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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of:

MEETING BETWEEN STAFF, APPLICANT
AND INTERVENOR ON DIABLO CANYON

Docket No. 50-275/323

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

MEETING BETWEEN STAFF, APPLICANT, AND
INTERVENOR ON DIABLO CANYON

Room P-114
7920 Norfolk Avenue
Bethesda, Maryland

Wednesday, March 28, 1984

The public meeting in the above-entitled matter convened at 9:35 a.m., Darrell Eisenhut presiding.

PRESENT:

Darrell Eisenhut

Harold Denton

Edson Case

Richard Vollmer

James Knight

Hans Schierling

Louis Wheeler

Isa Yin

Jim Meyer

Bruce Norton

George Maneatis

Richard Locke

Howard Friend

Larry Shipley

Larry Chandler

Ted Sullivan

Lynn Conner

Shirley Keith

Mark Wigdor

Thomas Devine

Pat Docherty

P R O C E E D I N G S

MR. EISENHUT: Let me first say this is another followup meeting on the Diablo Canyon Project. My name is Darrell Eisenhut, the Director of Licensing.

There are a number of people here today. This is a followup meeting to the last couple of days of Commission meetings. During those Commission meetings, a member of the Staff identified concerns regarding the Diablo Canyon Project which led him to come to the conclusion that the Unit 1 reactor should not be permitted to go critical at this time. That is the statement taken from Mr. Isa Yin's three-page statement that was read into the record at the Commission meeting on Monday.

The Commission basically yesterday decided we should further review this matter including seeking ACRS review of this overall subject.In order to facilitate preparation by both the Staff, the ACRS, PG&E and everyone involved, today we are having a meeting with somewhat of a simpler approach than the normal debate of the issues as we usually do.

Today I am asking Mr. Yin to go through and identify as clearly as possible the concerns, the questions, the issues which led him to have that differing view at Monday's Commission meeting.

I want to emphasize this is not a meeting to debate

the issues. It is only for the purpose of clarifying or identifying the issues and concerns that came out of the Staff's inspection efforts, or inspection and review efforts, so principally it is to list and itemize succinctly as possible those concerns.

This was a short notice meeting. We wanted to take advantage of the situation we had where basically everyone was in town yesterday. It was a much bigger difficulty to bring everyone together.

The Commission, as you know, had asked for an ACRS review. That ACRS review will be held at least initially next week. I believe the meeting is now set up for Friday.

I want to express my appreciation to Mr. Yin for staying over an extra day to do this, but we thought it was appropriate and in the best interest of everyone to do this.

There is a transcript being taken of today's meeting. I have asked for a quick turn-around on the transcript so we can provide the transcript to the ACRS and all the parties.

I want to apologize at the very beginning, Mr. Denton and I have to leave to go to another meeting, so we will be out for awhile this morning. I hope this meeting can be wrapped up this morning, which is the basic gameplan we have.

Since there is a small number of people here,

let me turn it over to Mr. Denton and perhaps we can identify ourselves.

MR. DENTON: I wanted to just make one comment to reinforce Darrell's comment. This is intended to be a technical meeting. It is not an enforcement conference or intended to be a substitute for any enforcement action that might flow from the completion of any inspection activities, but is to be an opportunity for Isa to identify in more detail the kinds of concerns that he has brought to the Commission's attention and is not in any way intended to be a forum for a resolution of those concerns but merely identification and we do not intend to get into the enforcement aspects of what any findings may be.

I am Harold Denton. Maybe, Isa, you should start and go around the room to make sure all the NRR people are identified here.

MR. YIN: Isa Yin.

MR. KNIGHT: Jim Knight.

MR. VOLLMER: Dick Vollmer.

MR. CASE: Ed Case.

MR. SCHIERLING: Hans Schierling.

MR. WHEELER: Louis Wheeler.

MR. MAJOR: Rich Major, ACRS.

MR. LOCKE: Richard Locke, PG&E.

MR. FRIEND: Howard Friend, Diablo Canyon Project.

MR. SHIPLEY: Larry Shipley, Diablo Canyon Project.

MR. NORTON: Bruce Norton, attorney for PG&E.

MR. MANEATIS: George Maneatis, PG&E.

MR. MEYER: Jim Meyer, Commissioner Bernthal's office.

MR. WIGDOR: Mark Wigdor, EDO office.

MS. KEITH: Shirley Keith, Westinghouse.

MR. NURSIS: Dick Nursis, NRR.

MS. CONNOR: Lynn Connor, the NRC Calendar.

MR. SULLIVAN: Ted Sullivan, Division of Engineering.

MR. CHANDLER: Larry Chandler, Office of Executive Legal Director.

MR. EISENHUT: Thank you.

Perhaps the easiest way to proceed at this time is to basically turn the meeting over to Isa, to give him an opportunity to go through his issues and concerns that he has identified and brought to the Commission's attention at this time.

MR. YIN: Thank you, Darrell.

I was asked to summarize the inspection findings and without any further delay, I will go directly to the point.

There are basically eight violations against eight of the 18 criteria contained in 10 CFR 50 of Appendix A.

Now, each criterion has two to 10 items, so each item by itself is a violation.

MR. DENTON: Isa, let's don't focus on your interpretation of violations yet, but tell us what the facts are that you think don't comport with the regulations.

I don't want this to get into an enforcement mode and violation. If you could just stick to what did you find and technically why doesn't that comport with the regulations.

MR. EISENHUT: Technical includes QA findings, so make sure they are together.

MR. YIN: I know you don't intend to play down QA.

MR. EISENHUT: All matters before us including QA are in fact the principle technical matter in my mind because the result is technical.

MR. YIN: Well, again, the reason I mentioned 10 CFR 50 is that's the cause of my concern. It is not my personal concern. That is broader. By using the regulatory requirement, my assessment that certain cases were in violation of that, that was the result of my concern. So, okay, I understand Mr. Denton's point so I will just go right into the areas.

Basically there are 49 items or concerns. Let me break it down into different areas. The way I am setting it up is first I used, say, Criterion 2, I had two concerns in Criterion 18. I have seven concerns and so on. So, rather than I read it one to 49 I will break it down into two, seven, four, six and so on, so it will be easier to keep track and easier to characterize the specific areas we are dealing with.

First of all, the first category is the category involving Criterion 2. There are two concerns.

First, there was inadequate provision in the

program for personal indoctrination and training. The small bore piping support engineers were not familiar with the important elements in both QA and technical programs.

Now the two specific areas that we have is the first area involving general concerns because the present program requires people to be trained within 30 days upon arrival at the job. So within 30 days, there may be many works already performed, so the program should allow people to work only if they are trained, not specify the specific time area -- timeframe.

So this is considered to be a general problem.

MR. DENTON: In the interest of exploring it, can you tell me what you did to come to a conclusion that they weren't trained? I mean did you talk to them or review them or are you just disagreeing with the 30 days in general or did you find specific instances where you think they were not knowledgeable about their job?

MR. YIN: The conclusions are in many, many different areas but the major problem that I observed really involving so many errors had not been checked by the people.

The programs specifically require the calculations to be reviewed and checked. In many instances when I personally interviewed the checker, he showed the sign he is not familiar with the problem at all, the problem -- I mean the specific calculation problem.

And furthermore, because of documentation problems that we got involved in and because of many times that people did not even know what their own specific duties and responsibilities are and what they are doing -- perhaps they are nervous talking to officials, but I try my best to calm them down about it and I talked to many people.

So, the indication is those people are not adequately trained as we normally see at other job sites.

MR. DENTON: Who do those people work for?

MR. YIN: Those people are mostly job shoppers that were hired that were hired from Lyco III, from Prase, from other smaller companies to help out the workload at the site.

Those are hourly workers and considered to be temporary employment.

MR. DENTON: Are these engineers or technicians?

MR. YIN: I did not specifically check their backgrounds but in looking at the contracts between PG&E and the contractors and maybe Bechtel, of the contractors I think they are all engineers per contract requirement.

MR. NORTON: Can we clarify who we are talking about here? We are talking about the small bore piping group job shoppers on site? Is that correct?

MR. YIN: Well, that is the most area identified and also so-called Bechtel casuals. Those relationships with Bechtel I wasn't too sure.

MR. NORTON: No, I am trying to get straight. We are talking about people that were on site in the OPEG group in small bore piping, is that correct? Whether they are casuals or job shoppers, those are the people you are talking about?

MR. YIN: You are absolutely correct.

MR. DENTON: I think it is going to take us awhile since we haven't spent as much time on this as you have, Isa, to be sure I understand it, but what I hear you saying is that the company had a 30-day training period and when you talked to them and maybe they met their 30-day training period, you didn't think they were properly trained?

MR. YIN: It is my fault not to explain it too clearly. Let me try again.

The program is saying when the new employee shows up on the job, he must receive training within 30 days, okay? Now that in itself is the problem because the program does not say within the 30 days you are not supposed to produce any safety-related work, so what it means -- the people would show up and/or sign to the work and 30 days later he got trained, which is already 30 days too late.

MR. DENTON: Did you check the training records to see how much time had elapsed or whether they met their own requirements or not, I mean their own requirements may not be adequate but did you think they met their own requirements?

MR. YIN: In many cases there were people who were not being trained for months after they showed up for work.

MR. EISENHUT: Sort of a second problem then and then a third problem you identified was even those that received training, am I to understand correctly you think the training they received was inadequate?

MR. YIN: That is correct, too, but I haven't got to that point yet.

MR. DENTON: Didn't you have the opportunity to review their curriculum for training?

I thought they were supposed to have been taught.

MR. YIN: Yes, I did.

MR. DENTON: What did you make of that?

MR. YIN: It is really difficult to trace what -- you see, this job was going on for a couple of years. I only checked the latest training program and I looked into it in detail but the latest training program appears to be adequate but I have no idea whether or not last year or the year before, because that program was not really -- it is loose paper, a whole bunch of it. And this is the package, this is what we are training people today, so it is very difficult for you to backtrack it without documenting the evidence.

MR. DENTON: How big a group in size, numbers of people, are involved here?

MR. YIN: During the time that I was at the site,

if I remember correctly, the small bore support group consisted of 35 people and the piping stress group consisted of 20 people and the great majority are job shoppers.

MR. EISENHUT: Let's see, let me ask one other question to make sure I understand.

Do you go back then to the actual -- you didn't go back to the training records of those 35 and 20 people to see when they were trained and what kind of work they did before they were trained?

MR. YIN: I did try that, by not specifically what you are talking about but I did try to do it as scientifically as possible.

What my approach was was to pick one person in the group who has been with the group the longest time period and one of the recent employees and maybe one in-between -- and from that I was hoping to see an overall picture of what kind of training the group has been receiving in the past and unfortunately it doesn't come out too good.

MR. DENTON: Did you interview them?

MR. YIN: I personally interviewed them or personally talked to them, sat down with them and go through their recent works and previous works, so I spent a lot of time talking with each individual person that I selected for interview.

MR. NORTON: But I think Darrell's question, and

I am curious as to the answer, is did you look at the time -- the person was trained, you say you took three people, a guy that's been there a long time, a guy in the middle and a guy a short time -- did you go look at their training records to see what training they had received?

Did you actually look at those individuals' training records?

MR. YIN: Well, when you talk about training records, all PG&E had was a computer printout about when the training was requested, when the training was actually conducted and one line item, a specific program -- technical training has been carried out. That is about all the records that you kept.

So, yes, I have checked the records but the record doesn't really tell you too much.

MR. DENTON: I am going to have to be absent for a few minutes for another meeting but I'd encourage all of you to try to maximize Isa's time so that we can understand as much of the details as possible. I hope to get back here shortly.

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I will leave Ed Case in charge of the meeting.

MR. SHIPLEY: Did you say you reviewed the technical training records or the QA training records?

MR. YIN: Well, it looks like it's going to be a long day, but so be it. I was told that the meeting would last maybe two hours, but we've started out already with 15 minutes before we got through the first one.

Can you repeat the question?

MR. SHIPLEY: Yes. The question is, I believe you said technical training records, and I was wondering if you really meant to say QA training record records were the ones you reviewed?

MR. YIN: Okay. Let me dig up the records, so I can -- I don't remember all the details. There are just too many details to be remembered.

Basically there are two different types of training. One is called the EMS training. Basically I think it's Engineering Manual Systems, or whatever. And then another one was called the QA Indoctrination Training. The EMS training has been conducted prior to the QA Indoctrination Training for these six people that I selected for interview. If I can provide you with more detail -- do you want to know the details, about the date they were employed and the --

MR. SHIPLEY: No.

MR. YIN: Because I think if we go through that

again we're wasting our time.

MR. CASE: Was it the engineering training records or the QA records, or both, that you looked at?

MR. YIN: The QA training has not been really conducted since, I guess, in May of '83. And the work was beginning in the latter part of '82. So most people have not received any training in the QA area for many months.

But as far as the engineering manual training -- for instance, we have one guy who showed up for work in --

MR. NORTON: Excuse me. That's not the question. The question is what records, training records, did you look at?

MR. YIN: The only training records that was available for me to review is the computer printout.

MR. NORTON: Well, weren't there training records in San Francisco?

MR. YIN: Yes.

MR. NORTON: Did you review those?

MR. YIN: I reviewed those in San Francisco.

MR. NORTON: Were those QA training records or engineering training records?

MR. YIN: Both.

MR. NORTON: Both. That was the question.

MR. SHIPLEY: Isa, one last clarification. EMS, I think, is the Engineering Procedures Manual. We had two

types of requirements. One was Engineering Procedures Manual and one was QA. I'm just saying this for clarification, that the EPM training that is required is more of a procedural type of orientation, rather than a technical issue.

MR. YIN: Well, I'm sure that the -- your subordinates would know a lot more details than you do. So the meeting here is not intended to get into the nitty-gritty, to train management right here. The intent here is to give you the information on the problem areas. And this area that we have identified.

So it's up to you to go back and talk to your people because it's very hard for me to recreate a scenario and spend hours and hours bogged down into one minute detail. Okay? So I don't think that's to your advantage to talk about all this little mickey mouse things.

Let's talk about issues and then you guys go back and talk with your own people.

MR. CASE: I think it's most important to get through, rather than get all the details. So I share your concern in spending too much time on each individual one.

MR. NORTON: We started out with basically 49 items of concern and you said you were going to break that down into eight different Appendix B criteria, with a certain number of items under each criteria. So far I've got Criterion 2, which is your first of eight and you said two

b4

concerns and I've got one of those two, which is training and small bore piping. You talked about the 30 days.

What's number two. under the criterion?

MR. YIN: Well, I had answers to get through that because 30 minutes passed and I just don't want to stay another day, because it's a high cost area. Every day I stay here is from my own pocket to pay for, okay?

MR. FRIEND: Between having to pay your own way and your wife and your wife having to type your material --

(Laughter.)

MR. KNIGHT: The life of a federal servant.

MR. NORTON: You are being abused.

(Laughter.)

What's number two?

MR. YIN: Number two, in the area of training, involving specific training, right now the program is established to conduct a procedure change type of training, for the supervisors, for the leaders, and so on. It was the intent of the program to only spend the time for the leader and hopefully the leader will talk to their people, so that you were not involved in too much time wasted in the carrying on of a large meeting.

The intent is pretty good, but in fact, from what my experience -- talking to the people working at the site, the specific knowledge that was gained from the leader has

not really been carried out to the lower level, to the working staff of the people.

MR. VOLLMER: This dealt with just procedure revisions, Isa?

MR. YIN: Sometimes you have a procedure come out, a revised procedure, and so the management wants to highlight changes. So that the working people understand what will be affecting their work. And that was the specific --

MR. NORTON: Can I try to summarize that real quickly? You're saying that the program provided for training to the leaders or supervisors only regarding procedure changes and the theory is that the leaders would then get back to the troops. And while that was good in theory, it didn't work out very well in practice?

MR. YIN: Yes, that's correct.

MR. CHANDLER: One other quick point. This is only the OPEG again, or is this for other areas?

MR. YIN: The area I looked at is for OPEG, but the program itself is for the entire company. So the specific area that I reviewed only covers OPEG but --

MR. CASE: It raises a question about that area.

MR. YIN: Right.

MR. NORTON: You don't know, for a fact, whether that program applies for quality assurance inspectors in San Francisco. You're just assuming it does.

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MR. YIN: The program itself is not considered acceptable. We have spent quite a bit of time on these specific issues with Bechtel and other people because when I audited the Midland project, the same issue would arise --

MR. NORTON: Isa, please listen to my question carefully. You don't know that that specific procedure program applies to San Francisco's quality assurance department, in San Francisco, for example?

MR. YIN: Oh yes, I do.

MR. NORTON: You do know that it does?

MR. YIN: Because OPEG is only an extension of the entire engineering organization. So the program applied to OPEG automatically applied to the entire project.

MR. NORTON: You know that as a fact?

MR. YIN: Yes.

MR. CHANDLER: That's his understanding of the program.

MR. NORTON: Yes. I guess I'm just trying to find out how he knows that, that's all.

MR. SCHIERLING: Isa, can you tell us exactly what program it is? I mean, identify it? I think that would be the simplest way to see if it applies or not.

MR. YIN: This consists of the Diablo Canyon project, project engineers, instruction number 15 training. And also, number one, project engineers instructions. And

it applies to the entire Diablo Canyon project.

MR. MANEATIS: Could I ask one question? You made the determination that the knowledge wasn't passed down to the subordinates or communicated to the subordinates. Did you make that determination on the basis of interviewing people?

MR. YIN: Yes.

MR. MANEATIS: The same six people?

MR. YIN: No.

MR. MANEATIS: Different people?

MR. YIN: Yes, different people. You see, there are not always other people that I interviewed the first time that show up to work several months later. So it's very difficult to -- there's no reason to do that either. So I just kind of go through the list at random to see whether or not -- but I make sure those people are working under that individual that had received the specific training.

MR. NORTON: Are we done with number two under Criterion 2?

MR. YIN: Yes.

MR. NORTON: What's the next criterion?

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MR. YIN: The next criterion is Criterion 16, small bore QA program deficiencies.

MR. NORTON: Excuse me. How many items are we going to have?

MR. CASE: Let him give the story and then ask the questions.

MR. YIN: I think it's a fair question and it may be better for me to do it with a consistent format. So I'll tell you the criterion and also how many items. So it would be better for you to take notes.

MR. NORTON: Do you have one little list there that you could read and then we could write down? It would be a lot easier to keep track.

MR. YIN: Yes. Criterion 2 you've got two items. Criterion 16, seven items. Criterion 6, document control is four items. Criterion 5 -- now I have two Criterion 5s. The first set of Criterion 5 is like a procedure which we have six items. The second set of Criterion 5, not following procedures we got four items.

MR. NORTON: How many did you have under lack of procedures?

MR. YIN: Six and four. And then Criterion 3 we have ten items. Criterion 18 we have seven items. In Criterion 7 we have nine items.

MR. NORTON: Okay.

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MR. YIN: Okay. Let's get back to Criterion 16. Small bore QA program deficiencies and design nonconformances have not been identified and corrected properly.

Number one, OPEG management insensitive to problems reported to them. Number two, lack of many correction for PG&E findings. Number three, lack of PG&E management attention to ensure adequate project responses to the audit findings.

Number four, delay of Bechtel audit finding corrections without documented --

MR. NORTON: Could you repeat that?

MR. YIN: Delay of Bechtel audit finding corrections without documented justification. Number five, lack of PG&E auditor followup to ensure effective corrective actions, to include identification of the causes, preventive measures taken, and evaluation for generic implications.

MR. NORTON: Okay.

MR. YIN: Number six, inadequate Bechtel QA followup audit findings relative to OPEG design personnel training was closed prior to proper corrections taking place.

Number seven, lack of PG&E managment evaluation of the effects of the many audit findings that have not been corrected for extended period of time. Those are the seven items under Criterion 16, corrective action.

MR. NORTON: Can you hang on just a second?

MR. VOLLMER: Item six was not adequate followup because it was not timely or not in enough depth, or was there just no followup at all?

MR. YIN: Which one are you talking about, number six? Number six is inadequate Bechtel QA followup, audit findings relative to OPEG design, training was closed prior to corrective action taking place.

MR. MANEATIS: Could you tell me what the difference was between three and seven? Is that the same item?

MR. YIN: Yes, because one is really the PG&E audit. One is a Bechtel audit in two various areas. Actually number three is kind of interesting because when I reviewed many of the audits, it was determined by the QA that management had not responded in a timely manner. So the corrective action is to say that, hey, perhaps we should change our QA procedures to better keep track of them.

And I think the corrective action is totally inadequate. It doesn't seem to me that QA has the courage to face the project saying, hey, you guys should respond in time. A lot of them rather than ask them to respond in time, the QA would just --

MR. NORTON: Isa, I'm a little confused by the use of PG&E and then Bechtel and then PG&E and then Bechtel and then PG&E. Because OPEG, if I remember correctly, is a Bechtel PG&E project. It's a joint project. So when you

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use one word in one sense and one word in the other sense, could you explain that distinction for us?

MR. YIN: Correct. Now PG&E and Bechtel should work as one team. But in fact, when you perform the audit, they audit in two different areas and two different approaches. So when we assessed the finding we assessed accordingly.

MR. NORTON: So that's your distinction there?

MR. CHANDLER: Item five and seven, do they tend to be the same?

MR. YIN: It is not the same. The summary appears to be very close. But if you read the details of the findings you will see the difference.

MR. CHANDLER: If you could provide a little bit of clarification, Isa, so that --

MR. YIN: Okay, number five for instance, you have a problem identified. Say we have identified three specific problems in this particular work procedure. And when the project comes back to say, hey, we corrected all these three problems in the procedure, the auditor will come back to say, yes, this correction is complete. And the book is closed.

And is not dealing with a review on whether or not there's a generic problem. There may be other procedures having problems. There may be some other causes of this problem. And whether or not you would want to establish

some kind of measures to prevent further deterioration of the system.

So it is considered to be unacceptable when the project, just finished correcting the three problems and responded to the auditor. The auditor would say, yes, we accept that. Is that --

MR. CHANDLER: That was five and seven.

MR. YIN: Okay. Seven is more or less a review of a large number of PG&E audits dated way back in '82, or maybe '78 or actually a longer period of time. There were so many problems identified. And it has been sitting there not doing anything.

The response to me is saying, well, as long as we catch them all before the power operation, I guess we'll be all right. And I don't think that's all right, because when you identify a problem you would want to correct it in a timely manner. And investigate the problems in preventing the repetition of the same problem, rather than just let it sit there.

MR. FRIEND: This is nitty-gritty. And I don't want to burden you with it. But do you have in your notes -- can you tell me what PG&E management person told you that if it was corrected by full power, it was all right?

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MR. YIN: His name is G.W. Heggli, H E G G L I (spelling). He's Acting QA Senior Engineer.

MR. NORTON: Where?

MR. YIN: With PG&E. Again, this is very -- since you asked the question, I responded to it.

MR. FRIEND: I appreciate that.

MR. YIN: It's not my intention to mention specific person's opinions in my report.

MR. VOLLMER: One other question. One of the things you've been talking about is the timeliness of correction of nonconformances. Does this mean that, to your knowledge, there was action preceding or they were closed out, but it was just in a non-timely fashion?

Just as a general observation. I'm not looking for each item. But what seems to be coming through to me is timeliness, more than the lack of correction itself.

MR. YIN: Well, it is really both, because the item would just keep on open for many months or maybe years. So even though eventually it is closed --

MR. VOLLMER: Let me ask the question a different way.

Did you find a package that had been completed, closed out, and yet corrective action on nonconformances had not yet been taken into account? They were lost in the system, so to speak?

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MR. YIN: Not in that sense. But the fact is, there were inadequate indications of what specific corrective action the auditor had audited to ensure the program correction was correct, was there, so I don't know if I answered your question or not.

MR. NORTON: Isa, are these seven concerns, I guess, the ones that you recall -- you had an exit interview in a strange building -- it wasn't the primary PG&E or Bechtel offices, but kind around the corner, mid-February, where I attended the exit interview? Are these the same ones you talked about that day? They seem to me to be.

MR. YIN: Not all of them, because I did go back and look further more into the relative schedules, what you carried out and audited at that time. It was not a really exit -- it was kind of a summarized up-to-that-minute results.

Now subsequently we have additional findings --

MR. CASE: The same areas, but you did additional work?

MR. YIN: Yes.

MR. NORTON: Shall we go to Criterion VI?

MR. YIN: Okay.

Criterion VI in the area of document control. Document control deficiences observed at the small-bore design groups, including designers were using out-of-date

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procedures for performing their work.

MR. NORTON: Is that No. 1?

MR. YIN: Yes.

No. 2, interoffice memoranda were used in lieu of work procedures.

No. 3, procedure listings were out of date.

And No. 4, design was conducted at a site without adequately controlled procedures for an extended period of time.

Those are the four items.

MR. NORTON: How are those different than No. 1 and 2 and 3?

MR. YIN: Okay. Now the designers were not using the up-to-date procedures, is the fact he has a choice to use -- to go to pick the up-to-date procedure, but he just did not use the right procedure. So it is a personal lack of knowledge of using the latest procedure.

Now the interoffice memorandum is the management's lack of understanding of document control. They had bypassed the document control system.

MR. NORTON: Okay.

MR. FRIEND: I'd like to dwell on that for a moment and ask you -- I believe that we submitted a paper, a clarification of the use of interoffice memoranda.

Have you had an opportunity to review that, and

4-4

do you concur or disagree with that?

MR. YIN: I have not.

MR. FRIEND: You have not had an opportunity to do that?

MR. NORTON: Did you have an opportunity to review the submittal -- I believe it was dated February 19, 1984, that was prepared at Mr. Eisenhut's request as a result of the January 31st meeting? I believe it's something on the order of an inch or an inch and a half thick in response to that January 31st '84 meeting.

Did you have an opportunity to review that?

MR. YIN: I think I've seen the paper, but I don't think I have really, you know, gone into the details of trying to understand what's in there, because a normal process of carrying out inspection review is really trying to identify the problem, and then look into the corrective action. So in this area, you know, it's kind of mixing two things in at one shot. And so it's my intent to really identify all the problems first, and then deal with that after that.

MR. NORTON: Okay. Can we move onto Criterion --

MR. SHIPLEY: Can I ask one question about the procedure listing? Can you elaborate on that a little bit, Isa? No. 3, as I have it, is procedure listing out of date. Could you just give me a little more specifics on what that

mgc 4-5

means?

MR. YIN: Okay.

The latest listing of all the procedures that were used by OPEG organization was dated October 28, '83, and it was maintained by Mr. Lapke, the listing of procedures maintained by the Quality Engineer, and by Leo Mangoba, the Support Group Leader, was dated September 15, 1983. So --

MR. SHIPLEY: Okay. I see. Thank you.

And the procedure listing we're talking about, is that the listing that has each procedure along with the --

MR. YIN: The latest Rev and the date.

MR. SHIPLEY: And the people who were applicable to have that procedure?

MR. YIN: It's not really controlled that way, if I understand correctly.

MR. SHIPLEY: But that is the document?

MR. YIN: That is the document. What I'm talking about is the listing of all the procedures that were supposed to be up to date, based on that particular issue date on that particular list.

MR. SHIPLEY: All right. I think I understand. Thank you.

MR. NORTON: The next one is Criterion V, one of two sets of Criterion -- Item 5, lack of procedures.

4-6

MR. YIN: That's correct. Inadequate design procedures for (1) field-identified problems resolution.

MR. NORTON: What?

MR. YIN: So-called DPs, Diablo Problem. That is such things as the Diablo Problem system. That is, if you have identified any problems, you communicate back to the home office and seek resolution. It's like a controlled interface.

MR. MANEATIS: You're talking about the resolution of field-identified problems?

MR. YIN: Yes.

MR. NORTON: You said "lack of procedures" was the heading here? It's not lack of procedures; it's inadequate procedures?

MR. YIN: It's lack of procedures for many years. But subsequent to the establishment of the DCP, there were procedures established. It's a long scenario, and it's many pages that discusses this particular problem.

MR. VOLLMER: Are these field design problems?

MR. YIN: Field design problem resolutions.

MR. NORTON: Okay. I'm still not clear, though, on really what we're talking about here, because you've confused me by saying "many years." And then you say this procedure came up with the advent of the project. And I'm really confused now about when we're talking about.

mgc 4-7

MR. YIN: Well, without going into the specifics in the review, I would just give you the conclusions, review the conclusions. Perhaps maybe by doing that, you will get some idea about what's going on.

MR. CHANDLER: Let me see if I can change it. The heading you gave initially for the first category of Criterion V was "lack of procedures." Now the first item you've identified, you've captioned as "inadequate procedures."

Do I understand that this category now for Criterion V would include items where for awhile there may have been a lack of procedures, but now there are procedures which, upon review, you believe to be inadequate?

MR. YIN: That's correct. Also the measures to correct. The previous situation, there was no procedure. That's a problem.

MR. CHANDLER: That's a lack. That's a lack.

MR. YIN: That's a lack.

MR. NORTON: Give us No. 1 first, if you haven't already. If you did, I --

MR. MANEATIS: Even before that, would you title that again, because I took it down wrong?

MR. NORTON: It's "lack of" or "inadequacy of." Maybe after he goes through them, we'll have a better idea.

MR. YIN: Well, I got the three conclusions as resulting from my mini-review of the records. I just wanted

4-8

to highlight the one particular concern that seems to me is most severe.

All I stated in the report is the fact it was apparent since August 10, 1982, during the period of IDVP/GAP activities, control of the DP process had been upgraded. However, there was no evidence of any retroactive effort to retrieve all previously approved DPs to determine that (1) engineering dispositions and resolutions had been reviewed by qualified and designated engineering departments, and (2) documentation was not maintained to substantiate that sufficient engineering evaluation had been made by responsible individuals.

MR. NORTON: I think Edson is right. Sometimes we ask the questions before you give your listing. Maybe it would be better if you just listed your six items under Criterion V-a, and then we can flush it out with questions. I still don't have a No. 1.

MR. YIN: Oh, okay. No. 1 is the Diablo Problem procedures and the resolution of the field-identified problems was not adequate.

No. 2, limiting conditions were, pipe thermal stress release was allowed within the rigid restraints.

MR. NORTON: Say that again?

MR. CHANDLER: Repeat that.

MR. YIN: The limiting conditions were, pipe

mgc 4-9

thermal stress release is allowed within rigid restraints.

Let me explain this, if I could.

MR. NORTON: Is this the thermal gap problem you talked about January 31st?

MR. YIN: That's correct. No more explanation?

MR. NORTON: Not for me.

MR. MANEATIS: How about for you, Larry?

MR. SHIPLEY: No. I think I've got it.

MR. YIN: No. 3, stress walkdown inspections, inadequate procedure for stress walkdown procedures.

No. 4, lack of procedures for support joint release and structural connections.

MR. NORTON: Repeat that.

MR. YIN: For support joint release at structural connections. That is, you're assuming there are appendages in removing all the bending and torsional moments and the deflections at that particular location. The lack of control for that.

MR. NORTON: Lack of procedures for support joint release and structural connections.

MR. YIN: That's correct.

No. 5, lack of procedures to control the quick fix field design deviations. Also there are many incidents observing the use of outside references and data without adequate control. That's No. 6.

MR. FRIEND: Again, we responded to several of these, which you have not reviewed.

MR. NORTON: Control yourself.

(Laughter.)

MR. FRIEND: I am. I am.

MR. NORTON: I'd like to go back to number one, because again that's the one I don't recognize from any previous discussions, Isa. And frankly, it's my problem that I don't understand it, not yours, but could you bear with me and try to go through number one. I don't want you to read your conclusions or anything.

MR. YIN: Just from my memory, what happened, the question relative to the difference between the design gap in the rigid restraints that called for a maximum 1/8 and the design gap that was allowed in the field installation that allows 3/16.

The difference is very minute. It's not worth really even looking at, but it's worth looking into how you control such a difference. And by looking into how you control the resolution and the development, to allow such differences caused my concern about the problem, the communication problem between the field and the home office.

MR. NORTON: Okay. Are you saying that -- let me see if I understand and can kind of put it together.

Prior to August of '82, I think you said, there

was an inadequate procedure, all right? But then in August of '82 they came up with a procedure that was adequate. Is that correct?

MR. CASE: I think he said it was better but --

MR. NORTON: Was that August of '82 procedure adquate or not? And the next thing he said was they didn't go back and look at pre-August '82 to see if they had a problem.

MR. YIN: Those are all good questions. And it so complicated and I need a little bit of refreshing of my memory because I'm dealing with unteen issues. So let me just read two of my inspection report writeups and then I will address all of the questions for you.

MR. NORTON: Thank you.

(Pause.)

(Recess.)

MR. CASE: Isa, you're about to answer a question. Do you want the question repeated, or do you --

MR. YIN: I guess not. Let me try. If I have not satisfied the questions, maybe you can ask additional questions in this area.

I would consider, after August 10, 1982, there had been adequate procedures to handle the DPs, but prior to that those DPs that were accepted by the home office were considered to be questionable because we have many different

titles, engineering titles in the headquarters. So-called licensing engineers, nuclear project engineers, senior engineers. We don't know who is authorized, who is qualified, to address the field questions and how they go about doing it.

So in other words, there is no document listing the qualified reviewer who is designated to evaluate and approve specific field problems. So in spite of the fact that you have an acceptable procedure, after August 10, 1982, it appears to me that some measures should be taken to review the previous DPs that were accepted and evaluated by your organization, to make sure those DPs are considered to be acceptable, based on the latest procedure requirements.

MR. NORTON: It's implied in that statement then, and I assume you looked at the procedure for handling DPs that was in existence prior to August 10th, 1982 and found that procedure lacking? Or was there no procedure prior to August 10, 1982?

MR. YIN: No, there were a lot of memos, a lot of letters, and even some handwritten letters for procedures.

MR. NORTON: So it's a lack of procedures.

MR. YIN: It's an assortment of different procedures of thou shalt do this and thou shalt do that. But it was not a controlled procedure for controlling the work.

MR. NORTON: Again, would you say there was a lack of procedure to handle DPs prior to August 10, 1982, although

51b4

there were memos and so forth? As far as you're concerned there was really not a procedure.

MR. YIN: There was not a procedure, but the issue was really raised on not so much as kick the dead horse, but to evaluate the specific instance where you have so many DPs that have been approved by some people in headquarters, whether or not the evaluation was performed by some qualified personnel. And also with some kind of a backup justification more common to that conclusion.

MR. NORTON: Okay.

MR. SHIPLEY: Number three. My notes have stressed walk down inspections procedure was inadequate. Could you elaborate on that a little?

MR. YIN: Again, I have to base it on my memory. There are two specific areas that was quite clear in my memory. First, there was a lack of inspection for the penetrations, penetration dimension measurements, and the distance away from the walls and the possible structural interferences. Those requirements are delineated in IE Bulletin 79-14.

MR. NORTON: I didn't get the second one.

MR. YIN: The second one is similar to the wall penetration, the possible interference. The pipe may be hit against the wall, or maybe the structures.

MR. SHIPLEY: But that's what the walkdown did,

and that's what the procedure called for. What was inadequate?

MR. CHANDLER: Let's not get into a debate on the merits.

MR. YIN: The I&E Bulletin specifically says you should do it, you should measure. In this case, you are saying I only looked at it. There was no specific measurements made.

MR. NORTON: Okay, you're saying then that there was a procedure to walk it down, but the procedure was inadequate because it didn't call to do a specific measurement?

MR. YIN: That's correct.

MR. NORTON: Okay. I understand. And then the second issue raised in that area is the fact the stress walkdown depended solely on the design. Let me clarify that. What is the meaning of design? Design means when the stress, piping stress analysis shows say thermal movements were moved maybe one inch to the left hand side. Then the stress walkdown will say, as long as we have one inch clearance on the left hand side of that pipe, then it is acceptable.

And this consideration is not considered to be acceptable, because it's based on my previous experience and all the people who are knowledgable in this area will tell you, in many cases, the pipe does not necessarily move exactly to where you predict it. It may move to the left, it may move to the right. It may move to some other direction.

So solely depending on the analysis to perform, the stress walkdown to ensure there's no interference, it's considered to be unrealistic. In the industry, normally, you call for maybe three inch around the pipe, or two inch, or one inch, depending on the maximum possible pipe movement for that particular system.

If you estimate the temperature, actual movements, seismic movements for that piping, it can never be more than two and a half inch. So you draw a radius from the center line saying if I check the whole area, it will never exceed two and a half inch. I'll give you that two and a half inch clearance. Then there's no problem in my mind, or anybody else's mind, that that walkdown is considered to be acceptable. But that's not the case here.

MR. FRIEND: But you call that lack of procedures?

MR. NORTON: That's what I was going to ask. I think that's an inadequate procedure. What, in the procedure, I guess, is inadequate in relation to that problem?

MR. YIN: Well, I'm getting a little bit confused about the term lack or inadequate.

MR. CASE: Every time he says lack, he means inadequate or both.

MR. NORTON: Okay. Well, what's wrong with the procedure, as respects that problem, is where I'm trying to understand.

MR. YIN: Because the procedure does not deal with the actual condition that you can prevent any possible interference.

MR. CASE: Does the procedure say just look to see if there is an inch on the left side, instead of seeing if there is one inch all around?

MR. YIN: That's correct.

MR. KNIGHT: So if the prediction was motion in this direction, then that would be acceptable. That's the point he's trying to make. But if the prediction said this is the pipe and this is the penetration, and if the prediction said that motion will occur in this direction, and you have this clearance, then that would be all right.

Isa is saying that there's always the possibility that the prediction may not be sufficiently accurate and motion may indeed be in this direction where there is insufficient clearance. I'm trying to characterize it as I understood it.

MR. NORTON: I'm having difficulty translating that to a procedure.

MR. KNIGHT: The procedure says if you have sufficient clearance in the direction of design prediction, then it's acceptable. That's what the procedure says.

MR. NORTON: Okay. And he's saying that's inadequate because it should say that if you have a prediction

of movement of "X" inches, then you should have all the way around that.

MR. YIN: That's not necessarily the case. Normally, depending on how you want to put it, there is many ways to handle the job. But the most common way is to set one maximum number, say three inch or two inch, or maybe even one inch for all around clearance, as long as you calculate that there's no way you can exceed that particular number.

So when you go out to check, you don't really need to bring any analysis or calculation. The inspector will just simply check three inch, four inch, or two inch, whatever is established for him to review. But in this case the inspector actually carried those calculation results and kind of specifically looked for that particular direction, whether or not you have that clearance, and have no concern for the other areas, which is totally different from what we normally see in the other plants.

MR. NORTON: Did you get this information from interviews with inspectors or physical records of inspectors from the walkdown inspection records, or what?

MR. YIN: No, this is in review of procedure, and also in discussion with the lead engineers in that area.

MR. CASE: Both from the procedure and --

MR. NORTON: So you looked at the procedure itself

and you talked to lead engineers, who are responsible for those inspections?

MR. YIN: That's correct.

MR. FRIEND: It seems to me this is another category. This is a situation where the procedure is not in accordance with industry tradition, if you will, or norms.

MR. YIN: Well, it's extended beyond that because it's based also on documented evidence. The pipe just does not move exactly to where you predicted.

MR. FRIEND: I guess I follow you. Sure. But it seems to me -- we're not supposed to get into these details, but it seems to me that it may be at the discretion of the engineer with the calculations to judge how much clearance he wants to provide or tolerence, if you will, in the movement of the pipe.

MR. YIN: But that was not in the procedure.

MR. FRIEND: It was implied but not written.

MR. NORTON: Do you have the number of that procedure? Without a great deal of trouble. If it takes you too long, forget it.

MR. YIN: See, I do write down the reference to the pages.

6pbl

(Pause.)

It's really a series of procedures to carry out the program. It's I-17, I-18, I-50, P-36, P-37 and P-38. You have to read all of them and adjust it, you know. It's a long, tedious process.

MR. NORTON: How about Criterion 5-B, four items not following procedures?

MR. YIN: Okay. Failure to follow procedures resulted in one, lack of small bore calculation support input -- input checking that resulted in extensive errors being undetected.

MR. NORTON: Excuse me a minute now. I lost you because you said one. Is that number one? The first item which is lack of --

MR. YIN: Because of people not following procedures. Procedures say you should check the calculation input. Because people did not follow that procedure to check the calculation input that had resulted in a large amount of errors and deficiencies that was in a calculation that has not been really discovered or detected by the system. The system was there. The system is saying that you should check the input. But the checker just didn't do it.

MR. NORTON: How about the origirator?

MR. YIN: It's not the originator's -- it's not

the originator's responsibility to check his own calculation, although you know in the real world he should. He should pay attention.

MR. NORTON: The checker didn't follow his procedure checking the calculation input.

MR. YIN: Yes.

MR. SHIPLEY: Do you know which procedure that was, Isa? Or is that a general statement?

MR. YIN: The reason I looked into it originally, I was trying to say, hey, there is no program to check these things. But on the contrary, you do have a program to require people checking it.

So it really changed the picture.

MR. NORTON: Okay, let me go -- because I remember you saying that on January 31st, and this is obviously developed from there, that there was no procedure. Now you're saying there was a procedure but the checker didn't follow it.

MR. YIN: That's correct.

MR. NORTON: All right. Are you surmising that because there were errors in the calculation inputs, that they didn't check the calculation inputs? Or is there some other documented thing or interview thing that tells you they didn't check calculation inputs?

MR. YIN: Well, first of all, I did not look

6pb3

into the procedure. I just looked in the technical areas of the calculation. Whether or not it was acceptable. Whether or not there were deficiencies or errors.

So we established that yes, there are many cases like that. And then the next logical step is to find out what is the cause of this problem.

Is the cause because of lack of program, or because there is a program but people did not follow it? And the result of the finding is that there is a program but people just didn't follow it.

MR. NORTON: I understand, and I'm asking you how -- you have the errors and that's what you start with to go through the procedure you just described, or the thought process you just described. But how do you know that they didn't follow it, as opposed to some guy was dumb and he didn't know whether or not the input was correct?

I mean, that's what I'm trying to find out.

MR. CASE: Could it be one or the other? Or do you know that he didn't follow it? And if so, how?

MR. YIN: Well, to know the answer to that question you have to set up a lie detector.

(Laughter.)

So it's not my intent to really, you know, pull out a guy's brain to examine it.

MR. NORTON: So then you did surmise they didn't

follow it because of the number of errors and deficiencies.

MR. YIN: Right.

MR. NORTON: Okay. I didn't want to argue with it.

MR. CASE: It could be the other cause.

MR. YIN: It could be the guy knows the procedure and says the heck with it. Whatever the reason, I don't know.

But the end result is they weren't following the procedure.

MR. NORTON: I was just trying to find out if there was some document and somebody told you that or whatever.

MR. YIN: We got sidetracked a little bit.

(Pause.)

MR. NORTON: What was number two or -- I'm sorry.

MR. YIN: The procedure is PG&E engineering department procedure number 3.3. The title is design calculation. The particular rev that I reviewed was Rev. 4.

The procedures -- the requirements were paragraph 4.2.4.

MR. SHIPLEY: Thanks.

MR. NORTON: Okay. And number two.

MR. YIN: Personnel training not requested by supervisors in a timely manner. The procedure specifically

6pb4

says that you should have the people trained in 30 days. Not that I agree that 30 days is acceptable.

MR. NORTON: I hear you, fine. Number three.

MR. YIN: Number three, lack of identification of preliminary calculations. Any calculation that consist of preliminary data should be marked as such, and that particular situation was not reflected on the calculations.

MR. NORTON: You're saying preliminary calcs should have a stamp that says preliminary.

MR. YIN: Or just identify it in some form.

MR. NORTON: Or colored paper, or everyone should do it.

MR. YIN: If at least you write down, this is a preliminary calculation you don't have to, the right stamp next to you, I wouldn't say you break the laws. But without indication in any form or shape, that those are preliminary data and subsequently based on my review I find out those are not the correct data. That's where I'm coming from, to say that you're not following the procedure to control properly those preliminary informations.

It's the control I'm concerned with, not the Mickey Mouse identification of putting a stamp on each page. That I'm not really worried about.

MR. FRIEND: Didn't they have a log that identified them as preliminary?

MR. YIN: Again, it's a preliminary question. Like is some department in the PG&E, although they did not stamp it, there was a large number of situations where they do have a computer printout on all the preliminaries. And that I think meets the intent of the procedure. I'm not questioning that.

MR. FRIEND: But you're finding cases where that didn't exist.

MR. YIN: Yes.

MR. SHIPLEY: And that was in OPEG?

MR. YIN: Yes.

MR. NORTON: Okay, number four.

MR. YIN: Inadequate stress walkdown inspections. In other words, some of the interference and unintentional restraints are not being detected during the stress walkdown.

MR. CHANDLER: Is that different than number three that you mentioned before?

MR. YIN: No, number three is in calculation.

MR.CHANDLER: No, no. In your prior listing under 5-A, the first set of Criterion 5, item 3. I just cryptically wrote down stress walkdown inspections, procedures inadequate.

MR. YIN: Lack of procedures to cover the --

MR. NORTON: I see the distinction. You're doing the same thing here with number one above, which is you're saying they didn't see them, so apparently they didn't follow

6pb6

the procedure. Because if they had followed the procedure they should have seen it.

MR. YIN: Correct.

MR. NORTON: Okay. And is it the same evidentiary or the same thought process to get you those number one up above?

MR. YIN: Right. There are two areas of problem here. Even though I don't agree with the procedure itself, I'm still saying that people should follow the procedure until that is taken care of.

To change the procedure or redo it, or whatever. But until that time, people should follow the procedure, no matter how lousy or how inadequate that procedure is.

(Laughter.)

Okay, pardon me for the language.

MR. NORTON: Okay. Criterion 3 you had ten items. And what was the general heading on that? I don't think we ever heard that.

MR. YIN: What's that again?

MR. NORTON: The general heading on Criterion 3, the last one was not following procedures. What was this general heading?

MR. YIN: The next one will be inadequate design control against Criterion 3.

MR. NORTON: Okay.

MR. YIN: Number one, that is inadequate design control to prevent design criteria conflicts and design of pipe restraint, structural frequencies.

Number two --

MR. NORTON: Can you repeat that please? I lost it.

MR. YIN: Well --

MR. NORTON: Just repeat it. I didn't hear all the words.

MR. YIN: Inadequate design control to prevent design criteria conflicts in the design of pipe restraint structural frequencies.

MR. NORTON: What?

MR. YIN: In one criteria, you talk about design to 20 hertz. The other criteria is, I believe 33 or 30, something like that.

MR. MANEATIS: What was the tail end of that, conflicts in piping --

MR. NORTON: Pipe restraints and structural frequencies.

MR. KNIGHT: In other words, in the criteria for the required, in this case, frequency for the restraints.

MR. SHIPLEY: The specific concern here is an apparent conflict between requirements for 20 hertz and 33 hertz.

6pb8

MR. YIN: Don't call me on that because --

MR. CASE: It's approximately 33.

MR. YIN: You go back and check the details.

MR. KNIGHT: If I may, Isa. As I remember from my reading, it's the question of what is rigid, whether it's 30 or so.

MR. YIN: Number two, lack of small bore as-built

bu-3

design deviation evaluation. This is really a new issue because we just identified it a couple of weeks ago at the site.

MR. NORTON: Could you explain it a little bit?

MR. YIN: Yes. In looking at those so-called quick fixes. Now you call it tolerance clarification.

MR. NORTON: We've got a whole bunch of them.

MR. YIN: That's called TCs. It's misleading, but let's just use it. Let's call it TCs.

In one particular instance, the TCs were used to document the design deviations. The deviation resulted from construction. And there were a couple of incidents where the construction deviated from the design requirement on angles between structures.

And in review of the subsequent small bore design review, there was no mention of such a situation. Furthermore, when we look at the additional structure that was input -- that was added to the structural assembly, there was no

reflection of such change in the calculation.

Not only that, there was one member of the structure th[illegible] was completely missed in the calculation.

MR. NORTON: Could you give us the hangar number and the calc package on that?

MR. YIN: Yes. TC1-14057.

MR. CHANDLER: Two ones?

MR. YIN: TC1-14057. Small bore hangar number 57-15.

MR. NORTON: Was that the single thing, the single one you saw, or were there others?

MR. YIN: This is the only one that I looked at. But it is consistent with the deficiencies and errors we identified in the previous inspections. So there was no attempt to broaden the sample size.

MR. SHIPLEY: Was this one of the sample hangars?

MR. YIN: I don't know what you mean by samples.

MR. SHIPLEY: You said there was no attempt to broaden the sample.

MR. YIN: The review sample.

MR. SHIPLEY: Oh, your sample. Okay, sorry.

MR. YIN: I only picked three -- picked four of the TCs for review to see how you handled the quick fix. And so when I say, I didn't want to widen the sample size -- in other words I didn't want to widen the four because I

6pb9

already spent so much time at the site.

MR. NORTON: And you found this in the four that you looked at. You found this one out of the four that you looked at.

MR. YIN: That's right. This is the only small bore I looked at. The other three are large bore. But this is a completely different subject. We haven't gotten into that.

But the instance reflected the lack of evaluation for the as-built deviation, due to the construction. Does that clear up the matter?

MR. SHIPLEY: (Nods affirmatively.)

MR. YIN: Number three, there were no provisions in the program to verify telephone preliminary design information. And we have a specific instance that that was the case.

Again, my logical thought it, we have identified the problem, so let's go back to either you don't have a program or the people are not following the program.

In this particular case there was no program.

MR. NORTON: Wait a minute. No program or no procedure?

MR. YIN: Procedure.

MR. NORTON: You said there was no procedure to verify TC info. Okay, so that could just as well go under

number five where you had the six items, lack of procedures that could just as easily fall in that category.

MR. CASE: Except this is design control I guess.

MR. NORTON: I'm not arguing with you.

MR. YIN: I think the assessment of the findings can work many different ways.

MR. NORTON: Sure.

MR. CHANDLER: Bruce, do you wish you could add another item to five?

MR. NORTON: It doesn't make any difference.

(Laughter.)

MR. SHIPLEY: Is this the same issue that came up in December that we've talked about the one case on load data transmission to the field?

MR. YIN: Yes, that's correct. That's correct. Number four, there was no design consideration for synchronizing loading between closely spaced rigid-to-rigid restraints and rigid restraints to anchors.

MR. NORTON: Can you repeat that, please?

MR. YIN: There was no design consideration for synchronizing loading between closely spaced rigid-to-rigid restraints and rigid restraints to anchors.

MR. NORTON: Can you pick it up at loading between, from there on?

MR. YIN: Closely spaced rigid-to-rigid restraints

5pb11

and rigid restraints to anchors.

MR. NORTON: That again was brought up on January 31st.

MR. YIN: Yes.

MR. NORTON: Okay. Then I think we understand that one. Number five.

MR. YIN: Number five, numbers were inoperable due to placing them in close proximity with rigid restraints and anchors. I guess this one everybody understands, I hope.

MR. NORTON: If we don't now, we never will.

(Laughter.)

Number six.

MR. YIN: Number six, lack of ALARA considerations associated with the use of snubbers. Number seven, inadequate design verification walkdown inspections to ensure the absence of structural and component interferences.

MR. NORTON: Do you want to repeat that one?

MR. YIN: Let me see. This one I guess maybe interferes with the other one.

MR. NORTON: I don't know how that's design control, but I don't know that it matters which kind of core it is. Why don't you just give it to us? It sure sounds like 5-A three. But -- do you want to give it to us again?

MR. YIN: Well, maybe I scored in this area.

There may be a duplication, because in my process of changing from one place to another, I may inadequately catch this particular one. So this one is iffy. So I don't want to sell you twice in one area. So I apologize for that.

MR. NORTON: We'll take the help we can get.

(Laughter.)

MR. CHANDLER: You duplicated the last one, so you're still at 49.

MR. NORTON: Do you want to repeat it again for me though?

MR. YIN: No, this one I should withdraw right now.

MR. NORTON: We have nine items instead of ten, so why don't you give us now your new number seven, which is your old number eight.

(Laughter.)

MR. YIN: Okay, the new number 7, Design interface between OPEG small bore piping stress and pipe support group did not exist. There was lack of interface between --

MR. NORTON: Between stress support group?

MR. YIN: Right.

This resulted in the allegation.There is many ways to change the loadings and change the calculation to reduce the impact of the problem and so on, so where the measures I discussed was not really a problem, there seems to be a lack of specific, written down procedures on how to interface between those two groups in a formal manner.

There are several ways to do things and it was explained to me during my visit -- not that I have any problem with the verbal explanation but I think what you do should be reflected in a formal procedure between the two groups.

MR. NORTON: All right. Let me see if I can summarize that. You say in terms of design interface between the strees group and the support group within OPEG, there was a lack of a specific, written procedure to define and prescribe that interface but your observation was that they did interface satisfactorily despite that?

MR. YIN: That's correct. The end result is not really a problem but it is just that there was no written down, formal way of controlling this, so the impact is not

really that great but still it is an adequate procedure to properly control so everybody understands. Those are the ways -- a couple of different ways to get the job done.

MR. NORTON: I understand.

Number 8?

MR. YIN: Number 8, there was a lack of a work interface between PG&E --

MR. NORTON: A lack of what?

MR. YIN: Work interface, lack of design work interface between PG&E and Westinghouse.

MR. NORTON: Now what was this in the area of?

MR. YIN: This was in the area of large bore design, large bore piping analysis and design.

MR. NORTON: What do you mean by a lack of design working interface? That phrase is new to me.

MR. YIN: Let's just make it simple. Lack of interface -- procedure.

MR. NORTON: Because obviously there was an interface --

MR. YIN: Involving design work, so we call it design work interface.

MR. NORTON: But you mean procedure, lack of procedure rather lack of an interface, don't you?

MR. YIN: That is correct.

MR. NORTON: That is what I am trying to get at,

it is lack of a design working interface procedures.

MR. VOLLMER: The program called for these interfaces so it just didn't exist?

MR. YIN: Criterion 3 calls for the interface should be established. Now the actual interface between PG&E and Westinghouse, I have not personally reviewed so on the surface of it there was an apparently good procedures to control such interface.

Now it is different from what I just said. I have reviewed in depth the interface between OPEG's model piping stress and pipe support. There was interface, but it was never really put down in writing but in this particular case it is true there was no interface procedure, but whether or not there was interface correctly, that I don't know.

MR. NORTON: You said "in this particular case," you mean Westinghouse, PG&E? There was no procedure?

MR. YIN: That is correct.

MR. CHANDLER: And whether it worked or not in practice he can't speak to, because he can't speak to it as opposed to Number Seven, which he did.

MR. YIN: The difficulty is a geographical one, because you cannot talk to two parties where you are situated so many miles away.

MR. NORTON: Where did you look, if you will -- now we are talking about the interface on large bore, I assume.

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You are not talking about the interface in any other area, or are you -- I guess I am having a problem --

MR. YIN: Interface in the area of large bore piping stress analysis and support design.

MR. NORTON: Between Westinghouse and PG&E. I guess this is a difficult question you may not be able to answer, but how do you know there is no procedure?

MR. YIN: Because I checked whether or not there was interface procedure between Bechtel and Cygna, Bechtel and IMPELL and PG&E and Westinghouse.

There are interface procedures established between Bechtel and Cygna, Bechtel and IMPELL but there was no interface procedure established between PG&E and Westinghouse.

MR. NORTON: Again, this may be an unfair question but how do you know there wasn't? I am really asking how did you check maybe.

MR. YIN: Oh, I asked to see their procedure and it was not presented to me when I requested to review that procedure.

MR. NORTON: Did they tell you it did not exist?

MR. YIN: Well, except wording, I don't know, I don't remember, but there was not available for me to review. During the course of inspection, I reached my conclusion there was no such procedure that exists.

Now whether or not people were playing games with

me, I don't know, okay?

MR. NORTON: Are there other possibilities? Of course I assume there is the basis for his statement if he asked for it and didn't get it.

MR. YIN: If you have it, I would like to read it.

MR. FRIEND: If anybody is playing games with you, I would like to know because I wouldn't tolerate that.

MR. NORTON: Okay, Number 9.

MR. YIN: Number 9 is the large bore support field design change control change control program breakdown.

MR. NORTON: Read that one slowly, please.

MR. YIN: Large bore support field design control program breakdown.

MR. CASE: Give him a chance to write it, Isa.

MR MANEATIS: Field design, what?

MR. YIN: It is a breakdown to me because right now you have thousands and thousands of those TCs, so-called, and the stuff that I review is not really tolerance clarification. The stuff that I have reviewed really is a complete change of the support, design and it was kind of accepted right at the spot without any given review and consideration and it was just based on the fact if it doesn't meet the requirement we will turn it down. It is kind of taking a chances approach rather than following the procedures approach that we consider the system breakdown.

Right now you have got more than 30 books of those little things.

MR. NORTON: I think we understand that one. Does that finish with Criterion 3 so we can move on to the last 16?

MR. YIN: There are now nine criterion.

MR. CHANDLER: We are now up to Criterion 18.

MR. YIN: Criterion 18 is lack of, well, let me see -- the lack of inadequate -- let me just get that straight.

I would say it is inadequate Licensee technical QA audits and surveillances to identify and control the design control and program deficiencies reviewed during the inspection and investigation.

MR. NORTON: Wait a minute.

MR. FRIEND: That's an abbreviation.

(Laughter.)

MR. NORTON: Is it correct to summarize that as follows: a lack of and/or inadequate technical QA audits of the work?

MR. MANEATIS: Why don't we don't we let Isa characterize it?

MR. YIN: Technical and QA audits, both.

MR. MANEATIS: Inadequate technical and QA audits.

MR. NORTON: Of what?

MR. YIN: To identify and correct the many design

and program problems.

MR. NORTON: And again here you are talking about small bore?

MR. YIN: No, this is both large bore and small bore.

MR. MANEATIS: Did I understand you to say program problems? Are you saying now small bore and large bore problems?

MR. YIN: Design control and QA program deficiencies.

If I go into the specific items, I think you would draw the conclusion what we are talking about.

Number one, when a QA audit team could not -- when a QA audit item could not be evaluated due to a lack of project activities, followup of the item was not planned.

MR. NORTON: I'm sorry. We got so hung up on the last word that I missed the first part of the sentence.

Do you want to run that one by me again, please?

MR. YIN: When a QA audit item could not be evaluated due to a lack of project activities, followup of the item was not planned.

(Pause.)

MR. NORTON: One of the problems I have with that is I understand very clearly what you are saying but I don't know where to go with it, so can you give me some specifics?

MR. YIN: Okay.

Some audit -- one of the audit reports that I reviewed involving the auditing of some specific area --

MR. NORTON: Excuse me, if you could just go to your book and give us the audit report number or something --

MR. YIN: PG&E Audit 830878 -- 830878, PG&E.

MR. NORTON: I believe that is one you talked about in that semi-formal exit interview?

MR. YIN: Right.

Number 2, lack of QA audit documentation of specific materials reviewed to close out the audit findings.

Number 3 --

MR. NORTON: Excuse me, let us catch up.

MR. CHANDLER: Isa, on that one, is that a multiple situation with a number of instances you looked at and found to have document deficiencies or could you -- just so I can understand the scope of --

MR. NORTON: Can we first get it, lack of QA audit documentation, specific materials reviews to close out audit, findings, and again, what audit number was that?

MR. YIN: Bechtel audit 28.1-1.

MR. CHANDLER: So it is a single instance?

MR. YIN: Well, it is a single instance, but many other audits that I reviewed have a lesser degree of problems so I didn't want to pick them all out. I just picked one as

an example of the worst problem.

MR. NORTON: Well, excuse me, though, if you have other numbers, where you considered that --

MR. YIN: The other one was kind of an iffy situation.

MR. NORTON: Can you give it to us?

MR. YIN: I will in the future, but right now I am not planning to do that because I have to go back to examine my notes. But just that particular one alone is already a problem by itself.

MR. NORTON: Okay, I am not arguing with you at all but the problem is in answer to Larry Chandler. You said there were many others and I pursued that a little bit and you said there is one that is kind of iffy, so our problem is that when you say something like "there are many others" that --

MR. YIN: It is a trend that again is based on my personal opinion. The auditors should review more information.

For instance, if he only looks at a couple and he actually has a document for a couple, in fact, he is reviewing -- he is fulfilling the requirement, but in my will if I have to close out something, I would want to review more than that, but legally I cannot penalize you for not documenting all of the stuff. Perhaps you already looked, but in the absence of documenting any, that is where I come from. To put it

down in writing, there is a big difference right there.

MR. NORTON: Okay, but in summary, then, you have got this one audit where you think it was the worst case situation?

MR. YIN: Complete lack of documentation.

MR. NORTON: And then you have one other audit was kind of iffy.

MR. YIN: Several audits identified, maybe one or two documents he had reviewed and draw the conclusion but in my personal opinion, you should review a large number of documents to draw that conclusion. But again, I cannot mix my personal feelings with what actually is required in the book.

MR. MANEATIS: As a point of clarification, you said lack of QA audit on specific material and here I just heard you say there was a complete lack of documentation of this particular one. There must have been some documentation?

MR. YIN: There may be many specific documents reviewed but that particular document to close that finding was not there

Number 3, lack of QA documentation of materials reviewed during the close of audit.

MR. NORTON: Give us the citation to the audit, please.

MR. YIN: 831618.

MR. NORTON: It is PG&E?

MR. YIN: Yes, 831618.

MR. NORTON: Again, is that the sole example or are there multiple examples?

MR. YIN: Well, let me just answer you. That was the specific case and I want to tell you this particular one too because I think to remember the ones that I am talking about.

The QA audit conclusion that stated indoctrination of training records are being maintained and controlled as required and training and retraining have been conducted as required were without basis and contrary to the NRC and subsequent Bechtel QA audit findings.

This is a report that you indicated you'd go back to look into it closely.

MR. NORTON: I remember that discussion between you and the auditors very well and I don't think we need to argue it.

MR. YIN: All right.

Number 4, lack of technical QA audits to independently verify the OPEG calculation inputs were checked to be in compliance with engineering procedure.

MR. NORTON: Would you repeat that sentence slowly?

MR. YIN: Lack of technial QA audits to independently verify that OPEG culculation inputs were checked to be in compliance with engineering procedures.

The two specific audit numbers is PG&E 831878 and Bechtel audit 28.1-1.

MR. NORTON: I didn't catch the last couple of words -- were checked to be in compliance?

MR. YIN: With engineering procedures.

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MR. VOLLMER: Do the audit procedures call for independent verifications of calculations?

MR. YIN: No. This is an area that is really -- let me explain a little bit where I'm coming from. The two particular audits are talking about -- the title, if I remember correctly, is something to do with verify the adequacy of calculations.

The audit itself only attacks who signed off the paper, how many pages, that kind of thing.

MR. VOLLMER: That was the reason for my question. The audit procedure, then, did not call for independent verification calculations.

MR. YIN: Yes.

MR. VOLLMER: Okay.

MR. NORTON: Yes, Mr. Vollmer is correct; not yes, the procedure required it.

MR. VOLLMER: I assumed that was yes, that's correct, the procedure didn't require it.

MR. YIN: It's not technical QA audits.

MR. FRIEND: That's right; that's the crux of the issue. We had a different method of verifying technical adequacy then through the use of technical QA audits, and I believe Mr. Yin thinks we should have had technical audits.

MR. NORTON: I remember that discussion very well also.

MR. YIN: Number 5. An audit was planned to verify that OPEG issuance of discrepancy reports was being implemented in accordance with procedures. The Bechtel QA audits at the site were inadequate and the audits were not conducted or verification made to determine that the adequacy of OPEG action taken to identify and correct design deficiencies.

MR. NORTON: Could you go back?

MR. YIN: Let me clarify this because it's a long story. If I read the whole thing, maybe it's kind of tedious.

MR. NORTON: Excuse me, though. At the beginning you did have a sentence that we didn't get the last two words of. You said OPEG issuance of --

MR. YIN: Let me explain this by not reading my words. There was a Bechtel audit planned. This audit number was 28.3, and the audit requires the auditor to verify whether or not the OPEG's issuance of a discrepancy report was in accordance with the procedures. And this audit area has been postponed a couple of times because of the fact there was no deficiency report generated by OPEG at all, so obviously the auditor was saying, if there is no deficiency report generated, there is nothing to audit.

MR. NORTON: Discrepancy or deficiency report. You have used both terms.

MR. YIN: Discrepancy report. My problem is the auditor just finally followed the procedure without considering whether or not there was a problem at all. How come so many people working for so long can possibly not generate one single discrepancy report.

Does that clear up the --

MR. NORTON: I understand what your concern is, sure.

MR. YIN: Number 6. An audit was planned to verify proper control of issuing and distribution of OPEG procedures. Now, this audit --

MR. NORTON: We don't write as fast as you talk, Audit planned to verify?

MR. YIN: An audit was planned to verify proper control of issuing and distribution of OPEG procedures. This audit is 28.5. In this particular audit there were two deficiencies, two deficiency areas, so we break it down to 6 and 7.

MR. NORTON: Well, why don't you just give us the first half and then give us the next one.

MR. YIN: All right. The first half is the auditor discovered that since March 1983, the control of OPEG procedures was conducted at PG&E and Bechtel San Francisco offices. There was no attempt made to revise the audit checklist to cover these activities. In other words, this guy found out that he cannot audit that system at the site.

He can only audit it in the San Francisco office. But there was no attempt to change the audit to go audit at the San Francisco office. They just sit back and do nothing. So that particular audit has been postponed maybe three of our times.

The second half of it, which is item 7, approximately ten months later the audit checklist was modified to cover the related OPEG activities. It is my conclusion that the benefits of timely audit to ensure program compliance had been compromised.

MR. NORTON: You want to read that first part? You said ten months later the audit list was modified to cover, and then I lost you.

MR. YIN: Right. This problem was identified ten months before the actual auditing at the San Francisco office.

MR. NORTON: Could you read, though -- you were reading. You said approximately ten months later the audit list was modified to cover -- and then I lost you.

MR. YIN: To cover the related OPEG activities. Again, my first statement was incorrect because the audit checklist was modified to cover the portions of the work activities at OPEG. First, the whole item the way it is written, that it can only be carried out in the San Francisco office; but ten months later they find out that it is really a problem, that you cannot do it because the control is not

at the site but is actually in San Francisco.

So they modified the checklist to cover the portion they can do at the site, the limited portion.

MR. NORTON: Okay. I think we are down to Criterion VII, nine items

MR. YIN: Let me also make a correction here. Earlier you asked a question whether number VII -- not number VII, but whether the area of QA audit inadequacies covered both large bore and small bore design, and I must apologize because I don't remember all the details. The audit work I looked at apparently covered only the small bore.

Now, in the large bore area it is assessed in a different area, although there is a problem also in the audit area that I will group, then, into the next item.

MR. DENTON: Isa, let me ask a question for clarification. I thought all the large bore pipe supports were designed back in San Francisco.

MR. NORTON: They are. This is just small bore that he is talking about. OPEG is just small bore.

MR. CASE: There have been a couple of references to it.

MR. DENTON: What is the relationship between the programmatic issues you r sed for small bore and large bore?

MR. YIN: The small bore is the lack of control

interface, what have you, between the San Francisco office and at the site, and the auditing of the activities at the site; but the large bore is basically involving Bechtel and PG&E control of the procured engineering service that was contracted to Cygna, IMPELL and Westinghouse. We are just beginning to talk about the large bore right now.

MR. NORTON: Correct me if I am wrong, but my understanding is we have gone through seven of the eight categories and all but nine items, I guess, 42, or now 41 out of 48 items, and if I recall, there was one item that dealt with large bore, and that had to do with the lack of a procedure defining the interface between PG&E and Westinghouse; or was there another one?

MR. YIN: Not really. The large bore snubber --

MR. NORTON: I'm sorry, the snubbers, forgetting the snubbers. And rigid-to-rigid.

MR. YIN: In the stress walkdown we are talking about mostly large bore.

MR. NORTON: Okay. Let me go back and make a note of that.

MR. MANEATIS: The stress walkdown was in two areas.

MR. YIN: Many areas.

MR. NORTON: Now that you have listed here, the stress walkdown came under 5(a), number III, and a little

later in Criterion III -- it was twice we came down.

MR. SHIPLEY: Didn't we delete the last one?

MR. NORTON: That's right, we deleted it.

MR. CHANDLER: Bruce, you still had two large bore under III, 8.

MR. NORTON: That's the one I talked about.

MR. CASE: It's a good thing to recapitulate.

MR. NORTON: So really, we have got Criterion III, 8 and 9 and Criterion V.A, number 3.

MR. YIN: But don't forget the quick fixes, which is the biggest problem.

MR.NORTON: That was number III, III, 9.

MR. YIN: Whatever the number. I'm getting confused myself. But anyway, you can sort it out yourself back there. It is more than just one, as you mentioned. If we want to do that, we can go back and pick them all, if you wish.

MR. DENTON: Maybe we ought to go through one time to get you back on your planned presentation, and then at the end of that we can regroup.

MR. YIN: Let me finish the last categcry against Criterion VI. There are nine items in that criterion.

MR. NORTON: How do you title this one?

MR. YIN: Inadequate PG&E and Bechtel Control of Procured Engineering Services. But at this moment I have some

problem.

(Recess)

MR. DENTON: Can we reconvene, please?

MR. NORTON: We can go ahead and get started.

Isa, do you want to start listing your nine points on Criterion VI? Number 1.

MR. YIN: Yes. Number 1. There was no documented and proceduralized control relative to the design interfaces between PG&E and Westinghouse for performing seismic reverification work. Let me see. This one may be kind of a duplicate.

MR. CHANDLER: It sounds like 3.

MR. NORTON: Well, wait a minute.

MR. CASE: I think it's a little different.

MR. NORTON: Would you repeat it, please? I want to make sure. No documented and proceduralized control between --

MR. YIN: For performing seismic reverification work. Again, I think this is a repeat of a past item because we are getting so many numbers, and I did this on the airplane and didn't count it too correctly.

MR. NORTON: Now wait a minute. That's kind of a summary you're looking at. Before you drop it -- I mean I'm more interested in dropping it than your are, obviously, but before you drop it, I want to be sure that it is the same.

MR. CASE: They are somewhat different areas.

MR. NORTON: You said there was no procedure existing between PG&E and Westinghouse in the area of large bore -- that was stress and support.

MR. YIN: That's exactly the same area; the seismic reverification work that Westinghouse was involved in is exactly the large bore area. So the two items are really the same.

MR. CASE: Is it support and thermal? See, you said earthquakes in the latter one. Then -- well, it's again the seismic, but without doing the thermal, you cannot really do the seismic. The formula -- the load combination covers them all.

MR. NORTON: Okay. So number 1 goes.

MR. YIN: It is usually seismic, but it does cover thermal, everything, weight and pressures.

MR.MANEATIS: That was covered in III, 8.

MR. CASE: Maybe you ought to leave the latter one and take out the former one.

MR. YIN: Yes, I would take the latter one and leave out the former. So right now it is reduced to 47.

MR. NORTON: There's only eight items under number III because we are taking out III, 8, and we will make III, 9 III, 8. So we are consistent.

MR. DENTON: Since I didn't hear the former one,

could you illustrate it, the area a little bit more?

MR. YIN: Okay. We just wanted to eliminate any possibility of double jeopardize, and if the area is in the area of saying lack of design control, then we cite them that area, then we are not going to cite them repeatedly for --

MR. DENTON: I don't want to talk about enforcement matters. What is the underlying issue?

MR. YIN: Okay. The problem is the fact the job -- the large bore design is really not handled by Bechtel themselves; it's really subcontracted to also Cygna and IMPELL and also Westinghouse.

MR. DENTON: Is this the piping supports are contracted?

MR. YIN: Large bore piping analysis as well as large bore support design and calculations.

MR. DENTON: Just for clarification, then, when I was out there a couple of years ago reviewing this program, I felt that this job was being done inside Bechtel. Did you farm some of it out?

MR. SHIPLEY: That's correct.

MR. FRIEND: That is correct. We did retain some of that project but we also employed the three firms that Isa has identified, IMPELL, Westinghouse and Cygna, to help us.

MR. DENTON: And what type of jobs did they do?

11

Seismic and thermal and rigid and all types of supports?

MR. FRIEND: We didn't select them for a type of work. We selected them to do all the required work on a given system or several systems.

MR. DENTON: And then tell me, Isa, what did you find to not be present in the way of design controls on that?

MR. YIN: Yes, that's what I'm going to do. I have nine specific concerns. Was it done --

MR. MANEATIS: Could you start with the first one again?

MR. NORTON: I have written it down. No documented or proceduralized control between PG&E and Westinghouse for performing seismic reverification work, and I think that's the broad -- that would include large bore, stress support and thermal.

MR. CASE: Now give some examples.

MR. YIN: It's not intention to try to double-jeopardize you, so it s my mistake for counting it twice.

MR. NORTON: I asked you, I think, on the previous one how you came to that conclusion. I think you said you asked someone for that procedure and you weren't supplied it.

MR. YIN: Right. For instance, like the control between the DCP and Cygna and IMPELL was covered in Instruction I-26. The title of that instruction, For Control of Interfaces Between DCP and Outside Consultants. But that

only covers Cygna and IMPELL. But as far as PG&E and Bechtel contract, there was no design interface established -- I mean Westinghouse.

MR. NORTON: All right. I understand.

MR. KNIGHT: Just to be sure I understand, this goes back to the point that you had asked specifically to see the Westinghouse procedure, the interface procedure, and it was not delivered.

MR. NORTON: Do you know who you asked?

MR. YIN: Who I asked? There were quite a few people involved, mostly -- I think I asked the QA project, QA person, and I think I also asked the assistant project engineer in Quality.

MR. FRIEND: Jacobson and Hardy?

MR. YIN: I guess so, but there were more people in there. But exactly who I asked, I don't recall.

MR. NORTON: Was the context a meeting not dissimilar to this? Did you ask -- Can somebody get me this? -- and you never got it?

MR. YIN: But the fact you showed me I-26 indicates you do have some documentation as a result of my request.

MR. CASE: You asked and you got I-26, but you didn't get anything for Westinghouse?

MR. YIN: Correct.

MR. NORTON: We are on number 2.

13

MR. YIN: Lack of DCP control procedures to be used by the contractors. This particular area, I personally had not finished the inspection because the first time we looked into those records trying to see whether the transmittal was coming back from the contractor, and it was not provided to us the first time we showed up during the inspection, and two weeks later when we went back, it was still not there. They are still in the process of trying to get ahold of the transmittal letters.

END 8

But even when we got all the transmittals back, it just seemed to me there is a lack of control, how you transmit those procedures, so-called the Is, the Ps, the Ms. The I is instruction. The P is called project procedures, and the M is design control memorandums. And that kind of documents to the contractor was not really a cleancut way to assure they have all received it.

MR. NORTON: Are you saying then that while you haven't finished your work in this area, at this point in time, you're not satisfied that there was a proper control of procedures to be used by the contractor?

MR. YIN: That's correct. While there is a change of operation, because of the design, reverification work -- that is, before the change -- are there procedures, the Ps and Is and Ms were sent out by project. That was the area that we have some difficulty to retrieve. All the acknowledgments of transmittal receipts.

But then subsequent to that it was handled by the administrative group. And after that, it seems to be having a better control.

MR. NORTON: When was that break? When was that time frame?

MR. YIN: When was that time frame? I've got five space left here. I don't have any backup information to talk about it. But you can always pick that up.

MR. FRIEND: Yes, but is it correct to characterize these so that you feel that this particular issue, you have not completed your investigation, or the investigation is incomplete at this time?

MR. YIN: Let me bring in another factor in this area that more or less concludes that this is a problem area. The first area we talk about is like our record retrievability, as apparently -- well, perhaps on the surface that was the case, that in fact you're trying to do additional work to make sure you did find out whether or not the contractors had received those documents they needed for the design.

The second problem is the fact, in discussions with the Staff, the PG&E-Bechtel staff, not all the Ps, Is, and Ms, as required by the contractors. And yet, all those unnecessary Ps, Is and Ms are also sent over to the contractors for their use. And that was no problem, if you have delineated which ones apply to your work. But at least, at this moment, there is no documented evidence that the instructions to the contractor is not to use the other procedures was there.

So that area, again, is questionable, but it's more or less finalized.

Number three, technical audits have not been performed by PG&E and/or Bechtel of the design and analysis activity conducted by IMPELL, Cygna, and Westinghouse. When I say

technical audit, it's different from the QA program type of audit.

MR. SHIPLEY: You say technical audits have not been conducted?

MR. YIN: That's correct.

MR. MANEATIS: You said Westinghouse, IMPELL, and Cygna?

MR. YIN: All of them. All three.

MR. NORTON: Now when you say technical audits, do you mean by QA or --

MR. YIN: No, not by QA.

MR. NORTON: By whom.

MR. YIN: A QA audit does not have to be performed by QA auditors. One of the members, or several of the members of the QA audit team can also be engineers and design staff. So, in the absence of any of those technical staff participation in the audit, it shows there was a lack of audit review of any of the calculations.

So, in fact, what you've done is saying well, this procedure number was there, yes. The signature was there. Yes all the pages were counted. I'm not saying that that's not required. It is a requirement, but I also want to emphasize, even more important, to conduct technical audits to assure the technical adequacies within the design calculations.

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MR. VOLLMER: Is this in lieu of the normal design review, design review that is part of Criterion 3?

MR. YIN: It's like a design review by Bechtel. Again, I'm not saying you have to call it a QA audit. When I reviewed the other company, like IMPELL, although they don't call it QA audit, just technical review, I accept it as part of the technical audit, too. So it's not the form or the name I'm concerned with. It's the substance that was not there.

MR. NORTON: Okay, Isa, I guess we're talking about Criterion 7 here, and I've got it in my briefcase but I guess I'm confused as to how Criterion 7 requires a technical audit.

MR. YIN: Well, there are so many elements that shows the lack of control from PG&E and Bechtel. In concern of the engineering service from these organizations. So the subject heading is correct. There are so many elements that support the conclusion of --

MR. CASE: The technical review is an element of adequate control?

MR. YIN: That's correct.

MR. CASE: And he apparently sees no evidence of technical review?

MR. NORTON: Okay, as opposed then to an audit.

MR. FRIEND: I think we do understand.

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MR. CASE: You may not agree, but you understand?

MR. NORTON: Yes, number four.

MR. YIN: Design procedures and instructions utilized by IMPELL, Cygna, and Westinghouse had not been reviewed and approved by the PG&E and Bechtel engineering and QA departments.

MR. NORTON: You're saying not reviewed by any QA departments?

MR. YIN: By engineering and QA departments.

MR. VOLLMER: Were they reviewed and approved by the respective organizations that the procedures were for?

MR. YIN: That's correct.

MR. SHIPLEY: Isa, are you saying that -- you're saying that other than the DCMs, the instructions and the procedures that were issued by PG&E to those organizations, other than those, there were some instructions that -- is that the thrust of this?

MR. YIN: Well, those are Ps, Is, and Ms that consist of specific job requirements that are unique to the Diablo Canyon project. But the stuff that I'm talking about is the company way of designing the piping systems and the supports. Each company has its own way for dealing with the particular problem. It may be different from what you have so it's up to you to determine. Each individual contractor has a design procedure that is equal or better than your

own procedure for calculating the -- performing the calculations.

MR. NORTON: I'm not arguing at all, but how do you know that PG&E and/or Bechtel QA and/or engineering did not, at some point in time, review the design procedures and instructions of Westinghouse, for example? How do you know that?

MR. YIN: Because the specific area that I discussed was also discussed with the Staff and there is no information or documentation to substantiate there was indeed a review of this kind of design procedures by either Bechtel or PG&E.

MR. MANEATIS: Would you consider a review of the design QA program, meeting this?

MR. YIN: No, that's exactly the point. There is adequate design review of the QA program, but the QA program is only top heavy. But when it comes to the nitty gritty procedures, then it's got to be reviewed by the individual design organization.

MR. MANEATIS: But you --

MR. NORTON: I guess this goes back to a question I had in the previous one. Again, as a non-technical person, the problem I had with something like Criterion 7, as you read it, obviously it says you've got to have an adequate program, okay? And I guess what I'm asking you is where --

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what do you base the fact that PG&E, for example, is required to go in and look beyond Westinghouse's QA program for analysis and design procedures and actually go to some actual instruction and verify that it's technically sufficient? Is that your personal opinion? Is that industry standard? Is that in some ANSI standard or what, that says PG&E has to do that? That's the question.

Do you understand where I'm coming from?

MR. YIN: I understand exactly. Let me answer that. The intent of 10 CFR 50, Appendix B, is to give you a prompt picture and how you apply the 10 CFR 50, Appendix B, depends on how you interpret the requirement and also the evidence to draw the conclusion. So just like the 10 CFR 50, Appendix B, does not tell you specific procedures or specific formula to use, it does not tell you all the nitty gritty things.

But in the absence of that, it is questionable how you're going to control. The other people's procedure will be at least equal or better than your own procedure. So when you carry out the work in a uniform manner.

MR. CASE: I think his answer is it's implicit rather than explicit.

MR. NORTON: It's his opinion. It's his answer, okay.

MR. CHANDLER: You don't go to ANSI N-45-2 and find

something that requires this. Rather, it's your judgment when you look at the broad criteria --

MR. YIN: Well, in a way it is because if you're contracting to somebody to do the job, then you should actually approve and review their own program and procedures.

MR. FRIEND: Or the results.

MR. YIN: Well, that's a different story. Now the procedure comes first.

MR. FRIEND: I understand, but I believe you --

MR. MANEATIS: We don't have to argue this. We want to understand the concern. You clarified my question about the QA program going beyond the QA program.

MR. YIN: Well, I consider the QA program covers procedures, so when you say you reviewed the program, yes, that is -- the policies and whatever were in accordance with 10 CFR 50, Appendix B. All that is met, but specific procedures to carry out the job has not been approved and reviewed by you, you know, as the owner.

MR. SHIPLEY: Isa, just as a point of clarification, could you give me an example of the procedure you're talking about. I mean, just what kind? I'm having a hard time conceiving what his consultants would have, in procedural form, that we didn't issue to them from the project, that we would need to review in order to assure the technical adequacy of the product.

MR. YIN: Well, let's make it simple. For instance, your program requires the checker to check the design envelope and check the configuration of the system against the hardware. And so that's in your procedure. And I would expect you to check Cygna, IMPELL, and Westinghouse procedure. They also check the design. Is that a fair question or a fair answer?

MR. SHIPLEY: Isn't that a QA requirement? Wouldn't that be caught in the QA audit?

MR. YIN: No, the QA audit does not tear it down in such fine details. The QA audit talks about where there procedures established for this area. It's more or less a general type of thing. It's not done to the technical requirements.

MR. SHIPLEY: Okay, so you're not addressing the technical requirements of the work, but more the engineering procedural aspects of the work?

MR. YIN: That's correct. The technical requirement and specifics, how they're unique, is not up to the individual contractor to determine. It's your Is, Ps, and Ms, that dictate it. That was not the area I was concerned with.

It's how to control the design process by each individual contractor that was a problem -- not a problem. It's not been reviewed and concurred by you people.

MR. NORTON: Number five.

MR. YIN: PG&E did not perform program type audits of Westinghouse in 1983, when most of the corrective program analytical work was carried out.

MR. NORTON: PG&E did not perform a QA audit of Westinghouse in 1983. Did I miss some words prior to that?

MR. YIN: When most of the corrective action program analytical work -- piping analysis, piping design, I consider to be analytical work, that was carried out in that time frame.

I have a whole list of Westinghouse work performance.

MR. NORTON: What do you mean by QA program-type audit?

MR. YIN: To insure that people were using the procedures, people were using the Ps and Is and Ms that were received from PG&E.

MR. NORTON: You said during that time frame that PG&E didn't go in and audit to see if they were following their own procedure or whatever procedure?

MR. YIN: That's correct.

MR. CHANDLER: Six.

MR. YIN: The PG&E QA program audit of Westinghouse number 20506 "seismic reverification" conducted on May 25 to 28, 1982, did not include a review of piping analysis and pipe support calculation to ensure implementation of procedural requirements.

MR. MANEATIS: Did not include what?

MR. YIN: Did not include a review of piping analysis and support -- and pipe support calculations, to ensure implementation of procedural requirements.

MR. MANEATIS: How as that different than five?

MR. YIN: It's different.

MR. NORTON: A different year, for one thing.

(Laughter.)

Plus, there was a program audit. Number five said there wasn't one. This one there was. But you're basically saying it wasn't broad enough.

MR. YIN: Yes, it's kind of an overall look, but it's completely disregarding the piping area.

MR. NORTON: Were they doing piping at that time?

MR. YIN: Yes.

MR. NORTON: Westinghouse was doing piping?

MR. YIN: It started in the latter part of '82.

MR. NORTON: This is 5-82.

MR. YIN: Okay. Well, actually let me -- most of the work activity, from what I was told, started in August of '82, but PG&E and Westinghouse contracts really dated way back when? '75 or even earlier than that. So exactly what was happening I had no idea.

But anyway, in '82 there was no audit. In '83 there was no audit.

MR. NORTON: There was an audit in '82, but it didn't cover piping in '82.

MR. YIN: Yes.

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MR. VOLLMER: This was, I think a program auditor. You're saying it didn't include the programmatic aspects of the calculation, analytical work, or it didn't include a technical review of the calculation? I wasn't clear what you meant.

MR. YIN: This paragraph was intended for the -- the technical audit, I have already covered it all in 3.

MR. NORTON: Seven.

MR. YIN: Number seven, Cygna QA program type audits were acceptable. But the adequacy of technical review for design analysis of calculations was questionable.

Now this is a brand new area. We talk about --

MR. NORTON: Could you repeat it please, from the but?

MR. YIN: But the adequacy of technical review for design analysis and calculations was questionable.

MR. NORTON: Can I interrupt just a moment. In number three above, you said technical audits or reviews have not been performed by PG&E, Bechtel, of among others, Cygna. And down here you're saying the adequacy of the technical review for design analysis of calcs was questionable.

MR. YIN: It's my fault., I didn't explain this a little bit clearer earlier.

Item number three, four, five and six is under

10pb2

the area of Diablo Canyon project audits of procured engineering services.

Now, number seven, eight and nine is under the title of contractor engineering company internal audits. That's two different things.

MR. NORTON: Okay, that explains it. Under contractor, internal audits.

MR. YIN: Right.

MR. NORTON: Okay, so you went to Cygna and looked at Cygna's audits. Here is what you're talking about.

MR. YIN: That's correct.

MR. NORTON: Okay.

MR. CHANDLER: Eight.

MR. NORTON: Wait a minute. Before we abandon seven, it doesn't give us a lot to go on. You say the adequacy of technical review was questionable. I don't know how we respond to that.

MR. MANEATIS: Could you reference something?

MR. YIN: I have reviewed some of the ITRs, conclusions of Cygna's performance and it showed quite a bit of deficiencies. And I also reviewed Cygna's internal audit program.

MR. NORTON: Internal audit program or audits?

MR. YIN: Technical audit programs.

MR. NORTON: I still don't know what you mean, Isa.

MR. YIN: If I finish this maybe it will be self-explanatory. There are cases -- well, first of all, I have discussed the problems, the technical program audits with the Cygna management. And it was stated by the Cygna management that contractually the technical audits were to be performed by Bechtel.

And second, there have been a total of 142 informal design verification reports prepared for various types of support. And also there was piping stress computer runs that were checked against the printout configuration plots.

However, the isometric drawings were discarded after use. So, the technical audit was not performed, but there was something in there, perhaps that can be taken credit for.

So that draws to a kind of a conclusion that perhaps additional review should be conducted in that area which I have not had a chance to do it. There was no direct technical audit, but indirect control. At least somebody is making some effort to look into whether or not the design was adequate.

However, the deficiency did show up in the ITRs.

MR. MANEATIS: Again, all of this was perceived from the review of their audits.

MR. YIN: Yes.

MR. NORTON: In review of the IDVP's review of

10pb4

Cygna's work.

MR. YIN: Well, I don't want to make it sound complicated. In the area of Cygna's work, there was no internal technical audit at all. But during the discussion with the Cygna management he was able to point out, although there was no audit, because of these reasons, they believe they have at least something to show. Okay?

MR. NORTON: But excuse me. Your conclusions are also based on the IDVP's review of Cygna's work as set forth in the interim technical reports.

MR.YIN: That's correct. I picked the two Cygna knowledgeable piping analyses and both analyses show quite a bit of deficiencies in there. So why Cygna people themselves did not catch the problem and waited until we picked it up is really the motivation for my discussion for the Cygna people.

MR. DENTON: Were those problems caught during the IDVP review of Cygna?

MR. YIN: Yes. It's really not specifically identified that it's Cygna's work, but I have a whole list of what Cygna performed. And I kind of compared with the IDVP work and what calculation number. So I can identify, pick out those particular two calculations was performed by Cygna and see whether or not there's a problem in them.

I'm not too sure I answered your question. Maybe

you can clarify you --

MR. DENTON: I was trying to ask, was this a Cygna -- were the inadequacies in the Cygna calculations found by the IDVP and reported in the ITR; is that what you're saying?

MR.YIN: That's correct.

MR. CASE: And then because of that he went to look at their internal procedures, and wasn't completely satisfied.

MR. YIN: Internal audits, technical audits.

MR. NORTON: Let me carry that further though. How many piping problems did Cygna do? I almost got the impression that you said they did two. But did they do more than two that were reviewed by the IDVP?

MR. YIN: Let me see. I happen to list all of them. It's about maybe four pages.

MR. SHIPLEY: Four pages that were reviewed by the IDVP?

MR. YIN: No, that was assigned to Cygna. They have the largest portion of the work.

MR. SHIPLEY: The largest portion of the three contractors.

MR. YIN: Yes.

MR. SHIPLEY: But not of the whole scope.

MR. YIN: You may be right. But as far as the

10pb6

three contractors is concerned, they got the most work.

MR. NORTON: Did you look at whether or not there was corrective action for the deficiencies that were found by the IDVP?

MR. YIN: I did, but I wasn't paying too much attention to it. But I will be looking into it in the

bu-5

future.

What strikes me as two out of two, that they're having a lot of problems, a long list of problems.

MR. CASE: Why did you say two out of two? Why not two out of four pages?

MR. YIN: No, there were two that I picked out to be reviewed by Cloud.

MR. CASE: So you're saying, to my understanding Cloud looked at ten, found problems with two.

MR. NORTON: But he hasn't looked at what happened as a result of them. It's something he's going to do in the future, I take it.

MR. YIN: Yes.

MR. DENTON: Which report was this?

MR. YIN: I believe it's ITR-59.

MR. NORTON: Correct. Number eight.

MR. YIN: Number eight and nine are both assessed against Westinghouse internal audit, internal technical audit, I would say.

The Westinghouse internal audits were inadequate and unacceptable in both the QA and technical areas. The QA program type audit was deficient in that there was no discussion on what specific areas of the safety injection system and pressurized surge system that they had selected for review in the past, as documented in audit report IA-83-03.

MR. NORTON: Is that IA-83-03?

MR. YIN: That is correct.

MR. MANEATIS: Would you read that just once more?

MR. YIN: Again, I have to explain this a little bit further.

MR. DENTON: What was inadequate now about that, Isa? I didn't follow it.

MR. YIN: Okay, let me explain it a little bit in this area. I had requested Westinghouse people to show me what kind of a QA audit they had performed in the past. And they showed me the audit report number IA-83-03. It is called, "Design Control -- Structural and Equipment Engineering." And it was dated August 5th, 1983.

The audit area involving Diablo Canyon contained in paragraph 4, which indicated a review of as-built piping analysis packages of safety injection system and pressurizer surge system had been performed. That was the only area they looked at and discussed in the report.

10pb8

The report found that there was a lack of a formal interface system. The audit concluded that the matter was insignificant because the NSSS contract had been completed. Now the audit has no finding in this area. And it is saying everything is all right, no problem, except a minor problem in the formal design interface.

The issue is, when you say everything is okay, you should also identify what leads to the conclusion, everything is all right.

When the auditor is saying, he has reviewed safety injection system and pressurizer surge system, what area of those two systems this particular auditor had reviewed to make that conclusion was not indicated on the report.

MR. CASE: So he didn't indicate the basis for his conclusion.

MR. YIN: That's right. He's just saying, I looked at these two whole systems.

MR. NORTON: Is that eight and nine? That's both eight and nine.

MR. YIN: That's eight.

MR. CASE: Now that's an audit as distinguished from technical review.

MR. YIN: That's right.

MR. MANEATIS: Well, you said one thing at the

end. You said it didn't indicate which part of the system was reviewed. If he said he reviewed that particular system, the pressurizer surge system, doesn't that imply they reviewed the whole system?

MR. YIN: Well, is it really possible to review the whole system?

MR. MANEATIS: I don't know. I'm just saying when you make your judgment, that they didn't indicate what part, I take it it's entitled that the review --

MR. YIN: That's right. Now when you talk about design control, this is the whole book of design control audit. (Indicating)

Now if I can summarize all the systems to be checked, and you were saying show me what area. Likewise I would ask you the same question. If you decided everything is correct, then you show me which area you looked at to conclude that that's all right.

So both areas require specific documentation. What area you reviewed and how you reached the conclusion is okay or not okay.

MR. CASE: But it wouldn't satisfy just to say that he looked at this portion of the safety injection system.

MR. FRIEND: Did you have an opportunity to talk to the auditor?

MR. YIN: No, I have not.

10pb10

MR. DENTON: Let me go back to a point Ed rose. You asked if this was a technical or programmatic review, and I thought you said it was a programmatic review.

If you do a programmatic review of say the pressurizer surge lines, what difference does it make then whether you've looked at this line or that line or that line? I mean, the program would be the same.

MR. YIN: Right. I'm not saying that the program has any difference, but at least I'm looking forward to their particular calculation with the number attached.

MR. DENTON: You want a calculational verification.

MR. YIN: No, it's a program review because at least I know the calculation number. I'm not saying --

MR. CASE: Then you'd go to the technical review.

MR. YIN: That's right. We've already concluded there were no technical audits, internal audits. But even the QA type audit was not considered to be acceptable.

And the reason for that is because there was no specific indication --

MR. CASE: No basis for the conclusion I think is a broad way to say it, because we reviewed piping package so-and-so and so-and-so. That's what you would want to have in there.

MR. YIN: Right. And just like I walk inside containment and I walk out and say everything is beautiful,

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then you will also ask me how do you know, which piping did you look at.

And that resolves your conclusion to say everything is acceptable. And we don't have any -- these two systems are big systems, which section, which portion of the piping you have checked. We don't know.

MR. NORTON: Number nine.

MR. YIN: Well, actually number eight was, I screwed up again. Number eight is really technical audit had not been performed. Number nine has two parts.

MR. NORTON: Wait, wait. Hold it. I'm really confused now, because you said that they didn't draw conclusions and ask you which one that was. And you said that was number eight.

MR. YIN: Well, that's number eight. And following again is number eight. So number eight has two parts, and number nine by itself is lack of technical audits.

MR. NORTON: Number nine is lack of technical audits.

MR. YIN: I kind of jumped ahead of me. Number eight has two parts. But it's within the same item.

MR. NORTON: Okay. I've got you. Number nine is lack of technical audits. By Westinghouse?

MR. YIN: Yes.

MR. NORTON: In what period of time?

10pb12

MR. YIN: The period of time from '82 to '83.

MR. NORTON: When you say from '82, does that include '82? Or are we just talking about the year 1983?

MR. YIN: Well, specifically what work has been done in those time frames. I really cannot tell because there's nobody to talk to, and the Westinghouse people were not there.

MR. NORTON: Excuse me, Isa. You said there was a lack of technical audits by Westinghouse from '82 to '83. That could be from December 31st, '82 to January 2nd, '83 which is two days. Or it could be from January 1, '82 to December 31st, '83 which is two full years.

MR. YIN: Maybe I should modify the wording. I would say, there was a lack of technical audit during the period of this design reverification.

end 10.

MR. NORTON: Fine.

11-1

MR. VOLLMER: This is not to be confused with the design review process as required by Criterion III. This is a technical review over and above that.

MR. YIN: That is correct. That is correct.

MR. FRIEND: Isa, would you please define what is your definition of the period of the design verification program? What time period do you believe that to cover?

MR. YIN: Well, I believe it's the latter part of '82 and extended to probably August and September '83, but I cannot confirm that.

MR. FRIEND: Thank you.

MR. CHANDLER: I think that concludes it.

MR. MANEATIS: Excuse me. Can you go back --

MR. YIN: We talked about half of No. 8. Let me continue on the second part of No. 8, 8(b).

8(b) is the original audit checklist findings/ records had been systematically destroyed in accordance with Westinghouse management policies.

MR. MANEATIS: The original audit checklist?

MR. YIN: Findings/records had been systematically destroyed in accordance with Westinghouse management policies. This is very, very different from the normal practice. For all the records that are reviewed of Bechtel, PG&E, IMPELL, Cygna, everybody kept the audit finding records.

mgc 11-2

But Westinghouse does not believe in keeping those, so there is not way for me to retrieve what the auditors' findings as against what is in the audit report.

MR. SHIPLEY: You said under 8(a) that IA-83-03 was an audit finding from 8/5/83 that you reviewed.

MR. YIN: That's the audit report date.

MR. SHIPLEY: Oh. The records to back that up didn't accompany it.

MR. CHANDLER: Now so I understand it, is that a problem relative to Appendix B, or is that a problem for an inspector's purpose, looking back and trying to evaluate a certain matter?

MR. YIN: I would categorize it as deviating from Bechtel or PG&E's program.

MR. CHANDLER: Okay.

MR. YIN: And it was not documented up front.

MR. CHANDLER: Okay.

MR. NORTON: What was not documented up front?

MR. YIN: Well, what I'm saying is, if you've reviewed the Westinghouse program and you identified the difference of how you take care of those audit findings and records and so on, if you stated, "I have reviewed it, and we accepted it," that is one thing. But that was the practice that was conducted by Westinghouse, is considered to be deviating from their own program.

11-3

MR. NORTON: Did you check with PG&E to see whether they knew that or not?

MR. YIN: I did.

MR. NORTON: And who did you check with?

MR. YIN: Well, again with a group of people, mostly QA. I can't remember the names.

MR. NORTON: Are you saying that this practice of Westinghouse is not set forth in their procedures?

MR. YIN: Right. The practice of destroying the audit checklist findings/records was not specifically delineated in writing in the program. It's just a management policy to do away with them.

MR. NORTON: Okay.

I would like to quickly go over the whole list to make sure we have identified those that -- large bore, okay.

Criterion II, there were two items.

MR. CASE: Take your time. This is an important question.

MR. YIN: Okay.

MR. NORTON: Criterion II, there were two items, both involving training, and I believe you specifically said that was OPEG's small-bore group, right?

MR. YIN: The specific program implementation that we looked at, it is correct that I looked at only the

mgc 11-4

small-bore design, but I believe the procedure also allows the same -- is also provided for the large bore, the home office practice -- is that correct? -- because from what I learned, everything -- all the programs that provided for small bore is also, you know, used in large bore.

MR. NORTON: So Criterion II, No. 1, you feel would also apply to large bore?

MR. YIN: The program applies to large bore. The specific implementation of the program was really audited in the small bore.

MR. NORTON: But No. 1, your concern was that the 30-day requirement wasn't soon enough. So that would apply to large bore, too, I assume.

MR. YIN: Technically it applied to both large bore and small bore.

MR. NORTON: And No. 2, on the other hand, would apply to both large bore and small bore, because there you interviewed people who said the supervisors didn't do a good job of getting this information.

MR. YIN: That's not correct. The program applies to both large bore and small bore. Both areas was really observed in the small bore work activities. In other words, the program is for both areas, but I only --

MR. NORTON: I understand that.

MR. CASE: Go to specific deficiencies that were

c 11-5

only in the small bore.

MR. YIN: That's correct.

MR. NORTON: No, that's not correct, because the first one, you say that the program requires training in 30 days, and you don't believe that that program requirement is sufficient, that a man shouldn't be able to work until he's received the training. It should be zero days, okay? And that would apply to both small bore and large bore. But No. 2 involved -- you said the intent of the procedure was okay, but that the supervisors in small bore weren't doing a very good job of getting the information to the troops. That would apply only to small bore, because you didn't interview in large bore.

MR. YIN: Maybe it's my fault to confuse the issue. Let me clear up that area.

The program itself regarding the -- regarding specific training is not adequate because there was no specific provisions to ensure that the system is carried out. It's just saying that you give this training to the supervisor. There is no follow-up in the procedure to ensure that the supervisor will also carry what he learned to the group. So the program itself is deficient that way.

Now the general practice from what I learned is, if I received the training, I would tell my people what to do. But even that was not carried out.

mgc 11-6

MR. NORTON: But that was in small bore.

MR. YIN: Again, I think it's in both areas.

MR. CASE: But you only asked in the small bore area?

MR. YIN: Right.

MR. NORTON: So you don't know whether it was carried out or not in large bore. That's all I'm after.

MR. YIN: That's correct, because I have not looked into it.

MR. NORTON: Okay.

Criterion XVI, there were seven. No. 1 was clearly small bore. It was OPEG management.

MR. YIN: Yes.

MR. NORTON: In fact, I believe all of these seven are small bore, are they not?

MR. YIN: Well, let me think a little bit. I think so, because all the 18 QA audit reports that you gave to me were audits of OPEG, so when I reviewed that, it's already factored in, small bore, yes.

MR. NORTON: And I believe that is true of the four items under Criterion VI, that they are also related to small bore.

MR. MANEATIS: They are indicated to be small bore.

MR. NORTON: Yes.

c 11-7

MR. YIN: Yes.

MR. NORTON: Now Criterion V-(A), No. 3 applied to large bore, correct?

MR. YIN: Let's go by 1, 2, 3, 4. Large and small bore.

MR. NORTON: The Diablo field problems were both large and small bore?

MR. YIN: Yes.

MR. NORTON: Okay.

MR. YIN: No. 2, the restraint gap is both large and small bore.

MR. NORTON: Okay.

MR. SHIPLEY: Did you review any large-bore calcs?

MR. YIN: This area, again, I was told there was only maybe two or three cases that used that method, and Manuel Lee is trying to get ahold of that specific analysis for me for my review. When I go back to San Francisco for the follow-up audit --

MR. HARTZMAN: If I'm not mistaken, the review by PG&E referred to large-bore piping where the gaps were wrong. It was probably both.

MR. SHIPLEY: I don't think so. It was all small bore.

MR. YIN: No. It's large bore, too.

mgc 11-8

MR. SHIPLEY: Mark was addressing the PG&E submittal.

MR. YIN: Okay. The procedure itself can be used for both large and small-bore work.

MR. NORTON: Okay. So that's 1, 2 and 3.

MR. YIN: Yes.

MR. NORTON: How about 4, 5 and 6?

MR. YIN: 4, 5 and 6, when you talk about lack of procedure, inadequate procedures, if it's lack of procedure, it would apply to both large bore and small bore. But inadequate procedures, talking about -- we're dealing with the specific instance that we encountered. So in that respect, No. 4, I would say, is just on the small bore. No. 5 is definitely large bore and small bore. And No. 6 is small bore.

MR. NORTON: Okay.

Under 5(b), the four items.

MR. YIN: Again, this should be -- this should be -- all except No. 4 should be small bore. No. 4, I would say, is large bore and small bore. That specific problem identified, I believe, was all large bore.

MR. NORTON: No. 3, you've got lack of identification of preliminary calculations.

MR. YIN: This is just small bore.

MR. NORTON: Is that stress or supports? Stress

: 11-9

analysis or supports?

MR. YIN: This is support calculations. The specific problem is identified in the small-bore hanger calculation.

MR. NORTON: No. III, there are now eight items, are there not? Yes, eight items.

MR. YIN: No. 1, I would assess to small bore only. No. 2 is definitely small bore.

MR. NORTON: No. 3 was also small bore, wasn't it? That TC telephone call?

MR. YIN: That's right, because you don't need telephone documentation for the large bore. Okay.

MR. NORTON: 4, 5 and 6 are large bore, are they not? That's all snubbers.

MR. YIN: 4, 5, 6, I would say maybe both were large bore and small bore.

11

mgc 12-1

VII, I would say also large bore and small bore -- oh, wait a minute. This one I dropped.

MR. NORTON: But you have a new VII, which is design interface. That's OPEG.

MR. YIN: Yes, that's small bore definitely.

MR. NORTON: And then VIII, which was large-bore field design. So that's obviously large bore.

MR. YIN: Yes.

MR. NORTON: Category XVIII, there are seven items. And were these not all small bore?

MR. CHANDLER: I think we went through them.

MR. NORTON: All seven of them, because they were the QA audits of OPEG.

MR. YIN: Yes.

No. 8 is all large-bore -- no, no, I'm sorry. Under Criterion VII, all nine of them.

MR. NORTON: That's the last one. They're all large bore?

MR. YIN: All large bore, yes.

MR. NORTON: Could we have a minute or two to caucus to see if we have any questions?

MR. DENTON: Before you caucus, let me ask you one.

I mentioned to the Commission that you had done a number of calculations to check the adequacy of some of

gc 12-2

these pipine calculations, which contractors were involved in the sample which you rechecked.

MR. NORTON: It was all small bore, and it was all OPEG. That didn't involve any -- none of the small bore was done by contractors at the site.

MR. FRIEND: Didn't we have some of the work at the site done by Westinghouse?

MR. SHIPLEY: I think maybe what we're talking about is the work we did to look at the small-bore computer runs.

MR. FRIEND: I understand that, but I want to make sure Harold understands.

MR. DENTON: I'm talking about the 130 I mentioned at the Commission meeting. I'm wondering which contractor did the original work on that. Was it some of the same contractors we've talked about this morning, or was it a different group?

MR. FRIEND: First, there was no Cygna and no IMPELL work at the site.

MR. HARTZMAN: My understanding is, they were all done by the same people.

MR. NORTON: I've got to clarify what you're asking, because when you say the original work, I don't know whether you mean the reverification program original work or work that was perhaps done in '74 or '75.

mgc 12-3

MR. DENTON: Maybe I'll defer to Jim. But whoever did the -- whoever is responsible for the final design that's there now.

I was wondering if, in those calculations, were you checking types of organizations for which Isa has problems, or were they done by some other organization? That's the question I was asking.

MR. FRIEND: No. They were all done by the onsite project engineering group, so we were only checking the onsite project engineering.

MR. DENTON: So that would not be a check of IMPELL's work or Westinghouse's work.

MR. FRIEND: Not through that mechanism.

MR. NORTON: Incidentally, that does bring up a question I had. You did talk about Cygna and Westinghouse specifically through this, but you never did talk about IMPELL.

MR. YIN: Yes. IMPELL's internal audit, both technical area and QA audit, was considered to be acceptable. I have no problem with it.

MR. NORTON: Okay. So it was the PG&E/Bechtel lack of technical audit or review of IMPELL, was the only concern, right?

MR. YIN: Yes.

MR. DENTON: If you'd like to have a five-minute

12-4

caucus just to be sure we've gotten all of the facts that we can out on the table, go ahead.

(Recess.)

MR. DENTON: Let's see if there's anybody who would like to ask any clarifying questions or make any comments.

MR. NORTON: We have one or two clarifying questions and perhaps a comment or two.

Isa, getting back to the 8(a) and (b) thing that got a little confusing there, you said that records were destroyed, these audit findings records were destroyed in accordance with Westinghouse management policies. And then a little bit later you said something about there was nobody there from Westinghouse or something. So we were a little confused. And I asked if it was written down, and you said no.

Did you talk to management at Westinghouse regarding this? Or how did you come to this conclusion?

MR. YIN: Actually, there are two questions. The first question is, did you talk to anybody, to the auditor himself?

MR. NORTON: And you said he wasn't available.

MR. YIN: That's right. So that answers that.

The second one is, how do you draw the conclusion it is the management policy? Who told you that?

mgc 12-5

MR. NORTON: Or however you drew the conclusion.

MR. YIN: Yes, right. I did talk to the Westinghouse QA System and Compliance Manager, Mr. Al Sing; his Senior Engineer, D O M I S (spelling), Domis, and also the Diablo Canyon Project Engineer, not to confuse that with DCP -- he is with Westinghouse -- Mr. Vernon, V E R N O N (spelling), and also the Lead Licensing Engineer, Mr. Burns.

MR. NORTON: And you don't know specifically who told you that, but you got that at least from that group of people?

MR. YIN: From that group of people.

MR. NORTON: Mr. Denton, on behalf of the Applicant, PG&E, we'd very much like to thank you and your staff for arranging this meeting today, and we'd especially like to thank Mr. Yin for availing himself for a couple of hours of questions, which is probably not normal in your line of duty, and we really, really do appreciate it.

MR. DENTON: Well, I think it's been very useful. I wish we could have done it four months earlier. But nonetheless, it is an opportunity to get the issues out on the table.

We will be reviewing this with the ACRS and getting back to the Commission with some sort of overall view on it.

12-6

Let me go around the room and see if there's anybody else who would like to comment.

Why don't we start with you, Isa?

MR. YIN: No, I don't have any comments. But I do want to mention one thing, the fact that everything we talked about is as-of-today information. In fact, the inspection and investigation is not yet completed. I still need about four days or so to go back to San Francisco, back to the office, and also visit Cloud & Associates in order to wrap up my inspection. Not until then will the information that we discussed during this meeting -- is considered to be kind of incomplete and a preliminary nature.

MR. DENTON: We will find another forum somehow to get into differences of view that exist between you and Isa.

Jim?

MR. KNIGHT: No. I think we've had a very successful day today.

MR. VOLLMER: No further questions.

MR. HARTZMAN: I have no comments.

MR. DENTON: I see Mr. Devine back there. Would you like to comment or ask questions?

MR. DEVINE: Thank you.

I just want to add that many of the points

mgc 12-7

raised by Mr. Yin today arose from his pursuit of allegations raised by my client, Mr. Charles Stokes. Mr. Stokes is not able to be here today. He will return to Washington, D.C. to provide additional evidence and additional witnesses for points raised by Mr. Yin and additional examples to expand the sample that Mr. Yin was able to provide, as well as a number of very serious additional issues which Mr. Stokes has identified from his ongoing research over the last three weeks and talks with other witnesses on site.

We are very anxious to expeditiously disclose and review this information with Mr. Yin.

MR. YIN: Can I comment on that? You know, you can say you can review with me, but it's not my decision to discuss with you. It's management's prerogative to assign such work assignments. So as far as I am concerned, my work is done in another three or for days in the Bay Area.

So I want to say, I appreciate that you want to talk to me, but you must go through the management channels.

MR. DEVINE: I understand that completely, sir, and we hope that management continues to honor its initial terms with us, that Mr. Yin would be assigned to follow through on Mr. Stokes' allegations. We feel the process has been very constructive. It's one of the few places in

c 12-8

the agency where we feel we've gotten a fair shake, and we hope that management will continue to honor the previous practice.

MR. DENTON: Any other parties to this proceeding here that would like to comment?

(No response.)

MR. DENTON: Well, I feel it's been very productive, and I want to thank you all.

(Whereupon, at 1:25 p.m., the meeting was adjourned.)

CERTIFICATE OF PROCEEDINGS

This is to certify that the attached proceedings before the NRC COMMISSION

In the matter of: Meeting Between Staff, Applicant and Intervenor on Diablo Canyon

Date of Proceeding: Wednesday, March 28, 1984

Place of Proceeding: Bethesda, Maryland

were held as herein appears, and that this is the original transcript for the file of the Commission.

Ann Riley
Official Reporter - Typed

Ann Riley
Official Reporter - Signature