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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS)

481ST MEETING

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FRIDAY,

APRIL 6, 2001

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ROCKVILLE, MARYLAND

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The Committee met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B3, 11545 Rockville Pike, at 8:30 a.m., Dr. George E. Apostolakis, Chairman, presiding.

COMMITTEE MEMBERS PRESENT:

| | |
|---|---|
| GEORGE E. APOSTOLAKIS | Chairman |
| MARIO V. BONACA | Member |
| F. PETER FORD | Member |
| THOMAS S. KRESS | Member |
| GRAHAM M. LEITCH | Member |
| DANA A. POWERS | Member |

COMMITTEE MEMBERS PRESENT: (cont'd)

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|---|---|
| WILLIAM J. SHACK | Member |
| JOHN D. SIEBER | Member |
| ROBERT E. UHRIG | Member |
| GRAHAM B. WALLIS | Member |

INVITED EXPERT:

STEPHEN L. ROSEN

ACRS STAFF PRESENT:

SAM DURAISWAMY

CAROL A. HARRIS

JOHN T. LARKINS

JAMES E. LYONS

MAGGALEAN W. WESTON

ALSO PRESENT:

PETER BALMAIN

TOM BERGMAN

RALPH CHACKAL

NANCY CHAPMAN

DAVID FISCHER

BOB GRAMM

AL GUTTERMAN

SCOTT HEAD

ALSO PRESENT: (cont'd)

KAMAL MANOLY

EILEEN McKENNA

MATHEW A. MITCHELL

A.C. MOLDENHAUER

JOHN A. NAKOSKI

BOB PALLA

STUART RICHARDS

GABU SABO

THOMAS SCARBROUGH

G.E. SCHINZEL

JACK STROSNIDER

DAVID TERAO

DALE THATCHER

HAROLD VANDERMOLEN

# I N D E X

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

(8:30 a.m.)

CHAIRMAN APOSTOLAKIS: The meeting will now come to order. This is the second day of the 481st meeting of the Advisory Committee on Reactor Safeguards.

During today's meeting, the committee will consider the following: the South Texas Project Nuclear Operating Company's exemption request; closure of Generic Safety Issue 170, reactivity transients and fuel damage criteria for high burnup fuel; report of the Materials and Metallurgy Subcommittee regarding risk-informing, 10 CFR 50.46; future ACRS activities; report of the Planning and Procedures Subcommittee; reconciliation of ACRS comments and recommendations; and proposed ACRS reports.

This meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Mr. Sam Duraiswamy is the designated federal official for the initial portion of this meeting.

We have received no written comments or requests for time to make oral statements from members of the public regarding today's sessions. A transcript of portions of the meeting is being kept,

and it is requested that the speakers use one of the microphones, identify themselves, and speak with sufficient clarity and volume so that they can be readily heard.

I would urge the members to read Item 13 that was handed out this morning, reconciliation of ACRS comments and recommendations, because we will have to visit this issue later today.

Now, it's my pleasure to announce to the committee that, acting upon the recommendation of Chairman Meserve, the Commission has decided to give the NRC's Honorary Distinguished Service Award to Dr. Powers for his leadership of this committee during 1999 and 2000.

(Applause.)

Dr. Powers will be recognized at the 24th Annual Awards Ceremony on Thursday, June 7th, at 2:00.

I'm also pleased to announce that Dr. Peter Ford is now an official member of the ACRS, with all the rights, privileges, and responsibilities --

(Laughter.)

-- such as they are today.

And Mr. Stephen Rosen is an invited expert to this ACRS meeting, and the paperwork is being processed for him to become a full member, subject to

reconciliation of any conflict of interest matters.

Finally, I would like to introduce Mr. Rob Elliott. Rob, where are you? From NRR, who will be working with the ACRS staff for a few months, principally in the area of license renewal.

And with that, I will turn the meeting over to Mr. Sieber, who will guide us through the first session of the day on the draft final safety evaluation report for the South Texas Project Nuclear Operating Company, STPNOC. Any way to pronounce this?

(Laughter.)

Exemption request. Jack?

MEMBER SIEBER: Thank you, Mr. Chairman. Before we start, I will mention that I brought with me and provided copies of the INEEL technical letter report on commercial practice. And this is a draft report. I don't think it's been issued as a final report, and it might make some interesting reading. And at least it will provide ballast for your suitcase when you travel back home.

This is one of a series of meetings on the South Texas Project exemption request. The initial exemption request was filed July of 1999. The SER was issued in November. We have already had three meetings with South Texas, the last one of which

involved the categorization process. In today's discussion, we'll describe issues related to and the process of what really is special treatment, what does it mean, and/or commercial treatment.

And with that, we have a mixture of NRC and STP folks at the table, and they will jointly give the presentation as they go through it. And I'd like to introduce from NRR the Senior Project Manager for this project, John Nakoski.

John, would you like to go ahead?

MR. NAKOSKI: Yes. Thank you.

My name is John Nakoski. I'm a Senior Project Manager for the South Texas Project, specifically for the exemption request. Here with me from the NRC is Jack Strosnider, Division Director for the Division of Engineering in NRR, and to my right is Scott Head. And I'd ask that he introduce the folks that he has up here.

MR. HEAD: My name is Scott Head. I'm the Manager of Licensing at the South Texas Project. Joining us today is Alan Moldenhauer, one of our PRA staff members. We have Glen Schinzel, who will be doing most of our presentation. He is the Project Manager of our Option 2 effort, our exemption request effort.

Joining us also is Ralph Chackal from our staff, and one of our legal representatives, Al Gutterman.

MR. NAKOSKI: And with ACRS' indulgence, I would like to modify the agenda as outlined in the meeting notice. As was indicated, we would like to do a joint presentation to the ACRS for efficiency and using the two hours that we have allotted.

And with that, if we could go to the second slide, I'd like to just give you some perspective where we are in this process and what level of effort has gone into it. As was mentioned, the submittal -- original submittal was submitted in July of 1999. We've had a number of meetings with South Texas, and we have met with ACRS on a number of occasions.

In December of last year, we met with the ACRS on the draft safety evaluation that was issued in November of last year. We also met with ACRS in February, a subcommittee of ACRS in February on categorization, and today we're going to be talking about treatment issues that were identified in the draft safety evaluation.

Going forward, you'll see there's a TBD -- to be determined -- bullet in there. We are still

working closely with South Texas to resolve the remaining open items. All of them have not been resolved yet. When those are resolved, we will be able to follow a schedule similar to what's laid out here as far as intervals.

If we can get the open items all resolved by the end of this month, I still think we're in a pretty good position to meet with the Commission in early June to discuss the issuance of the safety evaluation and the granting of the exemptions.

To move forward, in the draft safety evaluation there were 16 open and two confirmatory items. Six of these items have been closed without any further effort required on the part of either the staff or South Texas. Six of these open items can be closed based on an agreement on the details contained in the South Texas FSAR section that describes the categorization, treatment, and management and oversight processes.

MEMBER SHACK: Is there a difference between a finger and a triangle?

MR. NAKOSKI: Yes. A finger indicates that that's a treatment open item. And we will discuss those in a little more detail later on during our presentation.

Two of the open items on categorization -- we have a success path agreement in principle with South Texas on how to close those items. It will require South Texas to provide us additional insights before the -- additional submittal before those can be closed. There are two open items that are treatment open items on repair and replacement and in-service inspection of ASME code components that South Texas owes as a revised response to that open item.

There is really only one issue that remains, and that's one of their proposed alternatives for repair and replacement. And we're working with them to resolve that issue.

Open Item 8.1 is an item related to environmental qualification, and the staff has the lead for action in this area. We need to internally resolve our position on what level of detail would we expect to be described in the treatment process, primarily in the area of procurement in their FSAR.

And, similarly, Open Item 18.1 that deals with seismic design requirements or seismic qualification requirements -- we -- the staff has come to a position, shared that with South Texas. However, as you'll see later in the presentation, I think it requires some further discussion between the staff and

South Texas to consider this item resolved.

If we could go to slide 4 in the handout. I think it's important to let the ACRS understand what the process was or -- for the staff's review of the treatment area. The first thing that's important to recognize is that under Option 2, in which South Texas is a proof of concept for, the design basis would not change.

Second, is that even low safety significant but safety-related components -- structures, systems, and components would remain functional. They still need to be able to do those safety-related functions that they are credited for in the design basis.

What we would expect to be in the FSAR is a high-level description of what the elements of the treatment processes in South Texas' balance of plant or commercial practices are. We're not asking how those processes would be implemented. We're relying on South Texas' engineering judgment to determine how to implement those elements of the treatment processes.

And it's also important to recognize that in order to grant the exemption we need a licensing basis, and that basis is provided in the description

in the FSAR.

MEMBER LEITCH: So the key word there is "low safety significance."

MR. NAKOSKI: That's correct.

MEMBER LEITCH: But systems -- what is it -- not related to safety are not included in that.

MR. NAKOSKI: Non-safety-related LSS -- to use the South Texas vernacular, LSS, low safety significant or non-risk-significant are not subject to NRC regulatory treatment requirements. And in most cases, they would not have been before.

MEMBER LEITCH: Okay. Thank you.

MEMBER BONACA: Multiple trains of very high safety significant systems can be categorized as lower. Like for example, medium or low in the methodology that South Texas has used, because of the number of redundancies.

MR. NAKOSKI: They can factor in -- and I'll give an answer and let --

MEMBER BONACA: Well, the question I have is that, are there any high safety significant SSCs or systems that have low safety significant trains supporting them?

MR. NAKOSKI: I'll let South Texas field that question. Pull the mike to you, Glen.

MR. SCHINZEL: Do you want to address that, Ralph?

MR. CHACKAL: Yes. We can have -- this is Ralph Chackal with South Texas. We can have a medium or high safety significant system function with a level of redundancy. And diversity provided by the components allows us to rank some of those components as low.

MEMBER BONACA: So how do you guarantee that the -- the lower level of confidence, then, for high safety significant systems? You see, I'm taking exception with the statement there. It says, "The functional capability of low safety significant systems would be maintained, although at the lower level of confidence."

Now, if I have four trains of a high safety significant system, and for those now I maintain the functional capability at the lower level than for high safety significant. Then, the overall safety significant system -- I believe the functional capability of that is at the lower level of confidence. That's the outcome of that, right?

CHAIRMAN APOSTOLAKIS: But isn't that the whole idea of using the PRA, that it's built into all of these importance measures, so you don't have

redundancy and all that. You will get a low Fossil-Vesely and a low raw -- I mean, all of these questions are built into the calculation. You don't have to revisit them afterwards.

MEMBER BONACA: You're talking calculation. I'm talking about the programs that you are applying to each individual train, okay, that you're saying will provide a lower level of confidence on each individual train. That's what I read there.

MR. SCHINZEL: This is Glen Schinzel from South Texas. Just a little clarification. On the safety significant systems, generally there will be a certain number of components. Maybe it will be the pump. It will be the main valves. It will still be safety significant, either high or medium. But within that train there may be a lot of auxiliary components; you'll fall into a lower classification.

So those vent valves, drain valves, instrumentation, we may be able to treat those with a lower level of assurance. But for the pump, for the main valves, those will still fall within the full treatment requirements.

MEMBER BONACA: Okay. I understand what you are saying. Again, however, I think it's a bit obscure how you apply the rule that you showed us

before in the presentation. That is, that the number of redundancies on trains may justify a lower level of significance for individual train than the system they support. I still have some --

CHAIRMAN APOSTOLAKIS: It seems to me that the words "lower level of confidence" are unfortunate. Really, I'm not sure it's a lower level. It is a lower level, but it may be lower by 10 to the minutes whatever -- n. It's not that, you know, you are reducing the confidence of --

MEMBER BONACA: Here we're questioning, then, and we're discussing the effectiveness of the QA program. I cannot give you estimates of probability or confidence based on judgment. I'm only saying that if we do believe that implementation of a quality assurance program or certain components provides for a higher level of confidence, I don't know.

MR. SCHINZEL: This is Glen Schinzel from South Texas again. We essentially begin with our base level of confidence, if you will, to be what's currently required by the regulations. So that gives us a degree of assurance that these components, through various testing, through qualifications, will perform their functions.

And what we're saying for -- through the

categorization process and recognition of low safety significant/non-risk significant components, these components don't have to have the same level of assurance.

MEMBER BONACA: So let me ask just one question. Will the quality, or, let's say, the confidence in the overall system be maintained?

MR. SCHINZEL: Yes, it would. You know, we intend on using commercial-type practices. Our balance of plant is running extremely well. We have a very high level of reliability, and we fully expect these low safety significant/non-risk significant components to fully function.

MEMBER BONACA: I understand. Fully function.

CHAIRMAN APOSTOLAKIS: When you say "low safety significant," I remember the four categories. Which ones are these, risks three and four?

MR. SCHINZEL: These are Box 3. It would be --

CHAIRMAN APOSTOLAKIS: Box 3 only?

MR. SCHINZEL: -- Box 3. yes.

CHAIRMAN APOSTOLAKIS: Four is what?

MR. SCHINZEL: Box 4 is non-safety-related.

CHAIRMAN APOSTOLAKIS: We don't care about that.

MR. SCHINZEL: That's correct.

CHAIRMAN APOSTOLAKIS: From what you just told us.

MR. SCHINZEL: That's correct.

CHAIRMAN APOSTOLAKIS: So it's Box 3, which is low Fossil-Vesely, low raw, but they are safety-related.

MR. SCHINZEL: That's correct. That is correct.

CHAIRMAN APOSTOLAKIS: So that's where the battle is, Box 3.

MR. SCHINZEL: That's correct.

CHAIRMAN APOSTOLAKIS: Any questions about Box 2? Any issues on Box 2?

MR. NAKOSKI: We have found that their description in the FSAR of the treatment that they would apply to non-safety-related, high safety significant, or medium safety significant, which is the Option 2, Box 2 category, to be acceptable, because they will -- they have described a process that would target enhanced treatment.

CHAIRMAN APOSTOLAKIS: Oh, that's the target.

MR. NAKOSKI: That's correct.

CHAIRMAN APOSTOLAKIS: Okay. So 3 is the commercial treatment. Now, when you did the sensitivity analysis where you increased the failure rates by 10, did you do it to the components in Box 3?

MR. MOLDENHAUER: This is Alan Moldenhauer from South Texas. When we did the sensitivity study where we increased the failure rates by a factor of 10, we only applied it to Box 3 and Box 4.

CHAIRMAN APOSTOLAKIS: So it was both boxes.

MR. MOLDENHAUER: Yes, both boxes.

MR. NAKOSKI: This is John Nakoski. Just to clarify -- to the extent that they were modeled in the PRA, right?

MR. MOLDENHAUER: That's correct.

CHAIRMAN APOSTOLAKIS: Well, and there is a reason why they are not, if they are not. Let's not forget that.

MR. MOLDENHAUER: Right.

CHAIRMAN APOSTOLAKIS: If you leave it at that --

MEMBER BONACA: I'm raising this issue -- I raised it before -- because I think it has generic implications to whatever is going to happen in the

future with this. And I still have some conceptual concern about the inconsistency between a system which is in Box 1 and supported by components that are in Box 3. That's all.

MR. NAKOSKI: This is John Nakoski with the NRC. I think where the staff is at is that the categorization process will identify components, or could identify components, in an HSS system that are not significant to the capability of the system to fulfill a high safety significant function.

I think we acknowledge that that can happen, and we would expect it to happen. And we would expect that the treatment on those could be reduced.

MR. STROSNIDER: This is Jack Strosnider. I'd just add, I guess, the -- I think this discussion is good because we need to look at an integrated view of the program. However, in the context of today's discussion where we talk about the reduced level or lower level of confidence, we're really focusing on the treatment programs.

The expectation, as is pointed out here, is that the design basis and the functionality will be maintained. But the challenge we have is to figure out what relaxation from the current requirements can

be granted and still maintain that functionality but define that as a lower level confidence.

You said something interesting earlier when you talk about a QA program or one of these programs where -- how do you measure or quantify a reduction in confidence. And that's a very difficult thing, because a lot of it is judgment. And that's part of the challenge that we have in reaching agreement on what the appropriate level is here.

CHAIRMAN APOSTOLAKIS: Now, South Texas also identified something like 600 non-safety-related components that actually were risk significant in some sense. You have moved them up to some category where some extra treatment would be required for those?

MR. NAKOSKI: This is John Nakoski. The Risk 2 box or the HSS/MSS non-safety-related we would expect South Texas -- and as described in their FSAR, we would expect that they would implement targeted or enhanced treatment to the attributes or characteristics of the SSC that would cause it to be high or medium safety significant.

CHAIRMAN APOSTOLAKIS: Yes. I didn't expect you to object to that, obviously.

MR. NAKOSKI: Well, I think it's stronger than that. I think it's we expect that that -- that's

an expectation that the staff has.

CHAIRMAN APOSTOLAKIS: Right. But you didn't know before they came to you that some of the non-safety-related SSCs, in fact, were of high significant. Right? You didn't know that?

MR. NAKOSKI: Not the specifics. But I would -- systems like maybe aux feedwater that maybe aren't safety-related or some other parts of main -- we understand the significance of those and are --

CHAIRMAN APOSTOLAKIS: No. It's not a matter of you not understanding. My point is this: that if we look at the whole project or the whole system as we are about, you know, to do, the fact that the methodology that was used identified those SSCs and moved them up to Box 2 in fact should add to our level of confidence that the overall final result would be pretty good.

MEMBER SIEBER: It's better than it otherwise would have been.

CHAIRMAN APOSTOLAKIS: Yes. If we focus only on 3 -- and, again, I don't like the words "lower level of confidence," but let's say we accept them for a moment. I mean, you know, it tells me that the methodology has some merit, that it's not only something that tries to make the life of the utility

easier. In some sense, it went the other way.

MEMBER BONACA: I'm not at all arguing that. I'm suggesting there is an inconsistency in the process. And it is important at the site, because if you have a system with four trains, typically the expectation of the operators, etcetera, has always been that you treat it in a special way, because you have four trains not because you have four trains now you can treat them individually less importantly.

Therefore, trains, because it supports an extremely important system, you have that message. Now we are saying, well, but there are four of those. Therefore, each one of them has less importance. And it may make sense in a probabilistic sense. I'm only trying to understand what it does, the message that it conveys, first.

And, second, the inconsistency between a high level system, high safety significant -- however, the elements are less safety significant -- because each one of them is redundant to the other one. It's just -- it's a personal concern I have with that, and I wanted to --

MR. STROSNIDER: I don't know if this helps at all to answer your question, but I guess I would point out that the proposal from the licensee is

that these low safety significant components will maintain their functionality. And also, the input we get from the PRA Branch was, yes, you want to maintain the functionality of these.

And then, that's what we're looking at as one of the goals of the treatment to be applied. So to whatever extent that influences your concern there, the idea is that the functionality and design basis would be maintained, and you might require a lower level of treatment to do that. But it would still function.

MR. SCHINZEL: This is Glen Schinzel, South Texas. Maybe to help put your mind at ease a little bit, as we go through the categorization process, we do begin with system functions. And we look at the functions to determine how significant those functions are. And then we start mapping those functions against components.

Now, if we have a high safety significant function, the component initially is going to be categorized high safety significant. Only unless there is -- if we feel that there is multiple trains, diversity in satisfying that function, we may be able to downgrade that component to a medium categorization.

Generally, it's not going to fall more than one level. If it goes from a high to a medium, it's still viewed as safety significant, and it will still receive all of the special treatment requirements.

MR. CHACKAL: We should also clarify that the vast majority of components remain at the risk of the system function that they serve. It's the exception rather than the rule that a component's risk is lowered. And, really, to clarity it further, as far as redundancy and diversity, really, we don't -- we don't go across that much across trains.

CHAIRMAN APOSTOLAKIS: Would that be consistent with your finding that only about six percent of the safety-related components are really of high risk significance? How can that be consistent with what you just said? I'm missing something.

MR. CHACKAL: Well, because not all system functions, obviously, are high risk. There's a high, medium, low and not risk significant. Most of the functions are not -- system functions are not high risk. I don't know what the exact percentage is between medium and high.

But when you count up the total number of components, percentage-wise the major components --

pumps and major valves, etcetera -- constitute a relatively small percentage of the overall population because in that population you have a tremendous number of vents and drain valves, instruments, things of that nature.

CHAIRMAN APOSTOLAKIS: I think the concern that Dr. Bonaca has raised has to be looked at in the context of the fact that there is no evidence that I know of that tells us that if we apply those special treatment requirements the failure rates are different. I think that's a very significant observation here.

It's not that, you know, we are applying -- we are less confident, and we do less things. No. We are moving from one state to another, and there is really no evidence, at least that I know of. It's a presumption on our part that all of these things really improve the failure rates. This gentleman said earlier that in the balance of plants they haven't seen any problems. Of course, you haven't had any severe accidents.

MEMBER BONACA: I could supplement that comment to say that, then, that puts into question at all the value of the quality assurance program. I mean --

CHAIRMAN APOSTOLAKIS: And you think that's going to hurt my feelings?

MEMBER BONACA: No. Maybe not. But I think it has to be a coherent -- let me just express my concern again -- express about the generic implication of this assumption. Here we are looking at it as an assumption made, and the staff has a means of verifying that and checking that -- I'm concerned about the generic implications.

For something of this nature, there had to be a position to establish that says we will look at something and -- and something that gives more comfort, that there isn't here a downgrading of the actual effectiveness of a system by default, just because of the implementation of this.

CHAIRMAN APOSTOLAKIS: And what I'm saying is that this degradation is the maximum in whatever scale you want. I mean, that's an important observation. It's small.

MEMBER BONACA: Let me just make --

CHAIRMAN APOSTOLAKIS: It's small. I mean, I can't quantify it, but I think it's small.

MEMBER BONACA: So now you have an RPS with four trains. You could possibly conclude that since there are four of those each one of the trains

is not any more as safety significant as the RPS is. So you could say, well, then, we don't have to have anymore the testing of this or the checking of that or the verification or the quality of certain components. You could say that.

For electrical components, I mean, we know there is a dependency on quality of components and the reliability of their systems. So I don't want to belabor it. I think I expressed my thoughts and my view, and I think that there has to be some -- certainly on a generic basis, when this approach is being used on a larger scale, there had to be a way to address this issue.

MR. SCHINZEL: And, again, just to say one more time -- as we did the categorization process, we had safety significant functions. Every system that was necessary or every component that was necessary to satisfy that function received a high safety significant categorization initially.

And only unless we saw specific justification on why it should be lowered, it was left high safety significant. And so just because there are three trains or four trains, the exception is that there would be some lowering. The rule is that those components remain high safety significant.

CHAIRMAN APOSTOLAKIS: Do you think two hours will be enough?

(Laughter.)

MR. NAKOSKI: Yes.

CHAIRMAN APOSTOLAKIS: Can we move on?

MR. NAKOSKI: Yes, I think we should -- this is John Nakoski. I agree, we should move on.

I'd just like to emphasize what the staff finding -- the direction that the staff finding is heading in. And it's really we're focusing on that treatment processes have the necessary elements, that if South Texas effectively implements these elements they can conclude that they have confidence the SSCs will be capable of performing their safety-related functions.

CHAIRMAN APOSTOLAKIS: Again, I mean, for the big picture, it seems to me the fact that there will be a monitoring program is of extreme importance, is it not?

MR. STROSNIDER: And, actually, I was going to address that on the next viewgraph with regard to the performance-based aspects of the program. But I could talk about it now.

CHAIRMAN APOSTOLAKIS: Why don't we do it?

MR. NAKOSKI: We can go to the next slide.

MR. STROSNIDER: Actually, before you do that, leave this one up here with the finding, because I think -- as John pointed out, the finding that the staff is working toward at this point is focused on a very high level in terms of the elements of the program and the idea that those elements will be sufficient for the licensee to maintain functionality of the components, without getting into how to do that. Okay? Some high level elements and guidance.

In my mind, to understand that it's probably easier -- or it's helpful to say what the finding is that we're not making. All right? We're not making a finding that anyone who picks up the program as defined in the FSAR and implements that program step by step will necessarily get functionality or maintain the design basis when they're completed.

It's very high level. It's the elements. These are ways that you can accomplish that. But there's a large degree of reliance on engineering judgment of the licensee who is implementing it, and it's squarely in their court, which it always has been. All right? And I want to point that out.

It's always been the licensee's responsibility to implement their programs, but we say

that on here to emphasize the point that the staff is not going to make a finding that anybody could pick this up and implement it and get those results.

That's a change in the finding that we were working toward when we first started this. Okay? Where, you know, we were looking at attributes at a lower level. All right? In terms of, as I say, the point that somebody could pick it up and follow it and accomplish this.

Now, our basis for doing that is the finding that the PRA and categorization process, that the components that are identified as low safety significant, contribute small amount to risk. Right? And so this is the reduced competence that we're talking about in terms of treatment, that the staff doesn't need to know the hows. Okay?

But, nonetheless, there has to be some outcomes established and some elements to make sure you can get there.

Now, in the ideal world --

MEMBER SHACK: Before you move that, Jack, let me -- I'm trying to read that last sentence and make sense out of it. If I take the "whether" out, should I read this as the staff's finding regarding treatment is that the licensee's treatment processes

include the necessary elements, if effectively implemented?

MR. STROSNIDER: The finding we want to make is that it does include the necessary elements.

CHAIRMAN APOSTOLAKIS: Okay. And you're not ready to make that yet?

MR. STROSNIDER: Well, actually -- I think actually we have concluded that the elements are there, and we're talking about what level of guidance might be appropriate within those elements. And this is where we get into issues of --

MEMBER SHACK: So the "whether" is a yes.

CHAIRMAN APOSTOLAKIS: It's a yes.

MEMBER WALLIS: It's not really a finding. It's a criterion for --

CHAIRMAN APOSTOLAKIS: It's a criterion. It's not a finding.

MEMBER SHACK: Well, I think he's got a criterion up there, and they actually have a finding. I think that the --

CHAIRMAN APOSTOLAKIS: To guarantee functionality.

MEMBER SHACK: Well, I think the criterion is whether the treatment will include the necessary elements, if implemented, to assure this. And the

finding seems to be yes, it does. So as soon as we tweak the commitment --

MR. NAKOSKI: Yes.

CHAIRMAN APOSTOLAKIS: I really think that sentence, "although at a lower level of confidence," is misleading. I understand what you are trying to say, but I think it's misleading. It's out of context.

MR. NAKOSKI: This is John Nakoski. I think our intent is with sufficient confidence.

CHAIRMAN APOSTOLAKIS: Would be maintained.

MR. NAKOSKI: But it's --

CHAIRMAN APOSTOLAKIS: Why didn't you just stop after "design basis conditions"? The function capability will be maintained.

MEMBER SHACK: Although with a lower level of special treatment.

CHAIRMAN APOSTOLAKIS: So what? It will be maintained.

MEMBER SHACK: It's an absolutely correct statement.

CHAIRMAN APOSTOLAKIS: Well, this is not absolutely correct. What you just said may be absolutely correct.

MEMBER SHACK: There's little doubt that if I have less treatment I have a lower level of confidence. Now, it may be only epsilon lower, but --

CHAIRMAN APOSTOLAKIS: It's a matter of --

MR. STROSNIDER: It may not be necessary to support the finding, but I think, you know, the reason we've had it in there going back to the early SECYs is so that it's clear to people that this is a lesser level of treatment, and that what goes with that lesser level of treatment is some reduction in confidence.

If I can move on to the next part of this -- and, Dr. Apostolakis --

CHAIRMAN APOSTOLAKIS: What you really mean is a level of treatment --

MEMBER POWERS: Let me understand just a little bit of -- why is it you think it's misleading, George?

CHAIRMAN APOSTOLAKIS: Because I don't think that the level of confidence is high enough anyway. The lowering of it is really minuscule. So, you know, to emphasize that I'm going to -- at the lower level, I think you are sending the wrong message.

You have, then, to sit down and explain to

people what you mean by that. It's not an accurate statement. I mean, lower can be epsilon, strictly speaking, is correct. But are you really conveying the reality by saying that?

MR. STROSNIDER: Yes. There's a lower level of confidence associated with this program in the staff's mind than there is with the special treatment programs as exist in the current regulations.

MEMBER BONACA: If that level of treatment doesn't make a difference, why are we here doing this?

MR. STROSNIDER: Right.

MEMBER BONACA: If level of treatment doesn't make any difference, why are we here doing this? I mean, just -- let's just --

MR. STROSNIDER: Let me say something that might help shed a little light on this discussion, too, with regard to the performance-based aspects. And you pointed out the importance of a monitoring program.

So we indicate the finding that we want to get to is that the licensee has the elements, and the licensee is going to maintain design basis and functionality. If we look at the sort of guidance that's provided in Reg. Guide 1.174 for risk-informed

activities, and if we look at the move toward performance-based activities, in the ideal world what we'd have, then, is some sort of feedback loop to say, yes, in fact, these things are being accomplished. All right. That would be a truly performance-based approach.

And one of the points we wanted to make with regard to performance-based is that the degree to which the treatment process is performance-based varies. And let me give a few examples. And let me start off with perhaps the easiest -- maybe some of the easiest examples which are environmental qualification and seismic qualification.

And you mentioned the fact that there's a lot of testing, there's a lot of data with regard to the secondary side of the plant, and its reliability. That's all true. But you have to remember that the purpose of these special treatment rules is to determine whether these components and systems will function during a seismic event in a harsh environment.

All right. So unless you're performing tests where you're shaking the plant at a couple tenths of a g, or you filled the space with radiation and steam, you're not really getting data back as to

whether the seismic functionality and the environmental functionality is maintained or not. All right. And that's an important point to make.

Now, it shouldn't be a surprise, because under the existing special treatment rules you don't get that information either. All right? But the work that went into the rules was to provide some level of confidence that without having that feedback, you know, you do the testing, you do whatever you need to do to maintain this, such that if an accident occurs the equipment will respond as designed. All right.

But, so -- and it wasn't there in the original special treatment requirements, and it's not there in this program either, although I have to point out, yes, if you're doing surveillance under normal operating conditions, for example, and the component fails, that probably does tell you something about what it might do under a more challenging environment. So, yes, you're getting some feedback. But you really don't get feedback on those two cases as to whether it will perform its function or not based on the sort of surveillance testing that's done.

Now, on another case, though, if you look at in-service testing, this is an area where, in fact, you can provide some element of performance base. If

you do testing and you look at the characteristics of the valve function, you don't test it under design basis conditions necessarily, but you can get information -- this has been developed over the last 10 to 15 years -- that will give you some idea that -- or confidence that, yes, it will function under the design basis.

So you can do some of that in this program. All right? And, you know, the staff has maintained that -- some level of that targeted grouping of components, less frequent than you might normally do, etcetera. But you can build in some performance-based aspect, and we think that you should where that opportunity exists.

So I think the point here is is that you need to recognize that from a performance-based and from the monitoring that you get, there is some limitations, and in some areas some fairly significant limitations, with regard to showing that you're maintaining functionality. So you have to have some level of confidence, albeit lower, but some level of confidence in the program that's being presented.

So I think --

CHAIRMAN APOSTOLAKIS: I think that's a very valid point, what you just said. It's very

valid.

But I -- to take it a little further, though, and I think that will address a little bit Dr. Bonaca's concern, I think the focus really should be on the impact of the relaxation of the treatment requirements, the impact on the possible dependent failure of these redundant elements. Because, yes, it should make a difference whether I have two trains or three trains or four trains. I mean, that's why I go through the expense, right?

But it's really the -- the dependent failure that I should worry about, and whether I can see that in an accident condition -- you know, all of them failing -- before I have some warning signals through tests or inspections, and so on.

And are you focusing on that, the possibility of a common cause failure? It is one thing to talk in the abstract about lowering our level of confidence and quite another to make it specific and say, yes, they have three trains. But if you don't do this, all three might fail. Now, then, you have a very strong argument.

MR. STROSNIDER: We've had some discussions --

CHAIRMAN APOSTOLAKIS: Yes. And that

relates to my question earlier regarding the sensitivity study. I really want to understand it a little better what you did there. If you have two components, two trains, and you say the common cause failure -- let's say, in the beta factor model -- is beta times Q -- Q is the failure probability of one train -- you increased Q by 10, did you do anything to beta? Did you ever change that?

MR. MOLDENHAUER: No, we didn't make any changes to the beta.

CHAIRMAN APOSTOLAKIS: But wouldn't the relaxation of special treatment requirements affect the value of the beta?

MR. STROSNIDER: Let me comment on that, if I could, because we've had discussions with the PRA Branch. And we're trying to make the treatment fit the categorization process. And I think, you know, as I understand it, these different parameters you can characterize in terms of the intersystem common mode or intrasystem common --

CHAIRMAN APOSTOLAKIS: It's the conditional probability of failure of the second train, given the first one has failed. It's very simple to think of it that way.

MR. STROSNIDER: Right.

CHAIRMAN APOSTOLAKIS: Okay. Is that conditional probability changing as a result of the relaxation?

MR. STROSNIDER: Well, the input that we get from the PRA folks when we talk to them is, you need to maintain functionality. All right. Otherwise, it could impact the resulting risk.

A couple of comments on the sensitivity study, and South Texas might want to expand on this. But I think one of the issues that comes up in our mind is you talked about the factor of 10. I've heard reference to, well, that represents a factor of three on the distribution of failure frequency, etcetera.

I at least put the question out, is that the right question to ask? Because I think what we really are interested in is when you change the treatment, does that statistical distribution change? Does its mean change? And you're not working any longer with the same distribution.

So to say you're going to three sigma on a distribution that's contingent upon the existing special treatment rules, all right, that factor of 10 may not be as significant as it sounds. If you ask yourself the question, could this treatment result in the mean value of a valve change failure from $10^{-3}$ to

$10^{-2}$, then you might have a different perspective on it.

And the other thing that came up is exactly I think the issue that you just raised with regard to when you do the sensitivity study, is it looking just within a system, or is it looking across systems? My understanding is that it does not really look across systems in terms of if you have similar and you change treatment form.

Now, how that's addressed in the categorization I'm not certain. But the bottom line of all that, that the engineering staff, the input we're getting from the risk assessment reviewers is that you do need to maintain functionality because of those issues.

CHAIRMAN APOSTOLAKIS: Well, functionality I understand that you do have to do that. But, you know, I think, at least in my mind, the most important argument in favor of the categorization that the licensee has done is a sensitivity study. Fossil-Vesely and all of that, you know, we can argue forever.

But if they say, look, an angel came down and told us that these components are not safety significant. We're going to raise their failure rate,

and we'll show you that delta CDF and delta LERF is negligible. According to 1.174, that should be enough. I don't care how they came up with a set of components, right? Delta CDF and delta LERF is acceptable.

So I'm willing to forget about Fossil-Vesely and the criteria and all of that. I mean, the sensitivity study they did is the key. So we really have to scrutinize it.

MR. STROSNIDER: And you have to have confidence that you've increased by the right amount --

CHAIRMAN APOSTOLAKIS: By the right amount, that we did the right thing across systems, the common cause failures, and so on. So it seems to me that's a very important thing that the licensee did, and we really have to understand what that means.

Now, increasing the mean value of a distribution by a factor of 10 is incredible, because that means the whole thing is shifting up, you know, en masse. So that doesn't really bother me when it comes to individual components, but it's not beta that bothers me, especially since they have higher redundancy, so the -- the beta, gamma, you know, the Greek stuff.

Do you touch those when you relax the requirements? Is beta now, instead of .1, maybe .8 or .9? Is gamma something else? And given the limitations of the multiple Greek letter model, it deals only with similar components in one system, not across systems.

MR. STROSNIDER: And I think this is where you get into -- yes, and this is where you get into the challenge of understanding the program that's being proposed, no longer the special treatment program, but this program and how does it influence that analysis.

CHAIRMAN APOSTOLAKIS: Exactly.

MR. STROSNIDER: And that's a tough challenge, because as you point out, and as I think we'd agree, when you start off with special treatment rules, and you say, what level of confidence does that provide, and how much do you reduce it when you go to this new program, that's a difficult thing to get to, because as I said you really don't have performance data to calibrate that.

CHAIRMAN APOSTOLAKIS: Yes.

MR. STROSNIDER: I'd like to come back to just one final comment on this. I think we agree with your observations here, but in terms of the big

picture -- and it was pointed out that this has implications how we move forward in risk-informing regulation.

I want to reemphasize the point that the approach we're taking here is that staff is not going into a level of detail with regard to this treatment program, because of the low risk significance of these components, to say, yes, if you do it just like this you're going to get -- you know, you're going to get functionality and you're going to get the -- maintain the design basis. Right?

We're saying that it's just the right elements in a program, that if a licensee does it properly you'll get that. In our mind, that's a reduced level of confidence because we're not going to that level of review. All right? And that's important when we look to going forward in the big picture.

What level of scrutiny is necessary? We've concluded that we can use this approach.

CHAIRMAN APOSTOLAKIS: And this will guarantee functionality, if the program is in place, is that what you're saying?

MR. STROSNIDER: That's why I wanted to go back over this.

MR. NAKOSKI: If I could say -- this is John Nakoski. I'd like to characterize it a little differently. Historically, the staff -- the NRC staff -- has shared a certain amount of responsibility with the licensee for the ability of their treatment programs to provide confidence that those components would be functional, would be capable of performing their safety-related functions. Because we would have gone out and reviewed the details of how they would be implementing those programs, we would be looking at the effectiveness of the implementation of those programs.

Where we are after the exemption, what this finding says is, we are no longer sharing the responsibility with the licensee for assuring that these components will function. We've recognized or acknowledged that for this class of component, these LSS, low safety significant, and non-risk significant components, the burden of providing confidence of functionality rests with the licensee.

We need to look at the elements of those treatment processes and make a decision as to whether or not if the licensee effectively implements them, they could conclude that the components would remain functional. The burden is on them. They are

responsible for concluding --

CHAIRMAN APOSTOLAKIS: Let me understand this. This is the only thing you are willing to grant them? I'm not --

MR. NAKOSKI: We are not going to say that their programs will assure functionality.

MR. STROSNIDER: Let me answer. This is a lot -- this is a lot to grant them, because it provides them the flexibility of how they want to do this. What we're looking for in the FSAR are some high-level expected outcomes, and there is some high-level guidance. But how they actually accomplish that is up to them, and we're not going into that level of detail. We're trying to grant as much flexibility and latitude as we can.

CHAIRMAN APOSTOLAKIS: So for Risk 3 components, they will decide what the appropriate -- I mean, they will have the element, but then how it's implemented they will decide how to do that.

MR. NAKOSKI: Yes, sir.

MR. STROSNIDER: Yes.

CHAIRMAN APOSTOLAKIS: So you're not going to decide now that for environmental qualification, for example, you do this and this and that. They will decide.

MR. NAKOSKI: That's correct.

CHAIRMAN APOSTOLAKIS: You will just have an element there, environmental qualification.

MR. NAKOSKI: It would be in applying the treatment you maintain the environmental design, environmental conditions. Let me -- the capability of the component, the function under the design environmental conditions.

MR. STROSNIDER: We would expect some high-level guidance, as John just said, to maintain the design basis through the expected life of the component to capture those kind of things. Right. And that's some of the discussion we're having with South Texas now in terms of what level should that be at.

But as I say, as we move forward, we take this approach. We really are saying the staff is not going into any real level of detail with regard to how these programs are implemented, and the other thing that -- the reason I wanted to talk about the performance-based aspect of this is that you also have to recognize that the feedback you get when this program is implemented is limited depending upon the area you're talking about.

All right. But the basis for it is that

the PRA and categorization process provides confidence that these are truly low-risk components, and that you don't need that additional level of --

CHAIRMAN APOSTOLAKIS: Jack, you are not, then, distinguishing between a program that applies to Risk 1 or Risk 2 or 3. They decide that.

MR. STROSNIDER: No.

CHAIRMAN APOSTOLAKIS: See, I'm confused. Is it clear to everybody else?

MR. NAKOSKI: This -- our finding in this area, if we could go to the previous slide -- that's not it. It's that one. Right there. Yes, right. This finding really is for LSS, low safety significant and non-risk significant.

CHAIRMAN APOSTOLAKIS: Three. Risk 3.

MR. NAKOSKI: That's correct. Risk 3 components.

CHAIRMAN APOSTOLAKIS: So for the others you are still --

MR. NAKOSKI: For the other ones, those are still -- for Risk 1 components, they are still subject to all the requirements and they are --

CHAIRMAN APOSTOLAKIS: Using your words of a few minutes ago, you still share responsibility with the licensee.

MR. NAKOSKI: That's correct.

CHAIRMAN APOSTOLAKIS: Okay.

MEMBER SIEBER: Let me ask a question to help clarify some of this for myself. Let's say we have a component that's low safety significance, but it's a Q component and it's -- environmental qualification is required. And sometime during the life of the plant this component, the physical component, wears out or dies, and then you have to go and replace it.

The big expense for replacing it is to buy a -- a like component that satisfies the original design specification, do the EQ test, and meet the 18 criteria in Appendix B. That adds cost about 10 times what the -- a non-Q component.

From this, I take it that all of that will still be required because that's part of the design basis of the plant regardless of its risk significance. Is that correct or not?

MR. NAKOSKI: No, I -- I would characterize it that when they go to procure a replacement component, they need to look at the design requirements for that component. What are the conditions, environmental conditions that it would need to function under? They identified five methods

by which they would be able to procure a replacement component.

For example, they could go to a vendor catalog. If the vendor catalog provided sufficient detail on the capability of that component to operate under harsh environmental conditions, that could be sufficient for them to conclude that it would be capable of performing the safety-related function.

They would not be required to apply the Appendix B provisions. They would not be required to test the component. They would not be required to do an engineering evaluation that says -- or analysis that says, "This component can function."

MR. SCHINZEL: This is Glen Schinzel. Let me carry your example a little bit further with some specifics. If that EQ component -- let's say it was designed to withstand 250 degrees and 100 percent humidity.

MEMBER SIEBER: And a bunch of radiation and -- okay.

MR. SCHINZEL: Well, let's stop with the first two.

MEMBER SIEBER: All right.

(Laughter.)

MR. SCHINZEL: If we -- if that component

failed and we originally had a safety-related EQ-qualified component installed, we're saying if that is low safety significant we could, based on the temperature requirements and the humidity requirements for the equipment qualification, we could buy a commercial component that satisfies those environmental requirements and have confidence that when that component is installed it will perform and satisfy the designed functional requirements.

We don't need it to be safety-related, and we don't need it to be qualified.

MEMBER SIEBER: On the other hand, when you go to the vendor's catalog, what you read in there is a vendor's claim. That somehow or other should be substantiated by some kind of a test that the vendor did on a prototype, for example.

Most of the vendor catalogs that I've seen don't give you that kind of detail. They'll say it's explosion-proof and has a NEMA housing and this kind of thing, and it's up to the eye of the beholder to imagine the degree to which it can withstand a harsh environment.

MR. SCHINZEL: Well, again, we would expect that we would go to reliable vendors that we have confidence in. And, again, we'll take a look at

the component upon receipt. And if it doesn't appear to be of the quality that we would expect to satisfy those requirements, we would look for a different type of component.

But as far as requiring a test from the vendor to validate or to qualify that this component, beyond a shadow of a doubt, will satisfy these requirements, we don't feel we need that for the LSS or the NRS components.

MEMBER SIEBER: The harsh environment qualification is part of the design basis of the plant, right? For various components.

MR. STROSNIDER: Well, a couple of comments on this example. I think it's a good one. With regard to the procurement -- and there's five other approaches that are listed in these programs that could be used. But with regard to procurement as an example, what the staff has suggested is that if the vendor provides a statement that this satisfies the design conditions that you've put in your purchase spec, that's acceptable. All right?

So, you know, without saying, "Well, the vendor has to have test records, or the licensee has to have test records," if you put this in the purchase spec and the vendor comes back and says, "Yes, this

satisfies your spec," we've said that that looks acceptable to us.

To back up and look at this thing from a bigger picture -- EQ just, again, as an example -- when you look at the EQ rule, there's 10 different things that you have to deal with in there. And they talk about -- it talks about things like radiation, humidity, submergence.

MR. NAKOSKI: We're going to get to this later.

MR. STROSNIDER: Oh. This is going to be covered later. So maybe we ought to just move on.

Except let me just summarize this. We went through those, and we tried to identify which ones were design basis and said, "Well, you're going to maintain the design basis, and seven of those 10 fit into that category." However, with regard to documentation and margins, there's room for relaxation, and that's what we can talk about. But I guess John has actually got that --

MEMBER SIEBER: I have one -- one corollary question. If you buy an item commercial grade, even though it matches your spec and you wrote the spec properly, which is a difficult job, does that relieve the vendor of the obligation under Part 21?

MR. NAKOSKI: Included within the scope of the exemption request is relief.

MEMBER SIEBER: Relief.

MR. NAKOSKI: So, no, it --

MEMBER SIEBER: So that would occur in category 3 components.

MR. NAKOSKI: That's correct.

MEMBER SIEBER: No more Part 21.

MR. NAKOSKI: That's correct.

MEMBER SIEBER: So the staff, through the equivalent of AEOD, what used to be AEOD, would not have a way to know if there is some defective component out there in the industry floating around, nor would other utilities or -- right?

MR. STROSNIDER: Only if that same component had a problem in a safety-related Box 1 application.

MEMBER SIEBER: Caused an event, right.

MR. STROSNIDER: Because those would still be reportable, but, you're right, it reduces the population of that component from which you might get information.

MEMBER SIEBER: We have covered two out of 11 slides in just one hour, so we should finish sometime around midnight.

MR. NAKOSKI: Okay. Well, let's see if we can do better than that.

MEMBER SIEBER: All right.

MR. NAKOSKI: And if we could, I'd like to go to the first slide, that's slide number 6, that talks about some of the open items that we have.

Okay. Open Item 4.1 -- and we talked about this earlier -- treatment for the high safety significant, medium safety significant components, we've reached agreement in principle on what level of detail needs to be in the FSAR. South Texas just needs to finalize that in the final submittal.

We are pretty much comfortable that they're going to target the treatment to the reason that these components are HSS or -- and -- let me say and continue to apply the current special treatment requirements to the extent they apply to both safety-related and non-safety-related.

MEMBER LEITCH: So this basically represents no change, then, right? This is --

MR. NAKOSKI: Well, the change is enhanced treatment.

MEMBER SHACK: For the Risk 2 component.

MR. NAKOSKI: For the Risk 2 components, and actually for elements of the Risk 1 components

that are beyond design basis, if they should take credit for those.

MEMBER LEITCH: Okay.

CHAIRMAN APOSTOLAKIS: So this is categories one and --

MR. NAKOSKI: One and two. That's correct. If I can move on to Open Item 4.2 --

CHAIRMAN APOSTOLAKIS: The notation is so confusing.

MR. NAKOSKI: Well, I'm trying to be consistent with South Texas' vernacular here.

Open Item 4.2 -- we are still working with South Texas to resolve some of the level of detail in here. There's two sections that are underlined under the first check mark, procurement process, inspection test and surveillance process.

I think we still need to work with South Texas to come to an agreement in principle on what the words in the FSAR should be. And at this time, I'd like to let South Texas give some of their thoughts on where they see we're at with that.

MR. SCHINZEL: Okay. Glen Schinzel, South Texas. Again, from the standpoint of the FSAR, the FSAR right now is including about 14 pages of additional detail that's going to be included. That's

to address some of the whats, but we also consider that it's still including a number of the hows to detail a bit on the methodology that does need to be pursued.

With the procurement process, you know, what we anticipate is that we're going to use a program very similar to our commercial grade program, and that follows the guidelines of SECY-98-300 with the intent for Option 2. As we started into our exemption submittal and some of the follow-on questions and RAIs, the staff was looking at trying to make a finding based on functionality. That did require South Texas to submit an extensive amount of detail in order to ensure that the staff was satisfied with our processes and approaches.

As the staff is now moving to thinking toward just wanting to understand the whats and not the hows, a lot of that detail that was originally provided has remained. So we're still looking, like John says, specifically in the areas of the procurement process, inspection, testing, it does include some of the maintenance and the management and oversight processes, identifying what we consider to be an appropriate amount of detail to be included in the FSAR. We do feel that 14 pages is a bit much

right now.

MR. NAKOSKI: Well, to a certain extent, I feel I have to clarify. There are a lot -- a lot of those 14 pages go into the description of the categorization process. The categorization process is the cornerstone for the staff to move forward with granting the exemption.

I think there are probably four or five pages in the FSAR section that discuss the elements of the treatment process. So just to be very clear on what is provided in those 14 pages, it's important that you recognize the bulk of that relates to the categorization.

Okay. Are we ready to move on to the next slide?

One of the areas that we had an open item in that's kind of related to treatment is the Open Item 7.1 that dealt with the quality assurance exemptions that South Texas had looked for. They've agreed that they should submit an update to the Quality Assurance Program. We've looked at that and have concluded that it's acceptable, and we'll note that in our safety evaluation. And that closes this open item.

Open Item 8.1, that's the open item that

asks South Texas, why do you need the exemption to 50.49? They've told us why they need the exemption. We accepted that. But in doing so, it opened questions in our mind about the elements of the treatment process that need to be described in the FSAR related to environmental design conditions.

We see that in 50.49 there are seven what we consider design requirements -- temperature and pressure, humidity, chemical effects, radiation, aging, submergence, and synergistic effects. We see those as design requirements that need to be considered when procuring or maintaining or implementing the treatment processes that need to be maintained.

We see that in the rule we can grant relief documentation. 50.49 is fairly prescriptive on the documentation that's required for these low-risk components, Box 3 or Risk 3 components. We agree that you don't need to meet the prescriptive requirements of documentation in 50.49.

We agree from these low-risk or Risk 3 components there can be a relaxation of the margins when you do the testing or when you do -- well, basically, it applies to testing.

And then, thirdly, the methods by which

you can provide confidence that these components will be able to perform their functions under design basis conditions. 50.49 relies very heavily on testing and test data. We are trying to allow methods other than that to procure essentially -- primarily in the area of procurement, to allow them to procure replacement components without the need to do testing.

This is an area where the staff still needs to come to internal consensus on what we would expect the element of the treatment would do, what it would accomplish. And we are not yet at a point where we can fully discuss with South Texas where we are with that.

If I can, I'd like to move on to 10.1 and 10.2, or if South Texas has some comments they would like to make.

Okay. Open Items 10.1 and 10.2, just briefly, it deals with repair and replacement and ISI requirements. South Texas has proposed the treatment for that, proposed a response for that. There is one area that they've proposed that we still need to assess and that they are going to be providing us additional insights on, and that's one of their alternatives -- they proposed three.

One of their alternatives for

repair/replacement would allow them to -- I'll shorthand it -- mix and match requirements from various codes. And we're working with them to bring that issue to closure.

If I can, I'd like to go on to the next slide.

One of the open items we identified related to the need for an exemption to IEEE 279 as imposed through 10 CFR 50.55(a)(h). They provided an adequate reason why they needed the exemption. We recognize it's an independent regulation that imposes qualification and quality requirements. In the draft SE, we accepted the quality provisions that they've described in their processes. What remained was the qualification provisions.

That's really embedded in the resolution of Open Items 8.1 and 18.1, which deal with environmental qualification under 50.49 and seismic qualification under 10 CFR Part 100, Appendix A. When we close those two open items, that will close this open item.

Another treatment item was, what was the scope of the exemption they were seeking from the maintenance rule? And they provided clarification in their submittal that they aren't seeking an exemption

to 50.65(a)(4), and that's acceptable to the staff.

Open Item 18.1 on the seismic qualification exemption -- they have -- again, the open item is, why did South Texas need the exemption? They've explained that to us. We accept their explanation, and, again, resolution of the treatment issues is necessary to establish the elements in the FSAR so that we can bring this item to closure.

We see the requirement -- the design requirement that needs to be retained is that these SSCs are designed for the earthquake motion described in their design basis, which is the seismic inputs and design load combinations. But the methods for confirming the capability, we think if they're consistent with the elements of the treatment process that's sufficient.

Again, primarily, this relates to the area of procurement. They procure a replacement component. They need to make -- consistent with the description of the elements in their treatment process effectively, that should provide us confidence that the -- should allow them to conclude they have confidence that these components will remain functional.

Is there anything you wanted to add at

this point?

MR. SCHINZEL: Not at this point.

MR. NAKOSKI: Okay. Just for completeness, there were a couple of open items that weren't necessarily treatment or categorization. I thought at this point it would be good to go over those, just to let you know what the status of those are. And that's the two confirmatory items.

The first one was areas of inconsistency in their South Texas submittal that we identified in our draft safety evaluation. South Texas has provided us with their resolution to these open items, and our plan is to discuss that resolution in our final safety evaluation and allow -- and we would consider this item closed.

The other confirmatory item is within the scope of the 50.59 exemption that South Texas requested, they asked the staff to allow them to remove all of the commitments to these -- this Risk 3 group of components. And our response back to them was, "There's a process that exists that the industry put forth, and that the NRC has endorsed in NEI 99-04. We would ask that you would follow that guidance."

And the reason we asked them to do that is there -- to give such a blanket exemption to 50.59 we

didn't think was prudent. There could be changes to treatment that are beyond the scope of the exemptions that they requested, and we needed to have a clear understanding of what that scope was before we could grant it. And we recognize that there is a process out there that would allow them to change commitments.

The final open item that still was out there that didn't deal with either treatment or categorization was, how do you control changes to the processes upon which the staff will base its exemption, because this is kind of a unique situation where an exemption is based -- but we're approving processes as the basis for granting the exemption. It's not something we would do normally. So how do you make sure that the basis for the exemption remains valid?

The first thing is we need to have a licensing basis description of these processes. That's provided in the FSAR section. Second, is if they are going to change that process, they can't really reduce the -- either the effectiveness provided in the categorization process or the assurance in the treatment process that these components will remain -- these Risk 3 components now primarily will remain capable of performing their function, and that they

need to continue to do some sort of assessment, evaluation, and oversight.

So, really, we're not looking for allowing them to reduce the effectiveness or assurance provided those. They make enhancements that, again, relies on their judgment to determine. Even when they do make changes that don't reduce, we'd like to know about it.

And, finally, if they do make a change that reduces it, before they implement it it has to be approved because, in essence, it changes the basis upon which we granted the exemption.

And South Texas and the staff have come to consensus on -- or agreement in principle on the language in the FSAR, and we're working with finalizing the specific wording on the change control process to be incorporated in the FSAR. And also, that will be used as a condition of the exemptions that are granted.

With that, that's all I had to discuss on the treatment open items for South Texas, and I'll turn the floor over to South Texas and let them proceed with their presentation.

MR. HEAD: Are there any questions before we start?

MEMBER LEITCH: I just had one question.

I'm looking at the minutes of a mid-February meeting that occurred. And in those minutes it -- these are NRC minutes, but it attributes to South Texas the statement that South Texas believes the NRC staff positions on assurances of functionality for LSS and NRS safety-related SSCs has paralyzed the effort.

I guess my question is, I think we heard presented here a -- what seemed to be a fairly manageable list of open items well on their way to resolution. Has there been that much progress since the February meeting, or is this still a fair characterization? I mean, this makes it sound like you're miles apart, and I --

MR. NAKOSKI: I'll share my perspective on that. I think that NRC has moved substantially towards allowing South Texas to implement their commercial treatment practices. I will say, the fundamental change that occurred is that the staff is relying on South Texas' engineering judgment to effectively implement the elements of this treatment process that they've described.

We are no longer asking them how they are going to implement these programs. Maybe there is some disagreement that in some instances South Texas may think we are, but I think we are trying to stay

at, what is the outcome that we expect from the elements of these treatment processes? So I think we have moved.

MEMBER LEITCH: And that kind of changes since the mid-February timeframe.

MR. NAKOSKI: That's correct.

MR. HEAD: This is Scott Head. Our presentation I think will speak to that question.

MEMBER LEITCH: Okay.

MR. HEAD: We would agree there's been movement, and we -- so we applaud the effort that the staff is continuing to see here. But, like I say, our presentation will give our perspective based on what we're seeing right now.

MEMBER LEITCH: Okay. I'll defer that until I hear your presentation.

MR. SCHINZEL: Okay. Again, I'm Glen Schinzel from South Texas. As far as the treatment status, just a few bullets of overview. With SECY-98-300, that was really the initiating document that allowed South Texas to start pursuing a risk-informed initiative with the LSS and NRS components.

And, really, from a SECY-98-300 standpoint, the approach was for the LSS/NRS components that commercial practices would be

sufficient and appropriate for the treatment for these components. As we've gone through a couple of years of working with the staff on resolving this, initially the staff was working toward making a finding based on functionality.

And, again, that required an extensive amount of detail that South Texas provide, and the staff recently, since the February meeting, has made some movement in trying to focus more on the whats, rather than getting into the details of the how. And so we do see that as a positive step. But like John did mention, there is some disagreement on the level of what constitutes a what and what constitutes a how.

Now, you hear of wolves in sheep's clothing. We think that there are some hows in what clothing.

(Laughter.)

So we're still trying to work through those details, and that is, you know, some of the detail that's currently in the 14 pages of the FSAR that we feel is going a little bit beyond what it needs to right now with the new approach.

Based on the current status, we do have several concerns. In the area of seismic, it was mentioned that that's an area that we're still working

with the staff on, and there are some issues here that we need to work through. We don't see immediately a real clear pathway for success for implementation.

One of the design inputs for safety-related, seismically-qualified components is that the component has to satisfy five OBEs -- operational bases earthquakes -- followed by one SSE. And for us to go out and try to commercially procure and be able to demonstrate that this one component is, in essence, going to satisfy five OBEs and five SSEs, essentially, there is not a clear pathway on us ever being able to do that unless we have an extremely detailed analysis or we physically go out and test the component.

So as far as the benefit to be seen with seismic, right now we don't see a large benefit that we'll be able to implement and receive.

In the area of equipment qualification, John has already covered this in some detail. And it is an issue that is still with the staff. The staff is still internally discussing that, and we're anticipating some additional discussion on this short term.

For the areas where the regulations currently require for safety-related components some type of testing -- this is whether it's in-service

testing type testing and maybe inspections. One of the feedbacks that we're getting from the staff is, again, if it's removed from the regulations, if the exemption is granted, the expectation is that there is still some type of testing, inspection, surveillance program that would be retained on these components.

We agree that from the standpoint of a commercial application that we want to ensure the functionality of these components. The disagreement really is, does this need to be bound in our FSAR as an obligation that testing, surveillance, inspection, will be occurring? And we feel that the answer there is no, we don't need to have that detail in the FSAR.

With the detail in the current FSAR, you know, I mentioned that there are 14 pages. Five of those pages are dealing with categorization and the details there. The others are dealing with treatment. And based on the meetings yesterday and the day before with the staff, there still is some additional detail that we are looking at needing to add into the FSAR to satisfy some of the staff's needs. So, again, we feel that that's going beyond what is necessary.

Some of the specific areas with the procurement area -- we've talked to this a little bit, but we do get into the FSAR talking through five

methodologies of how we can go through -- and I'll emphasize the how we can go through and do the procurement.

It also covers the documentation, the handling requirements. The maintenance process gets into discussions of the design life, considerations for corrective/preventative/predicative maintenance. The management and oversight process gets into the qualification/training/certification of personnel, how you'll handle measuring and testing equipment.

So, again, we see that as some details that are getting into still the hows as opposed to an expectation that the design functional requirements will be satisfied, and commercial practices will pick up, and those same good commercial practices that are present today that are working effectively for us on the balance of plant side will still be used.

South Texas has seen progress in the staff's approach. We haven't seen as significant progression as what we would have liked to have seen. We would have liked to have been at a point where we could have considered all of the open items by this time. But, again, we do have some items that are still open, and we'll continue to work with the staff on these.

The actual timing for the exemption -- John mentioned that there was a target schedule. Again, that schedule is somewhat fluid and in doubt right now as to exactly when the exemption will get granted. So that's still a concern to South Texas.

And, again, just to have the committee understand that South Texas is a prototype pilot. There are others in the industry that are watching the South Texas effort very closely. And I know that there is some apprehension among some of the industry players on whether this is an appropriate process to step into. And so the future of Option 2 is -- is somewhat in question right now.

So that details my comments, and I'll address any questions.

MEMBER SIEBER: Does anyone have any questions?

MEMBER POWERS: One I just can't resist asking. Why should I be concerned about the future of Option 2?

MR. SCHINZEL: Well, from a South Texas perspective --

MEMBER POWERS: Put that aside. You said some of the industry were looking at this with trepidation about going into it. I guess I would look

at, with trepidation, going into it as well.

MR. SCHINZEL: Well, with -- one of the efforts that the Commission is looking at pursuing is risk-informed regulations or a risk-informed approach. Option 2 is a very important cog in moving forward with the risk-informed applications.

If there are no other players other than South Texas who are willing to embark upon an Option 2 program, the Commission's goals of moving forward with the risk-informed approach could be at risk.

MR. STROSNIDER: This is Jack Strosnider. I just want to point out that from NRC's perspective risk-informed regulation does leverage our four outcome goals. We talk about maintaining safety, efficiency, and effectiveness, reducing unnecessary burden, and public confidence. And we focus on the high safety significant areas -- maintain safety, pointed out some -- some components might get additional treatment or different treatment under this than they were before.

So risk-informed regulation, Option 2 and Option 3, they go toward those goals. I think -- nobody said it would necessarily be easy, though. We need to make sure that we do it technically correct, so that we really come out on target with those goals.

But it is part of our policy and part of what we're working to implement.

CHAIRMAN APOSTOLAKIS: If the categorization process were perfect, would we have all this debate regarding treatment? If you were really convinced that these things were of low safety significance, Category 3, why would you -- would you still care that much about the treatment?

MR. NAKOSKI: This is John Nakoski. Under the conditions that were established for Option 2, we need to have some or sufficient confidence these components will remain functional. They will be able to do their job.

CHAIRMAN APOSTOLAKIS: Is that question addressed in the PRA, like the seismic example that Jack mentioned earlier? When you did the sensitivity study and the importance measures, you included seismic events?

MR. MOLDENHAUER: Yes, we included all the external events in that. And we went and did another -- a further sensitivity study at the behest of the NRC to look at just seismic -- if we had a seismic event, would that change any of the categorization. And we found no changes in categorization for just seismic events.

CHAIRMAN APOSTOLAKIS: Is it the credibility of the seismic analysis, then, that is in doubt in your mind?

MR. STROSNIDER: Well, I think -- and I don't know if any of the staff has been involved directly in that and maybe can comment on the seismic PRA sensitivity study. But I think one of the challenges you always have when you go into these sensitivity studies we discussed earlier is, what's the starting point for the inputs to the PRA in terms of what's the conditional probability of failure given a seismic event, and how much does it change when you change the treatment?

And I'm not -- that's a difficult thing to get a handle on. So, you know, the approach when we talked about the treatment process here is focused more on what elements and what things do you need to consider in order to maintain that functionality. And it's perhaps a more qualitative approach than what you see in a PRA.

But I think with all the sensitivity studies, as I mentioned earlier, there is always difficulty I think in establishing the input distributions for these hypothetical design basis situations, which, you know, there is really no

empirical data out there, other than perhaps what you get -- when you actually go out and you do seismic qualification tests and when you do environmental qualification tests under the existing treatment rules, you do see, you know, some of the components fail. So you can get some insights from that, and it can help you to say what's important in terms of the treatment process.

MR. NAKOSKI: The other thing I'd like to add is even when you do the sensitivity studies you don't assume that these components fail. You expect that these components are going to be able to do their function with some reduced availability. So it's not -- it's expected that these components will be able to do their function. Whether that's an assumption going into it or an expectation, we could argue the words. But the bottom line is we expect that these components will be able to do their function.

So how -- what gives you confidence that these components will be able to do their function? Some method for assessing that, and we call that treatment, special treatment under the current regulations, commercial treatment as for South Texas, we're trying -- we're working to get described in their FSAR.

CHAIRMAN APOSTOLAKIS: Well, that's true, then. If PRA does assume that functionality is there, then it takes it from there. There's a probability they will fail.

MR. NAKOSKI: That's correct.

CHAIRMAN APOSTOLAKIS: So you're saying that the fundamental assumption of the PRA, that the thing is capable, in fact, of carrying out this function -- comes into question under certain questions. And the thing that gives you confidence that this is true -- this will be through special treatment.

MR. NAKOSKI: Or some level -- method of treating.

MEMBER POWERS: Just an element of curiosity. When you do your seismic-only calculation, do you consider seismically-induced fires?

MR. MOLDENHAUER: No, we didn't include that.

MEMBER POWERS: But seismic events can induce fires.

MR. MOLDENHAUER: Yes. We do have a fire PRA, but we don't have any of the seismic-induced fires.

MEMBER SIEBER: Have you ever run your PRA

model with the Risk 3 components failed, instead of just changing the failure rate?

CHAIRMAN APOSTOLAKIS: Well, I'm sure they will see an impact.

(Laughter.)

MEMBER SIEBER: I would think so. But it would be interesting to know what it is, and that tells you something about the validity of the Risk 3 categorization.

MR. SCHINZEL: Well, I guess one clarification I want to bring up is, you know, having something seismically qualified and having something that's not seismically qualified doesn't necessarily mean that that component that's not seismically qualified is automatically going to fail in a seismic event.

MEMBER SIEBER: I understand that.

CHAIRMAN APOSTOLAKIS: We have evidence of that.

MR. SCHINZEL: Absolutely. There is evidence in California, in Japan, where there are non-qualified components that operate just fine, and they perform their function well when demanded. And there is evidence where there are some qualified components that, when demanded, will fail. So --

MEMBER SIEBER: So the answer to my question is no, you never run that kind of a study?

MR. SCHINZEL: Well, again, you're going to see an impact because you're guaranteeing failure of the majority of the components that are modeled in the PRA.

MEMBER SIEBER: That's right. And its only value is a value of curiosity, that it puts a bound and gives you some kind of assurance as to the --

MR. STROSNIDER: Part of the discussion we've had with the PRA reviewers -- it doesn't go that far to say fail them all at once, but I guess the categorization process has a raw value of two. Right? And there is at least the indication that if you pick the wrong combination of these low safety significance, you could exceed that.

I mean, that doesn't mean you have to fail all of them at once. So, and that's part of when we have these discussions, saying, "Well, yes, we really want these things to function because of that -- that consideration."

CHAIRMAN APOSTOLAKIS: It seems to me any sensitivity study that is being done should be done in the context of the decision we have to make.

MR. STROSNIDER: That's true.

CHAIRMAN APOSTOLAKIS: And I think this would be an extreme case, Jack. But even in what Dr. Powers said, the question is, okay, the PRA doesn't have fires induced by earthquakes. But the real question in front of us is, if we relax the treatment, is that going to be a more likely event? Are we doing anything now that's related to that issue, that if we relax it, then, my God, you know, next time you start shaking you are going to start seeing fires all over the place.

That's really the decision we are facing, and let's not forget that. I mean, otherwise, we can start talking about the limitations of the PRA in the abstract, and that will not take us very far. It's the decision that matters, and I think it's relevant to what Dr. Bonaca was saying earlier, what Dr. Powers said, and what Mr. Sieber just said.

We're not talking about wholesale change of the regulations, I don't think. No. That may be -- we are not talking about fundamental changes in -- major changes in the failure rates, except I am willing to accept Jack's example with the earthquake. I mean, you really don't know that. You rely on Jack's -- the conditional probabilities of failure,

and so on, is something that's largely a matter of judgment.

MR. STROSNIDER: And I think for environmental conditions, too. If you look at the testing, you know, under harsh environments you can get -- get interesting results.

CHAIRMAN APOSTOLAKIS: It's really -- I think the -- eventually, we're going to think -- be thinking about some rule or something to -- you know, for Option 2. This is just proof of concept.

MR. STROSNIDER: Yes. But I -- I mean, I -- in my mind, of course, we're learning experience as we go through this. And some of the -- if you'll look at the -- what's been characterized as the whats and expectations of what a program would accomplish, those sort of things, in my mind, at least would find their way into a rule at some point.

So, I mean, we --

CHAIRMAN APOSTOLAKIS: Now, there you would have to revisit the whole issue of categorization. You know, I --

MR. STROSNIDER: Well, they have to complement each other in the decision.

MEMBER SIEBER: Maybe I could expand on that question a little bit, because I've thought about

it. Let's say that South Texas and the staff reach agreement on everything, the exemptions are granted, and there is all of these other licensees sitting out there with their papers in hand to come in and ask for Option 2 exemption requests.

It may look something like South Texas' original request or as it has been modified, but perhaps the plants are different. Would you treat things like categorization differently because the risk profile of a plant was substantially different than South Texas?

MR. NAKOSKI: This is John Nakoski. I think we would have to look at the quality of the PRA or assess the capability of the PRA for the specific plant to support a robust categorization process.

For South Texas, I think we have looked at their PRA with sufficient detail to come to the conclusion that the PRA and the risk profile derived from that is sufficient to support moving forward with an exemption. For other plants, we would have to look at the PRA to some level to be able to conclude that it is sufficient to move forward in exemption space. And I think that's consistent with the guidance in Reg. Guide 1.174.

MEMBER KRESS: Yes, but that's really not

the question. Of course you look at the quality of the PRA. You have to do that. But the question is, assuming you do that and you -- your assessment is that the PRA is of sufficiently good quality for this, but the PRA tells you that this particular plant has a risk status that's significantly worse than South Texas --

MR. STROSNIDER: This is --

MEMBER KRESS: -- now, are you going to treat the categorization process any differently?

MR. STROSNIDER: This is Jack Strosnider. I would be much more comfortable having some of our PRA staff answer that question, quite frankly. But the one comment I would make on it is that one thing we know is that we have to have confidence in that categorization process. That's a cornerstone of this whole approach.

And so I think it's a very valid question, and I think it's something we certainly would need to take into consideration. But I think we probably ought to have some of our PRA people --

CHAIRMAN APOSTOLAKIS: A related question is both Fossil-Vesely and raw deal with fractional changes of risk.

MEMBER KRESS: Yes, that's true. That's

the source of the --

CHAIRMAN APOSTOLAKIS: In South Texas, it's low because of the redundancy, and so on. They are nice people.

If you get another plant where the core damage frequency is A$10^{-5}$, you still go with the fractions. Fossil-Vesely still is .005.

MR. NAKOSKI: This is John Nakoski. I don't think we have the right people here to answer that question. I think it's a valid question.

CHAIRMAN APOSTOLAKIS: But we have it in the transcript.

MR. NAKOSKI: I'm sorry?

CHAIRMAN APOSTOLAKIS: We have a transcription, and these questions are being transcribed.

MR. NAKOSKI: And we appreciate the question, and I --

CHAIRMAN APOSTOLAKIS: But this is -- these are the things that concern some members of the committee. And one step further, why should the agency have four cornerstones when it comes to the oversight process, but when it comes to these things it deals only with CDF and LERF? Why don't you guys care about initiating events in this case?

In the oversight process, we do care about them, and we don't want to have too many of those. But then where we're talking about relaxing special treatment requirements, we just focus on CDF.

MR. NAKOSKI: Well --

MEMBER SIEBER: The problem with that, just to expand your question a little bit, is when you license the plant you licensed it to 50.34, which had some performance-based requirements in it, and Appendix A, which lays out another bunch of performance-based requirements -- 50.49. And if you lay all of those out, do they reflect themselves properly in using CDF and LERF as surrogates for all of these possibilities?

MR. STROSNIDER: Yes. I think those are all fair comments and questions. And I guess the one thing I just want to come back to, one of the objectives we had today, NRC staff, in terms of the treatment process here is to try to explain clearly what the approach is that we're taking.

MEMBER SIEBER: Right.

MR. STROSNIDER: And then what it does and what it doesn't, and there is -- you know, there's issues involved there that we have to be comfortable with as we move forward. So I hope that we've at

least laid that out, and I think that --

CHAIRMAN APOSTOLAKIS: I wonder whether in your deliberations regarding treatment you really used in the back of your mind the four cornerstones of the oversight process, not just the Fossil-Vesely and raw --

MR. STROSNIDER: Well, I think --

CHAIRMAN APOSTOLAKIS: You don't want to see any small LOCAs or --

MR. STROSNIDER: Sure. In general, this whole process -- yes. In general, I think we need to back up and look at the integrated program here. And, in fact, in our safety evaluation, we're looking at the Reg. Guide 1.174 sort of approach which says, you know, you need to take into account defense in depth and margins, and that sort of thing. So we haven't lost sight of those, certainly.

CHAIRMAN APOSTOLAKIS: So the question is whether part of the reason why there is this extended debate is that the categorization process uses one set of metrics, but then when you guys evaluate the treatment you use another set. I think that --

MR. STROSNIDER: I think there's a real challenge if you try to correlate the two in some quantitative way.

CHAIRMAN APOSTOLAKIS: I mean, and I think the oversight process has made progress there, by identifying the four cornerstones and saying explicitly, "We do care about the frequency of initiating events." The agency does care. It's not just CDF and LERF.

MR. STROSNIDER: I agree with all that. But I do come back to stress again that when you talk about special treatment rules, that, you know, they were written largely to mitigate -- to deal with components, functions, and mitigating accidents, when you look at EQ and seismic. And, I mean, we've been over this several times now, but, you know, you don't get much data on that sort of thing.

MEMBER SIEBER: Another question is, you used an operating phase PRA as the basic structure of the risk analysis to support categorization. Have you looked at -- and you also discussed the fact that you used an IPEEE type analysis. Have you done shutdown PRAs or operating transient PRAs? Because that's part of the risk -- overall risk profile. And if you have or haven't, do you think that the -- the risk analysis by components would be different, depending on what phase of the operation you're in?

MR. MOLDENHAUER: From a PRA perspective,

we haven't included the shutdown PRA analysis or any transient analysis. However, from the deterministic process that we include into the risk ranking, we do ask those questions, and we are confident that we would get the same results if we look from a PRA perspective, because our operational answers match closely to the PRA results. So we would feel that from a shutdown and transient mode PRAs that we would also match closely.

MEMBER SIEBER: Okay. Now, did your expert panel have the opportunity to look at the PRA results at the same time as they did their own categorization, or was that some kind of a blind test that we could draw some confidence from?

MR. MOLDENHAUER: No. At the beginning of each of the sections, each of the systems that we went through to analyze, each member is responsible for bringing his perspective of that system to the working group. For example, Licensing brings licensing commitments to the working group.

Me, as the PRA expert, I bring the PRA stuff. I discuss the assumptions and the limitations that go into the PRA, and all the analysis that goes into the PRA, with the working groups before we start addressing any of the categorization processes.

MEMBER SIEBER: So they are pretty much aware of what SSCs the PRA has identified as risk important before they make their independent decision.

CHAIRMAN APOSTOLAKIS: But the vast majority of SSCs, though, that were categorized were not even in the PRA.

MEMBER SIEBER: That's right.

CHAIRMAN APOSTOLAKIS: So the --

MEMBER KRESS: He's addressing those that overlapped.

CHAIRMAN APOSTOLAKIS: Sorry?

MEMBER KRESS: He's addressing those that overlapped as a validation of the process.

MEMBER SIEBER: Yes. But if they already knew what the PRA results were, then it's -- it doesn't validate anything other than it reinforces what it is they're saying.

MR. MOLDENHAUER: But they don't know the results. I don't give them the PRA results. We don't give them the risk ranking and the PRA results until we actually do the components. When we do the system functions and that, the working group doesn't have those results.

MEMBER SIEBER: Now, another question that sort of addresses Dr. Bonaca's question, let's say

that you had a component, and your plant is very robust because you have three trains of almost everything, which gives it a pretty good risk profile, in my opinion.

But if you had, for example, an intermediate head safety injection pump, and it was risk significant, you know, RSC-1, and it was supported by a raw water pump that cooled the lubricating oil, that raw water pump would also be an RSC-1. It would not -- even if you had three or four trains, it would not end up as a three?

MR. SCHINZEL: What we look at, again, would be the function that needs to be satisfied. If that function that the safety injection pump has to satisfy is high safety significant, and if the raw water pump that cools that system -- if its failure would cause loss of that safety injection function --

MEMBER SIEBER: Sooner or later it would.

MR. SCHINZEL: -- then it would also be classified as a safety significant type --

MEMBER SIEBER: Regardless of how many trains you had.

MR. SCHINZEL: Well, we would look to see, are there independent and diverse means of satisfying that cooling? And if there are, there may be a

potential of, again, lowering that categorization down by one level.

MEMBER SIEBER: By one level. Okay.

MR. MOLDENHAUER: And just to add on to that, the PRA does include those dependencies in that. So if there isn't any cooling water for the safety injection pump, well, then, the safety injection pump wouldn't work.

MEMBER SIEBER: Yes. You actually don't have -- you have three trains, but the three trains are -- they are directly three trains. You know, you have a raw water pump that supports train A, and everything in it, including the diesel, right?

MR. MOLDENHAUER: Yes, for the most part.

MEMBER SIEBER: And you do have some cross-ties as I recall.

MR. MOLDENHAUER: Yes.

MEMBER SIEBER: But those cross-ties are manual, right, on things like cooling water? The operator has to do something?

MR. MOLDENHAUER: No. For the charging pumps, for example, the cross-tie data, there is nothing for the operators to do.

MEMBER SIEBER: Oh. Check valves, okay.

MR. MOLDENHAUER: Yes.

MEMBER SIEBER: All right.

MEMBER BONACA: Thank you. Just to specify a little bit, my concern before was where there is multiple redundancies of a system. It was to do mostly with the level of testing that you do, etcetera, to that system if it is a lower category, the reason being that -- my thought process was you are vulnerable to common mode failures, because many of them are driven by maintenance practices.

The experience often times is that you do something to a pump, you put in some seal that is different from the previous one, or the seat is different, and then you discover through the testing that you have a problem with one. You go back and check the others, and you find a similar problem. It is -- this is a common experience there has been.

And that's why I was asking those questions. I wasn't looking only about the materials. I was thinking about the testing that you perform for the systems and trains, and that's why I raised the question.

MR. HEAD: And we recognize -- this is Scott Head. We recognize the limitations, especially with seismic and environmental aspects. But we do have what we believe is a robust feedback program that

involves the corrective action program and involves periodic assessments of the system health. It involves the system engineer, the people that are closest to the system, and we ask them specific questions. What has this process done to your system?

And right now we don't expect many answers of a positive nature, because we haven't -- it's mainly in a graded QA form, not with respect to what we're doing here. But that's a process that will continue throughout this, you know, that -- it goes with the exemption request, and so we expect that sort of feedback, and at least opportunities for common load issues like that to be identified and for us to take appropriate action.

We agree that in seismic and EQ areas they are probably never going to manifest themselves. But, I mean, if we have a vendor that ultimately ends up starting to provide us stuff that's not of appropriate quality, that process could reveal itself there also.

MR. SCHINZEL: And one additional depth of defense generally is we take trains out of service. You know, we'll perform the maintenance or the repair activity, replace something. We don't do that to all trains at once, at the same week. So there is a series of time between the time you implement --

install a part on one train, before you install it on another train.

So if it is some time dependency on that failure, we would expect that feedback process to give us that insight.

MR. CHACKAL: This is Ralph Chackal. We should also mention that the maintenance rule trends failures at the system and function level. So if there was a failure of one or more components that failed a medium or high safety significant function, that would be required under our program to be identified, trended, and corrective action determined by the maintenance rule program.

MR. HEAD: I'd like to make one last point that it's a critical, I guess, safety aspect. Our ECCS trains are not headered or cross-connected. There is -- aux feedwater is ultimately cross-connected with operator action, with instrument error.

MEMBER SIEBER: Your auxiliary systems.

MR. HEAD: Yes, sir.

MEMBER SIEBER: Right.

CHAIRMAN APOSTOLAKIS: The issue of functionality that the staff raised is an interesting one. Using different words, are you concerned about design and construction errors?

Do these special treatment requirements give you higher confidence that the components will not have those that will manifest themselves in a very harsh environment that we're not going to see -- it's likely we'll never see? Is that really the issue here, design and construction errors, which PRA doesn't handle at all? It assumes that the component is capable of performing its function. Or am I using words that should not be mentioned here?

(Laughter.)

MR. STROSNIDER: I think the answer is yes. I'm not sure that it's the way I'd characterize it exactly. But if you take the situation where they would want to replace an existing component, the staff has an expectation that that replacement component would perform its function throughout its life in the plant.

And the programs of procurement and maintenance and surveiling and testing -- and I think there's eight elements in this program -- all of those elements contribute in some way to maintaining that functionality under design basis conditions. So that is the expectation.

CHAIRMAN APOSTOLAKIS: Which in different words is they reduce the probability that there is

some flaw there that will not allow the component to function, which is a --

MR. STROSNIDER: Well, okay. But it's more than looking for -- for random or perhaps isolated fabrication defects. The situation when you go out to buy a commercial component -- a valve or a pump or something to replace the existing one -- yes, you can buy commercial products that have perhaps comparable materials, etcetera, to what's in the safety-related.

You can buy commercial products that will perform the normal operating basis that have plastic -- maybe that's an extreme example, but they may have different materials in them. All right?

So the point is when you go out to procure that sort of component, that you want to make sure that it's -- that you've laid out exactly what the design conditions are, that it's going to have perhaps, under an accident condition, to work in an environment where there's high radiation and temperature, and that the materials and the design would accommodate that.

CHAIRMAN APOSTOLAKIS: So it --

MR. STROSNIDER: But it's more than a random -- there's a defect here or there. It's a more

general --

CHAIRMAN APOSTOLAKIS: I didn't say random. I said design.

MR. STROSNIDER: Okay.

CHAIRMAN APOSTOLAKIS: In other words, if you find after a strong earthquake that the wrong material had been used, then you would say it was a design error, wouldn't you?

MR. STROSNIDER: Well, I think, you know, for the seismic examples what might come more into play is the geometries involved, and perhaps materials in terms of masses, etcetera, when you get into dynamic sorts of analyses and whether the internals are going to operate under those sort of whatever the acceleration forces are.

And then, that's part of why -- well, you know, what we say is when you go to procure that or to "qualify" it internally, you need to consider all those inputs. A lot of times the vendor catalogs may say, well, you know, this is good up to some g level. Is that appropriate for the application, you know, or depending upon what the seismic consideration is at the plant, which I think happens to be low at South Texas.

But, so does that answer your question?

CHAIRMAN APOSTOLAKIS: Yes.

MR. SCHINZEL: And, Dr. Apostolakis, I'll point out that, you know, from the standpoint of our commercial program, we have the same expectations on the commercial side of the plant. Once we install something, we're going to post-maintenance test that, and we're going to validate that it's performing its function.

So, again, we have assurance that that component is doing what it's intended to do, and we expect that those same practices could be used on low safety significant and non-risk significant components and give the same degree of assurance.

MEMBER BONACA: We are asking questions, however, because on the secondary side of the plant everything runs. And if something doesn't work, it manifests itself. And most of the safety systems don't run; they sit there. And so the only way you are going to find out whether or not it will work, it's really often times an indirect kind of test, a verification, and you have to rely on those.

There is a difference there. You have to -- I just want to point out --

CHAIRMAN APOSTOLAKIS: What I'm trying to do is trying to understand or trying to translate the

concerns that staff has into PRA language. And I think this comment earlier that you really are concerned about functionality -- that's a very important comment, because PRA assumes that the thing will start doing its job, and then there is a probability it will fail.

That's a very important point. That's why I raised the issue of design and construction errors. Now, is that really what you are talking about?

And a related question is, all of these -- I mean, your sensitivity analysis was really done on a point estimate basis. You took the mean values and multiplied by 10, or something like that.

MR. MOLDENHAUER: Yes.

CHAIRMAN APOSTOLAKIS: You didn't look at the whole distribution. Right. And, I mean, the importance measures are also derived on the basis of point values, mean values of failure rates, and so on. And I wonder, when you go to those external events like earthquakes, where the uncertainties really become very large, where they're deriving importance -- the importance of the components using just the mean value is good enough.

You see, and the real engineer then worries about it from a different -- doesn't express

it that way. But I think that has a lot to do with it, and the uncertainty, the spread of the distribution probably plays a role.

Jack, do we have anything else? I think we're running out of time now.

MR. STROSNIDER: Any questions? No?

MR. HEAD: A closing comment -- it might also answer a question. The effort that STP is expending on this -- and I'd say also that the Nuclear Regulatory Commission has been expending -- is extensive. We embarked upon that a couple of years ago because we felt like that there were two substantial benefits from this process.

One was we believed that by identifying the Risk 2 components that we would ultimately positively impact plant safety, or, as a minimum, be neutral between the tradeoff, between Risk 2 and Risk 3. But we felt like the positive benefits we get from that, from being able to focus not only on the safety-related components but the non-safety-related components that were important from a risk perspective, was an overall important thing for the station and for the public health and safety.

Clearly, the second reason we embarked upon this extensive, expensive effort is we expected

some financial benefit. And that's a -- that's a driver for this -- you know, for our entire effort. We remain committed to pursue this because we believe the financial benefit is there. We know we're taking -- we are getting the advantage of the safety benefit.

And so the question -- the answer to the question about why pursue Option 2 is we -- there are other plants out there that that's probably the same case for. There are clearly some plants out there, maybe of a certain vintage or certain sophistication from a PRA standpoint, that the initial upfront cost just would not justify this process.

There are other plants that we believe -- and they're out there we think, and they know they're there -- that this process would provide those benefits. So I'll use your seismic example. We've never at STP really used the seismic aspect of STP as important for this process because we want it to be able to be used across the industry, because we think that as part of risk-informing the regulations it's important for this -- not only for STP for this to succeed but for the industry.

And, as I say, we remain committed to pursuing this. We believe the benefits are tangible and meaningful, so we certainly appreciate the Nuclear

Regulatory Commission's continued involvement in this process.

CHAIRMAN APOSTOLAKIS: I got the impression that the staff was a little bit more optimistic than you that you will reach consensus soon. Is that the wrong impression? False impression?

MR. HEAD: I guess what I'm saying is I -- clearly, there's an exemption request approval coming. We believe that there is one that's coming this summer. I think what we are wrestling with is, will the financial or the benefits that we can see in the commercial procurement area, will they manifest themselves?

Or will the expectations that we believe are there on the part of the staff -- can we fulfill them without actually building something -- you know, on one end you have commercial grade, and the other end you have safety-related. That if you end up spending too much money on this commercial grade component, at some point in time it makes no sense to pursue commercial grade, and you'll be left with basically a safety-related component, which is okay, but it's certainly not what we thought SECY-98-300 would have said is the way we're going to end up.

So our perspective is that there is an

exemption request in here that is certainly approvable. Whether it's what we ultimately can use to the full benefit, as we expected, that's still where -- I think what we're still wrestling with. And there are some -- you know, between the maintenance rule and a number of other aspects in there, there is clearly some benefits we're getting, but it's -- there are certain areas we still need to work through.

CHAIRMAN APOSTOLAKIS: Okay.

MEMBER SIEBER: Any other comments?

MR. NAKOSKI: This is John Nakoski. I'd just like to thank the ACRS for the opportunity to provide you with our insights on the treatment.

MEMBER SIEBER: Thank you.

Mr. Chairman?

CHAIRMAN APOSTOLAKIS: When is your report coming to us, the safety evaluation report?

MR. NAKOSKI: To a large extent, it's being driven by when we can resolve the open items. I think if you look at the first slide, we would expect to provide the ACRS with the safety evaluation at about the same time that we provide it to the EDO, which is currently scheduled for early May.

CHAIRMAN APOSTOLAKIS: And then they will request a letter when?

MR. NAKOSKI: Well --

CHAIRMAN APOSTOLAKIS: Not in May.

MR. NAKOSKI: -- for categorization, I was hoping we would have had a letter already, but --

CHAIRMAN APOSTOLAKIS: We were hoping, too.

MR. NAKOSKI: Okay.

CHAIRMAN APOSTOLAKIS: But hopes --

MR. NAKOSKI: We would -- we're planning to talk to the Commission in early June, and we would hope to have your insights around that time.

CHAIRMAN APOSTOLAKIS: Around that time. So we'll have roughly about a month.

MR. NAKOSKI: We're trying to give you that time, yes.

CHAIRMAN APOSTOLAKIS: That would be really helpful, because there is a lot of material here.

Well, thank you, gentlemen, very much. We appreciate your coming here and talking to us.

And we will recess until 10:55.

(Whereupon, at 10:38 a.m., the proceedings in the foregoing matter went off the record.)

**CERTIFICATE**

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: ACRS Full Committee Meeting

Docket Number: (Not Applicable)

Location: Rockville, Maryland

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

Rebecca Davis

Rebecca Davis
Official Reporter
Neal R. Gross & Co., Inc.

*United States*
*Nuclear Regulatory Commission*

# SOUTH TEXAS PROJECT REQUESTED EXEMPTIONS FROM SPECIAL TREATMENT REQUIREMENTS

## ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

### TREATMENT OPEN ITEMS

***John A. Nakoski***
*Senior Project Manager, STP Units 1 and 2*
*Division of Licensing Project Management*
*Office of Nuclear Reactor Regulation*

**April 6, 2001**

# SOUTH TEXAS PROJECT RISK INFORMED EXEMPTION REQUEST

## TIMELINE

- *7/13/99* — *Exemption Request Submitted*
- *8/31-9/1/99* — *Meeting on Exemption Requests*
- *10/5-6/99* — *Meeting on Exemption Requests*
- *1/18/00* — *Request for Additional Information Issued*
- *4/10-11/00* — *Meeting on Categorization*
- *6/20-21/00* — *Meeting on Treatment*
- *7/19/00* — *Draft Review Guidelines Issued to STP*
- *7/24-25/00* — *Meeting on Commercial Practices*
- *8/31/00* — *Revised STP Exemption Request Submitted*
- *11/15/00* — *Draft Safety Evaluation Issued*
- *12/7/00* — *ACRS Briefing on Draft Safety Evaluation*
- *12/6 & 8/00* — *Meeting on Draft SE Open Items*
- *1/24/01* — *Response to Draft SE Open Items Submitted*
- *2/14-15/01* — *Meeting on Open Item Resolution*
- *2/21/01* — *ACRS Subcommittee Meeting on Categorization*
- *4/4-5/01* — *Meeting on Open Item Resolution*
- **TBD** — **Open Items from Draft SE resolved**
- **4/6/01** — **ACRS Committee Meeting on Treatment**
- **5/1/01** — **Preliminary Final Safety Evaluation Due to EDO**
- **5/10/01** — **ACRS Committee Meeting on Safety Evaluation**
- **5/15/01** — **Commission Paper Due to the Commission**
- **6/5/01** — **Commission Briefing**
- **6/19/01** — **Issue Final SE and Exemptions**

# STATUS OF STPNOC EXEMPTION REVIEW

## 16 Open Items and 2 Confirmatory Items (☛ treatment open items)

✓ **6 Closed**
- ▸ Open Item 3.1 (Importance Measure Equations for Common Cause Failure)
- ▸ Open Item 3.2 (Fussell-Vesely Importance Measure Criteria)
- ▸ Open Item 3.3 (Qualification of Integrated Decisionmaking Panel Members)
- ☛ Open Item 7.1 (Revised QA Program Description)
- ☛ Open Item 13.1 (Scope of Maintenance Rule Exemption Request)
- ▸ Open Item 3.6 (Use of General Notes in Categorization Process)

✔ **6 Can Close Based on Agreement on FSAR Details**
- ☛ Open Item 4.1 (FSAR Description of Treatment Processes for HSS/MSS SSCs)
- ☛ Open Item 4.2 (Detail in FSAR on Treatment Processes)
- ☛ Open Item 11.1 (Exemption from Qualification Requirements of IEEE 279) (partial closure, see OI 8.1)
- ☛ Confirmatory Item 4.1 (Areas of Inconsistency in Submittals)
- ☛ Confirmatory Item 4.2 (Follow NRC Endorsed NEI Guidelines on Controlling Commitments)
- ☛ Open Item 5.1 (Controlling Changes to the Exemption Implementation Processes)

✔ **2 Have Success Path for Resolution (Agreement in Principal & Licensee Response Required)**
- ▸ Open Item 3.4 (Categorization Process Consideration of Containment Integrity)
- ▸ Open Item 3.5 (Categorization Process Application to Passive Pressure Boundary Function)

☛ Open Items 10.1 and 10.2 (Repair/Replacement and ISI of ASME Code Components) Require Agreement in Principal on Success Path & Revised Licensee Response

☛ Open Item 8.1 (Exemption from 10 CFR 50.49 Environmental Qualification Requirements) Requires further Internal Review

☛ Open Item 18.1 (Exemption from 10 CFR Part 100, Appendix A, Seismic Requirements) Requires further discussion with STPNOC

## OVERVIEW OF TREATMENT PROCESSES
## STPNOC EXEMPTION REQUEST

**Approach for staff review of STPNOC's Treatment Processes:**

1. The design basis would not change.
2. The functional capability of low safety significant SSCs would be maintained for design basis conditions, although at a lower level of confidence than for high safety significant SSCs.
3. The FSAR would include a high level description of the program on treatment for low safety significant SSCs. The FSAR would describe **what** the program would be, but not **how** the program would be implemented. The FSAR is the licensing basis for exemptions.

**The staff's finding regarding treatment is whether the licensee's treatment processes include the necessary elements, if effectively implemented, for the licensee to conclude that it has confidence that LSS and NRS SSCs will be capable of performing safety-related functions under design basis conditions. This finding supports the staff's finding in categorization that there is no undue risk to public health and safety.**

# PERFORMANCE BASED ASPECTS OF TREATMENT

- ★ Degree to which treatment processes are performance based varies
- ★ Environmental and Seismic Qualification are not Performance Based (under either existing or proposed treatment)
- ★ Areas such as Inservice Testing can be Performance Based

# TREATMENT OPEN ITEMS

## Open Item 4.1 - FSAR Description of Treatment Processes for HSS/MSS SSCs

**Resolution:** Staff and STPNOC Agreement in Principal on wording in STP FSAR. STPNOC to finalize FSAR.

## Open Item 4.2 Detail in FSAR on Treatment Processes

**Resolution:** Staff to work with STPNOC to specify necessary Elements in the FSAR of commercial processes and practices at STP for use as the basis for STPNOC to conclude LSS and NRS SSCs will be capable of performing safety-related functions under design basis conditions.

- ✓ Design Control Process; Procurement Process; Installation Process; Maintenance Process; Inspection, Test and Surveillance Process; Corrective Action Program; Management and Oversight Process; and Configuration Control Process.
- ✓ Specific wording in the FSAR on these elements still being developed through cooperative effort between NRC and STPNOC.

  [Open Items 8.1 and 18.1 Could Impact Procurement Wording.]

# TREATMENT OPEN ITEMS (con't)

## Open Item 7.1 - Revised QA Program Description

**Resolution:** STPNOC has submitted an acceptable revision to its Operating QA Program.

## Open Item 8.1 - Exemption from 10 CFR 50.49 EQ Requirements

**Resolution:** STPNOC has provided sufficient basis on why it requested exemption from 10 CFR 50.49. Resolution of Open Item 4.2 necessary to establish elements in FSAR for exemption from 10 CFR 50.49.

- ✓ Design Requirements - temperature and pressure, humidity, chemical effects, radiation, aging, submergence, and synergistic effects.
- ✓ Documentation, margins, and methods for confirming capability of LSS and NRS SSCs to remain functional under design basis environmental conditions to be implemented consistent with elements of treatment and oversight processes described in FSAR.
- ✓ Staff working internally to align on details needed in FSAR regarding procuring replacement SSCs considering environmental design basis conditions.

## Open Items 10.1 and 10.2 - Repair/Replacement and ISI of ASME Code Components

**Resolution:** Pending. Need revised licensee response following February 14 - 15, 2001, meeting.

# TREATMENT OPEN ITEMS (con't)

## Open Item 11.1 - Exemption from Qualification Requirements of IEEE 279

**Resolution:** Licensee provided adequate basis on why it requested exemption. Resolution of OI 8.1 and 18.1 provide basis for closing this item.

## Open Item 13.1 - Scope of Maintenance Rule Exemption Request

**Resolution:** Licensee clarified that it was not seeking an exemption from the requirements of 10 CFR 50.65(a)(4).

## Open Item 18.1 - 10 CFR Part 100, Appendix A, Seismic Requirements

**Resolution:** STPNOC has provided sufficient basis on why it requested exemption from Sections VI.(a)(1) & (2) from Appendix A to 10 CFR Part 100. Resolution of Open Item 4.2 necessary to establish elements in FSAR for exemption from 10 CFR Part 100.

- ✓ Requirement to retain - SSCs designed for earthquake motion, as described in the design bases, including seismic inputs and design load combinations.
- ✓ Methods for confirming capability of LSS and NRS SSCs to remain functional under design basis seismic conditions to be implemented consistent with elements of treatment and oversight processes described in FSAR.

# REMAINING ITEMS

## Confirmatory Item 4.1 - Areas of Inconsistency in Submittals

**Resolution:** Staff SE to provide findings on elements of treatment program that can maintain design basis and functionality if effectively implemented. STPNOC has provided resolution to the areas of inconsistency identified in the draft SE. The staff will discuss this resolution in the final SE.

## Confirmatory Item 4.2 - NEI Guidelines on Controlling Commitments

**Resolution:** STPNOC confirmed its commitment to adhere to the NRC endorsed NEI 99-04. Staff and STPNOC Agreement in Principal on FSAR Wording.

## Open Item 5.1 - Controlling Changes to the Exemption Implementation Processes

**Resolution:** Processes upon which the NRC will base its findings will be controlled by:

1. Require processes to be described in the STP FSAR.
2. Require STPNOC to implement a change control process seeking prior NRC approval of changes that would decrease the effectiveness of categorization in identifying HSS/MSS SSCs, reduce the assurance of SSC functionality, or decrease the effectiveness of the evaluations and assessments as described in the STP FSAR.
3. Require report within 60 days of changes made without prior approval.
4. Changes to the STP FSAR description that result in a decrease or reduction if effectiveness or assurance be submitted for prior approval.

# A South Texas Project Perspective on the Status of the Exemption Request

Presentation to the ACRS

April 6, 2001

## Treatment Status

- **STP understood that non-safety significant SSCs would receive treatment equivalent to commercial components.**
- **Staff need for a finding based on functionality required significant treatment detail to be provided.**
- **STP understood that the NRC staff would now focus treatment insight on the "whats" and not on the "hows"**
- **Based on current status, concerns exist on NRC staff approach to treatment:**
  - Seismic treatment does not have a clear pathway that successful implementation is possible.

## Treatment Status

- Equipment Qualification treatment remains unresolved with the staff
- Additional testing to replace "regulatory requirements" is being required
- Significant details are still required in the proposed FSAR
- Proposed FSAR includes extensive "hows" for treatment
  - Procurement Process
  - Maintenance Process
  - Management & Oversight Process

- **STP has not evidenced significant change in the staff's approach toward treatment.**

## Treatment Status

- **Timing for Exemption approval remains in doubt**
- **STP expects industry willingness to pursue Option 2 approach will be challenged.**