one I

don't think is where we ever expected ourselves to be.

I don't know, from the viewpoint of the Commission -- let me give you an observation. One of the things that drove us into this was the release of oxides and nitrogen from the Sequoyah fuels. So I would take the position we would not be -- we were involved with that and there were a lot of disagreements within the Commission on that particular event, on where the agency ought to be.

I think it would turn out that if we are now taking a position that we wouldn't be involved in that and I think I'd like to make sure the Commission agrees with that, because I wouldn't want us to get out and then have an event occur and get back in again.

But I think -- and, again, I have a note here to address this with my attorneys, one of whom is here, about what we -- about our jurisdiction and things like that. But I would assume that we're not involved with -- it would be much along the same line as you have other industrial hazards at the facility that we're really not involved in, per se, unless it would involve upsetting some nuclear processes.

Obviously, you have electricity, you probably have opportunity for people to fall, ladders and all the rest of that sort of stuff that we don't get involved in.

But I think in principal, I would agree, and if, in fact, it's not clear in the rule, I think that we ought to make it clear.

MR. MILLSTEIN: One thing I noticed in the NEI petition, you proposed a criteria for HF, for a concentration of HF. I mean, we extended that to other chemicals, but basically we felt that the same logic was applying. HF was released because of a

release of UF-6 and UF-6 reacts with water to produce HF. HF is not a radiological chemical and yet yourselves decided that that was an important element in your petition.

So my question to you is why isn't it reasonable to consider other types of chemicals that are produced in the processing of special nuclear material that could be released that could harm the worker or harm the public.

MR. FERTEL: As Don walked through, for all the nexus where it has some nexus to radiation safety, we don't question either doing it or having NRC responsible for it. In fact, we'd say that's better. We know who we're working with and you ought to do that.

I think that on the issue that we're talking about, the rubber sort of hits the road on what Don talked about up there when he said why do we have pure chemical consequences as part of the consequences we're worried about, and that would be the question.

MR. MILLSTEIN: The question is what do we mean by pure chemical consequences. What we said in the rule is that we're talking about chemicals that are produced or used related to the processing of special nuclear material. That's the context of what our regulation of chemicals is intended to apply to.

MR. FERTEL: Don, maybe you ought to put your thing up again, because it really, in all cases where it has impacts --

MR. SHERR: Can I interrupt? As a matter of full disclosure, the fact is that the rule does deal with direct chemical effects, whether rightly or wrongly, it does.

And basically the context of that is in Section 70.60(a), where it says the

draft proposal -- just as -- consideration must be given to radiological consequences from all causes, including those from fires and hazardous chemicals, which there is no disagreement on that, and those chemical and environmental consequences have to result from the processing of special nuclear material.

Now, it's in this last category that we have a number of cases and we have identified basically there are three different cases in that category. One is the chemical toxicity of the NRC licensed material itself, which is the example there with the soluble uranium.

The next case was the Sequoyah type incident, where the chemical reaction to NRC licensed material caused the HF release and it's protecting against that type of thing.

And the third one, which is the most controversial, and also the one that is the broadest interpretation of the MOU criteria or conditions, is the direct chemical consequence of hazardous materials used in the process in the special nuclear material.

An example was that this might include the release of toxic ammonia used in the process. So the general concept of the rule was that if it's used in the process of the NRC regulated material, then you're protecting against those consequences.

MS. TEN EYCK: Also, I think it's important that it's the impact that those chemicals could have on the operator and affecting his ability to safely handle the nuclear material. So if the operator is used as an administrative control, then an effect of a chemical that could impact on his ability to reliably do the job --

MR. PAPERIELLO: Could we put the slide up?

MR. FERTEL: Again, it's one of these things, I have two and I like them both.

MR. PAPERIELLO: Let me ask -- I'm going to ask my own staff. Do you agree that that last line is not in our jurisdiction?

MR. MILLSTEIN: Yes.

MR. PAPERIELLO: I even see my attorney nodding. We agree. We've got something we can agree on.

Let's take a look at what's in the rule and see where in the rule we cross the bounds that we seem to agree on.

MR. SILVERMAN: Can I take a crack at it? It's not all as clear as it should be, but there is language that says each licensee shall protect against the occurrence of the following high and intermediate adverse consequences. Now you -- and you look and you cite through the ERPGs and the AEGLs.

There are a large number of chemicals listed there such as sulfuric acid, trichloroethane, chemicals that you may find on -- possibly on one of these sites, but, one, they don't produce a radiation hazard; two, they -- so that they don't fit the first bullet. Two, chemical risk produced for radioactive materials. They are not radioactive.

Three, plant conditions which affect the safety of radioactive materials and thus present an increased radiation risk, key word. That trichloroethane, that sulfuric acid could interact with equipment or personnel in a way that produces a radiation risk that is unacceptable. We agree with that.

The result of that should be the consideration of that interaction of that

chemical with the processes and the people and its impact on radiation safety, not on chemical safety. Yet, will it prevent that operator from manipulating controls that will preclude a release of radioactive material.

That drives you back to your dose criteria, radiation dose criteria or your criticality criteria. But having it there as a -- having that chemical, having that pure chemical there as a consequence of concern, in and of itself, puts you in the fourth bullet.

MR. MILLSTEIN: But it's only a consequence of concern if it results from accidents involving the handling, storage of processing of licensed special nuclear materials. So if that chemical is used in -- let's say -- which example, trichloroethalene, was used in the process, you added it into the process, you're processing special nuclear material, and it escaped.

Now, would that be covered -- that's what we're interested in, in having it covered. Not --

MR. SILVERMAN: I would say if that chemical -- if, through an analysis, you showed that that chemical didn't jeopardize radiation safety, directly or indirectly, the ability of the operator to perform his function, the integrity of the tank that has radioactive material in it, and the fourth bullet, and it's not within the NRC's jurisdiction. That's what we're saying.

MR. FERTEL: Let's say we had a storage tank of this material back on the back 40 at the site, no where near the -- you had the radioactive material for the people that were operating the plant. Should it be regulated by NRC?

MS. TEN EYCK: No. I think that we're expecting you, when you do your

own hazards analysis, to determine if there are chemicals in the general area of where nuclear material is processed that could impact on the reliability and availability of the workers, because it's really the impact of the chemicals on the workers that are the biggest concern here.

And if it's on the back 40, then that's not something that we're concerned about. There may be better words of saying that, but that was the intent of the words here.

MR. MILLSTEIN: It's clear you don't believe the word intent.

MR. FERTEL: Even what Liz just said I think is sort of off of where Don was trying to take the discussion, because it's not -- I mean, I'm not saying we sacrifice the workers from a chemical standpoint, but from an NRC perspective, you ought to be looking at the impact on the worker from a radiation safety standpoint.

So if I cause a worker to get deathly ill or sick or something from a chemical standpoint, but he has no nexus to operational safety, radiation safety, it's a serious problem, it's an EPA or an OSHA problem, it's not an NRC problem.

MS. TEN EYCK: But I didn't mean the general worker. I meant the worker that was relied on as an administrative control to do a function where his available reliability is critical.

MR. MILLSTEIN: But may he doesn't rely on it. Maybe HF release from the reaction of UF-6. The worker is not relied on for safety in terms of radiation, but he gets a dose and is killed. That's chemical risk produced by radioactive materials. You would agree in that sense.

So it's the fact that the chemicals that are added to the process, not necessarily produced from the process, that you would not include that category.

In other words, suppose you were processing special nuclear material with HF or adding HF into the process and then in that process, it gets released and kills the worker.

The worker doesn't have anything to do with radiological material. It just kills him. That's something NRC should be concerned about.

That's what these regulations were -- that's what we were intending.

MR. PAPERIELLO: There is -- you know, as I said, I agree in principal with what you have here. I think we're going to have to give this -- clearly the Commission is thinking about this one, too, because we've got to turn around and there are concrete events that led to where we are now and the Commission has to make a decision whether or not they -- and of course, they'll get legal advice from OGC on what our actual jurisdiction is in some of these things.

But I think generally I would say I agree with what you have up here. The bottom line is not our issue. Now, the question is two things, how do we put the wording in the rule to make it clear that that's not our issue. I think we've even had counsel acknowledge that's not our jurisdiction. And, two, get the Commission to understand what we're agreeing to, and this is where -- make everybody understand this is where we are, because I think that's really going to have an issue.

I think if you did have a container of chemicals on the back 40 and something happened and a worker got injured or killed, we would be pretty comfortable

that's not our jurisdiction.

I think the thing that's going to get trickier is if I have a nuclear -- a process involving nuclear material -- in other words, I'm -- you used one thing right now, uranium hexafluoride. And the material gets loose and a worker is killed, not by uranium, but by the hydrofluoric acid that is produced when uranium hexafluoride hits the air, it would appear that's not ours.

It may be a consequence.

MR. FERTEL: It is ours.

MS. TEN EYCK: It is ours.

MR. PAPERIELLO: All right. Okay.

MS. TEN EYCK: And the thing is, what the rule tries to articulate is that these words are right out of the OSHA MOU. This is the way that we have been interpreting those words and so what we tried to do was to represent that interpretation in this rule.

Now, there may be better ways of saying it, but that was the intent that we were trying to implement the OSHA MOU.

MR. PAPERIELLO: That's what I want to get at. If you believe what we have in that rule, proposed rule, doesn't do this, then I guess I would like the counter proposal. I'm serious. Where we thought we were and where you think we are aren't the same thing, and I think we both -- I think the one agreement we have is we both want to be in the same place.

That's why at the Commission meeting you saw me nodding my head. If

somebody thought we were there, I wasn't there. I didn't think I was there.

MR. TREBY: I'm just wondering. Is one of the problems the distance on the page between the introductory words and D, which says accidents involving the handling, storage or processing of licensed special nuclear materials, and then you don't get down to the chemicals until it goes down to C?

MR. SILVERMAN: That may be part of it. That may be part of it, but I think part of it is the use to which the chemical concentrations are put in the listing of the RPGs and AEGLs. We need to clarify what you do with those concentrations.

They are listed as consequences of concern now, saying some of them shouldn't be, many of them shouldn't be consequences of concern in and of themselves.

MR. FERTEL: Why don't we take Carl's suggestion? I think we actually are in agreement on this, and maybe even have the words written so they're right from your perspective and you understand them.

We're clearly not reading them exactly that way. So why don't we come back with some suggested rewording rule and SRP-related and see if we can't get to the end point we all agree to on this one.

MR. PAPERIELLO: Can we get copies of these slides?

MR. SHERR: That was on my list, too, to request -- if you give us one copy of the slides, we'll have copies made. If we can do that over the lunch hour, we'd be happy to do that.

It's now 12:00 and we will continue our Q&A at 1:00, unless there is something that needs to be dealt with in the meantime.

Thank you.

[Whereupon, at 12:00 p.m., the public meeting was recessed, to reconvene at 1:00 p.m., this same day.]

AFTERNOON SESSION

[1:10 p.m.]

MR. SHERR: It looks like at least some of us have survived lunch. We don't have any breaks scheduled for this afternoon. That may change the pace just a bit.

On the other hand, if we get to a point on the agenda where it's decided we need to take a break, of course, we can always do that.

Let's hope that we can conclude our discussions early enough that that won't be necessary, but we're flexible.

We ended I guess discussing and asking clarifications and making comments on various things that were talked about earlier. We can continue that mode for a while and then invite Mark to then identify which of the questions that NEI has identified that we'll still be looking for input on.

MS. TEN EYCK: I have one area that I would like to follow up on so that we have a clear understanding of what the issue is so that we can work towards improving it.

One of the comments that's been made today and also was made at the Commission meeting was the reference to NQA-1 and that the SRP is maybe too prescriptive. The SRP in this area, in the chapter on quality assurance, says that the applicants should refer to the American National Standard Institute/American Society of Mechanical Engineers Standard ANSE so and so, NQA-1, which provides requirements and guidance for such facilities; also, some guidance may be inferred from Rev 3 of NUREG 1200.

Let's see. The standard review plan from review of license applications for low level radiation waste disposal facilities section so and so.

Now, I guess my question is that we had tried to address acceptable standards that had already been developed by industry or NRC, whatever, that may be applicable to our activities.

I guess my question is with reference to that we're too prescriptive. Is your concern that we're being too prescriptive in providing or identifying as potential regulatory guidance specific standards that deal with the topic or is your concern that the regulatory guidance that is identified, that the level or standard is too high.

So I guess my question is are you saying from your concerns that we're too prescriptive, is it that you don't like us to reference available guidance documents that they have and applicability on the area or that you don't like the references that we identified, and maybe the standards are too high?

MR. FERTEL: Yes.

[Laughter.]

MS. TEN EYCK: Yes to which question, the last one or the first?

MR. FERTEL: I think I would say a couple of things. It could be and certainly is that the standards in -- let's take NQA-1 or let's take systematic approach to training -- maybe way too high for certain of those fault tree paths or sequences or controls that we need.

So clearly it could be too high. Too much for what's required for a particular application, and that goes back to your graded approach and what can you do

with it.

I think the other two aspects, to answer the question, would be the fact that you must have a QA program is clear. The fact that there are lots of ways to implement QA programs, whether it's through NQA-1 or what you have for low level waste facilities or what cockamamie stuff we do for Part 50 facilities in Appendix B, there is all that stuff out there.

It would seem that an applicant or a licensee would come in with what they're proposing to do and justify it.

MS. TEN EYCK: And we totally agree with that. But I looked through this entire chapter and that's the only place I can see the words NQA-1 and it was just identified as a regulatory guidance document and some of these topics, there aren't a whole lot of industry standards and whatever.

So I think what we were trying to do was at least reference documents that address quality assurance so that the industry could look at those and see what was there and then determine what the applicability of it was depending upon what the control was that you were addressing.

MR. C. VAUGHAN: I think we generally don't mind industry standards, as appropriate, being called out as guidelines. I think that is reasonably consistent with what we'd like to see.

My perception of what's wrong with NQA-1, every time we see it, is our facilities and the risks associated with our facilities just don't drive NQA-1.

Now, I know this rule is written for several different kind of facilities and

you may have some in mind where NQA-1 is required, but we react very violently to the idea that NQA-1 should apply to our facilities.

In fact, we think that quality assurance is not as important as just simply assurance that these safety systems will respond if they're called on to respond and our perception of how to get that is through an assurance program, not just a quality assurance adder.

Now, I know that may be a crazy semantics answer to the question, but we're really focused on assurance that these systems work, not all the bells and whistles of a quality assurance program.

So that, I think, is, in part, the reason you're getting the reaction from us.

MS. TEN EYCK: I would just like to specify that we're not mandating an NQA-1 program. I think this was really only put in here as to -- to give the reader a reference of guidance that I understand was developed with industry participation that would address the topic of QA and not that we're requiring the specific contents of NQA-1.

MR. FERTEL: Again, it may be a sensitivity on our side to the implication of being mentioned as a requirement. I think even the way Charlie just used it in his discussion, he said NQA-1 is part of the rules. It's not part of the rules. It's part of the SRP.

So it's not part of the rule-making process, per se. It's not in the rule, in 10 CFR 70. It's part of an SRP and yet the way Charlie even used it in his context was he was taking it this is part of a rule requirement almost.

Again, the sensitivity I think that we would have is that if it is going to be part of the rules, we ought to debate it in the rule-making process. If it's not, then we probably shouldn't impose it through the SRP. And I think what you're saying, Liz, is it's not an intent to impose. It's an intent to offer examples of vehicles that could be used.

MR. C. VAUGHAN: In fact, I will just comment that if it were portrayed in the SRP with the words that you used just pretty well to define it, to put it in the right context, it would be a whole lot more clear to us what was intended there than it is the way it's worded now.

MS. TEN EYCK: Okay. We'll take that for input, thanks.

MR. TREBY: I wonder if I could just follow up, because you've used the term that the SRP is too prescriptive and maybe it's a matter of defining our terms. Prescriptive, at least to me, means there's too many details, too many steps or something that you might have to follow. Now, you may not mean that. What you may mean is that -- because my understanding is that licensees like to have certainty and have some sort of detail so that there is no question as to what the requirements are.

What you may be complaining about is that there are examples, such as the one we've just talked about, where you think that there is, say, perhaps a new standard being raised or that's not either in the rule or something that you haven't used before, and that's what you're referring to when you say the standard review plan is too prescriptive.

MR. FERTEL: I think you're right. I mean, obviously, you always walk this line about wanting clarity in the requirement without it being definitively locked into concrete that you must do X.

But, I mean, NQA-1 is a good example and the way Liz characterized it may help deal with it, but a systematic approach to training is used in there. We would look at these as new requirements, as things that plants are generally not doing that way.

Now, they do it when they think it makes sense, but it's not like the accreditation program that we have for our Part 50 licensees and we've all gone through a systematic assessment to training as part of our program.

So I think you probably are characterizing it the right way.

MR. SILVERMAN: I agree with that. I think that there are a lot of examples in the ISA where there is a -- we won't call it a requirement. We'll call it a goal, a notion of what's acceptable for a wide range of issues, quality assurance training, decommissioning, maintenance.

Where if you read that goal, that objective, it creates an expectation on something that doesn't presently exist at these facilities now. It's new. It's a new substantive objective or goal.

The NRC has done a good job of explaining their basis for the rule-making on we need to have an ISA, we need to have a graded approach to safety, we need to have consequence criteria that makes sense. Excellent job of explaining all that, but what's here in the SRP is a whole set of new expectations that aren't really explained and justified.

And I think that on a case by case basis, a number of the companies might say -- take a given case -- we've done our ISA, we've found a problem, we found an area where our programs as they presently exist need to be modified to provide reasonable

assurance of adequate protection.

Maybe it's an assurance issue, quality assurance issue. Maybe one of these companies could conclude that they could modify their existing quality assurance program or they could modify their training program without going to systems approach to training, without going to performance based training, and achieve that objective and meet the -- in the performance goals of the rule.

But what's happened is there is a lot -- it really permeates the SRP. We keep using NQA-1 as kind of an easy example. But there are many cases like that where that document contains a set of expectations that have not been applied in the licensing, by and large, of these facilities in the past.

MR. C. VAUGHAN: I think another dimension to it also may be the -- I think the line of demarcation between where we kind of accept and where we kind of react, we generally accept reasonably well instructions or prescriptions or whatever you want to call them about objectives that we have to meet the performance requirements.

For example, the Part 74 material control and accounting is really a performance-based rule and it very clearly spells out the objectives that you have to meet in your material control and accounting program.

That, I think, is a good example. But then the place that we get upset is when the NRC language begins to tell us how we will do a particular job when we feel like we're in the position given the objective to understand reasonably well how to do that within our facilities, and that there ought to be more recognition that those are acceptable ways than what it is that becomes prescribed that this is the way you'll do it.

So I think that's another dimension to this thing.

I believe that all of us would like to have a license that is relatively clear in terms of the objectives that we have to meet. I mean, we intend to meet the objectives that are imposed on our facilities, but the more complicated you make this write-up in the license and the more complicated you make that call out, then the more difficult it is to get it implemented and implemented effectively.

So if we can get licenses and regulations straightened out where they call out the objectives that the facilities have to meet, the requirements that they have to meet, and then work through the how is the right way to implement those so that it works best at the facility and operation that we're talking about will ultimately have much better performance than if we try to force fit something that doesn't work or if we don't communicate things that are important.

MR. FERTEL: I don't know whether we answered your question, Liz.

MS. TEN EYCK: I think so.

MR. PAPERIELLO: When I took over in NMSS, one of my problems was I found out we had a lot of standard content and format guides which, the way the configuration was, I didn't have control over. They were in another office. We didn't have generally good standard review plans. We had a lot of guidance.

And one of my problems is if I don't have an open standard review plan, there is going to be a closed one, and the closed one are going to be decisions that people make, some of whom I don't even know that they're making them, memos under the table, the way I called it. It isn't that bad -- but on what is acceptable and not acceptable.

So part of my goal when I created putting everything in the standard review plan was both the content -- format and content guide that I had control over, because after all, we're doing the reviews, and, two, to share with the people who are applicants what direction I'm giving to the reviewers, so there's no secrets.

I try to do this thing in the open. So you need to understand what comes down here. I'm afraid if I make it too general, the next thing I'm going to start finding is I'm going to start finding whether guidance memorandum that are being slipped or running around that you don't know about.

So somewhere we've got to meet halfway on this thing, because it's supposed to be, in part, a constraint on the reviewer. So again -- or else I'm going to have reviewers, depends on which reviewer you get, what becomes acceptable, and that kind of is a -- and since we're changing our management ratio and there will be fewer managers to oversee the reviewers, there's going to be more independence.

So the practical matter is you take away the independence by putting more guidance out to the reviewer what they can -- I mean, that aspect.

I'd like to get back to another hard topic, and that is where should the ISA live. Silence.

MR. FERTEL: I thought we did a good job of presenting that. That's probably a good hard topic to go back to. Again, just so we're clear on our side, if we haven't been, we're not at all questioning NRC's ability to have access to the ISA, to understand it all and to have a living document or to have license conditions that commit the licensees to doing it, maintaining it, and using it.

So there's no question of trying to sneak through some back door out of some requirement here.

We do see a real problem, at least, again, the way we're reading it, and maybe you can clarify why it's not a problem, of putting the ISA not only on the docket, but in the license. I think we can see putting certain stuff on the docket and that could make good sense, but putting it in the license, and I think the example that was given of an increase between two to 500 license amendments, whether that's totally accurate or not, basically what we have asked the licensees to do is to read the rule the way they're reading it, to look at the stuff they have submitted over the last couple of years, to look at the actions that they've taken over the last couple years, and make a judgment about what actions they would have asked for a license amendment under the new rule that they didn't ask for under the current process, and we saw this very dramatic increase.

So we're not seeing great value of putting the thing in the license, but we're seeing creating a real resource and potential diversion of both your resources and our resources into getting license amendments that you wouldn't normally have to care about.

So we're all for coming up with a compromise that puts all of the accountability and enforcement mechanisms as license amendments, but puts the eight volumes of material that some of these guys have and whatever a number of others have available either at the site, on the docket, or some combination of the two.

MR. PAPERIELLO: What would you see us using -- what do you see the regulatory uses of the ISA? See, part of my problem is the fact that we work in a public domain. What do you expect the -- putting aside the fact that it's nice to do the risk

analysis and to find out how safe the facilities is and where the vulnerabilities are, how do you expect -- what you would you see being used by us in regulatory space?

MR. FERTEL: That's an unfair question because when I proposed to this group yesterday that one of the things we ought to do is offer to write from an industry standpoint a guidance document on how the ISA ought to be used in the licensing process, the comment I got back from a few of them was, well, we need to hear from the NRC on how they want to use it and then we can figure out how we would write how it should fit in.

So if I could take your question, Carl, and maybe ask Rich or Liz or Ted to say how they envisioned using it, it might help both you and me understand how we can.

MR. PAPERIELLO: Because an awful lot where it lives is a function of what it's going to be used for. For example, if I had -- I made no regulatory use of it at all, keep it at your site, okay, I'm not going to use it for anything. I'm not going to face any judgment, any official action, no SAR, nothing will ever be based on that document.

If that happens, then there is no clear need for us to have it. Insofar as it becomes a basis for a regulatory action that we take, then somehow these -- this is my view on this -- it needs to be available for some kind of public scrutiny because, in my view, that's what the regulatory process is all about.

We're sort of -- we act through the people in the country to give you the license and if this is a representation that you would allow us to do this because it meets this criteria of safety, somehow I have to be able to share with the public, who kind of nominated me to be their representative, to say if you look over my shoulder, you can see

that everything is okay.

Do you see what I'm getting at? That's the dilemma I see I face and this gets onto this issue of new facilities, because when it comes to doing some very new facilities, like ATWS or MOX, I would very much like to have an analysis like this. Nobody can build -- both of those two facilities need a construction authorization and I got to go to a hearing and it would be very nice to be able to offer some analysis like this as a basis for the action.

That's kind of the dilemma I'm in. I admit it's a different thing for existing facilities.

MR. R. VAUGHAN: Ray Vaughan, Siemens Power Corporation. I was thinking of our current license and criticality safety as a specific, if you look at criticality safety as just a subset of the ISA. Currently, in our license, in chapter four, is a detailed description of how we perform those analyses and what controls are in place, such as independent review and so forth.

What we do not submit to you, a criticality safety analysis for every process that we have licensed out there. So when the inspector comes, if he has a question about whether this interlock has a criticality safety significance, he can go directly to the analysis, which is held on the site, and resolve that question to himself.

Moreover, he can look and say did they perform the analysis in accordance with the commitments they made in the license. I view that the ISA is just an expansion of an area that I use criticality safety.

So I think the license would prescribe how we would perform the ISA and

then keep on site -- we certainly do summarize how we do address criticality safety in a current license, but we certainly don't want to put either -- if we were to summarize my criticality safety analysis, for example, we're talking about 7,000 pages of instruments there.

So I think that's important is does the licensee commit to a rigorous process what will produce certain result and what are the assurances that they will use, such as independent review by another qualified analyst, to demonstrate safety of this particular process.

But you don't need the entire safety analysis because that puts you in the position of doing the analysis yourself.

MR. PAPERIELLO: I understand that. I'm sensitive to having information that we're not going to evaluate. That's a vulnerability.

MR. R. VAUGHAN: So, again, what I see is that if the licensee describes an acceptable method of performing an ISA and what the organization will be and who approves it and how it's implemented at the site, if we describe that in our license to you, you say that's an acceptable approach to conducting ISAs, now we'll come and look when you're through with it to see that we -- that you performed it the way you said you would and that you've taken the actions that you learned from the results of that ISA.

MS. TEN EYCK: One thing, though,. that I think -- while we were never intending to incorporate the entire ISA in the license, I think that's the point that needs to be made here, although we talk about -- you know, on the viewgraph here you used, you said ISA -- so we're really talking about a summary and I think that we were talking about

it being a summary that could serve as the safety basis that we made our licensing decisions on.

MR. R. VAUGHAN: What you also say is that the licensee shall include in the license all items relied on for safety. Well, if we take it to that point, let me say that there's probably a thousand criticality safety items, such as gauges, interlocks, pressure switches, et cetera, that we rely on for criticality safety.

And then if we expand that -- well, you've already said that all criticality events are high consequence and shall be treated at the highest level of assurance.

So every item that I have installed in the plant, which is literally thousands of items for criticality safety alone, and then we also have to provide this list of every accident sequence that we consider, so we're talking hundreds of accidents that we would analyze just in criticality safety.

If we expand that to items relied on for safety, such as a banister or a ladder or something like that, you can't -- I mean, if I have a bulk storage tank for nitric acid, I have certain level control systems and other features in the design of that tank, such as the berm area and so forth, that are relied on for safety, but I've got to identify those items, and where do we draw the line.

Is a procedure an item relied on for safety in running a process? It certainly is. Do you want that procedure in the license?

MS. TEN EYCK: I think that you're --

MR. R. VAUGHAN: -- or do we want to --

MS. TEN EYCK: -- for controls a lot lower than we are. I think what

we're looking at is just the SSECs that would be used to preclude a high risk or an intermediate risk event. I'm not sure that it gets down to including all of the items that you're referencing. Although you may think of them as items relied on for safety, I don't think that we would necessarily be looking at them all at that high level.

That's the question of defining it. That's why we tried to define in the rule which were the ones we would be interested in and I don't think they go down quite to the level that you're talking about at this point, particularly in the numbers of them.

MR. FERTEL: What did you see, Liz, in the summary document that you were anticipating would be submitted? What we saw, at least on what we thought was reasonable, were the items above ISA summary; hazards analysis methodology involves areas and processes covered and the types of hazards included.

MS. TEN EYCK: I think what we saw as being included was what -- and that was why we developed the example submittal and I think that what I would particularly be interested in seeing is what in that submittal that you felt was something that we wouldn't use in the licensing process as the safety basis.

This is what we had -- and this was our strawman. We were throwing it out there for you so we could talk in more specific terms, because I think over time we've been talking about what is an ISA summary and you had one perspective and we had another.

MR. PAPERIELLO: Could I back up a little more? What on here do you think that we're requiring in addition to what you have here? Can we mark that with an X? I'd like to try to figure out what the differences are, what our differences are.

I know there are differences on this one. This is not an easy one. Clearly we're looking at the ISA summary being in the license. What else?

MS. TEN EYCK: Accident sequences, items relied on -- it's just in the summary, in the license application. It's by reference.

MR. PAPERIELLO: Obviously it's in the license. So it's in both places. Assurance for items relied on for safety.

MS. TEN EYCK: Yes.

MR. PAPERIELLO: The bottom one?

MS. TEN EYCK: No.

MR. PAPERIELLO: Do you think we want the bottom line? At least now I know, in my own mind, where -- that's fine. That helps me out.

MR. ELLIOTT: Carl, back to your previous question on operating in a public domain. Traditionally, we've licensed or NRC has licensed these plants and issued us ERs that describe the safety basis. Lots of this information as we talk about radiological safety and criticality safety evaluations were available on site.

I guess we see this as a fundamental shift from a traditional inspection activity moving into the licensing arena and that the information that was available and kept and maintained on site is now going to be required to be placed into a licensing document which also requires prior NRC approval to change the way we operate, which doesn't seem to have any basis in safety for that departure.

MS. TEN EYCK: But isn't it true that we would only require pre-approval if it was something that was outside of your ISA bounding thing or if it introduced some

new -- a process or something that hadn't been reviewed before. That's the only time they would need NRC prior approval.

MR. FERTEL: You're talking about 70.72.

MS. TEN EYCK: We never implied that we wanted you to have to come to us to approve everything. What the concept was that we would have an ISA that would be used as kind of the licensing basis and as long as you operated and made changes within that envelope of the ISA, you didn't have to come to us. It was only when you got outside that envelope.

MR. ELLIOTT: But any change is going to require some type of safety evaluation to assure that the consequences of concern from that change are not going to be exceeded.

MS. TEN EYCK: But isn't that something that you should be doing? You all would do that on site. We're not asking to be in the middle of that.

MR. ELLIOTT: One of the things that you said needs NRC approval is any change that requires new types of malfunction of equipment relied on for safety, new types of procedural failures, new types of equipment or procedures relied on for safety, or the use of existing types and new processes, and changes that would create the possibility of accidents having consequences of concern not previously evaluated.

MS. TEN EYCK: Can I ask you what you're reading from? I don't recognize that.

MR. ELLIOTT: I'm reading from the SRP, Section 5, Pages 14 and 15. So if you go through and look at your changes over the past year and you apply this

criteria to them, you could see how many license amendments would be generated from that.

MS. TEN EYCK: But if you look -- and I may be wrong on this, I'm just quickly glancing at this as you're talking, aren't you looking at things that are under considerations for no decrease in the effectiveness changes that you all would be allowed to make without coming to NRC?

MR. ELLIOTT: Your document says that my change must meet that criteria.

MR. COX: And if it meets that criteria, then you do not -- then that is a no decrease in effectiveness change.

MR. ELLIOTT: No. You're describing -- it says I can make a change without your approval if it does not create the possibility for an accident of a type different than that previously evaluated in the ISA.

MS. TEN EYCK: That's what I just said.

MR. ELLIOTT: This includes new types of malfunction of equipment relied on for safety, new types of procedure failures, use of new types of equipment or procedures relied on for safety, use of existing types of new types of processes. Those are pretty low threshold changes. Any change I make is going to require a change to a procedure. Therefore, it's going to create a new accident scenario from that procedure.

MR. FERTEL: Are those examples of the types of changes that would be tested against the criteria that you used or are those the criteria themselves?

MR. COX: Those are examples that form tests of the criteria. If you meet

this criterion, then you have met the no decrease in effectiveness criteria.

I would agree with Mark. These are fairly explicit and explanatory. They are very detailed. We figure you want to know what conditions under which you can escape bringing this thing in.

MR. FERTEL: Using those criteria, we found a significant number of things that would have to come in.

MR. PAPERIELLO: I will throw something out on the table. I can think of more concrete examples. Somebody moves material around with a cart. There are criticality controls on how much you can put on a cart. So now somebody turns around and says, hey, these carts aren't available anymore, we've bought a new brand of cart with different dimensions.

So somebody turns around and redoes the criticality analysis and so stacking on the particular cart is different. It's still the same thing. Fundamentally, the controls are a calculation that I don't have criticality as long as I don't put my objects on the cart. Even though the old cart might be, because of the way it was built and size and everything, it was X objects. This one, I get the same sub-criticality absent moderation. Would that require any amendment?

MS. TEN EYCK: Dennis, would you?

MR. COX: We're reading in the criticality safety chapter, by the way, for those who don't have it in front of them, and if you take this word "types" literally, probably this change that Carl's describing could escape review by the Commission because it's still a cart, there is still a calculation involving the number and spacing on the

cart. It's not a new type of equipment, it's not a new type of procedure.

It's clear to me that this kind of example hinges very much on the word "types," because had we left the word "type" out and said new piece of equipment or a different piece of equipment or a new procedure, as you just mentioned, you always have a new procedure, or a new malfunction as opposed to a new type of malfunction, it would change this quite a bit.

But under this construction, this language, I think that the answer to your question is that it would not require regulatory review because of the way the word "type" is used in here.

MR. PAPERIELLO: What happens if one cart is pushed by hand and a new cart had an electric motor in it, running off a battery or something? Would that then be enough of a change to require us to do it?

MR. COX: I don't know. I'd have to talk with a safety analyst to really decide on that. It's a different type of cart, but clearly the type of change doesn't seem to involve --

MR. PAPERIELLO: Part of the problem I see is I don't want to do it. To me, that is -- if they're competent to do the analysis for one cart, they're obviously not going to make any difference on the change.

MR. COX: The key to this may be in the last line of this paragraph. We're looking for changes that would create the possibility of accidents having consequences not previously identified as possible in that kind of process.

The accident is essentially the same thing that could have happened under

the old construction --

MR. PAPERIELLO: If it was electrically driven, you probably would have a mode where the thing started running away by itself.

MS. TEN EYCK: As long as it stayed --

MR. PAPERIELLO: Well, if it hit something, it might not. The question is, I -- you know, I'm still not sure in that case that I'd really want to get involved in it. That's my problem, is how much involvement I want, just based on a resource and what -- on the other hand, if somebody is going to turn around and now what we're going to do is we're going to build things completely different, then we might want to look at it.

MR. FERTEL: Those are probably the conditions that have been filed for license amendments over the last few years, when they're different enough.

MR. ELLIOTT: If it's a completely new activity, authorized activity, I would say that you would be involved in that. But to change a cart from a motorized cart to a push cart, you see the interpretational struggle we had here, it just seems unnecessary and it doesn't seem to have enhancement in safety for that to be a prior approval type situation.

MR. PAPERIELLO: We would pick it up when we did -- that would be something that I would expect an inspector to pick up. It's not that we wouldn't be on -- I mean, it's just which --

MR. ELLIOTT: Where in the process.

MR. PAPERIELLO: Where in the process I want to look at it.

MR. COX: Why would the inspector even pick it up if it wasn't in the

safety basis as a certain kind of cart operated in a certain way?

MR. PAPERIELLO: I assume there would be a different criticality analysis.

MR. ELLIOTT: There would be a change process documentation that they rigorously look at.

MR. PAPERIELLO: When I was an inspector, I looked at things that changed since the last time I had done my inspection. I mean, there were a category of things I looked at.

MR. C. VAUGHAN: I mean, we didn't get everything here, but clearly that kind of information is maintained at the site. You can't implement the program and manage it unless that information is at the site and the inspector is looking at the site and the performance of the work and the performance of the site.

So he easily has access to that and really should be looking at it.

MS. TEN EYCK: I think one of the important things here, though, Charlie, is that we were criticized for not having appropriate or competence in the margin of safety of the safety basis and we were criticized for not expecting the inspector to inspect safety into the facility.

So what we're trying to do is get a documented safety basis that can be used as the basis for our licensing decisions and then the inspector can go out there and ensure that that safety basis is being maintained.

So the question is, and I'm not sure exactly where the right place to draw the line is, is that we need something that provides us some rigor as a safety basis that can

be the basis for our licensing decisions, and that's what we're looking for.

MR. FERTEL: Let me try and maybe make one distinction from the get-go. Carl mentioned, I think you did, too, that for new facilities, and Carl said he really would like to have this kind of information, whether it's a new MOX facility, or possibly for ATWS.

What you ask for in a license application is one thing. The current facilities aren't really filing license applications at this point. They're kind of in licensing. They exist with licenses. And maybe we need to continue, in our minds, to separate out what you may need for a brand new facility, where you do need a robust application submitted with sufficient information to grant a construction permit, versus the ongoing licensing of these facilities, which is still a very important thing to do.

If I were in your space, trying to license, I'd look for accountability with the licensee and I'd look for adequate information to allow me to do my job and him to do his job, and I'd continue to come back to you and assurance to the Commission of your authority, I think you can do it with license amendments.

The ISA is dramatically upgrading your safety basis for these facilities. Not that it was bad before, not that the risks were that high, then or now, but the ISA is honestly taking a much more robust look at all of the various threats and hazards to safety in a much more integrated way, and that is going to be required by the license amendment.

Maintaining it is required by license amendment and using it is required by license amendment. Now, that will give me more sort of a better answer to the

Commission today than maybe four years ago on why do we think we're doing the right stuff out at the plant.

Beyond that now you need certain information to make decisions back here at headquarters and you need certain information to allow your inspectors to go out and do a better job of doing inspections maybe.

Back here, I would say what do you need in order to make a determination for a new licensing action. They're asking you to write an SAR to change a process. They want a license amendment.

Clearly, you need enough information from the licensee to make that decision and you need enough of a framework to fit it into to understand why that decision maybe has merit.

Now, maybe the stuff we checked up there doesn't give you all that, but if the ISA is the basis on which they're going to submit it, part of what you have on the docket for the public, going back to Carl's statement, is you have documentation of the processes used to develop and implement an ISA and why that process has integrity.

The public is not going to understand fault trees or accident sequence analysis. So you can put eight volumes of that stuff on the docket and it's got very little value to the public.

But a member of the public and maybe even the Commissioners would like to know that the process has integrity and that NRC is maintaining oversight of the process and then using the results from that process both in licensing decisions here, but, again, because they're existing facilities, maybe more importantly, any inspection process.

You're not inspecting safety into it now. What you're doing is inspecting the integrity of the process we're implementing.

MR. PAPERIELLO: You're right. I agree with that.

MR. FERTEL: And I think that you've actually dramatically, in many respects, upgraded the regulatory basis for safety with the ISA, with just putting this process in place.

Again, I'm hoping it's also upgraded the safety margin of the plants, and I'm sure that's happening too. But it clearly, I think, in regulatory space, gives you a much stronger foundation than we probably had in the regulatory space before.

What you need to do is figure out how to capitalize on that without burying the system in information. I mean, our struggle is if we give you the whole thing, we see it actually we're diluting your attention on stuff that we need you to do and creating more of a hassle for us in figuring out, in 70.72 space, do I interpret high the way Tom told me, because I was at the meeting and I understand it now, or, gee, I missed that meeting, so I'm now submitting it, and my reviewer, who looks at the way I did it, now moves over to the next facility and says, gee, how come you guys didn't submit something for changing that cart, the last guy did, I think you're not implementing 70.72 right.

MR. DAMON: My name is Dennis Damon. I'm with the Division of Fuel Cycle Safety and Safeguards. I'd like to ask a question about this no decrease in effectiveness changes that might help clarify things.

Before stating the question, I'd like to say I don't think the staff intended that this be any change from current practice in terms of the number of things that would

end up being submitted for license amendment. So that's the intention, right? That they're not being -- we don't want a whole lot of new stuff.

Now, having said that, the next comment is this second criterion, the one about new types, I have thought about this somewhat and I agree with everybody who thinks this is a difficult thing. What the heck is a type?

So I thought I was sitting and thought of an example that clarifies how difficult this is. Supposing you have a process that is currently being handled totally manually, it's all procedurally controlled to make it safe, step A, B, C, and you say, gee, this is too complicated, there's too much susceptible to making mistakes here, we're going to automate this thing and make it class A, gold plate it.

So you put in an automated system. Do you want to submit that? It's an improvement of safety, right? Now, let me give the one answer, which I don't know if this is answer we want or not, but here is one answer, okay.

The answer is yes, you do submit it. The reason is because the basis for safety of that process has never been reviewed by a member of the staff before.

So if the Commission wants the staff to review and during the license review make a judgment of the adequacy of the safety of the quality of the controls that are in place, and every time you come up with a new type of control, we never seen one of these gizmos before, you've got to submit it, so there's a clarifying one.

Now, if the Commission says the staff is not, during license review, to make a judgment about the adequacy of your controls, then we don't have to see them. But if we do and you put something in new and we've never seen such a gizmo, the

controls on the GE new process on the furnace calsiner thing are an example of that.

That thing is far more automated and instrumented than a normal thing. It's probably a lot better, but it's different.

MR. C. VAUGHAN: I think you've got to improve with that one, right? On the subject that we were just talking on, has the NRC given thought and written down anywhere all of the uses that they expect to put this information to?

MR. COX: By this information, you mean the ISA?

MR. C. VAUGHAN: Yes. We've got a set of checks that we think are appropriate and we did a survey and the NRC believes that there is a lot more information that is appropriate. Have we really looked at that whole -- has the NRC really looked at that and determined what use -- how they will use all those pieces of information?

MR. COX: WE think we know what we're going to do with most of the -- well, all of the material from the right block checks on down, which are really -- which really are the ISA summary, which is that first check above. Look at the left-hand coulmn there, that's what I'm talking about.

In order to know about the risk of the plant, we need that information. Without that information, we don't know about the risk of the plant. Now, then the next question, of course, is -- well, let me not answer the next question, but just answer your first question, what are we going to do with it.

We're going to understand the risk of operating the plant in some detail and be able to make reasonable assurance type findings that the plant is designed and will be operated safely, which is the way we interpret our licensing mandate.

Without access to that information, how can we make such judgments?

MR. C. VAUGHAN: If that's the purpose, why does it have to be in the license as opposed to simply on the docket?

MR. COX: When we say in the license, what I'm going to assume we're talking about here is in your license application. No, the NRC issues a license, it's just a few pages. Obviously it's not going to be in that license, but it's in a license application. Now, they're going to be referenced or referred to in the NRC license.

MR. ELLIOTT: Tom, anywhere that it requires prior approval to change is what we mean by in the license.

MR. COX: But the license will probably have a condition in it that describes, with reference to the rule, I'm assuming there is a rule, the conditions under which things can be changed without prior approval. So just being in the license doesn't mean it has to have prior approval to be changed.

It gets an initial approval, of course, but there are conditions under which you may change things afterwards without coming to the NRC. That's described in the rule.

I answered, I think, as to what we would plan to do with it. We plan to make judgments in accordance with the rule requirements. But then, of course, the question of where does it have to be, I guess.

It has to be on the docket. Something needs to be on the docket in order for us to support the findings we make, if we were ever to go to a hearing or somebody questions us, where some intervenor pops up and makes a petition that we ought to shut

this plant down because. That's happened.

This agency is responsible to the public for the decisions it makes and there needs to be some record of the basis on which we make decisions.

MR. PAPERIELLO: Can I deal with this, since ultimately responsibility is mine as office director. I have a number of things just thinking about this. I've thought about it before.

I'd talk about two things, existing facilities and then the new facilities. I see it, number one, as a license -- as a basis; not the sole basis, but a basis. We already ask under 70.22, we ask for certain information. The rule is old. It was written before we did things on a more quantitative risk basis than we do now.

We ask for procedures, we ask for hardware. So what we're asking for -- we ask for information like this. This has been going on for years. This way we -- the information gets presented in a very formal way for a new -- I'm talking about new facilities now.

So basically it would be a basis, a new way of looking at the information that currently is provided when somebody applies for a new facility, maybe a new license, but let's say -- we're talking about something, you know, the biggies, no/no-go. Ultimately, to support a go/no-go decision, relatively big changes.

Part of that process, we routinely, as a result of things the applicants give us, impose license conditions which reflect what we believe and everybody believes at the time of licensing as the big ticket issues for a given facility. Whatever that may be.

We don't do that -- it was based in the past on something I've always -- I

respect it, but I always cringe at the word, an engineering judgment. I'm a physicist, so we're supposedly exact. Engineers do things with -- and the fact is I've learned a lot from the engineer. Margin is important.

And what we have done in the past is we have used margin sometimes in the nuclear business, very large margin, and in some ways, the whole reason for doing PRA on the reactor site is some of the margin was excessive, and we didn't know how much we were really buying with the margin.

So with PRA, you can actually quantitatively find out and say I don't need it, the risk is small, I don't need that margin.

So I see a second basis is having more risk-informed licensing than we have done in the past, seriously. I have some big ticket items coming up that's for existing facilities; what would I get out of it. One, right now, I would say identifying unexpected vulnerabilities, because -- things that I'm -- in other words, vulnerabilities that existed but we didn't know it before, and I would agree.

I've been doing since I've arrived here, I've started a process of performance reviews for fuel facility licensees and whereas we find individual issues, there's -- you know, licensee performance is acceptable and in some cases better than that.

It's the way it is. But there are things that neither of us know about.

And lastly, I want to change the inspection program to be more risk-informed. And when I say the inspection program, I mean not only what the NRC does, but I would like the licensees to focus their resources on areas with high -- I think we share that goal, whether you call it inspection.

The only kind of uses that I see that we would put ISA to use, that's how I expect to see it used. So as you -- as you mentioned, it's been said before, Part 70 is a license to possess and not use, although all our -- 30, 40 and 70 are just like that, and the question, though, is, there are some very broad requirements under applications and what information has to be provided and things like that.

That when these rule was first written, it was very loosy goosy. It just wasn't very definitive. So I see this process is now that we know much more about -- we can -- and we're capable of doing risk analysis that maybe we weren't able to do 20 or 30 years to, to try to put some bounds -- frankly, bounds on even what we ask for.

If it's not relevant to risk, why are we trying to -- you know, why are we asking for it, and can -- if we're going to put license conditions on people, can you relate that to some kind of risk and not -- well, basically, engineering judgment.

I'm not saying it's bad. I'm just saying that sometimes it tends to be extremely conservative, particularly in the nuclear business. Anyway, that's my belief on what -- the uses this information would be put to.

MR. FERTEL: Given those conditions, Carl, which of those items do you see you need in the license versus available in some other mechanism?

MR. PAPERIELLO: Somewhere -- again, it depends on what you're talking about. And I'm biased, the bias is the things that I may be called upon to do with either ATWS or MOX, or things like that. I'm not talking about somebody who's changing and putting in another process to parallel the one over here.

Somewhere in here, somewhere you're going to have to -- somebody is

going to ask me to identify the accidents, there will be a question like this. Somebody is going to -- something like this. Somebody is going to say --

MR. TREBY: Can you identify what you meant by in here?

MR. PAPERIELLO: I see a big main facilities, and I'm not building a box on how big and new it has to be, it may be an existing licensee that's completely -- somewhere along the line, if we go to ATWS, we're going to probably get away from uranium hexafluoride and go to some other modality. That may make some big changes in fuel facilities front end.

I'm not saying it will, because I just don't know, because I don't know where the different processes are going to be carried out.

But potential accident sequences, items relied for for safe operation on -- and let's take potential -- let's say dominant. You know, somehow what are the big sequences we've got to worry about. I may be asked in the context of a licensing procedure why you're not prepared for this kind of accident, somebody will make something up, and it might fall down in one of these sequences that has been thought about that the answer is it's negligible risk.

I'm just saying we make it. So somewhere for certain kinds of licensing actions, big ticket ones, that kind of information I think I'm going to need, or if I don't need it within the context of an ISA, I'm going to ask for it in the context of the existing rule.

Do you see what I'm getting at? That's where -- it seems to me the ISA is a disciplined process for asking questions and doing the analysis rather than a shotgun

where somebody makes up ideas about accidents that are so remote that they should never be considered.

But somehow I need to be able to represent to the public this has been considered and this is why -- and that doesn't deal with the existing facilities. The existing facilities are completely different matter, because by and large the experience -- we think experience has wrung out most of the issues.

The advantage of doing the ISA is are there dominant things and, in fact, the other issue is if we want to do away with existing licensing requirements because the ISA shows they're not significant, then I need something as a basis to do that that is somewhat open to some amount of public inspection.

Yet you're right about details. Even reactors or any of this stuff, I don't have on the docket every engineering calculation. You're right. You'd fill this whole building with all that calculation.

So the question is how much do I need -- enough so that someone -- an informed member of the public could look over my shoulder and say I've done my job okay.

So that's kind of the dilemma I'm in.

MR. FERTEL: For both a new facility then and maybe even for an existing facility, to some degree, Carl, it sounds to me like you could accept an ISA summary that focused on the dominant accident sequences and what you were doing to manage safety around those dominant accident sequences.

Clearly, everything else is going to be available, but it's not necessarily --

MR. PAPERIELLO: Some of it may have to be submitted depending upon how a licensing review goes. If it gets into it -- I can't give you ahead of time what we could get ourselves into, because I just don't know. I don't anticipate for the relatively routine things that we do -- in fact, I don't even anticipate for a relicensing of an existing facility, where it will relicense as just business, it's more or less business as usual, that it would be needed.

But for big ticket changes, I'm not sure how big -- I mean, I'm sure we can work out what language, what constitutes a big ticket, and clearly for something that's really big, like either MOX or ATWS or equivalent, somebody -- if I was now doing LES, that's how you would -- I would approach it.

Does that make sense?

MR. FERTEL: I mean, that's closer to, I think, the model that we're clearly thinking of and, again, it's not that NRC shouldn't have access to the full ISA. It's where, in what form. I think that even for existing facilities, if what you were saying was you would like, on the docket, we would still have to get it -- and we would still advocate it probably doesn't have to be in the license, but on the docket, a summary that included the stuff we thought, plus relevant summary information on dominant accident sequences and what's being done about them. That probably is meaningful and doable. And then if there was some particular action that came up for a new or existing facility, as you said, you could always ask for it.

I mean, everything else exists. It's just at the site for use by inspection and use by residents.

Any comment from the rest of my colleagues sitting here?

MR. ELLIOTT: I guess as we see this ISA summary on the docket, you know, we could maintain it with some type of update, periodic update, such that it's always current. I think you would have adequate information to make regulatory decisions based on that.

I think it would eliminate some of the confusion that we just went through with a 70.72 change type process of the criteria and what they mean and what our interpretation of what your interpretation of it is.

MR. PAPERIELLO: Let's go one step further and talk about things being on the license or not being on the license. The major reason for putting something on a license is to ensure stability and you have to get the stability either by us keeping it stable, which puts it on a license, or you keeping it stable, and I call stability a discipline process.

When I think of procedures, I go back to nuclear power plants. We do not approve nuclear power plant procedures generally. An average nuclear power plant has thousands of them. It's impossible and you can't say that they're not related to safety because there are rod pole procedures for the operators, there's clearly maybe ten percent of the procedures you can draw direct links.

That's an unscientific sample. But I can think of procedures which are incredibly important for the safety of the plant. And yet - and we may review them as part of an inspection activity, but we don't review them as part of licensing, and the utility can change them. The operator of a nuclear reactor can change them through a disciplined process.

The question I have here is, where in this process -- suppose I don't have it maintained -- the items relied on for safe operation doesn't get maintained on the license and as a practical matter, even in the -- whatever we may -- depending on how much we have, depending upon the kind of licensing action it was, we're probably not going to have a complete set. And I agree with the ranking here. You're going to wind up, when you do all this stuff, the significant, the different items are going to be rank ordered. You're going to have things that are incredibly important and, in fact, that's why we're doing all this stuff.

If I'm going to look at things, what are the things that are incredibly important. On the other hand, I guess what I wouldn't want is when somebody found it inconvenient on the plant staff to maintain a given item that was their area of responsibility, they just went into whatever they had to do and say, well, we'll take this off the list. Now, how would you expect that process to be disciplined.

So when the decision was made -- I don't have a problem with the decision being made by the institution as an institution. It's sort of the change that occurs if somebody does something on the back shift because it's inconvenient to do it and they make a procedural change, then I have a problem.

But if it's a control, people who are the senior managers of the facility have a process in place, so they turn around and say, hey, we've re-thought about the analysis and this thing should be changed, it's going to be changed.

In your scheme, how would that work out?

MR. C. VAUGHAN: What do you mean by work out?

MR. FERTEL: I think he's going to configuration management control. I think, Carl, let me answer by saying I think what we've always proposed and still propose is that the accountability would be through the license amendments which were not the ISA-specific, but said you were going to have it, maintain it, and use it.

Then you'd actually use the ISA at the site through your configuration management control process.

Now, let's take the scenario that we submit it and say to you you put it in the license. What are the controls?

MS. TEN EYCK: We don't want it. We never said we wanted it.

MR. FERTEL: No, no. I'm going to the other extreme. What we think they are saying or what we thought we read, they get the whole thing in the license. What are the controls at the plant? They're no different.

If the configuration management and control process works, you're going to get the results you want in the scenario you've painted because people are going to know, in effect, it probably makes more sense because you guys won't know what you have in the license with the monster document you have.

Your enforcement on the licensee, in all honesty, I think is better with a very clear license amendment, a set of license amendments that tells them what they have to have and how they need to use the thing, which is you need to have it, you need to maintain it, you need to use it.

And then when you inspect, you find out if they're using it. So I honestly don't see any increased effectiveness or efficiency in regulatory space of the whole thing

being on the docket or a summary versus having very clear amendments. If my configuration management and control process works and I've got the right safety culture at my site so that I know I'm supposed to be implementing correctly, I think it's going to work just fine the way we all want it to work.

If I don't, it doesn't matter what I put in the license, I mean, and you've got the same stick in either case. I think you've got the enforcement vehicles and you've got civil penalty opportunities in either case.

So I'm not sure having it -- in fact, I'm sure having it in the license doesn't increase the regulatory effectiveness in a lot of cases and what we see is an increasing a burden. Again, it doesn't mean you shouldn't have stuff you need available.

MR. C. VAUGHAN: A few little observations. One thing is there's an awful lot of emphasis being placed on the list and I don't really think it's the list that makes it safe. It may make some people comfortable, but the list of items is not what makes the safe.

Some of the other things that we've been saying, and I don't think that we highlighted those in our discussions today, but I really believe that they're pretty much inherent in our license and a very important piece is, number one, configuration management. That has to be at the site because if you don't maintain the configuration of your site current, then you've got a heck of a battle trying to keep it safe.

So configuration management is very important and that definitely needs to be done at the site because that's where it can be kept in current time so that anybody can use it and they can count on it being accurate.

There absolutely has to be, as you mentioned, a management system and the management system has to do or have features in it to give you all of the assurances that you need.

I mean, it needs to enforce configuration management. It needs to enforce procedures and training. It needs to enforce finding when things are going wrong in the plant, unusual events, however you want to identify that, and looking at the root cause of those events and finding out where changes really and truly need to be made because things aren't working well and then follow through to see that that information is actually used.

So we didn't talk much about that today. We zeroed in on just the ISA piece, and that's the focus of kind of defining this envelope that we call safety program, but that's only one piece of the equation in terms of overall safety.

MR. SILVERMAN: There is possibly one other way of saying this. I think we've said it before, that we envision a set of fairly simple license conditions that could be added to the licenses that require conduct of ISAs, maintenance of them, performance by qualified personnel, control of the configuration of the plant in accordance with the ISA results, and review of changes, the potential changes to the facilities against the ISA.

And with that simple set of license conditions, we think, and an adequate summary of information on the docket, but not in the license as a condition, we think we give you the reviewability and inspectability that you're after, and enforceability, without the level of information that is suggested by the summary that's in the ISA summary

submittal that it's in the rule-making package.

MR. PAPERIELLO: I would be interested to know what your -- at least my staff didn't think we were asking too much. You obviously think it is. Would you be interested in showing us what you would consider the kind of summary we would get?

MR. FERTEL: You're asking the summary we think that we would provide you or the summary we think the --

MR. PAPERIELLO: In other words, I'm trying to find out how far apart we are in the definition of what we consider a summary.

MR. ELLIOTT: I took a picture of our current license application and then on the bottom picture put the ISA results beside it.

MR. FERTEL: Explain, Mark. Again, I've heard Liz say this a couple times and I know that she's sincere in it, that they mean summary and every time we end up talking about it, we're talking much greater volume of stuff than the kind of summary we would propose be provided. Why are we getting so much greater when we read the SRP and the rule.

MR. ELLIOTT: The top picture, of course, is -- well, so that you'll most better understand it, our license is a traditional Part I, Part II license. So the top picture is Part I, the programs, management controls and things that we commit to do and how we commit to do the ISA.

In the bottom picture, the dark blue notebooks are the ISA results, which had been summarized from the original PHAs. So those documents include a summary process description, items relied on for safety, their assurances, and then references to

drawings and other evaluations that support that.

MR. FERTEL: So those documents represent all --

MR. ELLIOTT: Yes.

MR. PAPERIELLO: But that's not what I'm asking. What I'm asking is the ISA summary, not what's on the Xs, but the summary, how big is the summary?

MS. TEN EYCK: Ask them. We haven't seen the summary yet.

MR. C. VAUGHAN: Yes, you have. You've seen one, I know. GE submitted a summary that fundamentally went through the work that we did on the new conversion process as a part of license renewal and I don't remember, it's 30 pages or something like that, which we thought was pretty adequate, especially when coupled with the fact that the NRC wanted in the license for all the different work steps the control parameters that were in place for criticality safety.

But we supplied both of those and I guess the NRC decided, after they really looked at it closely, it wasn't a problem that they didn't have enough information to make the licensing decisions, but they did, but then there was a concern in NRC management that maybe that level of detail or the things that were covered were not sufficient on an ongoing basis.

So there is one example where you have gotten a summary that we felt like did a pretty good job of identifying the information you needed at headquarters.

Now, it did not supply the level of information checked off on this chart, nor did it supply the level of information that we read in the rule in the guidance to implement it, but it seemed like a workable level of guidance that would let everybody

know what the basic process was that was going on there, what the high risk types of accidents were, and the control methodology to either prevent or mitigate those particular sequences, and that looked like to us that it would be applicable to writing an SER as well as letting the NRC plan both their licensing and inspection efforts so that they could confirm whatever they needed to confirm during the licensing process to make those decisions, and lead their inspection program so it focused on those things that were most important.

But somewhere we've missed the boat, but you've got one example.

MR. FERTEL: Let me just clarify, too. My understanding from when we went through the Xs actually, when you asked staff what they thought, was that those Xs represented what would be in the summary, because all of that is going in the license.

So that potential accident sequences, the items related to safe operation, et cetera, were all the things, and that's, again, the picture that Mark gave us, I think he is saying represents all of those items for their facility.

What Charlie just described is closer I think to what you were talking about, which is something that focused on a dominant accident sequences and the controls to deal with those, which is a much more abbreviated thing than this. And I think that is a place where we differ. We just don't see the value of providing this volume of material, certainly not on the license.

MR. SHERR: If that chart had ended with the summary of the ISA, and you didn't have any lines below it, and you guys agree with that, we might have said yes, because we assume that the summary ISA includes all those things down below it, except

for the last item.

It is still not clear from the question of what it is that you mean from the summary of the ISA that's different than what we mean in terms of the summary of the results of the ISA.

MR. FERTEL: I think Charlie just described what at least GE thought was a good summary of the ISA, which really --

MR. C. VAUGHAN: Put that back up there, and I can make the -- the potential accident sequences, the only difference between this chart and what our GE summary was is we limited it to those high risk, you know, the sixes and nines kind of situations on our chart, and that seemed to be appropriate.

In terms of items relied on for safe operation, we read items as gauges, valves, pumps and all of that and we did not do that. We gave a -- I call it a layman's description of how we prevent or mitigate those particular high risk situations from happening.

There were several reasons for that. One thing is we didn't feel like items were appropriate. The next thing was, is if you go down into extreme item and technical detail, then we run into a situation where we get tangled up in proprietary information and it seems easier to write it in a general fashion that lets it be publicly consumable, so the public can have it.

But -- and then the assurance measure was not in there because our internal procedure addresses how you apply assurance measures depending upon the outcome.

But we're pretty close down there a piece, I think, in the summary. It's just that this list says potential accident sequences, which implies all versus those that are pretty important, and items relied on for safe operation is a disconnect.

But in the meeting today, I'm hearing that our -- it sounds like I'm hearing that our definition of items and your definition of items are completely different, and I still don't -- I'm still not sure what a common definition of items might be.

MS. TEN EYCK: Let me ask you, at least from my perspective, is that we're looking for the items that are going to control the risks that are identified as either high or intermediate. Those are the -- that if you should lose that control, then you're in this kind of an off-normal situation that would potentially impact your ability to protect against the risk that you identified initially that was the high or intermediate risk.

MR. C. VAUGHAN: And if you use the term items, that translates to me valves, pumps, gauges, interlocks.

MS. TEN EYCK: Basically, it's the control.

MR. COX: There is a definition on page three of -- chapter three, the SRP chapter on the ISA, definition of items relied on for safety. I don't want to read it all. It runs for about half a page or more.

MS. TEN EYCK: But it's the same type of a thing that we would expect that if you lost that control, that you would notify us, just like we do in the 91-01 type of things. It's the controls that -- there is a hazard that you have identified in your risk and you've categorized it and we've identified we only want the high and the intermediate, and then if that control is important to protect against that risk, then the question is that's the

ones we're interested in. That's all.

MR. DAMON: The slide on the criticality.

MR. FERTEL: The fault tree.

MS. TEN EYCK: Does everyone have a copy of this?

MR. ELLIOTT: We've got it in here. Let me ask. What -- I'd like to know from each side what they would consider items relied upon for control. There may be some things that the staff would consider items relied on for safety that won't appear on this diagram, by the way, because they're not necessarily only passive engineered controls or active controls, something that changes state.

MR. PAPERIELLO: Let's take this. I don't know anything about this. If I go down here to room leaks, now, if there was leaking water in the room, would we consider that something to be reportable because we lost something relied upon?

MR. COX: Should that be roof leaks, by any chance, or are there really room leaks?

MR. C. VAUGHAN: It would be room leaks. I mean, you're worried about moderation in the room.

MR. COX: These are pipes in the room?

MR. PAPERIELLO: You find a pipe cracks. Sort of the things you find around your house now and then.

MR. C. VAUGHAN: I'll just pitch out mine to start off with. In the context of the way we wrote our summary, the leaking room or the lack thereof was important, but not the operator action. So we're up. In other words, our report would

have talked about moderation control and the things that are important to moderation control, and one of those things that is important is the boundary that keeps water from any source out of that particular facility.

So what's what our summary would have looked like, but it would have stopped short of the operator.

MR. PAPERIELLO: And would we expect somebody -- this to be an event that would be reported under 91-01 or the rule as it's now written?

MR. ELLIOTT: The one you picked goes through an "and" gate, so no.

MR. PAPERIELLO: What I'm trying to get at is on the items relied -- here is an example. I'm trying to get a definition from -- in a practical case, since we don't seem to have a good -- an idea, can somebody identify on this chart what are the items relied on for control.

MR. C. VAUGHAN: The way we read right out of chapter three the items relied on for safety, that write-up, and when we look at this chart, one, two, three, four, five, six, seven are the things that are relied on for safety in accordance with the definition here.

I think what you're hearing from the licensees and, to a certain degree, your people from time to time, is no, that's not right, we're interested at a higher level on this chart.

Now, exactly where we --

MR. COX: I don't think I said that earlier today. The items in the boxes, we were talking about the higher level, I was calling those events, not controls. The

controls are one through seven, pretty much, the way you've got them defined here, I think.

MR. SCHILTHELM: Let me try to clarify. We can talk about what each other means about these controls and try to interpret it. We're actually doing this at our facility. The controls that we're identifying and putting in the tables as controls that we must maintain, that we must have inspection, maintenance, surveillance, assurance measures upon configuration management, are the circles.

Because in practicality, the operator and the people running the plant don't know what the squares mean. They know what the circles mean. I've got a shroud that has to be on that thing, I've got a procedure that tells me I can't stack those elements other than in this fixture.

They may not know that scenario, but they know that they've got a procedure that says I can't do this. Therefore, that is the control.

Now, if those are the things that you want to identify, we're down a substantial notch from what you're talking about. That I think is the problem in our communication. That's where our difficulty is coming in.

MR. COX: What do you mean we're down a substantial notch from what you're talking about? Where are we talking about something that is different from what you've pictured there?

MR. SCHILTHELM: If we're going to list the systems, the SSCs in the ISA summary, and I've got a list of number four and number five, or perhaps there is even another level lower, for my purposes as a licensee, I'm listing that in my ISA results

because that's valuable to me.

Those -- I don't care how many tiers down you go, if I've got procedures and I've got controls in place that are in these scenarios, they're important to me from an operational standpoint.

What we're hearing is they may not be important to you from a licensing standpoint, but to go through and identify -- so what you're suggesting and what I'm hearing is that we pick out those that are sevens, for example, and tell you only about those, because the others aren't as important.

MR. COX: Actually, I think if you remember table A-1, in Appendix 3 to the safety chapter, I showed that several controls could be called out in a row from left to right that were all active in preventing or mitigating arriving at the consequence of a particular accident sequence.

Those would be those controls you're showing there as one through seven and we would expect to see that here, because in total, acting together, they comprise the limitation on likelihood of that entire sequence from progressing to a consequence.

MR. SCHILTHELM: I agree with that. But now if we go one step further, the squares there don't mean very much, except in relation to if one of the circles gets compromised.

MR. COX: In fact, one or more of the circles could be compromised and you still might not go through the box at the top.

MR. SCHILTHELM: I agree. So what Charlie talked about, pumps, valves, interlocks, those are the circles and that, from what you just described and from

what we think we read, is what would be required to be in the ISA summary.

MS. TEN EYCK: Since you're talking about criticality, and, of course, we all recognized earlier this question of how significant we think criticality is, that we're talking about the ones that -- that you had these controls for those types of events that would be a high consequence or an intermediate consequence, but not -- I was getting the flavor that you all were talking about all the items that you relied on for safety for the whole facility that didn't specifically address the high or the intermediate consequences.

MR. SCHILTHELM: In fact, if put the picture back up of the books, if what we just said is true and the ISA is the work relating and we've sent it to you, both these books right here, that is an ISA summary as you define it in the rule.

MR. FERTEL: For high and intermediate.

MR. SCHILTHELM: Yes, because we have cut out of that all those scenarios that don't lead to a consequence of concern out of that submittal and out of those books.

So according to what you've written, that is an ISA summary.

MS. TEN EYCK: Recognize you're probably the most complex facility that we are currently licensing.

MR. SCHILTHELM: I'm not convinced I would agree with that. There is a recovery facility at GE. There is a recovery --

MS. TEN EYCK: But GE is HEU and that adds more complexity and risk to the process, and that was why I was making that statement. I think probably as far as the bounding criteria that we have, you, by processing HEU, probably have things that

contribute more to the higher risk.

MR. SCHILTHELM: Again, I'm not sure that we have more scenarios or more controls in place. We don't have an ELF-6. These guys got a lot of it. So I wouldn't stand here and agree that GE's isn't going to be that big.

MR. COX: Even not arguing the point, and I guess -- I think the point you're making is given that it's that much material, surely you don't want to have it, and if the point is just because of the size of the material, that's the only reason we shouldn't want to have it --

MR. SCHILTHELM: That's not what I said. One issue is administrative, clearly there is an administrative issue. The second issue is proprietary information that the commercial utilities are very concerned with, and the third issue is change process; what in those blue books can we change without your prior approval if they're part of the license and the confusion that arises from the 70.72 situation and the guidance surrounding 70.72.

So there are three issues, it's not just one. Administrative is probably the least of the issues.

MR. COX: I think probably one matter in contributing to further understanding of this perhaps horns of a dilemma we're trying to sit on here is I think I'd like a better understanding as to what degree -- how you have laid out these individual accident sequences and what's in them and why are there, by your definition, so many, because my conclusion at this point is if that's what it takes to describe what's going on at these facilities, potentially, maybe it is important to know about it.

MR. SCHILTHELM: You've got it. We submitted it to you last year. It's on the back of it. It's Part II of our license application. You have those books, since last October.

MR. FERTEL: Carl, you said this was going to be a tough one. I'm not sure we've made tremendous progress, but maybe a little better understanding.

MR. PAPERIELLO: I think we understand, at least I understand where the differences are. One of the things I think I know at the end, we're supposed to have a wrap-up with identification, requiring further review, and I think we want to understand what we -- we obviously each mean different things by summary and that clearly needs to be worked on to find out at least what's a summary.

What other topics? We do have the questions that --

MR. FERTEL: Maybe we can take an easy one. Question related to the 70.60(a) outline, new NRC focus on active environmental protection.

What does NRC really have in mind there as far as what they're looking for that's different from today?

MR. PAPERIELLO: I'm not sure we're looking for anything that was a lot different from today. Obviously, a release of this size would be a violation of Part 20, by many times over. It's a release that is so big that it involves -- it's an abnormal occurrence, a report to Congress becomes -- I guess it's a measure of are there events that could turn around and produce a release that big and not trip.

I'm not even sure if you had something that big, you wouldn't trip something else, either an internal plant event or a site boundary dose. But it is obviously

on a fuel facility, if you had a release of SNM or uranium or anything of that size, it would be quite a -- a relatively large environmental -- I'd hate to quantify it. It would be an environmental impact, let's put it that way. I'm not -- but the -- I think when this was put in, I don't think anybody expected it to be a particularly big point.

It sort of touched on the bases on the rest. But you -- I mean, I can't conceive of this happening without something extremely -- one or the other trip points being tripped.

MR. MILLSTEIN: I think we were thinking in terms of other types of facilities, facilities that, for example, might be highly automated, so there might not be very man workers at the facility. Maybe a large boundary so the distance to the public would be very large.

So you wouldn't trip either the worker or the public dose limits. Still might have a concern about environmental consequences.

MR. FERTEL: I gather then that you wouldn't see this impacting current licensees very much.

MR. PAPERIELLO: I can't believe it. The current Part 20 airborne limits are based upon 50 millirem and if you got -- it says 24 hours, you're talking about 365 days a year, that would still be a hellacious release. I don't think it's ever occurred.

MR. FERTEL: Maybe another one that actually we touched on during the presentation, which was really the preliminary ISA, which is -- and the question was question 11, and I think the first question is what is the purpose and I think Ted clarified the purpose, which was to get the licensing process kind of started early and make sure

there were no surprises for the licensee or for the NRC, all of which sounds good.

The real question is, is there a real value, is there any finality to this or are you just opening yourself up to a bunch of questions at the front end and then more questions at the back end when you actually come in for the real approval.

MR. SHERR: One aspect. First of all, whether or not the preliminary ISA is submitted to NRC, the assumption is that before construction begins, that type of safety analysis would be performed.

It was remarked to me in the course of the presentations that, in fact, this would be an iterative process. As you are, in fact, constructing the facility, you're going to be developing the ISA.

I haven't assumed that as you're constructing the facility, you're modifying the ISA. In fact, the requirements were saying that when construction is completed, in fact, NRC would receive a revised ISA reflecting the as-built conditions.

So in terms of the position it places, it's not clear. When we wrote this thing, we didn't think that this was going to be a big imposition.

The fact that it doesn't require approval says, you know, if you want to start construction before NRC gives you feedback, you can't. At the same time, you have the benefit of that being there.

So that you can make design decisions and construction decisions beforehand and be forewarned in terms of this might be a difficult licensing issue if we proceeded with it. That's the intent behind it.

MR. SHARKEY: I think in principal, a lot of times we would do a

preliminary ISA before any ground were broke or anything. But in the competitive environment that we are in the commercial fuel industry, we don't always have the luxury of doing all the legwork up front and preparing a preliminary ISA and all the details may not be there until you're well into construction.

The important part, I think, is that if it did require a license change, that before you put it into use with SNM, that that information is available and appropriately evaluated.

MR. C. VAUGHAN: I think a piece of that is -- I don't know what every business does, but GE has an internal process that we go through. It's GE money and it's GE stockholders and all of that. So there's a lot of things that have to be satisfied particularly when you go after some major change, like an expansion or a new facility or a significantly modified facility that costs a lot of money.

And we have an internal process that we go through that looks not only at safety, but the financial, the legal, and all the things that businesses have to do.

I believe that generally industry's track record has been pretty good when they're going to do these things that one of the things they recognize is they have to be successful with the regulatory agencies to be able to get the right kind of permissions to operate that, and it's not just with the NRC. It's the environmental and local people, state people.

There's just a lot of things you have to do to be able to up your confidence that you're going to be able to operate it. And I think they've come to the NRC and these other agencies, for the most part, pretty consistently.

The problem is here, it specifies that you will do a preliminary ISA, which is a relatively strong prescription of how we will satisfy that requirement.

Now, I know that when you read the book, there are some very simple ways to do an ISA, probably much more simple than the process that we actually use. But we just don't believe that it's necessary to prescribe how we're going to do that, because we have processes and we believe that our performance has been pretty good.

MS. TEN EYCK: One thing I might add is that this really goes hand-in-hand with the baseline design criteria and basically what we were looking at is that we have identified some baseline design criteria that we think that should be followed in building a new facility or a new process.

But in looking at these design criteria, we have allowed you all that, in doing an ISA, you identify that you don't necessarily have to follow the basic design criteria, that you can justify why that you don't need to address a specific concern.

The preliminary ISA was that we would then look at to see where in your design you feel like that you don't have to follow the baseline design criteria, where have you all decided that there's risk that aren't presented by this baseline design criteria, then that you're going to go a different track, and this will allow us to see if we agree that you don't have to consider this risk or something that we would use a risk and you might be writing it off and we'd like to know why so that we can have an interaction with you at an early time before you get into the point where the thing is built and then we have to deal with it from the licensing perspective and it becomes something that is much more onerous to try to retrofit into a design than it would have been if we were aware of it up

front as you were proceeding with it, and then we could have had an interaction and you could have learned our sensitivities and we could have learned yours, to come to some resolution.

And not to the fact that you're getting ready to build it. This is not unlike the approach that is already in Part 70 for building plutonium facilities. But we thought that it was an important consideration of this early interaction and in the design and the construction of the new facility that needed to be addressed from a risk perspective.

That was how we were tying the -- the importance of that and tying the two together.

MR. FERTEL: I think when Bill made his presentation, I thought the clear signal he was sending was that the licensees have looked towards working with the NRC early on on a lot of these things.

I think the question on the preliminary ISA is almost coming down to, as written, it's almost now a regulatory requirement to submit a preliminary ISA, I want to do something.

And I think what you're hearing from the licensees is all the good reasons you're asking for it, you probably have 100 percent agreement on.

The requirement that you must submit it, people are saying we don't particularly like a requirement to have to submit this, I am managing my facility. If I want to maybe be stupid and take a lot of risk and not come in till the very end, well, that might be stupid, but it's clearly my prerogative. Hopefully, I wouldn't do that. But if you require a preliminary ISA, you've changed the gambit.

Now, if, from the NRC standpoint, there is a health and safety reason for requiring it, clearly we ought to talk about that. From an NRC standpoint, it's just to say this is a small thing to do, we think you guys should do it, our suggestion would be don't require it.

Clearly, it sounds to me like everybody is going to do something like that, whether they call it a preliminary ISA or they call it their own interaction with their project manager.

MR. SHERR: The question. You've just referred to the requirements of a submittal of the preliminary ISA. Is it required to conduct it without submittal?

MR. ELLIOTT: It's the same thing.

MR. SHERR: That's what I thought.

MR. FERTEL: Again, I think we're sort of fencing on the line here, because my impression would be that none of the licensees would get to the point of designing a new process, a new facility or new activity once their ISA was up without going through an ISA evaluation. That's what would help them do it.

So they would be exercising the kind of model you're talking about, but what they're looking at is that is still within their management prerogative of what they want to do, because they may do a bunch of preliminary ISAs or assessments, management assessment of options, and decide they're not going to do any of them or decide they're going to do this and then two months later make a decision to do something different.

And I think what you're hearing is that they don't want to get caught up in

some regulatory space of if I've done some form of assessment, went through the ISA on a new process, I don't submit it, my resident or my inspection team coming through may say, gee, why didn't you guys submit that, the rule says that you're supposed to submit these things. I think that that's what my sense would be right now.

I'm not sure you won't get what you want in most cases anyway, because they're going to want to interface with NRC to get some certainty. They clearly can't operate it until it's approved, if it's of any significance.

So I don't see a regulatory risk here. Am I misrepresenting it?

MR. ELLIOTT: I agree. I think that's exactly our concern.

MS. TEN EYCK: Our concern is that we have a program that focuses -- that's risk-based from the very beginning.

MR. FERTEL: But, Liz, your option is not to authorize approval, not to manage the facility. You're going to protect public health and safety, not manage their process or how they change their facility, but you don't have to authorize approval. If they give you something that doesn't deal effectively with the risks, you won't approve it, and, believe me, they'll learn how to do it smarter the next time.

MR. TREBY: Is that really realistic or are we getting into this too big to fail situation where somebody goes and spends a billion dollars to build something and then we don't approve it and people say --

MR. FERTEL: I don't think we're talking new facilities here. I think we're talking changes at existing facilities.

MR. TREBY: No, I think we're talking new facilities.

MR. FERTEL: I think a brand new -- a MOX facility I'm putting in a different plan. I think new processes at an existing facility, my strong suggestion to NRC would be the licensees have been exercising the process and I think generally, from what I've heard at least, come in early. I think that they understand the value of coming in early and probably even greater value once the ISA is in process.

My suggestion would be don't require a preliminary ISA, because they're either going to do it, whether they call it a preliminary ISA or not, they're going to come in with something which is going to say hey, guys, here is what we want to do, or they're going to wait till the very end and potentially delay their approval, but I don't think it's -- if you had a billion dollars invested, without certainty, believe me.

MS. TEN EYCK: You say that you can understand our concern with requiring such a mechanism for a brand new facility.

MR. FERTEL: I think, again, for brand new facilities, as Carl said a couple of times earlier, you need a license application that gives both the NRC, the public and the licensee the greastest amount of certainty and I think that there it probably makes more sense.

Again, I'm not sure whether I'd call it preliminary ISA or the license application.

MR. PAPERIELLO: It seems to me, listening to all this, the issue we have is a threshold issue. There are clearly certain facilities for which you can't even begin construction until you have a license and some -- in the case of enrichment, there has to be a hearing, and I'm not quite sure what the legislation provides for in MOX. I don't

know where we stand there.

I know we have a number of hearing processes and it might get trapped.

Obviously at the other end is where somebody wants to put in another parallel line that basically is redundant to something that already exists. We have three, we're going to have four, which is a much different -- so there is a difference.

What I'm hearing is maybe there is some reason to do this for something like one of the facilities that does require a construction permit or a hearing, a much more formal process than somebody adding.

Now the question is what is the threshold? What would be a threshold somewhere in there. Clearly, what I'm hearing is we don't want to do it for a redundant system.

MR. FERTEL: I'm not sure it's so much -- and, again, correct me if I'm wrong, guys -- but that they don't want to do it for a redundant system. They may even feel they want to. They don't want to be required to have to do it for a redundant system.

They amy want to do it for all the good reasons Ted said, which was let's get a heads up early on where the regulator is on this, let's make sure that our thinking is congruent with theirs. As Liz said, let's make sure we factored in risk correctly.

I think when Bill made his presentation, he said fundamentally we're doing that now in most cases when we're changing systems through the project manager.

I think the thought of you must do it then becomes something you may get inspected against when you're saying, gee, I had no intentions of doing that again, I'm still in my decision-making process, or I decided I had done one like this two years ago, they

never had a problem with doing the same thing, I'll take my chances and submit it. That type of thing.

And, again, I'm differentiating existing from new. I think for new you do have a different set of expectations and even from the licensee needs.

MR. C. VAUGHAN: I think a better way, maybe a better way for me to say it would be that we do a hazards evaluation, which is a pretty gross evaluation, as opposed to an integrated safety analysis type thing, because when you start off with a new design facility or even an existing facility that you modify, the amount of information that you have of the nature that you would do any of the ISA techniques, other than maybe a "what if" or something like that, is really a general understanding or a general look at what the hazards are and an evaluation as to whether you believe that hazard can be dealt with in the regulatory compliance and business space that you've got to operate in.

So it's a very gross look and I just wouldn't give it -- I mean somehow or another, it doesn't fit my idea of an ISA, period. It's more of a high level hazards type evaluation.

MR. WOOLLEY: I'm Rob Woolley with USEC, and I can speak for one of the new facilities and that's the ATWS facility. For ATWS, I don't think you have a problem in that there is a statutory requirement, of course, for us to get your approval or your license before we proceed with construction. We are using the ISA process as part of our design process right now and fully expect to have to have some close interactions with you on what the ISA is.

So I don't think you have a problem, at least for the ATWS facility in

making any kind of distinction between a new facility and an existing facility. I think you're going to get that from us regardless.

MS. TEN EYCK: I hate to ask this question after Rob is halfway back there, but can you give us any feedback on what you see as a pro or con of doing an ISA for a new facility?

MR. WOOLLEY: We see ISA as a very valuable process to be an integral part of the design process for the facility. So as the designers, the structural engineers, the electrical engineers come up with their concepts for design, we subject them to the safety analysis and have -- we're using the failure modes and effects analysis process at the moment to determine what the implication of that design is on the overall safety of the plant.

So we see it as a very integral part of the process of designing a new facility. From that perspective, it's very advantageous.

A disadvantage of including the word preliminary ISA in your rule as it might apply to ATWS is a little confusing to us in that we're only planning on preparing and submitting an ISA, if you will, subjecting that to your review, and following that we figure we'll have to use our configuration control program to make sure that it aligns with the plant that we built or obtain your approval as required.

So it suggests that there is a two step process even for us that we don't believe is your intention.

MS. TEN EYCK: I think what the thought was, that as -- you could come up with a preliminary -- a safety design and you do an ISA, but when you start actually

implementing it, that you might decide to make some changes, and then the question was we wanted to have those changes reviewed within the ISA concept and then there be those changes through your configuration management program reflected in the finalized.

MR. WOOLLEY: And that would happen, yes. That would happen.

MS. TEN EYCK: Thank you.

MR. FERTEL: Next, on just sort of going down the list and maybe still going out of order a little bit. Given we're talking ISAs, why don't we just try and kill the last one that would cover ISAs that we haven't touched on, which is question seven, and raises the question of the performance or the preparation of an ISA for decommissioning of a facility.

What is it we're looking for there that wouldn't be part of what everybody thought of as their normal decommissioning plan? I guess I'm looking for clarity. It wasn't clear what we were looking for.

MR. MILLSTEIN: I think the question is whether the existing decomissioning plan, does that address potential for accidents and I think our understanding was that it didn't really -- I looked at the rule and it wasn't clear to me that it really did address accidents involving decommissioning.

Now, I think what we were saying in the rule was that if decommissioning involves processing or hazardous processing of material, it could have a potential for accidental release. Then we thought the ISA would be useful. But whether or not it would be part of the decommissioning plan itself, we could be flexible about it, but that was the intent.

MS. TEN EYCK: I think it's just to evaluate all the potential risks you're going to have in decommissioning and not get into situations like where you're cutting into tanks and then find out that there's something in there that you hadn't thought through the whole hazard of the decommissioning effort or you get -- you find out that there is a surprise, that there is something in there that you hadn't anticipated and maybe it's equipment that you haven't used for a while or whatever.

So it's a question of risk-based again. Looking at new activities from a risk-based perspective and deliberately evaluating those potential risks.

MR. C. VAUGHAN: So we wouldn't be required to do this work until such time we got ready to do decommissioning work.

MS. TEN EYCK: Right.

MR. FERTEL: Given Liz's description, I could see why, for some of our government facilities, that probably makes an awful lot of sense, if you guys are going to regulate them.

MS. TEN EYCK: It also comes with a little bit of experience from situations that surprised us that have occurred.

MR. FERTEL: I just spent some time at our government facilities.

MR. SILVERMAN: I have a question of clarification. Chapter 10 of the SRP talks about decommissioning and I'm trying to understand when Chapter 10 is to be applied. Is it at presumably perhaps the relicensing of a facility or the submittal of an updated license that includes an ISA summary while a plant is still operating or is it at the point in time when the decision has been made to terminate operations, permanently stop

operations?

Because there is a lot in here that talks about submittal of a decommissioning plan, compliance with the regulatory guides that apply to those decommissioning plans, compliance with the NMSS handbook an all of that has usually been applied only once a facility has essentially made a judgment to terminate operations.

It's not clear to me that that is what is intended here. When are these criteria to apply? If they are to apply well before the time a plant shuts down, then it is a big change, I think, in the way we've done business in the past.

MR. COX: Let me try to answer the question as I think I understand it. Some information on decommissioning, at least a preliminary plan, is intended to be submitted by the applicant and reviewed during the licensing process, as you will see in reading Chapter 10.

But clearly you can't, some 20 to 40 years before actual decommissioning, have the kind of detail you would have at that time. So I think we are attempting to, by reference to a lot of the already existing guidance here, point out what needs to be in the initial licensing action.

MR. SILVERMAN: In that regard, I guess my follow up comment, and then we can move off this, is that what's required, as I understand it, while a plant is operating, is a cost estimate for decommissioning and decommissioning funding plan that shows what financial assurance would be provided to fund the cost estimates.

The criteria you've cited here, including a statement that says decommissioning plan will demonstrate compliance with the radiological criteria for

license termination in Part 20 is criteria that usually applies many, many years downstream.

MR. COX: Where are you reading now?

MR. SILVERMAN: I'm reading on page 10-4 of the SRP, the reference to all that guidance really, the FA9102, the license termination criteria, the NMSS handbook, by and large, all of that really has been applied and connotes a level of detail that's never been provided during the opinion of a facility, I think.

MR. COX: I'm not familiar with the contents of all those references there, but I'll check into it.

MR. C. VAUGHAN: I guess the question is, is our current decommissioning plans adequate to meet that requirement or not.

MR. COX: If you have a current decommissioning plan approved under the current license, I expect that largely it will be. I don't think this is intended to expand the requirements significantly above what we have today.

So my view is, until I can find out otherwise, that these references, such as handbook for decommissioning, fuel cycle materials licensees, address what is to be provided at an early stage and what's to be provided at a later stage.

MR. FERTEL: I think the struggle on some of this, Tom, is that some of the requirements are really applicable for a new license and some may or may not be as applicable for someone that's been operating for 20 or 30 years, and I think that's part of the struggle.

MS. TEN EYCK: Actually, I think this is a collection of all the things that

focus on the area of decommissioning that would be used as guidance and as you selectively, not necessarily inclusively for every review.

MR. COX: Not inclusively and simultaneously anyway.

MR. FERTEL: That would point out all the contradictions. Under 70.65, there is a requirement for submission of ten-year summary of operational events that significantly impacted the safety of the facility, and we were just interested in what you were looking for with that. It sounds like an interesting collection.

MR. SHERR: I would just note page 27, the statement of consideration, I think it describes the license application for an operating facility should include a description of operational events that have occurred during the past ten years and had a significant impact on the safety of the facility.

These events should be addressed in the applicant's ISA to ensure that the rnage of accident sequences in the ISA encompasses actual events that have occurred.

The idea is that past actions should definitely be considered by the facility in the conduct of the ISA.

In addition, providing information on that to the NRC as part of the -- in terms of the completeness.

MR. ELLIOTT: Don't you have that through AEOD?

MR. FERTEL: If they were significant, you certainly should have them. Just another question down that line, Ted. When would you see this being submitted for a current operating facility that just went through license renewal?

MS. TEN EYCK: I think it depends on when you all committed to having

your ISA and your renewal process. I think it was supposed to be part of the package that would just represent that these are the events that have occurred at the facility and, as Ted said, that they have been appropriately addressed in your ISA.

I think the question of does AEOD have it, AEOD does a very good job on collecting events from reactor information. The fuel facilities are kind of a step child and we have not found always that they have a complete record that we can rely upon to use on that and that is a question even of them, whether they're even going to continue it in the future.

So I think we're looking at the rule as something that will be in place for a significant amount of time and we didn't feel that it was an onerous requirement to have the licensees identify the specific events that have happened at their facility that have had this -- a significant impact on the safety of the thing.

Do you all feel that that's the case? Is this too onerous a requirement?

MR. FERTEL: I don't necessarily think it's too onerous a requirement. I think it was more for clarity and whether or not you already had the information.

MR. C. VAUGHAN: And also what value ten years is. That's a long time back. I mean, if the request had been the last couple of years or something like that, it makes a little bit more sense. It's just ten years is a long time back.

MS. TEN EYCK: I think we're looking at a risk-based safety basis and then we're looking at -- recognizing what you all always remind us of, is that each of your facilities is really unique and not always duplicate copies of each other.

So I think we were trying to relate from an operational experience of a

site-specific -- from a site-specific nature and then make sure that the ISA has encompassed these particular events and that we don't end up with potentially overlooking an event that had already previously happened at either that type of facility or that specific facility. So it's a completeness type of perspective.

MR. C. VAUGHAN: Let me suggest, I think why we follow a little different model than what you just described, and that is we believe that you need an unusual event identification system. So obviously anything that's major is going to get captured in that. And that that system also includes a root cause and corrective action element to that assured by management.

So we -- I think what we see is that program as time goes on becomes more and more effective. So if you look at a ten-year period, then you may have some problems, but they go through this system once or twice or three times, however many times it goes through, and after a period of time, that no longer becomes an issue. It's adequate factored in the things that would seem to be more appropriate if you look at it from a risk base are some of those that have happened on a more short-term basis, where maybe this feedback system has not yet addressed all of the things that ought to be addressed.

So that -- I mean, we just look at a little different model than you do.

MS. TEN EYCK: And we look at it also from the broader perspective. We're tracking all the history of the 91-01s and trying to make sure that we are sensitive to those types of events, not only where they happened, but at other facilities where they could -- a similar event could happen.

So I totally share your concern that we need to look broader, but we were, in this case, just trying to focus on to make sure that we could answer the question that does the ISA encompass all of the situations that the particular facility has experienced.

MR. FERTEL: I propose that we probably stop at this point and maybe sum up how we go forward on sort of resolving some of the things that we left hanging, even though I think we probably got greater clarity on even those that are still hanging.

MS. TEN EYCK: Let me talk about that. Basically, I think that I, personally, found today's interaction to be very worthwhile from our perspective and I hope that you all have likewise benefited from it.

But I do think that there are a few issues that we need to focus on more before we start making major proposals or changes to what we have.

I think, one, the discussion this morning that dealt with the risk versus consequences issues, I think that the staff that are specifically involved in that I think could certainly benefit from going back and looking at your table and trying to resolve the concerns that were raised as a perspective on the differences.

So I think that it would be worthwhile, I think, having more discussions in that area. And I'm not -- and I think the issue on the criticality controls and I'm not sure that that could be tied into the risk consequence discussion or if there is the need for a specific focus between the criticality experts that could discuss in more detail exactly what we envision as the controls that we're concerned with and also this whole issue that ties into that is the reporting of the loss of those controls; where is the threshold, as Carl mentioned, to draw that line.

So I think we can more about whether that -- those are two separate discussions or one.

I think that one of the things that I would like to see you all provide us is a -- what you would see as clarifying language on how we would implement the MOU between NRC and OSHA that you described in your elements there which were right out of the MOU and which we have been implementing for some time now, and to clarify the words where you felt that there was some misunderstandings of exactly what chemicals would be of concern and which chemicals are events involving chemicals that would be followed up by OSHA.

So I think that's certainly something that I would like to have you all take a stab at clarifying that for us, and then provide a strawman that we can kind of look at and see if that captures what our intent was, since I think that definitely needs to be refined.

I think that the -- I think one remaining -- the thing -- remaining issue to me is still what would be included in an ISA summary and how we deal with that, whether it's a -- whether it's docketed, whether -- first, whether it needs to be submitted, whether it's documented, what is to be included in it.

I think that there are a lot of areas in that particular topic that would benefit from some additional discussion.

Those are the ones that I kind of -- you know, kind of the cream that came to the top for me as our discussion proceeded today. I don't know, I'm certainly open to any other suggestions that you have, but I would like to -- I think that those were ones that would definitely benefit from further discussion and things that would help us resolve

where we are right now and going forward with the rule package.

I would be interested in, I think, having these types of interactions in the near term so that we can keep this thing moving. I think our intent is to be responsive to get this thing turned around to the Commission in as timely a means as possible and would look for opportunities in a very timely basis to have these additional interactions.

MR. FERTEL: This may be included under your criticality controls. More definition and discussion I think on the concept of your graded approach to implementing safety programs I think both sides would benefit from, because I think you have a vision of what you mean by graded and, again, it may fall out of Steve's fault tree, as an example.

I think that maybe understand that a little bit better now, but that might be something that we could derive some benefit out of as truly getting a better handle on what the graded approach means.

I think the other thing you asked us for earlier and someone over there did maybe more than one of you was words we might offer in the SRP on some of what we were calling prescriptive requirements, which, during the discussion, sounded like they were intended to be guidance as opposed to requirements and could we offer some words.

MR. PAPERIELLO: The SRP is in the public domain. I would appreciate, if the industry would, is -- you know, you can go pen and ink -- you know, go into the thing and somehow mark it up and indicate where the disagreement is, where you think we've been too prescriptive.

But as I said, when you think about that, there is this tension between if we

make it -- it's -- I intend this thing to be a constraint on the reviewers and also as a way of ensuring consistency, reasonable consistency.

So if it's too loosy goosy, then I'm going to have the other -- we're going to have the other consequence.

MR. FERTEL: I picked up on your guidance memorandum, alternative path.

MR. PAPERIELLO: It's been done. Many of them I never knew existed. I found out later that they were -- I was at the receiving end of them and I didn't know they existed, when I was in the region.

MR. FERTEL: Does anybody here have any other items that --

MR. SHERR: There's one, maybe they're covered by other things, is one dealing with preliminary ISA, clarifying perhaps under what circumstances it should be performed, or maybe the nature of them, maybe they're not preliminary ISAs, maybe they're hazards analysis.

MS. TEN EYCK: When do you want to deal with that? Is it a separate meeting or do you want them to provide us input on it? I was trying to pick up the big ticket items that would be worth having additional interactions on rather than if they provide us some additional thoughts that they have on the thing since we've had our discussions or what.

But is it worth a public meeting?

MR. FERTEL: We'll just send you something on that, on the preliminary ISA, and then if we can get good communication on that, when we have another meeting

on maybe what the ISA summary is, we can pick it up as a tag-on.

MR. PAPERIELLO: Let me make an observation on preliminary ISA. I think it's different thresholds. There was one where it must be provided and areas where it's optional, permissive, and I think I've pretty well communicated my thoughts on where I think of the -- and, again, this is -- the Commission can change this and my own view is that there are some very big ticket items that would be -- it would be -- it would not be optional, but other areas where it could be optional. At least that's what I'm hearing here.

The industry would like to have it as optional and I can understand the position.

MS. TEN EYCK: On the graded approach, I think that that's a very difficult topic to deal with. It's all -- it's in the eye of the beholder. I think what we were trying to do was set what we would consider the higher standard and then let you all, being familiar with your sites and having a better feel of relative risk, come to us with proposing lesser programs and then let us -- in other words, convince us that you can do -- that you don't have to have as rigorous a program.

How far down you go really depends on the individual control, how it interacts, how redundant or diverse it is to something else. I'm not sure that, in my own mind, having additional discussions is going to refine that any more than the fact that we recognize that there isn't clear steps that I think at this point we can say, because every -- there are going to be different controls, different facilities, different risks.

So I think what I would like to do or propose on that is maybe if you had any additional thoughts or something that you could provide us that says this is what we

have in mind when you say this, does this track with your expectations, because I don't think that we're ever going to get specific steps that we can publish -- or put in something like an ISA. I think it's going to be unique to the circumstances and the controls.

MR. FERTEL: I think you're probably right, Liz, and I think we can go through the process, like you said.

We can put our thoughts down and send them in.

There is clear value of having good discussion on that, if I'd just sort of relate back to our experience which has been going on for a couple years on Part 50, with graded QA. As long as I can remember, the industry has argued for graded QA and then we basically couldn't figure out how we wanted to implement and we clearly couldn't get agreement with NRC on how we jointly would implement a couple years back.

We're now going down a road of graded QA and probably have a better understanding of what you do with graded QA, but what we really find is that unless you change -- and this is Part 50 now -- unless you change a bunch of other regulatory requirements, you don't derive much benefit out of a graded QA program, because if I modify my program in QA space but I still have to satisfy environmental qualifications and seismic requirements for the same part or system, I really haven't saved very much except the paperwork, which never added a lot anyway. It added some money, it didn't add a lot of value.

So I actually think, and I don't think we're nearly as complex in this area, I hope, that there is probably value of a little more discussion on this because the thought of grading always sounds like the right thing to do, and it probably is, and it's always

harder to implement than anybody thinks it is, as you try to do it.

So probably some more discussion couldn't hurt. We may get smarter, as a minimum, but I think we could follow your process. We ought to do on our part the best job of playing out how we think it should be implemented and send that in and then we can have a round of discussion.

MS. TEN EYCK: I also would like you to think about, as you look in more detail at the rule and the SRP, and your familiarity with our licensing requirements that are currently in Part 70, is to identify, if you could, any areas where you think that we haven't changed in the rule, because we were following the whole perception that we were given instruction from the Commission, that you all then proposed, that we don't rewrite Part 70, we just put on a patch, so to speak, that addresses this ISA.

As a result of looking at these things from a more risk perspective, are there other areas of Part 70 which are probably more prescriptive across-the-board type of things that you think now could really fall out into a very low risk area that we may look to delete the requirements because we're now focusing on the very high risk or areas from a risk perspective and that it may not be necessary to continue doing this or that in a more horizontal across the facility perspective.

So I would like, if you wouldn't mind, as you are looking at this, to see if there are areas that we could look at to say, hey, because we're doing this, we don't have to do what we have been doing in the past.

MR. FERTEL: We will definitely do that. Ted, did you have another item?

MR. SHERR: No.

MR. FERTEL: Does anybody here have any other items?

[No response.]

MR. FERTEL: I think I would echo what you said, Liz, as far as the usefulness of today. I think it's very productive. Clearly, I think on a couple of places, I think we made real progress.

I think a few other places we made real progress in at least understanding what we needed to make progress on, which, in and of itself, is progress.

I think that we'll follow-up getting in touch with you about trying to set up meetings on some of these subjects that we need to meet on, but also providing you some of the written stuff that we just talked about.

Any comments from my -- Steve? You had the favorite slide.

MR. SHERR: The last item on the agenda was closing remarks. It was scheduled to start at 3:30, it's 3:40, so maybe we don't have time for those lengthy remarks.

I would just like to thank everybody for their participation in the meeting. I know a lot of effort went into that and I think all the presentations were very helpful.

I would like at this opportunity to thank some of the people that made this meeting possible. Kerry Brown was responsible for making all the administrative arrangements and Jim Heniken also helped her on that. And Cindy Thomas is here to put up with all our chatter and we appreciate all of your good efforts and reminding us to talk into the microphone.

Thanks again for your participation and we look forward to getting your input and getting your suggestions for scheduling future meetings.

[Whereupon, at 3:43 p.m., the public meeting was concluded.]