ORIGINAL

# NRC/TUGCO MEETING

VOLUME I

MORNING SESSION

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June 14, 1985

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NRC/TUGCO MEETING

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APPEARANCES:

NRC:
Vince Noonan
Larry Chandler
Robert Bosnak
Larry Shao
Jose Calvo
Angelos Marinos
Jim Milhoan
Charlie Trammell
Howard Hunter

TUGCO:
William Counsil
John W. Beck
John Marsnal
Fred Madden

CASE:
Jerry Lee Ellis
Dr. David H. Boltz
Fred W. Beck

TENERA CORPORATION:
John Guilbert
Howard Levin

TELADYNE:
Jim Mollonson

STONE AND WEBSTER:
John Hansel
Ed Siskin
Cris Mortgat
Martin Jones

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MEETING HELD before Jayne Ames, a CSR, and Notary Public, in Tarrant County for the State of Texas, on the 14th day of June, 1985, beginning at 8:00 a.m., at the Sheraton Hotel, 1500 Stadium Drive East, Arlington, Texas.

SECOND DAY

June 14, 1985

P R O C E E D I N G S

MR. NOONAN: We would like to go ahead and start this meeting this morning. This is the second day of the utilities presentation to the NRC on the program. And I don't have any comments, other than people please speak up when they identify themselves, so the recorder can write down their names and so forth. With that, I'll turn it over to you, John.

MR. BECK: Thank you, Vince. If I could have the first slide, give you an outline of what we're going to be covering today in the presentation on the design adequacy program. We will have an intro that will give a good solid background and outline the program structure and the organization.

We're going to spend a considerable amount of time on methodology so that it's clear the approach that's being taken in all the areas. I guarantee that we will get to the bottom line of understanding and dealing with root cause and generic implications, whether they may lie or whether they may lead us.

And we're going to spend probably half the

presentation in that neighborhood talking about the specific discipline reviews that will give a demonstration clearly of how the methodologies apply.

Howard Levin is going to be the chief spokesman. He will be assisted by others who will be introduced later. Howard, as you recall from our discussions yesterday, has been a review team leader to date on the issues, specific TRT questions, several structural and mechanical.

When in February we adopted the policy of covering all outstanding issues under the CPRT umbrella for the Comanche Peak project, the SRT, at Mr. Spence's direction, with regard to undertaking those tasks, shows Howard Levin the head of the design adequacy effort. That effort has been under development and evolving since that time.

For those who aren't familiar with Howard's background, Howard has an MS in structural engineering and a BS in civil from Massachusetts Institute of Technology. He's got over 13 years of total engineering experience, 11 of which are in nuclear power. Architect engineer with the NRC staff, and 4 years in the consulting business, focusing primarily on construction and design verification.

Howard's a vice president with the Tenera Division

of Tenera Corporation Nuclear Subsidiary. And without further ado, Howard, the mike is yours, and it's going to be a nice long day, I'm sure.

MR. SHAO: I have one question here.

MR. BECK: I'm glad to hear, Larry, there's only going to be one today. But now is a good time to start.

MR. SHAO: Yeah. On the discipline that's involved, you have mechanical assistant, electrical, RNC , piping and supports, civil, structural. But I don't see any of the mechanical components like pumps and valves. Is that an oversight here or --

MR. BECK: It's not an oversight. It's included. And Howard will get to it later this afternoon. And there are going to be lots of pumps and valves involved.

MR. SHAO: But it's included?

MR. BECK: Yes, sir.

MR. LEVIN: It's in the --

MR. SHAO: Including systems and components?

MR. LEVIN: That's correct.

MR. SHAO: Okay.

MR. LEVIN: Okay. As John has indicated, our presentation today is segmented to three sections. The first being introduction, and I will be running through that.

In this portion of the presentation, I'd like to

present some background on the evolution of events that brought us here and has led to the creation of the design adequacy program.

The charge that John referred to by Texas Utilities Management in terms of our goals and objectives, and given these responsibilities, how we are prepared to execute. In the process I plan to briefly identify the issues and their sources, the functional elements of our program that will direct -- that will be responsive to these issues, our organization personnel and the roles of our people and the project.

Okay. As many of you are aware, issues have been raised by various external sources that are design related. The source of these issues include the independent assessment program; the NRC ASOB licensing proceedings; the NRC's staff's licensing review itself, including the TRT work; SIT; and SSER 's, as well as the NRC inspection program, which includes Region 4 activities and CAT.

As mentioned, in view of these outstanding issues, TUGCO has charged the CPRT with responsibility for development and implementation of a program that will address and resolve all identified issues.

However, for enhanced confidence, TUGCO has expanded that charge to include responsibility for

insuring that there are no undetected safety issues.

MR. CHANDLER: Howard, let me may at this point ask you. This is Larry Chandler. You used the word "resolved", while ago, identified issues. Could you define how you're using the term "resolve"?

MR. LEVIN: By resolved -- I really have to address that in two segments. We have responsibility for capturing the issues, reviewing them, assessing their significance. And where issues are identified, that in particular, that may have safety significance, or where there may be deviations from commitments. We have a responsibility to bring those to the attention of TUGCO.

And oftentimes, particularly if there are deficiencies, some corrective action may be required.

So the resolution, is a processing that oftentimes includes our identification of an issue and definition of an issue. But when it comes to corrective action, the total course of resolution will undoubtedly, through effort on the part of TUGCO, and in many cases, as you will be evident through our presentation, you will see how we will be involved in the verification of that resolution where they have responsibilities.

MR. CHANDLER: If a corrective action is taken on the basis of one of your recommendations, do you then follow-up on the same issue, or is that still left with

the project?

MR. BECK: Larry, if I can say my piece on that issue. It's a responsibility of CPRT, as Howard said, to identify, and in cases of where necessary, recommend resolution of an issue.

The responsibility for execution of the resolution, if you will, is clearly that of the owner, TUGCO. It's the further responsibility of CPRT to agree that that resolution will in fact resolve the question. So it's a matter of identification, passage of that recommendation through the SRT and TUGCO management, to see that it happens.

MR. CHANDLER: Does the CPRT though, then go back, after corrective action has been taken, to, in a sense, verify that that action recommended has been properly implemented?

MR. BECK: The program, as it's set up right now, does not include a -- an audit of implementation by CPRT per se, but it will be very clear what their resolution path is. It will also be very clear that TUGCO has that responsibility. It's a process that takes place exactly as I have described it.

Obviously, CPRT is not in the implementation of the corrective direction.

MR. CHANDLER: That helps.

MR. LEVIN: The goal of the design adequacy program is to provide reasonable assurance that safety significant design deficiencies have been detected and resolved.

And with this goal, I think we all may ask the question, you know, just what about the unknown? I personally consider this to be the most important challenge before us in terms of meeting that goal.

And we have developed, and you will have some understanding of our program that will in fact address, not only those issues that are on the table, but those issues that we may not know about today.

I guess it's conceptually easier to deal with issues on the table. I think in all cases, that I'm aware of, engineering solutions are available.

MR. BOSNAK: Howard. This is Bob Bosnak, NRC. Yesterday we spent, I don't know if you heard, we spent quite a bit of time discussing licensing commitments and their role, visavis safety significance. And I would hope that this would include the licensing commitments.

If they to have to be revised, that would be part of their goal, to include those and seek resolution with the staff.

MR. LEVIN: I'll be getting into that in a moment. We have some objectives that might serve support -- that

support this goal, and we'll be getting directly into that. I agree, Bob. Your point is well taken.

MR. CHANDLER: Howard, I'm sorry. Before you move on, I asked both John Beck and John Hansen, yesterday, for their definition of the term safety significance. Could you tell me how you have defined the term for your purposes?

MR. LEVIN: Okay. I'll give you -- yeah, an engineer's definition of that. And fundamentally what we're talking about is the ability of a system or component or structure to meet its intended safety function.

MR. CHANDLER: All right.

MR. LEVIN: Just for Bob's question, I address issues that are on the table, and in fact that, there is a road map for addressing those. And engineering solutions are available, and you will hear some of the initiatives that are associated with that.

But getting back to the question of unknown for a moment, the initiatives that are required to address that question, require a combination of both exploratory, and sometimes investigative type of work. And as part of this presentation, you will be hearing about a particular functional element of our program that will help address that question.

MR. CALVO: Excuse me. I thought yesterday was our perception that the goal for the construction adequacy review and the senate adequacy review was, when you finished with it, you had reasonable assurance that you had quality in the design and quality in the construction.

And you may be trying to say that in here, but it doesn't quite come through with your goal. You could have found safety significance deficiencies. But suppose you had not found anything, and everything is all right, you still have got to reach that conclusion, that you have the same quality in Comanche Peak as in the electrical station; is that correct? Is this what you have in mind?

MR. LEVIN: Absolutely.

MR. CALVO: It doesn't come through, then, in that.

MR. MILHOAN: Jim Milhoan. Your definition of safety significance about a system being unable to perform its safety function is a rather high threshold. Are you considering failure of components to perform their safety function?

MR. LEVIN: Absolutely, Jim. If it didn't come across, I really prefer to the ability of systems, components, or structures. So it's not such a broad definition.

For example, it's not one that includes consideration of -- for example, let's say there is a deficiency in one train that may make that train unavailable. We're not going to rely on the other train or a diverse system, okay, as part of that definition. Okay. So it gets down to a much more local level, to the component level, in some cases, where that's important.

MR. MILHOAN: While you're concentrating on hardware, and I agree with your statements there, there's also programmatic deficiencies, such as failure to implement FSAR commitments, or figure to update -- maintain and update an FSAR. Will that be included in the safety significant category, or how are you resolving the programmatic issues as related to safety significance?

MR. LEVIN: Basically, we'll be getting into this in a moment, but there are three segments to our program. One of which is our programmatic and generic implications evaluation. And it's a one of three principal elements in the program, and I will be addressing that in some detail. Okay.

Our goal has led to the development of a list of objectives. As I alluded to earlier, when we were in the development phase of our program, there were clearly

two aspects that we had to address. One, our program had to address all external source identified issues. And, two, it had to be developed in such a way that we had reasonable assurance of detecting significant issues that are presently unidentified.

Importantly, our program required the investigation of root cause of safety significant deficiencies, as well as generic implications that Jim Milhoan just alluded to.

Bob, the point you brought up, the program also includes an assessment, the compliance to licensing commitments.

Getting back to safety significance again, we indicate here, we will assess it. That is, its -- the ability of systems, components, and structures to meet their performance requirements.

And we will be looking from the standpoint of deviation from commitments and deviations that may be identified with respect to existing issues. And others that may be identified during the course of the program.

It goes without saying that any significant deficiencies will be corrected. That's an objective.

However, we will also trend deviations from licensings commitments. And we will be describing how we're going to do that. A deviation means something

less significant than a deficiency.

And this really gets back to how we plan to do our business. But it will be evident that we plan to address many of these issues in an integrated manner and try to understand the meaning of the issues as a whole.

I mentioned that there are three functional elements to the program. The first being the external source issues, evaluation and resolution. Those are the issues that are derived from the sources that I mentioned earlier.

Secondly, self-initiated evaluation, which is very analgous to John Hansel's discussion in the construction program, where the emphasis of that program is addressing some of these potentially unknown issues, as well as providing additional confidence.

And lastly, the root cause and generic implications programs. Now we have structured our program along discipline lines, because we're going to be drawing conclusions on that basis. And with any of these disciplines, there are these three functional elements.

MR. MOONAN: Howard, I have got to ask you a question first. One thing, we were talking about the external sources, and I didn't hear a word said about the CYGNA language, what all CYGNA has done.

MR. LEVIN: I referred to the independent

assessment program. Yeah. But it certainly includes that work.

MR. NOONAN: I guess my question is, this CYGNA has done four phases, what's known as the four phases. When do you expect to receive the fourth phase and put this in the program?

MR. LEVIN: Okay. I will have to defer the timing aspect of your question to John. But I will state categorically that a significant amount of information has been folded into this program, okay, in the way of generic issues that they have identified, and through letters, as well as their open issues lists.

And also information that's been communicated to us. For example, our meeting in San Francisco sometime back. So that information has been captured and has led to the development of certain technical aspects of the program.

MR. NOONAN: Before you answer, let me address my question again. CYGNA has, I said before, done phases. When you're done with all that, is CYGNA going to be afforded the opportunity to see whether or not parts that they have identified and implemented, will they be involved in that process?

MR. BECK: The answer is yes. As I indicated yesterday, any issue CYGNA as raised that is unresolved

in their mind will be resolved by the CPRT effort. We are going to provide CYGNA -- they have -- let me back up a little bit.

We asked them a couple of months ago to please provide us, in lieu of the fourth phase final report, which they're not prepared produce at that time, a listing of all concerns that they have identified throughout all phases of their effort, which they did.

That list of concerns and identified findings has been gone over with a fine toothed comb by the design adequacy following under CPRT, and factored into the program plan.

We're going to provide shortly, after publication and distribution of the program plan, a road map showing where each CYGNA identified issue is treated within the program plan and the specific action plans.

And we have asked CYGNA to iterate with the CPRT on the identified resolution path, and to satisfy themselves that the resolution we have identified will resolve any of the issues they put on the table. So in that context, we will have treated everything that's come from that program.

MR. NOONAN: Has CYGNA given you a date when they will present this?

MR. BECK: To publish their fourth phase report?

think it will be only appropriate that they hold off publication until they have looked at our program plan, and we have gone through this reiteration. So it will stand as a complete document.

MR. SHAO: Will CYGNA give you the root causes of the problems they --

MR. BECK: CYGNA will have made some comments about root cause of the problem. But we in CPRT are not relying on CYGNA's effort in that respect.

We're going to do our own root cause and generic implications evaluation, and treat every one of the CYGNA issues within that overall context. It would be premature for us to rely on root cause identification by CYGNA, simply because of the scope of the effort that they did. I certainly won't ignore anything that they might --

MR. NOONAN: Not necessarily my point. But it would probably be helpful if they had indication of root cause, if they could identify them.

MR. BECK: Sure.

MR. MOLLONSON: My name is Jim Mollonson. I'm with Teladyne. Back to your objective. I don't find any records to what the quality assurance aspect, either the identification of the quality assurance criteria, or compliance with QA requirements.

I realize that can be picked up in the root cause of the defect, but I would suggest that the quality assurance aspects of your review would be added to the objectives.

Now, if you address this somewhere else in the program, it may be more appropriate someplace else in the program, but that certainly is one objectives we view.

MR. LEVIN: Okay. You are correct in identifying that it's through the root cause and generic implications aspect of our program that, if there are programs, whether they be quality programs or whatever, that recommendations from approval of those programs would involve that activity.

MR. MILHOAN: Howard, I was assuming when you were talking about licensing commitments, you were not only talking about on your previous slide about trending deviations from licensing commitments, not only are hardware commitments, but the commitments of the quality assurance program to implementation of the ANSI 45.2.11 standard of QA requirements for design.

In other words, the trending, for example, of documentation of engineering judgment or the lack of documentation of engineering judgments, that type of commitments would be trended also.

MR. LEVIN: That's correct. Okay. If we can get back to these elements from our program, now will be configured from an organization point of view to execute. This is a slide of our organizational chart, and I'd like to identify the key components and individuals that are assisting me.

The first is Frank Dougherty, who is serving in the capacity as design adequacy manager. And Frank has a MS in nuclear engineering and 16 years of nuclear power industry experience. Twenty years with an AE and design consultant experience. He's a past member of AS 50 Gyphene. Currently a member of ANS 3 on reactor operations.

Frank was involved managing in the design aspects of the review in the Midland independent design and construction verification program. And he brings with him a significant amount of experience in design, as well as design control.

Serving in the position of construction quality interface manager is Dr. John Honecamp. John's responsibilities include interfacing with the construction aspects of the CPRT program. That interface being with the work that John Hansel is doing. It's an on site interface.

Principal responsibilities include interfacing with

the site safety evaluation group; work where that group is working under John Hansel in evaluating construction deficiencies that he may uncover.

And in view of the fact that those deficiencies need to be evaluated from the standpoint of design implications, a very strong interface is required. And John Honecamp is responsible for insuring that that information gets back to the design adequacy team such that the collective significance of that can be included in an integrated sense with everything else that evolves from the program.

John has a PhD. in chemical engineering, and over 25 years of engineering experience. He has 9 years of experience in fuel and design startup operations, 11 in nuclear reactor research and development, 5 years with the utility. And in that capacity was deeply involved in the design and construction verification of the recent -- recently licensed facility.

And in the past two years, has been in the consulting world, participating in management and technical assessmentments that are much like the one we have here.

MR. BOSNAK: Howard, will he have any role in root cause, or will that be in one of the other blocks?

MR. LEVIN: Okay. We -- I was about ready to get

to the individual that has that responsibility. As far as root cause, Bob, that's -- everyone has that responsibility. I want to say that that is -- that extends throughout the program.

However, okay, there is a focus in dealing with that. And that comes in our programmatic engineering implications program. We have a manager for that program. So it's really -- that focus occurs in that box. And that box is led by Ed Blackwood, whom I'm about to introduce.

MR. BOSNAK: I wondered whether or not that did include root cause. That's why I put a question mark by that box. But yesterday when we talked with John Hansel, there was the interface with QA and design, and somehow or other I hope we're going to cover that interface, where we can determine how root cause is going to be here.

MR. LEVIN: Root cause is something that by necessity -- see, the generic implications program was created to provide an umbrella, okay. And oftentimes the root cause has a very important input into assessing the generic implications of a problem. But root cause oftentimes gets down to a very, very technical level, okay. And it's best dealt with, okay, by the people that are doing those evaluations, okay.

The focus for insuring that those root causes don't have generic implications and going through that is a systematic way, okay, is provided in this one element on the program.

MR. BOSNAK: But root cause may also be very generic and very sweeping across the whole --

MR. LEVIN: And that's why there's a focus for bringing all these various locals into one place.

MR. SHAO: Howard. Yesterday, when John Hansen made a presentation, I didn't see in a lot of so-called concrete QA/QC problems. They are identified in our SSER, and John Hansen said it will be handled by Howard Levin on the so-called structure QA/QC. But I don't see any organization here to handle this compound.

MR. LEVIN: Okay. That actually -- Larry -- the -- as I indicated, one interface in my description of the role that John Honecamp had with the construction quality interface. That's one interface with John Hansel. I described that role.

Another very important interface is one. And the second principal interface with him is through the programmatic and generic implications. And that coordinator, Ed Blackwood, has responsibility for cutting across our -- the responsibilities of review team leaders, okay. And most importantly into John.

And particularly where there are QA or QC implications of what we found. So it occurs in two locations.

MR. SHAO: But who would do the structure QA/QC, you or John?

MR. LEVIN: It -- both. We have structural reviewers that are involved dealing with issues in some cases, and in other cases doing the self-initiated reviews, okay, which are more. We'll get to that in a moment.

But there are more design verifications oriented in an additional sense with going forward and reviewing selected areas.

And if through their activities, okay, there are root causes identified or not identified, but suspected, and there is a need for further evaluation in the program or process, that gets communicated to Jonn. And John has a responsibility for evaluation of those problems.

MR. SHAO: But right after John's view, doesn't have any structure QA/QC.

MR. HANSEL: Do you want me to address that? Jonn Hansel, CPRT. We will investigate all QA/QC issues regardless of where they're at, Larry. Several structural, mechanical, electrical, INC. We have not broken them down, specifically, by those disciplines.

Anything that we have that indicates a concern or an issue of QA/QC regardless of where it comes from, which discipline, we will investigate. Now we may find some issues in our reviews.

Howard's people and his teams may well also identify concerns and issues that looks like it's a process problem, a procedure problem, a craft problem, inspector problem, and they will send those to me and I will look at it from a QA/QC standpoint. However, make certain that the design process is proper.

MR. LEVIN: And the principal flow point, John, to you, is through this generic implications box. And Ed Blackwood has that responsibility for -- it's assuring that that's a very stong --

MR. NOONAN: Let me pick up on this. We will have a lot of questions about QA and on who is doing what. There's three areas that we need to make sure we fully understand.

The interface with John Hansel. The Stone and Webster, how that interface because -- both my viewpoints, both the Hansel work and the Stone and Webster work, their starting points have to be correct. It seems to me you're the one that's going to determine that; is that correct? Is the design -- am I in effect drawing whatever the program is?

So those starting points have to be corrected. Seems to me you have to be out in front. Is that the way it's going? I'm just basing questions.

But yesterday there was a lot of questions on the QA, who is looking at QA, and I think they're still doing it today.

MR. LEVIN: Clearly, Vince, you're correct in observing that what -- where John starts and where I end, so to speak, they have to be reconciled. I don't think that's a necessary impediment to initiate the program and find reasons.

Fundamentally, what I'm trying to do is verify the adequacy of the design outputs. And those outputs are, typically, in the form of drawings and specifications.

On the other hand, John takes those drawings and specifications and is attempting to determine whether or not the plant was constructed in accordance with those.

So we can start our evaluation. Now if something changes in the design, it goes without saying, that where -- and that's useful in assessing, you know, how well the project did in, let's say, constructing to those drawings, or how well they did in arriving at those drawings.

However, in terms of final design adequacy, if

something changes, a drawing, something part of the evaluation is modified to a drawing change, or specification change occurs, obviously, and often times that occurs, or may be some modifications associated with that to bring the constructed facility in conformance, then John is going to have to verify that, in fact, those are congruent. But I don't think it's a necessary impediment, logistically, in starting the program.

MR. CHANDLER: So if I understand the interface here, if you're tracking a design problem which has construction implications, that moves over to John.

Likewise, if John is doing something which identifies a construction problem, it's moved over to you, to the design side, so that the process doesn't get lost. You would also pick up on the design potential question, anyway, to assure that, or to determine whether, there was a design associated problem that led to the construction problem that he's identified.

MR. LEVIN: That's absolutely correct, Larry. And I will be showing you some of the logic for that.

MR. MARINOS: Howard, am I understanding that your individual reviewers will have dual responsibilities? Namely, they will ascertain the quality of the design. And at the same time, keeping track of the quality

assurance or the design process that is used in order to decide wnether the process is correct?

It is one thing to determine that the final product is correct. And another one to decide whetner the process used was the appropriate process. So how are you going to determine two of -- both of those elements in the -- in your detailed review?

MR. LEVIN: Okay. The most important problem is verifying the quality of the end products of that process. But it's also important that if those processes or programs had witnesses, that they be corrected, with regard to ongoing processes, okay. And it's -- the way we will determine that is through the generic implications evaluation process that I will be describing. So if we could get back to that.

MR. MARINOS: What my question is, is this individual, will be in charge with the responsibility to flag that there is a design process problem in spite of the fact that the product is correct?

MR. LEVIN: Absolutely.

MR. MARINOS: So this man that you have assigned in a particular area, he will be qualified to do both? An engineer does not necessarily have both capabilities, or is mindful of, or assess the same significance to quality.

MR. LEVIN: The way it occurs, that engineers witnin their discipline, okay, will be identifying those potential witnesses. But -- and where there seems to be something, you know, a systematic problem, possibly, okay, that will be getting evaluated, you know, in the generic implications thing.

But where there is a need to review a specific program from the standpoint of looking at it on paper and selecting implementation, okay, that is the responsibility of John Hansen. When those needs are identified, their request is sent for him to get involved.

MR. MARINOS: Well, the individual reviewer will be totally familiar with the N-45 211 process.

MR. LEVIN: Absolutely. And I will be describing our methodology which parallels that process 100 percent.

MR. MARINOS: Parallels it through another process?

MR. LEVIN: Through the 211 process.

MR. MARINOS: Other individuals will follow that process, you say?

MR. LEVIN: That's in the program. If I could get back --

MR. CALVO: My turn. The foundation of the construction adequacy review, the whole thing that

depends on this population -- by the -- to population areas. And then we're going to select some sample populations, and we're going to apply to each population different attributes.

You haven't quite yet got to the foundation of your program. But I'm looking at the interface from your program with that foundation. You're going to be designed review and you also have some walkdowns.

How you decided adequacy review? How your walkdowns, when you get into the construction? Somehow is it going to interface with the concept of population areas on the plant. Are you -- going to be a coincidence that the same walkdowns you had, it may affect certain areas, certain systems, that you selected? Or will the systems that slow out the shutdown systems? How are you going to interface with the, say, construction adequacy review? Will you review the interfaces?

MR. LEVIN: Okay. In several cases we anticipate that those walkdowns may be done with teams that include both quality people as well as engineering. I think it's important to differentiate the fact that John is looking for something a little bit different than what we're looking for.

MR. CALVO: Are you going to take credit for

something John has done, or are you going to go independent with what John has done? Suppose John selected a population on a certain system? You can confer, if you want to.

MR. LEVIN: I'm sorry?

MR. CALVO: Suppose you go -- whatever system you select, whatever task you selected, and you come back to the construction to the walkdown, and you found out that John Hansel already covered that area, are you going to cover it too, or are you going to pick up a different area?

If you don't know the answer, you can think about it. But it -- I think it's an important interface. There should be some way to address it.

MR. LEVIN: Jose, the answer varies from time to time. It largely -- they're independent, and it gets back to the fact that I am trying to confirm, okay, the adequacy of the design as reflected on drawings and specs. Okay. That's my goal.

And John is starting from there. Oftentimes when it is done together, it's because of efficiency in execution. And there -- that may be a principal reason from time to time.

MR. CALVO: Yeah. But it can have advantage-- and disadvantages. If John Hansen does something and finds

everything okay, and you go back and do something else, and still find something wrong, you have got to reconcile the difference, or you say, "I don't have to do this in the walkdown, because John Hansen has done it. Therefore he did the same thing I was going to do anyway," and take credit.

Or you say, "I don't care what John Hansen has done. I'm going to do anything else irregardless of what he's done."

MR. LEVIN: John -- we're doing different things, okay. I differentiate between a QC or QC inspection, okay, in an engineering walkdown.

A QC inspection, okay, goes out with the predefined set of attributes that -- and criteria for an inspection.

Oftentimes, it's a black/white kind of process, okay. It is either in conformance or it is not, and that's indicated in that inspection process.

On the other hand, when we do engineering walkdowns, we're looking for something a little bit different, okay. Principal differences, the engineers are going out to typically to understand, for example, physical behavior of a system, you know, look at how it's constructed, how you would expect it to behave, such that that is input into a design evaluation

process.

Judgments are being made, engineering judgments in that process, that are not typically made in a construction quality inspection.

MR. MARINOS: Such as what? Would you give us an example of what you mean by that?

MR. LEVIN: Okay. For example, one of the issues that has been -- one of the needs that has been identified, has been to reconcile the benavior of pipe supports in the plant, that which has been assumed in the piping analysis.

A part of that activity, okay, includes going out in the field and understanding, getting better physical understanding, of how we expect those to respond. That is an engineering type of an activity, as opposed to John Hansen, where he says, "I have got to go out there and look at welds and size of the weld, maybe an important attribute."

He's simply going to gauge it and record what he found, okay.

There's not the same type of judgment in that process. It's a different process.

MR. CALVO: I don't understand. Is that all the judgments that you do? The design to be converted into drawings, and those drawings are used to determine that

the design has been -- adequate? I don't see what is the difference -- what you do in a walkdown, and I don't see the difference what John Hansen has done. And I don't see what John Hansen lacks in this and cannot do what you do. If he lacks the expertise, I don't see why he's going to tell you the design deficiency that he's found out, to send back to you to be taking care of it. Is there somehow you cannot answer the question?

MR. MARINOS: I can see an example of walkdown confirmation, a two over one seismic kind of -- that might be something that you would look at. But supports, I don't know. And I'm not a supports expert, but I don't know how to assess -- well, I was hoping that you would give me something --

MR. LEVIN: A walkdown falls into that same category, and may have even been a better example.

MR. MARINOS: Or high energy line interference.

MR. LEVIN: I think maybe another way to look at it is the engineering walkdown is attempting to confirm the adequacy of design. Whereas the construction inspection is to try to determine the quality of essentially the craft's work. And those are two separate things.

MR. CALVO: When you're talking about the adequacy of design, now where is design reflected into the drawing in the document? It's not those drawings

documents, also available to John Hansen. If he's not using the same document you're using, but looking at it from a different place, that's the problem that I am seeing.

MR. LEVIN: Jose, we may see the design reflected on a drawing, and we may go out in the field and see the same thing.

But, for example, that Angelos gave seismic two over one, that's -- that type of evaluation is not something that you can easily reflect in drawings. You cannot do that evaluation on drawings. You have to go out, because of things like field run pieces of conduit, all kinds of things --

MR. MARINOS: You will confirm the same name plate information and pumps, motors, valves, and rotation type information?

MR. LEVIN: That's correct.

MR. MARINOS: This is your walkdown? You will give us a detailed listing of how -- what the walkdown is going to assess then, at one time or another?

MR. LEVIN: Yes. Absolutely. And walkdown will be controlled by a procedure.

MR. CALVO: You also saying that what John Hansen has done will be incomplete, something is missing and that part that is missing, you're going to take care of?

MR. LEVIN: Together. They go together and create a whole package.

MR. CALVO: This program so comprehensive, you'll be as equally comprehensive to compensate for that part. That's what you're saying?

MR. LEVIN: Yes.

MR. CALVO: And you're going to commit to do that?

MR. LEVIN: Yes.

MR. CALVO: Okay. Thanks.

MR. NOONAN: Maybe a couple of things before you get to start the part up here called QA/QC review. I would like a better definition of that.

MR. LEVIN: That is the QA/QC review team leader, that is John Hansel.

MR. NOONAN: That's John Hansel?

MR. LEVIN: Yes. And it's shown him, of course, reporting to the same senior review team, as I do. And the dashed line indicates our interface.

MR. NOONAN: Okay. I see what you're saying. I interpreted that somewhat differently. The price would be -- sole duties. He's the interface between you and Hansel, right, when Hansel is doing his inspection. Will both of you be involved in those to some degree?

MR. LEVIN: He will be knowledgeable, as a minimum, knowledgeable of those outputs. And provisions have

been made that that information will flow over his desk entirely. And it's up to John Honecamp to determine, basically -- sort through that, evaluate and determine what needs to happen, if anything, if it has, for example, design related concern, such as that, and he will make sure it gets to the appropriate place in the organization.

MR. NOONAN: I guess what I was talking to, any future meeting with John, he will be fully knowledgeable of John Hansen. He will be aware of what Hansen is doing?

MR. LEVIN: Yes.

MR. CALVO: I have a suggestion. I think yesterday and today, we keep going back to this interface in construction and design. In some kind of way, when you present, it appears that you have some of the answers. But it also reflects maybe you had not considered as fully as you should have considered.

I think you, maybe your action plan, when you submit it to us, I will appreciate it if you can clearly define those things, so we know how you're going to talk to each other.

MR. LEVIN: You're undoubtedly aware of the format for those, the past TRT action plans in, I believe, Section 43, addresses the reponsibility of interfaces,

and we'll make sure that that's absolutely correct.

MR. GUILBERT: John Guilbert, SIT. This is kind of revisiting the comments I made yesterday, but I think there may still be some misunderstanding of how these two programs interrelate. You have got to remember that each of these programs have certain elements.

But let's just deal with what I'll call the category 2 activity, by John Hansel. It is self-initiated across the board construction program as it relates, for example, to Howard's, across the board, as it were, look at design work activities. Just a minute.

They both -- John Hansel starts, okay, with the design drawings, design specifications, including where the change tapers associated with that. He goes out and does his inspection to that. Howard starts with the design criteria and et cetera. And ultimately goes through implementing documents, as you will hear shortly, and compares that to determine whether it was adequately reflected in those design documents and design drawings and design specifications.

John Hansel, as you heard, is doing this on a population basis to a random sampling on a statistically sound basis. Howard is doing it to make sure that he has a representative number of things that he's looking

at across all the design work activities.

But I think the point you're missing, perhaps, is that they aren't necessarily going to be looking at the correlation between the hardware that he looks at, and the specific components of design that Howard looks at. There is not going to be a one to one correlation between the things they're looking at. There may be some cases where they have to look at the same thing, and this is just part of those two.

MR. CALVO: John, I had not missed any point. All I hear yesterday that Howard Levin was volunteering for a lot of stuff that John Hansel is supposed do. And want to be sure Howard Levin understood what he volunteered for. I understand what you say. I want to be sure that -- Howard was not here yesterday, you know. Every time John Hansen has a problem, Howard Levin will be taking care of it.

And I'm glad that you don't say others have a problem that somebody else is going to take care of it, but somebody else. I will understand the difference. But again the record shows that Howard Levin was going to do whatever John Hansen couldn't do, yesterday. And I want to be sure that Howard Levin understands that.

MR. GUILBERT: Just to recall where that emanated from yesterday, is Larry referred to some Appendix P

items, which were going back, basically, what I'll called the compendium of the TRT issues.

And referring back to, you have gone through a Appendix P of SSER 11, and called out what you guys believe to be the QA/QC implications of the TRT items in civil, structural, mechanical, miscellaneous, and electrical.

Now since Howard is also review team leader for those disciplines as they relate to TRT issues, he wears two hats, recognize the -- excuse me. For those activities as well as review team leader for design accuracy.

His charge has been to go out and resolve those issues, and in the resolution of those issues to do basically the same thing you do. It comes across implications in those that relate to construction QA or QC. He's been charged with identifying those from the point of view of how they may have generic implications, and passing those on to Mr. Hansen. And that has been done through that activity.

What he's alluding to is, through his review of these other aspects, if he happens to find any other similar implications that may fall back to construction or QA/QC, he will also pass those on to Mr. Hansen.

MR. CALVO: All I'm saying, when you consider your

final plan, will you please, some kind of way, clearly indicate this interface. Thanks.

MR. LEVIN: Yes. Okay. Getting on to the organization, I'll run through the principal people that are coordinating the activities in various discipline. Martin Jones was also review team leader in the TRT, through the electrical area, is leading this effort, and I&C effort as well. Martin has over 27 years of engineering experience, 20 years of which were in the nuclear utility involved in design construction, construction management, quality control.

Martin was a manager of quality control for nuclear unit, as well as manager of construction. Martin has also participated in construction and design verification activities, and served in the capacity of construction verification manager in the Midland Review.

Tim Snyder is leading --

MR. MILHOAN: Excuse me, Howard. Jim Milhoan. How many years of direct design experience has Mr. Jones had at -- on being a designer himself?

I assume the program plan -- your program plan will assess or give us an idea of identifying separately the direct design experience of your individual reviewers?

MR. LEVIN: Yes, in fact, Jim, we will be providing you with resumes of all the people that will be involved

in -- I will be discussing here.

MR. MILHOAN: Will those resumes be of such a nature that we can determine the years of direct commercial design experience.

MR. LEVIN: Yes. Tim Snyder is coordinating the piping and supports discipline. Tim brings with him 14 years of experience in nuclear power plant design and operations. Six of which in -- directly in the piping analysis and support area.

MR. SHAO: Howard, let me ask some question on this diagram. Yesterday you say the cable trays support is going to be done by Abasco. I don't see it on the graph here which -- where will that fall on.

MR. LEVIN: That interface will be described in detail later. And it is directly within the civil structural coordinator's responsibility.

MR. SHAO: So Abasco cable tray would fall within the civil structure here?

MR. LEVIN: There's an interface there that we will be describing, yes.

MR. SHAO: Also, I have a general question here. If I look at pipe supports and piping, is another slide out here of a third party coming, Stone and Webster, they have a lot of horsepower -- and third party -- and all the others is done by TUGCO support coordinator.

Does that mean that the TUGCO people is going to do their own analysis?

MR. GUILBERT: In the case of piping and pipe supports, Larry, just referring to that. As you recognize that was basically a separate discipline area in the way the Comanche Peak Project was established, so showing Stone and Webster there encompasses all items in that particular discipline problem. Let me continue.

In the area of -- in the other areas, in the civil structural area, there are a number of action plans that you're going to hear about today, one of which goes to cable trays. The notion including the TUGCO support coordinator is indicated -- who is the interface for information and data to assist these team leaders in obtaining information.

In some cases -- basically, in some cases, there may be some work being done by the project that is requiring a third party overview. The Abasco effort which is being done for the project in the cable tray area falls under that category.

In other cases, essentially, all of the actions plans in a given discipline area are being implemented directly by the third party. I think that --

MR. LEVIN: Larry, maybe it would be best -- what I was trying to do here was give you the overall

framework, and as we get into the discipline descriptions, okay. In fact, that's the third portion of our presentation today.

The first item we'll address in each of those discussions will be the organization and how it will be configured and the interfaces in those activities. So if we can get kind of -- develop the overall framework, and then fill in the middle -- in the rest of our presentation --

MR. SHAO: I have two general comments. I think -- I have no problem with the middle column, because they have a lot of horsepower as an independent assessment. On the other column -- let me finish my comment. On the other column, first, I'm afraid of not enough horsepower. And the second comment is, will the review be independent?

MR. BECK: Let me ask you to be a little patient. And we're going to spend half a day talking about precisely how those boxes are going to be covered.

This is an organization chart. But I want to go back for just for a moment, to one of the guiding principals in the whole CPRT efforts.

Analyses, calculations, will either be done by a third party, or overviewed by a third party, in the case where a TUGCO project is doing analyses, their overview,

period.

There is no instance where that's not the case. So it's either done by third party or overviewed by third party to the satisfaction of the third party.

MR. NOONAN: I guess I'd like to go and get off the organization chart. John, I want to make sure, one point the staff is concerned about the organization, who is doing the work. They want to fully understand who is actually doing it, in all cases, the number of people involved. And also how that all gets put back into that organization. I think that these concerns being voiced now, maybe later in the day, you will get to those. They want an answer.

MR. CALVO: I had one more general comment. That again, in view of this extensive effort that you're going to embark on, doing -- I think it would be appropriate to consider the make-up of this senior review team, and maybe move there with some people who has experience in construction, engineering, electric, instrumentation.

I think, my opinion, I think you're lacking some of that. I know before you indicated that you're going to use consultants. But it was somebody else who minds the shop on a routine basis. I think it would be something for you to give very serious consideration.

MR. LEVIN: We --

MR. BECK: The point is made and well taken indeed, Jose. Thank you.

MR. LEVIN: Jose, since you brought that up, it may make sense to address that issue. And as you have indicated, we have retained quite a few recognized individuals in the field, in the piping area, supporting us.

We have Everett Rodenball, who I'm sure many of the staff know, who has a significant expertise in the area of ASME components.

Jerry Slagas, who heads the ASME code analysis piping work team. Moe Carnon, who is the committee on the NT support committee. These individuals are assisting us in the piping area.

In the civil structural area, we're being assisted by Bill Hall and Bill Munci from the University of Illinois. Cris Holly and John Bigg from Hansen. Holly and Bigg and MIT. Ed Cosel and Daniel Luciano from MIT.

And Paul Gunnes from Abasco, and he's assisting us in the, specifically, in the testing area. And as we go through our presentation, we might get into that in some more detail.

These individuals participate at all levels,

including review and evaluation on the front end of the action plan participation in the execution of those action plans and evaluation of results.

MR. CALVO: You took care of our group, but you left me out.

MR. BECK: Jose, we're not going to leave you out.

MR. LEVIN: In that regard, I specifically mentioned -- Daniel you're being too nice.

I specifically mentioned two disciplines that are under Larry's responsibility. However, I wanted to point out that the the electrical I&C area has just been initiated. It is self-initiated, and it's clear to me that the need may arise in the future. We will supplement our staff as required.

MR. CALVO: Don't make me work too hard.

MR. MARINOS: So you want to talk to us about the mechanical systems a little bit, too? Howard, who are the people that will man these, not the components necessarily, the hydraulic?

MR. LEVIN: Just point out the mechanical meeting systems and -- it is Fred Schaffer, okay. Fred has an MS in nuclear engineering. He has eight years of architect engineering experience in design and construction, nuclear plants.

The experience is -- it's focused in particular on

AFW systems design, and additionally the types of evaluations that are involved in some of the multi-discipline area tasks that I think you brought up before.

MR. MARINOS: The hydraulics aspects of the design he has experience in or others --

MR. LEVIN: That's correct. At the particular -- that he was previously associated with -- Fred was the lead in the AFW systems designs, was his focus. So he's particularly well suited for this effort, in view of the fact, as you will be hearing, the AFW system is one that we have selected as a further test of the design adequacy as planned.

MR. CALVO: Who will take care of the testing aspects? John Hansel?

MR. LEVIN: No, the testing here is a little bit different than the testing that John is involved with. The testing that John is involved with is in some cases non-instructive examination. In our case, we're talking about structural testing and that's -- the responsibility for that is with ANCO engineers.

Leading the civil structural effort is Dr. Cris Marquet from Stanford. He has nine years of nuclear experience with a specialty in seismic hazards analysis, structural design in civil engineering. He's a member

of the ASC committee on cable tray design.

Cris also participated in the design verification efforts, where he had a similar responsibility.

MR. MILLS: Excuse me, Howard. Does he have any direct commercial AE design experience?

MR. LEVIN: Yes.

MR. MILHOAN: How many years?

MR. LEVIN: Several. I don't have the exact number.

MR. CALVO: Can your program plan -- when you submit it to us, you're going to emphasize --

MR. LEVIN: It will be on the resumes. What I'd like to do here is clarify the roles of two principal entities that are contributing to the CPRT efforts. And those entities being the third party efforts as well as the project. And both are contributing to meeting the goals of the CPRT program.

On part of the third party, these individuals have responsibility for defining the overall program plan, also providing an end process overview and guidance to the project during any activities that they may have that are associated with the program.

Concurrence with project quality program design procedures and specs governing the current CPRT work. Selected verification of project implementation of their

design basic activities, where these may be required, including verification of design criteria, analyses, and the outputs of that process, the drawings, and specs.

And most importantly, the third party is responsible for the evaluation of root cause generic implications and safety significance.

MR. BOSNAK: Howard, what is the role with the third party, with groups like Stone and Webster, and Abasco?

MR. LEVIN: Okay. I will be getting into that in more detail. But in a nutshell, Bob, we will be verifying their work.

MR. BOSNAK: All of their work.

MR. LEVIN: Design verification overview. It's an overview of their -- the project, as John pointed out earlier, is responsible for the execution of design basis analysis. It's their responsibility. And third party will not be involved in that, although we will be overseeing.

The project also gets involved in the collection of information that the third party may need to conduct its evaluation. And also goes without saying, the project is responsible for implementing any corrective action that's identified as part of the program.

We come to the second segment of my presentation.

In this segment, I plan to go through the methodology for the design adequacy program.

First, I will provide a general overview of that, and then get into the specific functional parts of the program. That is, the external sources evaluation, self-initiated evaluations, root cause and generic implications evaluation, and how we will close the program.

As many of you are aware, we have to have a mechanism for controlling our activities. There needs to be traceability of our process, our results. And in an effort to -- we have defined an issue classification system that will help us manage that. And specifically, identify three categories of issues.

The first being that of a discrepancy. A discrepancy, a situation, where we're meeting inconsistency in criteria or documentation. And typically that will be something that is trivia and a insignificant typo, or math error.

I think it's important to note that those things will be detected by the system, and that judgment will be made, in fact, to this insignificant or the alternative.

MR. MARINOS: Do you intend to retain records for viewing of all these errors that you have passed

judgment as insignificant? Of course the significant ones we have no problem. But identify --

MR. LEVIN: These will be obtained in audible form.

MR. MARINOS: Okay.

MR. LEVIN: The second category is that of a deviation, which is simply a failure to meet the criteria. An example might be an FSAR commitment that is not met.

MR. BOSNAK: But if that commitment were a failure to meet a general design criteria, I hope it would not be a deviation. It would be done in an efficiency column.

Do you have a set of attributes that you pass out to the people doing this, so they can determine what is a discrepancy, what is a deviation, and what is a deficiency? In other words, how will they know whether to put something like a general design criteria failure in one column or another column? I hope it would be fairly clear.

MR. LEVIN: Well, yeah. I guess my reply to that, Bob, is everything will get reviewed. It will be documented. The classification will be apparent. And the judgments that are made in that regard can be -- well, you know, it will be traceable and can be reviewed. I really believe that the definitions here

are fairly straightforward.

The principal -- if it's really almost a binder scheme, the discrepancy's there, primarily because we need to manage the program. But the key things are deviations and deficiencies. And the deviation is a commitment made, may not have been met. That's pretty straightforward. A deficiency is something that has safety significance.

MR. BOSNAK: Well, we're getting back to the same question again, as to what safety significance. But I think --

MR. SHAO: What do you include right now?

MR. BOSNAK: We need a set of attributes that you will be using to come to some degree of judgment on this.

MR. LEVIN: Bob, where you will have an opportunity to see that is in your check list, and I will be getting to that in a moment.

MR. CALVO: It's too late. Again, you will be asking us to review a program plan and approve it. So we have got to have that front -- only if you submit the check list at the same time --

MR. LEVIN: I will be describing our approach and our timetable for submitting that, Jose. But I assure you that this is something that is happening on the

front, and it's not a situation where it's being made up as it goes along.

MR. CALVO: So you're going do make a commitment to provide information to what Bob is asking?

MR. LEVIN: We will be making that commitment, and it will be a fine point in time where you will have an opportunity to look at.

MR. TRAMMELL: Howard, what bothers me in looking at this list is it sort of implies, but it doesn't say, that discrepancies are okay. Deviations is a maybe, I think. And the deficiency probably will be corrected. But I think that's causing a lot of trouble here.

MR. BECK: No, Charlie. Let me go back to what we said yesterday to make it very clear, that anything CPRT discovers goes to the project. Deviations that they are discrepancies, if they need to be corrected, will be. Deviations, certainly, will either be corrected and/or the commitment that is not being met will be pointed out as an exception requested.

Now until we get do specific issues, I can't say which way it will be resolved. But it will either be resolved either by correcting it, or by seeking and obtaining NRC's staff's approval -- let me finish. That's not CPRT 's job to do. That's our job, as TUGCO, to make sure that it happens.

So it's not going to drop through the crack. But it's also very important to recognize that CPRT is looking at safety significance of all these issues, and they're going to characterize them in that regard.

That doesn't mean we're not going to address it if it doesn't have safety significance. But it's very important of, in the standpoint of making this bottom line resolution, that we have reasonable assurance that there aren't any safety significance discrepancies in that plan before we're ready to stand up and so swear.

So that's why this gradation is being made in this part of the program. But we in no way are ignoring deviations on the project site. But we don't want CPRT effort to get lost in that process, which is the project's responsibility.

MR. LEVIN: But, John, there's things that -- I'm sorry. That I consider my responsibility. And maybe an example, I believe there's circumstances, Charlie, where a typo could be a deficiency. Okay. A typo could be a safety significant item, that's possible. It's part of the process to determine whether or not that, in fact, is the case.

And so this was an example. It would -- I prefaced my statement on the typo, that it was insignificant. But that is not out of the logic train.

MR. CHANDLER: So how your check list will provide us the road map necessary for the reviewer then to look at a typo or a math error, for example, to determine whether it fits simply as a discrepancy, or perhaps that math error indeed could be a deviation, or perhaps even a deficiency.

MR. LEVIN: Absolutely.

MR. CHANDLER: These are not exclusive categories as they're listed here?

MR. GUILBERT: They're the end, after all that process has been done, everything is going to fit into one of these three bins. Everything starts at discrepancy level.

MR. CHANDLER: Just so that the math error doesn't remain forever. Only a discrepancy?

MR. NOONAN: One thing, the way you said it, John, you said if FSAR commitment -- if you can't meet the FSAR, you will ask for an exception.

MR. BECK: No, I didn't. I said we will resolve it one of two ways. We will meet the commitment, or it appears that we cannot or don't want to, we'll tell you about it.

But I can't predict. I say the very high percentage of the time we're going to change whatever it is that doesn't meet the FSAR commitment. Very high.

But I'm not going to make that hundred percent guarantee that will be the case.

MR. NOONAN: The point I'm going to make, is the staff is going to look at the FSAR.

MR. BECK: Yes, sir. That's the driving force on the -- our side of the fence. I'm just not going to say one hundred percent right now. Not knowing what may be on the table that we won't -- that we won't make a change in a commitment that's been made in the past. And it will be wide open for everybody to look at and approve, if that's the case.

MR. TRAMMELL: Thank you for the response. That's the reason I asked the question. And I certainly agree with grading the seriousness of the things that you find.

MR. BECK: We have to.

MR. TRAMMELL: And I mentioned that yesterday. And I gather from your response that any or all of these could lead to corrected action and all to be evaluated?

MR. BECK: Yes, sir.

MR. CALVO: All I want to say, that if you want to, we like to know the criteria they are covering, going to cover your decisions, what you're doing here, your own choice, you want to wait to the end, you want to put at the beginning. We will look at it at that time. That

is your choice.

MR. BECK: I appreciate that, Jose. And I think something that I want to get in the record, is that we're not asking, on the basis of our presentation today, for staff to approve or disapprove anything. This is intended as an overview to get -- give you a good feel for what's going to be coming down, and give us the opportunity for your feedback. And that's very important that we get that. And that's the purpose.

But in this overview context, many of the comments that have been made certainly have been helpful to me in making sure that our focus in that written documentation is appropriate to the concerns the staff is pressing.

And in every instance, it may not be right now, but week and a half from now, it will be.

But I don't either want to leave the impression that we're asking, the day after the written documentation is on the table, that NRC staff give a judgment, yea, nay, it's on the mark or not.

I suspect there will be further modifications after that point. And when we get to the intense examination of the implementing procedures and the documentation and the check lists, I dare say there may be further question and further change at that point.

But we're not professing to be one hundred percent

pressient of what staff may or may not find acceptable.

I think we're going to have a very high success rate in understanding it as a result of meetings such as we're having today and ones we have had before, and ones that will continue.

MR. CALVO: I just want to say, also, within the same subject, that what we're trying to do is bring these things to you for consideration. We are not trying to dictate you in any way, you want to do it.

But tell you those are the things -- kinds of things we don't get a warm feeling in your program. I hope you take it in that kind of a context.

MR. BECK: Absolutely. We do. We're structuring the program. We think will be sufficient to satisfy ourselves. It's obviously a program that's going to require, and as our system does require, rigorous regulatory review. And this is part of it, and we welcome --

MR. SHAO: As Vince said, unless you have very strong justification, the staff is looking for FSAR commitment.

MR. BECK: Yes, sir.

MR. NOONAN: Yes. As I said, we will not be giving you an approval or disapproval by your program today. We will giving ourselves to basically provide that kind

of response within 30 days after we receive the completed plan. And we'll do it that way.

The staff feedback here today is basically to give you a feel of areas you need to concentrate, in particular by design effort. We're looking at that very hard. I don't think -- I think I want to get on. I think the reporter needs a break.

(Whereupon there was a recess.)

MR. LEVIN: The next element of the presentation, I'd like to describe our process for documentation of the review in terms of the process and our conclusions. And there are various mechanisms that we have established for that.

I might add, for example, Jim Milhoan, that it's very similar to things you have seen before, okay, in terms of, you know, how we're going to document, you know, the evolution, both how we approach the process, how we -- where we document a conclusion.

MR. MILHOAN: Howard, I think you ought to put that in context of what I have seen before from the standpoint that I'm from INE. We're responsible for the integrated design and construction program and the independent design verification program. I have not seen anything, previously in Comanche Peak in this area.

MR. LEVIN: Comanche Peak, yes. What I was

referring to is programs we have been responsibility for managing that that INE has been reponsibility for reviewing before.

MR. CHANDLER: Howard, on the issue of documentation, I'm sure that the message that was passed on a number of times to John Beck about frequency of reporting. And things like that will also be applicable to your activity here.

MR. BECK: Yes.

MR. LEVIN: Okay. Fundamentally, going through the mechanisms. The first being check lists. And the purpose of check lists are to assure the completeness of due process and the traceability of items reviewed.

More specifically, these check lists correlate the systems design criteria to system design documents. They're used during the system document review to verify commitments are incorporated into the system design.

The check lists also documents the method of verification used by the reviewer, and summarizes the adequacy of the design criteria and implementation.

Check lists also provides a cross reference to calculations and evaluations performed by the third party. And the check list also cross references to any of the reports that are generated to the classification system that I described earlier.

We plan to have the full set of check lists available in the August time frame, such that they would be available to look at both the breadth and the depth of the investigation in the specific design areas. And we'll get back to that in a moment. But if we could leave that for a moment.

There's another category. The results of the bores which document the results of specific action plans.

Now there are segments that may be documented in engineering evaluations, okay. For example, if a particular action plan is more comprehensive than others, it may require some subordinate documentation that would then get wrapped up, finally, in the results report.

But fundamentally, we're committing to provide a results report on each and every action plan. And most importantly, we intend to wrap the results of those individual reports into an overall design adequacy report, which will document the overall conclusions of design adequacy of Comanche Peak.

At this point I need to note in the handout, there are several pages that have been folded over. I will be getting to those in a few moments. They should be inserted at the location of the paperclip in the package.

So if we go to the slide directly after the folded corner, I will proceed with the presentation. Frank, could you put up the agenda, so I can show people where we are in the program?

I have just completed the overview of various aspects of the program that are relevant to managing of our process. And what I'm going to get into next are the three functional elements of the program.

Starting first with the methodology for evaluation of external source issues. I do not plan to go through this busy diagram in detail. It's a logic diagram that governs the process for evaluating external source issues.

We discussed it in a fair amount of detail in the past in another public meeting. But what I have done is broken it down into its six major components. And we will go through them in summary fashion, starting with the first, which is the identification of issues.

And our objective in this phase of the program is essentially to capture all potential issues from important sources. We have some examples here, and we discussed them at the beginning of the presentation.

This process will include a review of documentation, an attempt to qualify these potential issues, and identify issues that require further review.

MR. CHANDLER: Howard, very quickly, for those of us who didn't have the benefit of any earlier meeting on this, the initials in the boxes, CD and E, refer to what?

MR. LEVIN: Yes. They just refer to continuation, match points, or continuation down into another location in the logic.

MR. CHANDLER: Okay.

MR. MARINOS: Where is CD, E? Where are you?

MR. CALVO: You discussed before? This is the first time I -- I'm sorry. You say that I mentioned this to you. You had discussed this previously with the NRC. That's what you're saying?

MR. LEVIN: Yes, this was at a meeting on the site --

MR. NOONAN: Yeah. There was the meeting we had in February, March time frame. I can't remember exactly what week time it was, but the staff refers to these as the Howard charts.

MR. CALVO: The what?

MR. LEVIN: The Howard charts. Based upon that earlier reaction, we are dissecting this block by block. And we'll go on to the next block.

MR. CALVO: You will tell us about it?

MR. TRAMMELL: I'll tell you about it.

MR. LEVIN: I think the diagram indicates the rigor of the processes required and the complexity. The next stage, having identified issues, having captured them from all sources, we're -- next step is define them. And what we're trying to do is identify the potentially affected scope and hardware and group issues. And this is being done such that it will lead into the development of action plans and to determine just how to structure the response of it.

MR. MARINOS: Howard, you have a special group of people that will be doing all these things? How are you -- the organization that you identified earlier will be the ones that sit down and identify the issues and define them, or you have a special group that will do that?

MR. LEVIN: That is correct.

MR. MARINOS: What?

MR. LEVIN: Which? The responsibility for coordinating that effort is with Ed Blackwood and the generic implications. And, if you will, he is our issue manager. It's his responsibility to capture them, track them. I guess you might say he is the guy with the responsibility for making sure every issue is in a hopper, and that there are no loose ends, and something doesn't fall through the cracks.

MR. MARINOS: By definition, you will define the issues also?

MR. LEVIN: No, the technical issues will define the issues. It has responsibility. We need to have some central point of coordination. For example, going through all the source documents, as there will be spreadings and outputs and doing that in a systematic way. It just happens that's where it resides in the program.

MR. MARINOS: Okay. And the definition will be done by experts?

MR. LEVIN: Technical, in their specific disciplines, tnat's correct.

MR. MARINOS: The people that you have in table, that you snow us before?

MR. LEVIN: That's correct, yes. Okay.

Now I guess at the process of identification, it may include, to try to get these things into these various groups, a degree of evaluation, possibly walkdowns, it -- there may come a point where right at that stage, it's judged tnat some direct corrective action is needed as opposed to an investigation or exploratory type effort, wnicn is oftentimes included in action plans to try to, you know, qualify the significance of issues or boundaries of issues.

The next step is very straightforward having the issues grouped. You need to define initiatives. There is a typo there. The logic for implementing the plan and also the responsibility.

At this stage, even at this early stage, potential root -- having gone through the issues, defined them, potential root causes are apothesized, if you will. And it's the activities that are such of the implementation of the action plan that these hypotheses are qualified, either rejected, or there may be further exploration. But that really drives the nature of the initiatives.

Okay. Some idea as to what the problem may be.

MR. CALVO: Is the construction adequacy plan also has something similar to this? Was that thing -- or this is something -- maybe John Beck.

MR. HANSEL: John Hansel, CPRT. We basically go through the same type of logic flow, same thought process.

MR. LEVIN: I might add, Jose, that this process applies to external source issues. And in that regard, we applied virtually the same process as our development action plans in the TRT. Essentially identical.

MR. MARINOS: So you will develop your action plan after you, as you say, you make some assessment now, the significance hypotheses of what is significant, or to be

carried out or left out?

MR. LEVIN: This really isn't an assessment of significance as much as an identification of issues that have potential significance, issues that require further investigation. That's what occurs at that stage.

MR. MARINOS: And when you make that decision then, you will develop the action plan to address the ones that you have put in one category --

MR. LEVIN: And that's the reasonably low threshold. It gets in that box fairly easily.

MR. MARINOS: And at this stage we will have an opportunity to comment and look at your decisions before you develop the action plan, or what is your plan in that regard?

MR. LEVIN: I guess, you know, there is an opportunity to see it before. But it's my understanding that you will see it at the action plan stage. And the action plan will address the issues and the process that led to develop identification of those initiatives. So you would be able to see that in the action plan.

MR. CALVO: Review the mechanism to do this?

MR. LEVIN: Yes.

MR. MARINOS: So assuming this agrees with your categorization, is your action plan will be comprehensive and broad enough to include other things

that we may convince you you should have been included, or would require restructuring your action plan to meet this need?

MR. LEVIN: It could be either. But I --

MR. MARINOS: I'm trying to save you time.

MR. LEVIN: The process is flexible enough that it can accommodate that. They're not cast in concrete. And these action plans aren't. Notwithstanding your involvement in the -- in overview, you know, reviewing our process. The nature of the program itself is that way. It's a series of decisions that are made that lead to restructuring in the plant continuously. It's a dynamic process. As you learn something, go off in a different direction.

The implementation is straightforward. Fundamentally, what we're after there is determined in the E-4 corrective action. Essentially in that phase, we will execute our action plan tasks. At the same time determine the root cause and generic implications.

And the corrective action phase will determine specific corrective actions that may be required. In terms of the process for deviations, for example, with safety significance, the deviation would be corrected, either most typically with a hardware modification.

However, for deviations without safety

significance, the resolution of that could involve either hardware modifications or changes in documentation. Or both.

As I have mentioned earlier, the last -- we plan to document the results of our process and our conclusions. And I described the forms of that documentation that will take place.

MR. MOLLONSON: Excuse me, Howard. I'm Jim Mollonson. May we go back to corrective action for a minute? Within the design process you say corrective action. Corrective action method and design crosses are by, for example, modification -- design deviation reports, design change authorizations in some other form of documentation.

Is it proposed that the corrective action will be kept within the constraints of the engineering department, or is the corrective action proposed to be accomplished under the site QA system?

MR. LEVIN: Site QA.

MR. MOLLONSON: Under site QA?

MR. LEVIN: Yes.

MR. MOLLONSON: Thank you.

MR. NOONAN: I'm not sure I understand that, Howard. Would you please explain that a little bit? Elaborate a little bit more?

MR. LEVIN: Well, essentially the project has responsibility for implementing corrective action. And site quality people ultimately have the responsibility for insuring that it's carried out.

MR. CALVO: The same thing we discussed yesterday.

MR. NOONAN: That's why I'm asking.

MR. CALVO: They find something wrong with the construction adequacy review, the same quality review, they give it to the project. The project will use their own QA/QC, assisting QA/QC. And we brought the question, will you please consider the fact that it has challenged to your program?

And you say, you are going to look at it. And then determine whether you're willing to proceed at your own risk or whether you're going to correct it.

MR. NOONAN: I guess my question is a little bit different than it was yesterday. And what I'm looking at more is your interface with site QA in these corrective action processes, the interface between your group. You just give it to them and they go back and correct it?

MR. LEVIN: Yeah. Basically my interface, the most direct interface, is through John Beck. And he serves as a -- I will raise the issue up to the SRT, who is overseeing review team leaders' activities.

And John has met both in the capacity as a member of CPRT and involved in the TUGCO management chain and will forward it, incorporate it into the TUGCO organization.

MR. BECK: This will be a documented transfer of problem. Recommendation for resolution, or what will be adequate to resolve it in the eyes of third party. And it's up to the TUGCO project to implement that correction, whatever it may be, whether it's a change in design, modification of hardware, whatever the correction process is. And it falls under our QA/QC program by regulation.

MR. NOONAN: Okay.

MR. MOLLONSON: Can we have a very simple explanation of that, modification to support, the two people that determined it necessary from a design standpoint? There will be a deficiency report, nonconformance report, evolved from your review, or your results of your review, and QA would then implement the corrective action?

MR. BECK: QA doesn't implement corrective action. Within our program -- and you are proper and correct in saying that NCR 's will be generated for deficiencies that come out of this program or any other source.

MR. LEVIN: The project will have -- will be

delivered, our report, like, for example, a deficiency report that is generated within the design adequacy program.

MR. MOLLONSON: Even in the design adequacy program a result in QA forcing the issue for corrective action.

MR. LEVIN: That's correct.

MR. MOLLONSON: Okay. Thank you. That's site QA?

MR. BECK: Yes, sir.

MR. CALVO: Can we some way correlate the way the quality -- I mean the construction adequacy review is going to do -- let's look at the TRT team action plans. What is the role of the QA/QC? Let's say in the electrical specific issue action plan? The QA/QC third party is what you use to implement the plan.

What kind of support it provide to the TRT electrical group, the QA/QC group to do, actually, is verify that it has been done correctly? Can you --

MR. LEVIN: The answer is yes. But John Hansel can answer it much better than I.

MR. HANSEL: Martin Jones was the issue coordinator for the electrical issues. And Martin Jones defined what he wanted to be done in terms of investigation or inspections.

When it got down to the inspection, he came to see us. We worked with him to develop the inspection check

list that would satisfy his requirements. We trained the inspectors. We went and conducted the inspections, and then provided him with a report on those inspections. And then from that data plus the other data he has derived, he's drawing conclusions.

MR. CALVO: And the QA/QC or that particular inspection was governed by your own QA/QC? Developed by you?

MR. HANSEL: Exactly.

MR. CALVO: How do you do that? When you go to the walkdowns adequacy review, how do you accomplish? Are you going to call upon somebody like John Hansel to help you with the assessing of these as built configurations?

MR. LEVIN: If there is a need for--

MR. CALVO: How do you do it?

MR. LEVIN: Okay.

MR. CALVO: You develop a plan for the walkdown --

MR. LEVIN: That's right.

MR. CALVO: -- and then you know what to do now. Somebody have inspect it now? Who is going to do that?

MR. LEVIN: If there is a requirement for a QC inspection, I ask John to do it.

MR. CALVO: If it's a requirement to verify the design, this is the next step, you're going to go walkdown, you selected a system --

MR. LEVIN: It depends on the nature, Jose. I think we kind of got to this a little bit earlier. If you're trying to qualify an aspect of design that's related to construction qualities. I used the example of well sites. I will ask John to do those inspections. Okay.

If it's to make judgments as to something like seismic two over one, okay, I will have design engineers walking down the plant to procedures, doing that activity. And they're --

MR. CALVO: So you're going to come up with your own QA/QC program procedures to reflect that kind of the judgment you expect from the engineers?

MR. LEVIN: Yes, there will be procedures. Definitely.

MR. CALVO: So you can go -- you have got two forks. One going to him worrying about QA/QC aspect. And then you have got our own program doing that.

MR. LEVIN: For design, that's correct.

MR. CALVO: And the results of those inspections, in both cases, you have got corrective actions. You go back to the CPRT, and you go back and you forward this to the project.

MR. BECK: Go through the established procedures, NCR's be generated, and it will go into the corrective

mode.

MR. CALVO: Okay. So if I can understand when John -- when the inspection, John does, and goes to you and forward it to the project. You use the project QA/QC.

But what kind of QA/QC do you use when Howard Levin sends you something that it was predicated on that judgment, that he's looking into the design? How are you going to implement that one? That was a judgment. How -- what kind of QA/QC do you use that one?

MR. BECK: That would be executed within the TUGCO QA/QC program, appropriately dealt with.

MR. CALVO: So that type of program deals with the program.

MR. BECK: Yes, sir. Wherever the source may be; whatever the source may be.

MR. CHANDLER: John, the point of corrective action for a moment. Something gets funneled back to the project with a recommendation for corrective action. Is there any discretion left with the project to decide whether corrective action will in fact be taken? You mentioned it -- does everything then go into an NCR that must be resolved?

MR. BECK: Yes.

MR. CHANDLER: So no identified need for correction action will go -- will subsequently be determined to be

unnecessary by the project?

MR. BECK: That's a possibility. It could be used as is. If that's the case, that will have to be documented and justified to the satisfaction of the system.

MR. CHANDLER: The judgment on use as is, is whose judgment now?

MR. BECK: Project's. He will have to be satisfied that that resolves the issue.

MR. CHANDLER: All right.

MR. BECK: If he's not, there's an issue still outstanding.

MR. CALVO: I don't know too much about QA/QC, so help me with this one. The problem that we had, the NRC has reviewed it, was construction QA/QC. Now all of this, it's another program that is designed QA/QC. We can never review that program. Well, we can never address that particular program QA/QC for the design; right?

MR. TRAMMELL: Yes, it was reviewed in the FSAR.

MR. CALVO: All right.

MR. LEVIN: I think that --

MR. CALVO: He tells me it had been reviewed in the FSAR. That's all right.

MR. LEVIN: We can forget -- all right.

MR. MARINOS: Howard, I think your explanation to my question, and I'm going to restate it, you know, my understanding, when I asked about design process, I got the message that N-45-211 will be your guideline to establish the design process as correct, as you, at the same time, reaffirming the design of the quality of the design; is that correct?

MR. LEVIN: Yes.

MR. MARINOS: And that will be your tool of QA, so to speak?

MR. LEVIN: Right. About to get into that discussion. Good timing.

But before I get into that, I wanted to identify several of the external issues that will be discussed in the third segment of our program. And that goes along discipline lines.

But as many of you are aware, for example, in the civil structural area, this has been identified in the cable tray conduits supports area. That's an external issue that falls under that coordinator's responsibility.

There were several issues that were raised by the independent assessment program in the mechanical systems, electrical systems area. Those issues are also being addressed.

In the piping and supports area, the issues identify there. But in the ASLB, as well as the assessment program, all fall into this general category.

MR. SHAO: About valves. Are you going to talk about valves?

MR. LEVIN: Yes. In another broad category within the external issues, however, are TRT design related issues. These are issues that evolved out of the TRT investigation that had some design relevance. And for purposes of creating an umbrella over all issues that have design implications, they are programmatically being considered herein, so that we can form an integrated assessment of significance of all issues.

Examples, we include, for example, Larry in the piping area, item 5C. You know, the pipe between buildings and the piping isolation type issues?

We can move on. We can get into -- yeah, we're now back to the folded pages. We get into the second functional element of the program. That is the self-initiated evaluation.

The purpose of self-initiated evaluation is to verify that design related issues identified by the various external sources do not exist in the same or similar form elsewhere.

It's intended that this evaluation would compliment

the scope of activities that I just completed a description, in that together, the external issues evaluation with the self-initiated evaluation, will basically give us complete coverage of all the design disciplines, areas, design activities, and processes.

Okay. And I will be getting -- the next part of my presentation will specifically address how we're going to accomplish that.

We have in our determination, as scope for the self-initiated effort, divided into this four distinct phases. First two phases are associated with our initial determination and scope, which will be described today. And there are two additional phases that are associated with our final determination.

Phase one --

MR. MILHOAN: Excuse me, Howard. On the previous slide -- Jim Milhoan. The previous slide, correct me if I am wrong, issues do not have to be necessarily limited to those identified by the external sources, your first bullet, to be included in the self-initiated program?

MR. LEVIN: In fact, those issues are not in the program, Jim, in the self-initiated program. Specifically the self-initiated program starts without any prior knowledge of any issue. Okay.

If you will, it's a test of another area where,

typically, where issues are currently unidentified.

MR. MILHOAN: That was my impression. But reading the slide alone does not give me that assurance.

MR. LEVIN: Okay. I was attempting to do that in the second slide, but I hope my comments clarify that.

In phase one, we have taken a step back and evaluated industry and NRC design verification type programs, such as IDVP's and IDI's. And we have taken a look at the areas these programs have addressed and basically --

MR. MARINOS: You will identify which ones you are assessing or using --

MR. LEVIN: Well, basically what we have done, Angelos, is from the union of everything that IDVP's have looked and IDI have looked at, we developed the list of areas that have been addressed.

And then what we did is, we develop a profile of our initial scope in the design adequacy program against that list. Okay. It's to determine, just in a general sense, okay, did we have the breadth and depth of those types of evaluations. What we also took a look at was the findings that came out that.

Now we not only compared our initial scope, but we also compared the scope of previous evaluations on the Comanche Peak Project. So what we took a look at was

the CYGNA Independent SESNA Program, NRC activities, and all those activities that generally fall into the design verification type box, and looked at what they covered.

And basically what we confirmed is, is that, through the combination of those efforts and this effort, that the initial scope of the self-initiated review, that in fact, we had pretty good coverage of all those design areas. It turns out that the coverage in that evaluation -- we determined that the coverage even went beyond that.

MR. SHAO: I have one question. I don't know whether it's called external source or self-initiated action. Let me give an example. Suppose I don't see a deficiency. Well, that deficiency was created by certain design relation, certain group, certain company.

And the same group of people now working on this particular area, you found deficiency, but they made the -- also they're in charge of other conformance or structures, how they handle this situation?

MR. LEVIN: Okay. By the end of -- I'm going to get to that. By the end of phase three of this scope determination, you will be able to ask me the question. Okay.

You may address, "What have you found in the particular design area?"

And I will be able to tell you either that we have directly evaluated that area, or that it has been enveloped by some other evaluation, i.e., we have tested that area by some other means, such that we have complete coverage of specific design areas and activities.

MR. SHAO: Are not design area and design organizations?

MR. LEVIN: Yes, that's true. I will be getting to that in a moment. And I hope you will get a better idea of what that is.

MR. CHANDLER: Howard, you were asked a minute ago whether you would be identifying those presumably external IDVP type of activities that you looked at in assuring the adequacy of your scope.

MR. LEVIN: That's the initial scope.

MR. CHANDLER: Right. And you answered by referring to basically NRC internal activities and Comanche Peak related activities. Did you look at other IDVP's performed in the industry, which is what I think you're saying here?

MR. LEVIN: Yes. We have looked at both together.

MR. CHANDLER: And will you be identifying those that you looked at?

MR. LEVIN: Yes. I can tell you that, in terms of

IDI's, we reviewed the Callaway, the Seabrook, the Byron and Harris IDI's, okay.

And in terms of IDVP's, we took a look principally at Midland and Diablo, because those were the most robust programs in the industry. And it was through looking at the activities in those six individual plant investigations that we developed a -- an integrated set of what is the yardstick, so to speak, the biggest yardstick that has been applied.

And it was to that that we compared the past activities, as well as our initial scope. And the reason is simply to see, do we have a reasonable point of departure for getting started. And I will describe next how we're going to confirm that our final point is correct, okay?

MR. CHANDLER: Okay.

MR. LEVIN: And next we -- phase two. We have selected two systems that concentrate our activities. Actually it's -- some may interpret it to be broader than two systems, but essentially it was the -- we're going to take a cut through the AFW system, mechanical system, as well as the total scope of Class 1E, on site electrical system, okay.

And that's, as you are all aware, includes quite a few systems. But essentially we're covering the full

scope of electrical power on the site, as well as the I&C consideration is back into the AFW system.

MR. MARINOS: This phase two doesn't reflect -- this is more general. You just adding --

MR. LEVIN: No, what I have done, Angelos, is to try to develop a profile of those systems versus other safety related systems in the site, so that we can insure that, in fact, they are fairly good tests of the safety related design effort of the site -- on the project, as compared to other systems.

MR. SHAO: Well, when you say, "systems", are they including any buildings?

MR. LEVIN: This effort is related to systems. We'll get to how we treat buildings later. This was, you know, it turns out that buildings are somewhat unique, and most of them are safety related, with the exception of one.

MR. SHAO: When you cut to the system, does that include all the organizations that can be involved in the plant?

MR. LEVIN: Yes. And basically what we did, we developed categories of attributes in the comparison of these systems. We took a look at the applicable general design criteria, the design organizations, the design disciplines, the design interfaces, system functions,

applicable operating modes, type of hardware involved, type of calculations performed, and the applicable design procedures.

Now at this stage, the comparison is being done at the area, design area level. In a moment, I'm going to describe an even more intense activity that occurs at the activity level or process level, an area being, let's say, area concrete design.

Okay. Phase 3. We even cut it even finer. But we're looking at a subset of that. To be sure that you can create a thread and answer the question you just asked, to get down to smaller homogenous units like, not people, but organizations or groups, what percentage were they found?

MR. SHAO: Concrete may be found designed by many organizations.

MR. LEVIN: That's correct.

MR. SHAO: Maybe one organization and other organization --

MR. LEVIN: What we're seeking in phase 3 is to get the lowest common denominator, the smallest homogenous block, and say that we have tested that in some way, either directly, or have enveloped it to some other path.

MR. MARINOS: Howard, have you covered, or should I

wait, to discuss the basis of your selection? Or is it -- I don't want to steal your show --

MR. LEVIN: We will be getting to that. And if you have any questions, I will be glad to answer them.

MR. MILHOAN: Howard, similar question. Once you have selected these systems, named the systems, maybe you will address it later on, is how will you maintain the confidence that these systems that you selected are still representative of the design process?

In other words, that calculations have not gone in, or special reviews have not gone in to look at these systems that you selected.

MR. LEVIN: Okay. I think there maybe two aspects to your question. Number one, we already are aware, as you can well imagine, it's very, very difficult to select a system that can cover every aspect of the design.

And we're trying to do that. And there will be selected areas that fall out of this evaluation process, that may not fall within the boundaries of these systems, that will be added to the scope. And that will occur principally in phase 3, which I'll get to in a moment. Does that --

MR. MILHOAN: That does not answer the question.

MR. LEVIN: I'm sorry. Oh, the -- okay.

We have established a cutoff in time that we're essentially -- we have frozen what we're going to look at. And essentially, that's the point in time that we in the CPRT recommended to the review team, my team, made a recommendation to the SRT that we felt these were pretty good systems to consider. And that's approximately the April 1st time frame.

So therefore, we will not be taking a look at design effort, you know, for calculation was done after that point in time. We will not be looking at that. We want to look at before the point it was frozen.

MR. MILHOAN: Okay. Thank you.

MR. TRAMMELL: Howard, just a question on testing. I know this isn't exactly what you're talking about here, but this plant is largely constructed, if not totally constructed. And it's been tested to quite an extent.

And I wonder if you could address now or later to what extent the testing that has gone on, would help you cut across some of these design boundaries?

For example, component cooling is a nightmare of pipes that go to maybe 80 different heat exchangers. And I would hate to see you spend your time verifying, say, the flowing of each one of these legs with design calculation, when, for example, the startup test on that

system might have been totally successful, that would be a waste of your time.

At the same time, I would hate to see you go through and do a design verification on a system, and declare it totally healthy, when the test results were unfavorable. I mean you have got to consider that. It's like Stone and Webster is doing some reanalysis of piping. I hate to see them reanalyze the piping, only to find out in the field the as built are not what the design called for to begin with.

So we would address at some point to what extent the testing program going on can help you with this design process, and at the same time provide a benchmark for your conclusion. Maybe not now. Maybe later. But at some point, I think it can help you, and might add some credibility to your results.

MR. LEVIN: Okay. I think there are several good examples of that. And possibly in our discussion, the electrical area would be a good one, Charlie. I certainly agree with your -- what you're suggesting. And at this point, I might suffice to say that that information, that testing information that's available, certainly would be used to reconcile things.

And, you know, we're using any piece of information we can get to direct this effort. We want to get the

biggest benefit for our activity.

And to the extent that that can assist, it's certainly going to be considered.

MR. NOONAN: Just make a note of it now and consider it, because that's something I think would be valuable to you in terms of cutting across some of these design lines, and at the same time helping us in seeing a brief assessment of how the tests went, and to what extent it confirmed your conclusions. It would help us.

MR. CALVO: I think it would be helpful to add what is a -- what -- all Charlie is saying here, will be just another element that is going to help at the end to prove the reasonable assurance.

And what he's saying, don't discard, because it can be very important, especially in those areas that you indicated yesterday.

Your sampling program, you have no access to it. You're going to select another one. It could be those you can rationalize. We had some preoperational testing we can do. We got normal operation.

Others, we have got some tech specs that govern that equipment. So you can use that as an element, will govern in overall reasonable assurance.

MR. MARINOS: One more question. You have decided on the cutoff date already for that system. Can you

tell me that date? Is it before or after the PRA was submitted and evaluated by the staff on the agile field water system.

MR. BECK: I'm sorry. What PRA are you referring to?

MR. MARINOS: You have submitted a PRA on the agile field water system on 1980 -- I'm not certain of the date that -- and that PRA may have resulted in some redesign. I am not certain about the real facts. And I was asking with regard to the cutoff date in evaluating the design, whether that would include or exclude that PRA result.

MR. BECK: The cutoff date Howard referred to is April 1, 1985, and that --

MR. MADDEN: That reliability analysis was done several years ago.

MR. BECK: That's Fred Madden, TUGCO.

MR. CALVO: I guess the question we have, when you did that reliability analysis for the feed water system, you can come out with some kind of implications that may reflect it back on how the design was being done.

And those implications, the design was corrected. The reason behind it, that was done, you had selected a system pretty much going to look all right because of the PRA indicated.

So you want to know whether you found out about the PRA, that thing reflected back into the design. And you made those corrections, or didn't do nothing to the design? That's what I want to do.

MR. MADDEN: Fred Madden, TUGCO project. The reliability analysis is a simplified reliability analysis which was done in accordance with the guidelines. And the FSAR did not result in any system guidelines. It was used as a yardstick to compare the reliability of the Comanche Peak feed water system against other systems.

MR. CALVO: Was that because of the TMA? Does the sample -- reliability to demonstrate the --

MR. MADDEN: Yes.

MR. CALVO: You mean check the result of what he found out, and the impact and how the design, or -- for maybe that was not -- maybe somebody did something to it.

MR. LEVIN: You want to be sure you're testing.

MR. CALVO: Nice and clean. And all the information that you hope to obtain is right on that system.

MR. LEVIN: I understand your objective.

Could we move on to phase 3 in the phase 3 evaluation? We will assure that the scope of the

self-initiated view is adequate and broad there, as I mentioned earlier, is a more detailed evaluation than conducted in phase 2 to assure that all the activities will be directly sampled, or that the activity is sufficiently similar to that already sampled, and is representative. This effectively assures that all homogenous design activities are covered to assure complete coverage of design activities.

These will be correlated with safety related structures systems and components at Comanche Peak. So at the conclusion of phase 3, we will have confirmed or enlarged, which is -- there are some areas that we believe -- for example, the main steam isolation valve, for example, is a critical valve. But is not within the boundaries of this system, that we are considering adding to scope for that reason, that you just didn't get coverage.

And in similar situations, like that would come out of this activity, and would possibly be to supplementation of the scope. But we will have determined the coverage. But at the same time, we will also have to find the minimum depth, and that warrants, of our program, and that warrants some explanation.

We intend at the conclusion of phase 3, which is targeted approximately the August time frame, that in

addition to having this evaluation, you know, down to the activity level complete, we would also have available our check list, which would really define, in many respects, define the depth of the investigation available. So that, at that time, notwithstanding, findings that may evolve later, I, you know, you essentially defined the minimum scope. That scope may increase even further, because of where findings have led you. And that's how we get to phase 4.

Phase 4 is really the final scope determination.

MR. BOSNAK: Howard, before you go on. How would you -- are you going to cover, how you would extrapolate to other systems? Is this in your minimum guidelines that you would have had? Is that what you mean my extrapolation?

MR. LEVIN: Yes.

MR. BOSNAK: You will have a set of guidelines, then, that --

MR. LEVIN: This will justify it. It gets back to the question that imposed to Larry, that he could ask me a question, and I would be, you know, "Did you cover this," or, "How did you evaluate that?"

And I would be able to say, I did directly, or I could show him the road map to why I could extrapolate to that.

MR. BOSNAK: The same design organization, for instance, in other things that would make it similar.

MR. LEVIN: Controlled by the same process, the same organization did it, the same -- yeah.

MR. CHANDLER: How would you pick up the interface issue in this one?

MR. LEVIN: Similar interfaces would be another attribute that would be considered. For example --

MR. CHANDLER: But when you -- you're not necessarily -- when you say AE design scope, that would pick up all associated interfaces, I presume?

Excuse me. It wasn't a response to your answer.

MR. CALVO: Repeat your question, Larry.

MR. LEVIN: The answer is yes.

MR. CHANDLER: Okay. See, that one passed.

MR. LEVIN: The final determination is as important, I guess, is a derivative where all design verification processes should lead you. And in effect what occurs there is that we take a step back, we look at the specific root causes that have been identified, the generic implications, the deficiencies that have been identified, and then taking one step back, looked at that collectively, and made a judgment as to, you know, do we need to expand the scope further on the basis of what we found.

And so that at the completion of phase 4, you will have already confirmed the coverage and breadth. We will have confirmed the final scope. Effectively, phase 4 occurs at completion of the program.

In other words, the scope determination never really ends until it's over.

MR. CALVO: I guess you get to the foundation of your program. This is the most important part of the program. The determination of that scope so you, at the end, come out with reasonable assurance, even though you don't find anything wrong with it. Enough correlation, therefore, with the depth and the breadth, equivalent to John Hansen talking about the formulation, all those populations there. That's also equivalent to what he's doing. That's the two key elements.

And all I'm saying, when you submit the program plan to us be sure that you have anchored those things up with good -- with a good basis, good rationales. Because if you failed your test, your program will collapse. That goes the same for the construction effort. So do the best you can on that one, because that will be the point of departure for everybody.

So you have been giving us some good works in here. But still you have got those anchor bolts in there to hold it down, because that -- everything is

depending on those two.

And be sure that they are level, so you can interface from one to the other. And I think you're missing some of that in detail. Okay.

MR. MILHOAN: Howard, with respect to your comment about phase 3. You gave us an August date. Would you explain that August date again?

MR. LEVIN: Okay. That's the time frame that we're targeting completion of this process of correlation down to the activity level, where we will have made a determination of, you know, areas that we may -- scope that may need to be added, okay, to insure that we have the coverage of those activities.

So in addition to the scope that you will hear about today, you may hear items like main steam isolation valves, electrical penetrations, fault current type considerations, that we may have added, because we didn't really feel we had an adequate test in that design activity.

MR. MILHOAN: Does the August time frame now on this determination of scope, does that include the completion of your independent reviews?

MR. LEVIN: No, not at all. That is a stage where we have the --

MR. CALVO: The anchor, the foundation.

MR. LEVIN: It's Jose's anchor. And also, at that point in time, Jim -- the check list would, the full set would be available such that you could get some insight into the depth of the review as well.

MR. MILHOAN: I know John went through an overall schedule later in the day. Do you plan going through an overall schedule on your program at the end of this?

MR. LEVIN: Yes.

MR. MILHOAN: Okay. Thank you.

MR. LEVIN: Okay. Now we need to go back to the paperclip.

MR. NOONAN: Before you go on. The -- you say you're going to talk about the scheduling aspects later on?

MR. LEVIN: Yes.

MR. NOONAN: I'm looking for a place where we interface between these -- into this whole thing here.

MR. LEVIN: Okay. I believe that, for example, the August time frame is one example where we clearly were going to interface. There may be others. But that seems like a critical junction.

MR. NOONAN: I guess in that respect, John, I will be talking to you about the overall program plan and --

MR. BECK: Yes. I think it's clear that that's a required interface. Between now and then we may well

want to or you may well want to examine. And I would encourage that.

MR. NOONAN: Okay. All right.

MR. BECK: That's clearly one.

MR. LEVIN: Okay. Now after having described, you know, how we're going to address our scope, I would like to address our general approach to self-initiated review. And as I indicated earlier, the approach parallels that of the ANSI N-45-211 process.

And I guess what I would like to do is characterize this review a little bit differently than the external issues review, to the extent that, what we're doing here is we're starting from the foundation, if you will, in terms of the criteria. How those criteria were implemented and through that implementation, where they appropriately portrayed on design output, design outputs, such as drawings and specifications.

That's a process that I characterize as kind of a broad band filter that marches systematically through the areas that we're looking at, as compared to, in some other cases, some other external sources evaluation, where it's a much more directed type of an investigation, where the problems identified, and you're trying to sort out the boundaries.

What we're trying to do here is take an entirely

new untouched area and march to it in a systematic way, and catch a couple of things. And when you do catch it, we get into that investigation type of phase. This process will do that.

We start off by capturing the design inputs, using N-45-211 terminology in the form of esoteric commitments codes standards. Anything that govern the design.

Then given that, okay, how were these things implemented and utilized, and calculations or engineering evaluations by the project. And, ultimately, given those implementing documents, where they probably reflected on drawings and specs such that we have an assurance that in fact the design criteria were implemented.

MR. MILHOAN: Excuse me, Howard. On that design analysis portion of your slide, a lot of computer codes are used in design. What are your plans with respect to the review of computer codes?

MR. LEVIN: We plan to verify in fact, that the codes were -- that there was a -- in fact, the codes were verified, and take a look at the actions that the project took to verify the use of codes. But we didn't anticipate completing that verification ourselves. Criteria identification and review.

MR. MARINOS: Howard, can I go back to that design

input area? This leg of review is actually the paperwork, and you will be checking it against the N-45-211 criteria to establish that design process was, you know, was carried out, basically, along the lines of that?

At the same time, my understanding is, your actual reviewers, your reviewers will do independent calculations in some areas or all areas, to confirm that the design inputs that have resulted from the process are the right ones that the guys used to arrive at the correct calculations. Are we doing that?

MR. LEVIN: That's exactly correct. And the methods will be somewhat multi-faceted in some cases. It may be just a review of a calculation. It may be an alternate calculation, may be completed. Essentially, those verification techniques that are described in N-45-211 are within the tools that we will apply in the verification process.

MR. MARINOS: The point being that the design process may be very good. The inputs are brought down correctly, but the wrong ones, and vice versa, the other guy is doing the calculation wrong so --

MR. LEVIN: Exactly, yes.

MR. MARINOS: We're going to confirm those too.

MR. MILHOAN: Howard, let me follow up with a

comment on that, or question on that one. With respect of -- to your performance of independent calculations, the purpose of those, I would assume, would not be to justify the design itself, but to review the design, the justification. If you find something wrong, we'd go back to projects for their input.

MR. LEVIN: That's correct. And those calculations would not be design basis calculations.

MR. MILHOAN: Thank you.

MR. LEVIN: Okay. The objectives of the initial phase criteria identification and review would be to determine the criteria that the design was intended to meet, okay, and then factor that into our subsequent reviews.

Now this doesn't mean to say that we are accepting that carte blanche. We're going to take a look at that with a critical eye to assess it. It's complete and also consistent. The process will be to simply identify these design inputs from a variety of sources such as the FSAR codes and standards, interface criteria that may have been promulgated by Westinghouse, and then note these. In fact, many of these things will be noted on our check list.

MR. SHAO: What do you mean by Westinghouse interface criteria?

MR. LEVIN: Okay. Westinghouse may have a requirement for balance of -- for example, in the AFW system, may have flows or heat removal requirements, that Gibbs & Hill, for example, was required to meet.

And what we will do is, given that requirement, that interface with the interholes, determine whether or not that was a method.

MR. MARINOS: You then, independently will try to sort of develop a design -- a design description document to evaluate the design. Or you will use what Gibbs & Hill may have used to confirm that design?

MR. LEVIN: It's really a performance. We will have effectively have created that kind of a document. And that document will effectively be the check list. The check list will have that kind of information there. So if you looked at everything on there, you might say that was the criteria spec, so to speak, for the system.

MR. MARINOS: You will not develop a design description document then?

MR. LEVIN: It's not our intent to do that, specifically. There's certainly analogies to what will be created, and what a document like that typically is.

MR. BOSNAK: Howard, are you going to look for, I might call it, design improvements? In other words,

things that the original designer did that may have not been optimal? Could have been done differently? Not that they didn't meet the criteria, but they could have been improved?

For instance, a snubber that was not needed. That's going to be included in your process?

MR. LEVIN: We -- I guess -- the way I generally characterize that, Bob, is that -- I think that into a category of practice as opposed -- for example, there could be a snubber that's not needed. And with or without the snubber, you know, the commitments codes and requirements could be met, but it's not a good practice to have that in there.

MR. BOSNAK: That's what I'm talking about, good practice.

MR. LEVIN: We will identify good as well as bad practices in the process, because our interest is not only in verifying the quality of the design, but insuring that there are improvements to make --

MR. BOSNAK: The reliability of the design. That's what I would be looking toward.

MR. LEVIN: Yeah. And even carrying that further, if we can make recommendations that will help TUGCO improve their programs for future work, then we want to make sure that that information gets communicated.

MR. BOSNAK: In other words, you won't crossover something that is -- maybe, met all of the standards, but in fact is, perhaps, poor engineering practice. You would make that recommendation and change.

MR. LEVIN: Yes.

MR. MARINOS: Howard, I want to continue a little more on that design description. Your check list is not going to be an adequate document, at least for our purposes, to determine whether the design is correct -- the requirements from the various needs of the various systems that it serves.

So a design description document serves that purpose, to put together all the requirements that had to be met. Now unless you make a judgment about the design description that has already -- it's in place through Gibbs & Hill, I would not be able to tell whether your check list reflects the correct one or anything else.

MR. LEVIN: That judgment will be documented and -- for an evaluation the check list. We're doing that to catch everything and to insure that that we're complete as we march through our evaluation of various criteria.

MR. MARINOS: If you make judgments about the design description as it exists today, and you find some flaws -- problems, deficiencies, unless you define what

should be the correct one so that we can decide on that basis, we will not be able to get that from your check list.

MR. LEVIN: Not through the check list. But the combination of the check list and our engineering evaluations and other category documentation I described, you will be able to get that. Checking the evaluation isn't done on the check list. Our evaluation of the adequacy occurs elsewhere. Occurs in the engineering evaluation, the results reports and even more broadly --

MR. MARINOS: But the design document is a living document, it tells you, it carries you, it's a walkthrough of the system. What the system is designed to do, and how it's going to achieve it. And unless you give me some write-up that would parallel that or supplement it --

MR. LEVIN: One thing I want to make sure that we are understanding, is that the check list will not describe how it's going to be achieved, but it will describe the requirements. Okay.

MR. MARINOS: Okay.

MR. LEVIN: Whether it was achieved will be evaluated in the engineering evaluation. Our evaluation of how it was achieved or wasn't will be documented in

those documents. Okay.

Those documents, the calculations, evaluation studies, that group of documentation that implemented the criteria, will be reviewed to be sure that these criteria were, in fact, correctly implemented. We will, as part of that process will evaluate the adequacy of these analyses and evaluation. And what we intend to do is be sure that there is traceability to that decision process. Okay.

That the relevant documents would be identified, would be a cross reference between the design inputs and the documents that dealt with these design inputs. Key assumption, inputs and assumptions, would be identified and evaluated.

And as we mentioned earlier, the tools for doing that are some of the same tools documented in N-45-211 to include the review of calculations, alternate calculations, whatever is required to reach that judgment.

MR. BOSNAK: That would include possibly things that are missing. In other words, if there are no implementing documents, that would take the design inputs and be able to translate them into outputs, or that would be flawed in your mind. Either missing or flawed, they would be identified.

MR. LEVIN: They would be identified, and, most probably, in that case, directed to the project. And that deficiency would have to be corrected. Essentially, we want to be sure as a bases -- there's a bases that -- for those inputs to having been implemented.

MR. BOSNAK: That's right. I want to be sure that you are not just looking at whatever is provided. That you're looking to make sure that something that's not there and should be there, will be there.

MR. LEVIN: That occurs at -- not only, for example, is there a missing -- we had, I think the example you gave there, is an input. And there's a drawing or a spec, but you didn't see -- it wasn't an intermediate or inputting document that took you to that.

So obviously that would be the other category, where we capture all the commitments that the project may -- even at the criteria level, while there is a fair amount of given NRC's review and other type reviews at that level, relatively low likelihood that things are releasing from the company criteria level. If they are, we would identify it there, too.

And add that to our list. You might say ours is an integrated list of what we believe is necessary for

those systems.

MR. MILHOAN: Howard, before you go to the next slide on implementing document review slide, you earlier said you had reviewed NCR integrated design inspection report with respect to the depth of review.

I assume you got a fairly good feeling with respect to the depth of review we do in an integrated design inspection. Would it be your intent that this self-initiated review would be consistent with that depth of review or greater than what we do?

MR. LEVIN: I would characterize it as being significantly greater.

MR. MILHOAN: The depth of review?

MR. LEVIN: Yes, greater.

MR. MILHOAN: Thank you.

MR. LEVIN: Design output review. And that's on drawing and specifications. We are going to determine the consistency of the design outputs with the design inputs and implementing documents. In that process, we would identify the documents relevant to the system structure component, ensure that there's a correlation or cross reference between those outputs, and the criteria in implementing document results.

And lastly evaluate whether design outputs are consistent with those documents. You know, it's one

thing to have a calc that said this is the way it ought to look. We want to be sure that the drawing in fact reflects that.

MR. MILHOAN: Howard, with respect to design, are you also considering the design change process, both at the site and at the AE's organization?

MR. LEVIN: Yes.

MR. MILHOAN: Okay. Thank you.

MR. BECK: Vince, could we take a five minute stand in place stretch, and --

MR. CALVO: That's a good idea. Don't go away.

(Whereupon there was a recess.)

MR. LEVIN: Can we get started? We're at a point in our presentation where we can go through the generic implications and closure, I believe easily before a lunch break.

And then we're at a stage where we can do the detailed review, discipline review descriptions after lunch. So in fact we will have completed the first two segments of the presentation.

And those presentations, for planning purposes, have prepared presentations -- are approximately 20 minutes apiece. There are four. So notwithstanding discussion, it should be, you know, approximately an hour and a half after lunch, we should be able to

conclude.

MR. BECK: That's not a commitment.

MR. SHAO: Just you talking?

MR. LEVIN: Yes. There will be other speakers in the discipline group.

MR. MOLLONSON: Before we go on to a new subject, please? I would like to go back to the criteria indication and review. In all of those subjects, implementation document review, where you stated an objective, we find that one of the outstanding issues is a statement on a fully implemented QA program. An implemented program may have detected some of those deficiencies in the design area.

I believe it's rather important that you state in your objectives for each one of those criteria, where we didn't include QA in the beginning sections of this outline, that you state that your objectives in all of these reviews, also include the satisfaction of the QA/QC requirements.

I think even to the extent that that may be added to your check list, that attribute for QA/QC requirements, should be adequate for the check list. I think that should be highlighted in the objectives portion of the program.

MR. CALVO: Do you agree? Do you want to make a

commitment, or do you want to think about it?

MR. LEVIN: Yeah. You know it's something that I think I'd like to consider -- I think it's a comment well taken. I'd like to consider it. I think that aspect kind of weaves through the entire program, and that's probably why you don't -- it's just indigenous to our process.

MR. MOLLONSON: I don't have any problem understanding the collective assessment of it. Place it's in between the different groups. The end of phases, between the different groups who evaluate whatever the results of groups are. I think, however, that the QA/QC aspect of every function performed by the response team is a significant item in that assessment.

MR. LEVIN: I agree.

MR. CALVO: So you agree you ought to do it, right?

MR. LEVIN: We think we are, Jose.

MR. CALVO: You agree -- okay. All right.

MR. LEVIN: If we can get into the generic implications program. I will define the purpose of that program, the scope of it, and the source of inputs into the program, and the description of our approach, and how we will draw conclusions.

Our statement of purpose is to establish a framework for systematic identification and evaluation

of generic implications related to the Comanche Peak design programs, processes or controls.

We will develop action plans or expand self-initiated action plans to, one, identify potential generic implications of design related deviations deficiencies and their potential causes; to determine the extent of applicability of design related deficiencies and potential root causes; to ensure that any resulting adverse effects on hardware are evaluated and resolved; to identify necessary corrective actions; to preclude reoccurrence; to provide reasonable assurance that generic effects of root causes and design deficiencies have been identified and resolved.

Now on this diagram, I think this reflects a concept that we discussed earlier. And the concept of feedback. And I look at the generic implications program as an integrator information, will flow both ways, from the various functional elements of our program. That is, where we're dealing with external issues, where we have self-initiated actions in progress, design related deviations, or deficiencies or root causes get considered within the generic implications program.

And after that consideration, generic effects on hardware, design are then, oftentimes, go back the other

way.

And suffices to say that this process not only occurs within the design adequacy program functional elements, but also between our program and John Hansel's construction and QA/QC program, to the extent that there are issues that are design related.

The first step of the process includes a definition of issues. And that is generic issues. And our objective in that process is to identify common attributes among identified deviations, deficiencies, and potential root causes.

What we're trying to do here is to find the lowest common denominator, so to speak, so that we can put these items into like hoppers, such that we can then identify whether or not there is a generic implication.

And the attributes that we might consider, would be the sources, the symptoms, the bounds, the affected organizations, the inner relationship with other issues, et cetera.

Fundamentally, the question that we ask as we go through the process are, what common attributes exist among these various inputs into the generic implications program? Where else have deviations or deficiencies surfaced?

And ultimately, we're trying to answer the

question, where else could deviations or deficiencies exist?

MR. CHANDLER: Howard, you have here, seemingly, with some deliberation, I would assume, omitted discrepancies. Now you have included, for example, under discrepancy, math errors. Could you explain why discrepancies, for example, are not included on -- in the generic implications program?

MR. LEVIN: Okay. We need to get back to, I think an earlier comment, that math errors was an example, and the way --

MR. CHANDLER: I just used that example.

MR. LEVIN: But the way it was being used, was that already was -- would have to be determined to be inconsequential and isolated for it to remain a discrepancy.

Essentially a discrepancy category cannot be an item that has a consequence at all, okay. So there's really no need. If you will, Larry, we created that category, okay. It's more a logistical need for managing programs.

You have to have, ultimately, a state of final disposition for anything that flows into the hopper.

MR. CHANDLER: Then you would associate no generic implications or no significance to a discrepancy which

has generic implications? That is to say, if you find a pervasive discrepancy, it says nothing to you from a programmatic standpoint?

MR. LEVIN: No. That is a possibility that it could say something.

MR. CHANDLER: But where does it get picked up, if you're not looking into discrepancies in this category?

MR. LEVIN: It essentially wouldn't be a discrepancy if it had -- that has significance, Larry.

MR. CHANDLER: But you're going to lose it in the front end of the process, it seems to me, if you determine that it's simply a discrepancy under the definition you have given it. And if you have lost it at the front end, how is it going to be retained over here in the generic implications area?

MR. LEVIN: I don't recall a single discrepancy that's inconsequential, okay? And I guess you're concerned about a series of discrepancies that are also inconsequential.

MR. CHANDLER: In terms of safety significance, inconsequential. But in terms of programmatic questions, are you going to pick that up?

MR. LEVIN: I'd say they're inconsequential in terms of other things, too, if they didn't -- a failure to meet a commitment. I mean, they have absolutely no

consequence to the design at Comanche Peak. So I guess our view is there is no need --

MR. CHANDLER: You are making some assessment, aren't you, about adequacy of QA/QC?

MR. LEVIN: Yes, that's correct.

MR. CHANDLER: And that factor, then, doesn't plug into that determination.

MR. LEVIN: My belief, Larry, is that we're talking about items of such a low level of consequence, that they're below the threshold of really concern, from the standpoint of QA/QC.

I think we all have to recognize that there is a level of discrepancies that we'll never be able to get out of this system or any other system, and they will remain.

MR. CHANDLER: You will build in some kind of definition then, perhaps, to put bounds on that; right?

MR. LEVIN: Yes.

MR. GUILBERT: Perhaps, I think in reality now, what we tend to do is for anything to remain a discrepancy, you would have to reach a conclusion that it did not have generic implications that could be safety significant, i.e., it's inconsequential.

MR. CHANDLER: I'm staying away --

MR. GUILBERT: In order to stay in that category --

MR. CHANDLER: I'm staying away from safety significance. I have raised in the context of QA/QC from a programmatic standpoint rather than from a hardware standpoint.

MR. GUILBERT: Okay.

MR. LEVIN: Yes.

MR. BOSNAK: Howard, maybe what Larry was trying to get at, you could kind a lot of errors that would be indicative of sloppiness in the process. But, yet, each one in themselves is, you know, is not of consequence.

Maybe each one is taken care of by the margin that you have in the particular piece of equipment that you're looking at. But accumulatively, if you got rid of all of them, you would never know that the whole process is sloppy and --

MR. LEVIN: As part of insuring that, we also have to determine that a collection of discrepancies have no adverse cumulative effects. I mean they're truly isolated. They're inconsequential amongst the individual item, as well as when considered as a group. And I guess maybe we need some examples.

Suppose, for example, is, you know, we had a typographical error, and it had to do with primary cooling system pressure, okay. And that pressure, we all know, is of the order of 2500 pounds. But it said

it was 250. Decimal point was off.

And we do an assessment to determine, well, no one has misinterpreted that, you know, it's -- and it's kind of hard for someone to have a lack of understanding of an order of magnitude, such that that could -- I mean, we needed a way to deal with that. I think you need to appreciate that our system is going to have the ability to capture something like that, and we want to be able to to deal with it.

MR. BOSNAK: Like modeling errors, where somebody picks off the wrong dimension, and in itself, it doesn't make any difference. But if you do that, and it's pervasive, then there's some indication that this design process is not as good as it should be. That kind of thing.

So that that doesn't get eliminated at the top end of your process.

MR. LEVIN: I agree. Certainly the cumulative effects have to be considered.

MR. MARINOS: Howard, can you give me an example of common attributes among the inputs? I do not understand what that means.

MR. LEVIN: Okay. Yeah. We have got an example, in fact, in the next slide.

MR. CALVO: Wait a minute. What are you going to

do with this one?

MR. LEVIN: I'm going to --

MR. CALVO: No, no, not this one.

MR. CHANDLER: My question --

MR. CALVO: It looks to me like you're thinking of doing the same thing that you're doing for the deficiencies and deviations in some kind of way, not quite coming through it. Do you want to consider it?

MR. CHANDLER: My concern again, Howard, is that discrepancies don't get lost in the process in terms of, not only potential significance from a safety standpoint, but also from a quality assurance programmatic standpoint.

MR. SHAO: I think you should treat this the same way you treated appendix P in John's section. We have appendix P, we have a lot to find out -- a lot of incidences that we assembled in appendix P. This is the same way.

MR. NOONAN: That's going to be hard. You're basically saying what you feel is the discrepancy at such a level that they're not really going to get involved, at least from your standpoint.

MR. LEVIN: We anticipate to maintain them at such a level that it would not have a --

MR. NOONAN: Substantially, would require about --

you have a number of discrepancies. If you put them all together, they don't add to some significant matter, maybe I can associate that with an individual who is at work. Maybe a number discrepancies may prove insignificant to me, but the fact that he allowed them may indicate poor quality of work or something. I think that's what they're worried about.

MR. SHAO: You have to address programmatically.

MR. LEVIN: Yeah, I guess, you know, I think the comments are well taken, and we'll consider that in our program description.

Getting back to your question, Ed. On this slide it may give you a conceptual idea of how we're going to try to get these common attributes and deal with them.

MR. MARINOS: Can you give me an example? I'm having difficulty understanding. What are the common attributes? Or something specific?

MR. LEVIN: Okay. They start off at several levels. This diagram shows a three level approach. Really, what we have, a three dimensional matrix, if you would. And remember what's coming into this process is a potential root cause, a deviation or a deficiency, and we're trying to -- or a series, okay.

And what we're trying to do is find out, okay, basically, keep being on -- you know, what activities it

applied to, what discipline was involved, what organization, what procedure may have been involved. And that's at the highest level.

Then we go down into the next level. And each of those broad categories, they subdivide into another category. You get, for example, out of the design activity area, you see the arrow coming down. It may affect a program. It inputs the process, the design verification itself, design change control, and discipline area.

Obviously, it could affect any discipline organizations. It could affect any organizations or subtier organizations within those, and the design verification. It may have involved, when we get down to even a further level, specific methods that were selected to conduct the design verification in review of correcting 45-211.

It could have been alternate calc. Or it could have been a test that was in question. What we're trying to do is take the series of deviations, and find out, is there a common thread through all these things? And through identification of that, and getting it down to the lowest common denominator. Identify in some respects. Confirm the root cause and generic implication. Now that's kind of a first step.

The next step is, once you have suspected that, you want to define the boundaries on -- it's one thing to say, "I think this is the root causes. This program is weak."

Then you have to ask yourself, "Okay. That program was weak. What could it have affected? Where was it applied? What hardware did it apply to? What design products did it apply to, okay? And then you go out and test that.

And then those boundaries see -- whether or not, you see the same kinds of problems. If you do you have a generic problem here. And that's what this is all about.

MR. SHAO: One suggestion on mechanical. I presume all the pipe and pipe supports are in the mechanical.

MR. LEVIN: Piping and pipe supports is -- well, okay, you're looking at this chart? I mean, this just served as an example, Larry. This is to provide a conceptual idea, how it would work. Piping and pipe supports is a discipline.

MR. SHAO: What I suggest, is on the discipline, I think you group a mechanical, including mechanical -- consistent. And mechanical component together. Is there really two disciplines?

MR. LEVIN: Yeah, I agree.

MR. SHAO: Different depth. Different people.

MR. MARINOS: Howard, can you walk us through this with the physical system? Take a component system and whatever, and walk us through the attributes and the various decisions you make for the benefit of more than just me? I understand more of us do not understand this process.

MR. LEVIN: I'm trying to, Angelos.

MR. MARINOS: Pick up something. I can suggest to you, or you can give us a physical --

MR. LEVIN: So that I can do that completely, could I suggest that we, for example, mark up on this with an example, and do that right after we come back from lunch?

MR. MARINOS: That's fine.

MR. LEVIN: As opposed to going off the top of my head? I may hold together.

MR. MOLLONSON: Excuse me. When we come down the right-hand side, level two, identifying TUGCO the A need and contractors. I don't know whether it's appropriate to say contractors/vendors, because I don't know what level of contractor you're talking about, whether or not we should be adding vendors to supply us. We have some principle equipment supplies that weren't contractors.

MR. LEVIN: Correct. This is meant to be a

conceptual framework, okay. This list at every level is not complete on this diagram. However, it is complete in our program.

MR. MOLLONSON: What I'm -- I guess what I'm after is that your reviews don't start at contractor level, because there is a definition, I guess, of contractor, to go beyond the contractor level. Supply a vendor.

MR. LEVIN: Yes, that's correct.

MR. MOLLONSON: Okay.

MR. CALVO: I guess, Howard, when you submit to us the limitation plan -- I mean the program plan, be sure that you reflect -- consider that happening.

MR. LEVIN: Yes. In fact, the list of the attributes in those categories will be provided.

The next step, having identified a potential generic concern, we have to determine, you know, what areas of the design have been affected, okay.

And in many cases, the simple identification of a generic concern will lead to an action plan. We're going to have to carry out certain tasks and activities to define those boundaries. And after having defined those boundaries, evaluated the problems we find within that box.

Basically, the investigation techniques that, you know, we have talked about, are very similar. It may

include some sampling. We may have to expand the depth or breadth of our review to accomplish that goal. But after completing that, we will have fully defined the boundaries of the issue. That is, its extent, where has this generic problem promulgated?

We will have identified the impact on specific hardware down to, you know, individual item level. And also where applicable, in most cases generic problems, get back to some need to improve a program. We will provide recommendations for improvement of those programs, processes or, controls.

MR. CALVO: I guess the question that I have, as you have evaluated in the generic implications, that you have found discipline. That you can look at, and you say, "Well, this looks like." You may be problems in some other areas.

Now you also may have another effort in the other areas, and you could, possibility, could have been that you missed some of those generic implications.

So there's got to be some kind of reconciliation. And you have got to feed it back into the front end of the program, and say, "Maybe what we did in here was not quite kosher," or something like that. How do you cover that?

MR. LEVIN: I agree, and those things are

dovetail. And I guess that flow chart that I showed previously shows that. I agree entirely, because the generic implication -- it could be interdisciplinary.

MR. CALVO: But it could very well be the random sampling. Whatever you do, you miss something in one discipline, but is reflected in the other one, who shows probably what this discipline is.

MR. LEVIN: Absolutely. When you develop those plans, you develop means of testing, whether or not that's the case across the boundary.

MR. CALVO: I think that's a good point. You are checking all over from one discipline to the other at different levels.

MR. LEVIN: That's correct. Having identified the specific hardware affected, we then move in to resolving and closing the generic issue. And we consider that the issues are resolved and closed when we have nailed the extent, the corrective action is developed, fully defined and evaluated by the third party as being acceptable.

This corrective action, as I implied, could apply to a design process, program, or the design control. And may include hardware deficiencies that need to be corrected.

In either case, the results of this program are fed

back into the self-initiated design evaluation. And that program might be evaluated -- expanded accordingly. May be a need -- just want to get into other areas in more detail than you have been.

Finally, the bases for these conclusions drawn in this generic implication will be documented in the results. There will be a section in each results report that will address the generic implications of the activities governed by that report.

Part and parcel to this entire process, whether it be generic implications or just the execution of the action plans, is the need from time to time to consider expanding scope. The reasons are many.

One, we may need to investigate the trends of deviations further. May need to investigate root cause further. We oftentimes will have to identify whether we're talking about a random or programmatic type of deficiency. We want to provide reasonable assurance that all the -- all deficiencies are identified and corrected. That is, the areas that are reviewed or bound the problem.

There are specific conditions that require expansion. Clearly deficiencies require expansion to confirm that there are not other deficiencies.

Deviation, a deviation or deviations that could be

a deficiency if occurring elsewhere. That is, we're not just going to say that -- we're going to recognize the fact, this may get back to a train of thought that you had indicated earlier, Larry, that a deviation here may be found not to be a deficiency because of inherent margin in that particular location.

However, we want that deviation in another location.

MR. CHANDLER: And I would make my same comment here, Howard, that perhaps you ought to consider, including discrepancies in this exercise as well.

MR. LEVIN: Okay. We'll consider that. I think, as I committed to earlier -- but it recognizes the fact that the margin may be here. But we had the deviation over here and the margin wasn't there, it could be a deficiency.

MR. SHAO: I think what Larry suggested, including deficiency and disciplines.

MR. CHANDLER: Yes. My concern in this area, in particular, Howard, is that when you talk about expansion of scope, conceivably, if one found a number of relatively minor discrepancies, it may suggest a programmatic type of problem, which might lead you then to a deviation or deficiency in the next piece of work that went through the same process.

But what you found earlier was simply a discrepancy, and you may have several of those discrepancies. If you would include that through generic complications, it may lead you to a point of identification. Something of more significance.

MR. LEVIN: Thank you. Another condition requiring expansion would be identified group causes that can affect design activities outside or inside the scope of review.

And fundamentally, you know, after the decision to expand, you need to expand to within a certain population. The scope would be extended to similar designs or processes, based upon the nature of the potential root cause. It's not just a, you know, a random process. It's a directed process, based upon the nature of the issue that you're dealing with.

This gets us back to the basis for closure of the design adequacy program. Fundamentally, closure occurs when third parties activity associated with a specific issue or group of issues have provided reasonable assurance that no significant design deficiency remain undetected, and there are certain conditions associated with that.

And that statement is very close to the goal of our program that must be met. For an issue to be closed

safety significant, deficiencies and trends of non-safety significant deviations must be identified. Conclusions regarding root causes and generic implication for each, and determinations for corrective action made.

Program closure occurs when all issues are closed, and the third party has completed an integrated assessment, enabling us to make recommendations for improvement of construction and operation of management and quality programs.

Since we have reached a stage in our presentation, the end of the second phase, where it might be useful to break for lunch. We could go on to the next review description -- discipline review description. It's up to you.

MR. NOONAN: I think I'd prefer to go ahead and break for lunch.

MR. LEVIN: Okay.

MR. NOONAN: But before we do that, I'd like to -- Mrs. Ellis with CASE has asked me to, along with Billie Garde, to address this group. She has to catch an early plane, and there's no reservations to catch a later plane. So if it's okay with you, John.

MR. BECK: Sure. Hot seat Billy.

MR. COUNSIL: Okay. John, I'm starting to. I just

have some comments I want to share on this morning's program. And I'm disappointed I'm not going to be able to hear the rest of it. But I knew Howard was giving the program, wouldn't get it all done this morning.

There was a few comments which go to the scope of the program, now that I have seen Howard's presentation, that I think are significant. The most significant being that the third party groups' exit from this project is, in my view, extremely premature.

As, you know, both John and Howard, at the Midland Project, which you, you know, referred to this morning as kind of one of the bases for putting your program together here.

A very significant part of what you did and why we the intervenors and the public relied on the program, was because you retained a large degree of overview and accountability over your recommendations.

And I think in this particular case, that that type of authority is extremely significant. I don't think it's enough for you to just recommend closure of an item, and then draw the conclusion that there is no -- that there is reasonable assurance. I think that conclusion cannot be drawn until the implementation is acceptable and, in fact, has been accomplished.

And if that is not retained, then I don't see how

you can draw that particular conclusion which I understand is your objectives.

So that I have a real problem with.

Second, I don't see any hold points or integrated points at which either the NRC or the public puts their comments in at a -- in a way that is meaningful in terms of designated resolutions.

Clearly, your recommendations may include, you know, there may be two or three other ways to solve a particular problem that you have identified. You give those recommendations over to the project -- a project, and the correct solution is chosen, and then the project jumps into corrective action.

Well, that point, obviously, is going to be reached for different -- particular systems at different times. It isn't going to be a single line where the whole operation gets to that point, and then you move into corrective action. And I understand there will be some dynamics involved.

But I think if the NRC and, of course, the public doesn't have input into those decisions, that you will enter into corrective action, and that may not be the choice that the NRC accepted. And intervenors may have some strong reason why we don't believe that that type of solution is acceptable.

And I think that you need to consider integrating hold points, I think, as a matter of efficiency, as well as making sure that all your bases are covered with NRC before you proceed into corrective action.

Piggybacking on one of the concerns discussed a lot this morning in terms of the deviations, and not trending the types of deviations that I understand you're referring to as very, very minor.

I think I see the frustration on your face, Howard, because I know what you're thinking of as very, very minor problems, and you want to be very thorough. You want to identify everything.

You have got some splatter on a weld, you have got a particular type of bolt that has a very minor problem, which is essentially cosmetic, that you could get real bogged down on a lot of paperwork for not a lot of problem.

The problem I see with that particular approach is that, unless you're willing to assume a worse case analysis, unless you're willing to go into that cosmetic problem and say that there are all -- all welds have splatter and all welds with that type of cosmetic problem, even if they all have that, it won't matter.

Unless you're willing to integrate that kind of review, I don't see how you can exit at the front end on

minor deviations, particularly when you get to the issue of sloppiness and poor workmanship, because that's extremely significant in making some kind of determination when you evaluate workmanship later.

That has to all be included. And if you're operating on the assumption that you get from a lot of small minor housekeeping or cosmetic problems, you have got to take that into consideration when you consider the larger problems.

So I think that that's a problem. Two things that -- overall comments that I heard yesterday and today that I want to make, and this goes both to what I have heard this morning and yesterday, is that I'm really afraid that this program is too confusing.

And that's a very simplistic way of saying that, from what I have seen, at least at this point, and -- there are too many overlays, there are too many consultants, there are too many contractors with different charges.

And I don't see this ever coming together as a cohesive working well-oiled machine that is going to be able to very easily identify all the problems on this project, come to some kind of overall view of what the corrective actions need to be, and move into a corrective action phase.

The more people and the more systems and the more different methodologies and the more separate QA/QC programs you have got, it's just going to become extremely cumbersome. It's always been our position that the best way to do this type of thing is to bring in one major contractor, for instance, Stone and Webster, which did a very good job at Midland to the point until the project was cancelled, that came in, did a particular thing, had a particular charge, and there we just worked with one or two contractors and one or two charters.

This just is almost mind boggling in the different levels that are supposed to be integrated. And I don't think that goes just to me sitting here listening to this. I think that goes to implementation.

Second point I want to make in terms of an overview, and I didn't make this one yesterday. There was some discussion yesterday about the harassment and intimidation issued, and how Mr. Hansen was going to handle that.

And his statement today, which was the same thing that he said back in February on the harrassment/intimidation issue, was that, based on the summaries provided by TUGCO attorneys, he had, as I understand it, pulled out the technical issues. He was

going to check those technical issues, and then if the technical issues resulted in hardware problems, could be a problem.

And if they did not, if the hardware was okay, then he had to assume that the problem wasn't there.

And Mr. Hansen, you consistently abused the phrase that you can't get your arms around the problem any other way. And I want to be on the record saying I think that's a radically incorrect approach. And that if I was in your position, Mr. Spencer -- or Mr. Beck, I would make sure that he got his arms around the problem in a way that's acceptable to the staff and to the board at the front end. Because the problem isn't going to go away.

The question is still going to be raised, and this isn't the definition given by Mr. Hansel, is not one, as I understand it, that is being accepted by the board.

And I don't think that that adequately resolves the problem, particularly when the basis of Mr. Hansel's information is given by the attorneys that have to advocate a particular position in the hearings, and have done so.

And so I want to be on the record as being extremely concerned about how you, and I think it is your problem, how you are going to handle that. I would

be glad to sit down at a meeting, because I have some ideas on how you could get your hands around it. And I think that it can be done. And I think it needs to be done.

Okay. Thanks. And I thank you for interrupting your regularly scheduled program.

MR. NOONAN: Okay. Thank you, Billie. John, I guess I would like to go ahead and break for lunch.

MR. BECK: One o'clock?

MR. SHAO: Can we --

(Whereupon there was a recess.)