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## UNITED STATES NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

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DOCKET NO:

COMANCHE PEAK REANALYSIS OF PIPING AND PIPE SUPPORT BY STONE AND WEBSTER

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	UNITED STATES OF AMERICA
2	NUCLEAR REGUALTORY COMMISSION
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4	MEETING ON
5	COMANCHE PEAK - REANALYSIS OF
6	PIPING AND PIPE SUPPORT BY STONE AND WEBSTER
7	Nuclear Regulatory Commission
8	Room 422 7920 Norfolk Avenue Bethesda, Maryland
9	
10	Thursday, August 28, 1986
11	The meeting convened at 9:30 a.m., Mr. L. D. Nace of
12	Texas Utilities Generating Company presiding.
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#### PROCEEDINGS

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2	MR. NACE: First of all, I would like to
3	introduce the people we brought. I'm Larry Nace, vice
4	president, nuclear engineering construction for TUGCO.
5	With me from TUGCO is Jack Redding in the back row, John
6	Finneran, and Bob Dacko. From Stone & Webster is Ed Siskin,
7	Ron Klause, Alan Chan, Louis Nieh, Lief Dietrich, Elwin
8	Evans and from R.L. Cloud and Associates, in the back row,
9	Bob Cloud.
10	From my standpoint we see three separate
11	purposes of today's meeting. First, we have come to
12	initiate what we intend to be rather complete, open and
13	frank discussions on the scope of TUGCO's pipe stress and
14	pipe support requalification effort as executed by Stone &
15	Webster.
16	We expect to convey to the Staff a complete
17	understanding of the scope, the methods, the procedures,
18	the practices and policies of this piping requalification
19	effort.
20	Secondly, we intend to convey fully the status
21	of the FSAR, with respect to this program, and outline some
22	changes we intend to apply for. We will propose several
23	clarifications and additions to the FSAR, which we believe
24	will update the FSAR to reflect the requalification by
25	alternative analytical methods employed by Stone & Webster.

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> In some cases the proposed changes merely bring the piping sections of the SAR into compliance with the intent of NUREG-0800, to which this project has not been committed.

5 Thirdly we intend at this meeting to fulfill a 6 promise we made earlier this year to fully inform the Staff 7 with respect to complete description of the ASME code 8 editions, addenda and code cases, which are used in the 9 requalification program.

While unit 1 of the plant is under ASME 11, ANI 10 control, all design work -- if you go into ASME 11 to do 11 12 some design work, it refers you to the applicable sections of ASME III. We'll discuss which versions of ASME III we 13 are using. And we trust that, upon completion of this 14 15 briefing, this meeting and your subsequent reviews of our 16 application, that you'll find this regualification effort 17 to result in the most complete, thorough and 18 state-of-the-art piping system design and verification effort undertaken by any NTOL applicant to date. 19

I'll turn the meeting over now to Ed Siskin, and let him start introducing the Stone & Webster effort. MR. NOONAN: Before you actually start that process, maybe a couple of things so I understand. Today you will give us every change you are proposing in total? MR. NACE: Every change we know of and intend to

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1 make today.

MR. SISKIN: That we intend to make is the 2 functional word. There are some things that may very well 3 come about at some later date. 4

For example, we are going to list all the 5 computer programs that we are using. Some we are required 6 to list, some we probably aren't required to list but we 7 are going to include it for completeness anyway. We have 8 some potential problems where we may need additional 9 computer programs to properly analyze them. So we may 10 decide we want to use another program at some time in the 11 12 future.

In fact there are two potentials right now that 13 we are thinking about. We haven't decided to use them yet. 14 So I don't want to give the impression that this is it, we 15 are never going to come back to the well. This is it as 16 far as we know today. 17

MR. NOONAN: Okay. The computer program that 18 you are talking about, are these programs that the Staff 19 has already seen and approves? Am I going to have to go 20 through a computer program review? 21

MR. NACE: We'll show you -- one of our slides 22 will show you where you have seen it before. That's the 23 intent of the whole presentation. We are going to show you 24 that this is something not very astonishing. 25

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MR. NOONAN: One other question. You made a 1 statement that some of these changes are to meet the intent 2 of NUREG-0800. When you say that, clarify that for me a 3 4 little bit when you come across those particular points. MR. NACE: They will be brought out in the 5 appropriate slides, too. 6 MR. SISKIN: To answer that question, basically 7 we are meeting all the design requirements of NUREG-0800. 8 That's the scope of our job right now and that's the 9 10 quidelines that we have been using since day 1. That does not make a commitment for any other part of the project. 11 MR. NOONAN: Just for the record, this review 12 13 effort will be undertaken by the engineering branch people; Mr. Bagchi is sitting here and Dave Terao, plus consultants, 14 Don Landers and his people. So those will be the main 15 people that we'll have working on the Staff support. 16 17 MR. TRAMMELL: Before we get into this any deeper, I would like to do some more mundane preliminaries. 18 19 I would like, for example, to introduce the NRC Staff and go around the room so everyone here knows our people. I'm 20 21 Charlie Trammell, one of the assigned project managers. This is Annette Vietti-Cook, also assigned to Comanche Peak. 22 23 Could we just go down the table here, everyone say their 24 name and affiliation. Vince, we know who you are. 25 MR. TERAO: Dave Terao, NRR, engineering branch.

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1	MR. BAGCHI: Goutam Bagchi, engineering branch,
2	mechanical engineering section.
3	MR. CHEN: Paul Chen.
4	MR. PALMER: Adam Palmer on behalf of CASE,
5	MR. DACKO: Bob Dacko, licensing.
6	MR. CHAN: Alan Chan, Stone & Webster.
7	MR. KLAUSE: Ron Klause, Stone & Webster.
8	MR. SISKIN: Ed Siskin, Stone & Webster.
9	MR. PLOCKI: Peter Plocki, Heron, Burchette,
10	Ruckert and Rockwell, here on behalf of Tex-La Electric
11	Co-op.
12	MR. GARLINGTON: Dave Garlington, GDS Associates,
13	MR. TRAMMELL: We are going to pass around a
14	clipboard and ask everyone to put their name and
15	affiliation on it, so we'll make a copy of that and bind it
16	into the record.
17	MR. FINNERAN: John Finneran, TUGCO.
18	MR. NIEH: Louis Nieh, Stone & Webster.
19	MR. DIETRICH: Lief Dietrich, Stone & Webster.
20	MR. EVANS: Elwyn Evans, Stone & Webster.
21	MR. ASHER: Hans Asher, NRR.
22	MR. ZHONG: Wanli Zhong, IAEA fellow from China,
23	now working on Comanche Peak.
24	MR. REDDING: Jack Redding, TUGCO.
25	MR. CLOUD: Bob Cloud, Cloud Associates.

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1	MR. CHANDLER: Larry Chandler, office of the
2	general counsel.
3	MR. NOONAN: Maybe we ought to explain for the
4	record what this is about, where Mr. Zhong is.
5	MR. TRAMMELL: Mr. Zhong is on an IAEA
6	fellowship from the Peoples Republic of China. He's here
7	for six months to learn the licensing process for U.S.
8	reactors. China presently has two Framatone units under
9	consideration, I guess, at this point, near Hong Kong, and
10	one reactor which is, as I understand it, the containment
11	is maybe up 40 feet above the ground somewhere else in
12	China.
13	MR. ZHONG: Near Shanghai.
14	MR. TRAMMELL: So he's here with others from
15	China, here for the licensing function and there's someone
16	else with him, also for six months, in the quality
17	assurance area.
18	MR. CHANDLER: But nobody is interested in the
19	hearing process.
20	MR. TRAMMELL: As I say, I'm passing around a
21	clipboard; if you would please sign in your name so you can
22	read it and your affiliation, I'll make copies of that for
23	whoever wants them and we'll put a copy in the record.
24	That's all I have in the way of preliminaries. Thank you.
25	(Discussion off the record.)

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1	MR. ASHER: I would like to find about the scope
2	of pipe support anchors to the concrete. Are you going to
3	deal with that?
4	MR. NACE: Not really.
5	MR. SISKIN: No. The reason I paused before I
6	answered that is, what is covered is going to be two parts:
7	one, our presentation, and two, the response to what the
8	NRC raised.
9	MR. ASHER: No, the question was you, yourself,
10	are you going to cover the interface between the concrete
11	and pipe supports?
12	MR. SISKIN: We are not going to bring that out.
13	We are not requesting an FSAR change in that area.
14	I want to keep something in perspective before
15	we start talking.
16	Remember when Stone & Webster was brought on
17	board in this effort a year ago, the plant was basically
18	complete. Our charter from Mr. Counsil, our firm direction,
19	was that we were to requalify it using the best available
20	technology.
21	First class job, defendable in a forum today, is
22	not necessarily a forum when the plant design parameters
23	were established more than 10 years ago.
24	The other point he made at that time was to be
25	fully open in what we did to the NRC, to a third party

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1	reviewer, to any intervenors or anyone else.
2	In summary, on that point, what we've got is the
3	original design concept from the 1974 era, and the
4	reanalysis being done to 1986 standards. The objective is
5	to have a first-class job, a first-class product, better
6	than would have been expected five to 10 years ago.
7	In order to document exactly what we are doing,
8	some changes in the FSAR are going to be required. Some to
9	just reflect what is being done; some as much for
10	information as anything else.
11	If you look at each individual item, I'm sure
12	there will be a discussion: Is a particular item more or
13	less conservative than what was originally perceived?
14	I think it's very important to address the
15	package as a package. Overall, you are going to end up
16	with a product which is substantially more conservative and
17	substantially higher in quality than would have been the
18	case some time ago.
19	Rather than going off into individual items at
20	this point, let me have Ron, now, go through, step by step,
21	each of the changes we are talking about making. Then we
22	can be prepared to go into more detail on anything you
23	would like. Ron?
24	MR. KLAUSE: I'll try to center these as we go
25	along. It looks like my words are wider than the projector.

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1	There are two parts of my presentation today.
2	The first part is to cover the FSAR updates for piping
3	requalification program. The second part is to cover the
4	code editions and addenda that are being used in this
5	requalification effort.
6	In our program action plan, which is a road map
7	to indicate the type of requalification that we are going
8	to be doing, we said in there that we may seek these
9	changes where appropriate to the FSAR.
10	(Slide.)
11	MR. TRAMMELL: I would like to indicate that we
12	have been joined by Don Landers and Bob Hookway of Teledyne.
13	MR. KLAUSE: As part of my program we have
1.4	reviewed the FSAR to identify the changes required to
15	reflect what we are doing.
16	(Slide.)
17	In review of the FSAR, we had three objectives
18	in mind. These were to assure that the FSAR accurately
19	reflects the SWEC design methodology; to include the
20	computer codes that SWEC is using in the regualification
21	effort; and to update the FSAR to meet the intent of the
22	standard review plan, NUREG-0800, for piping and supports.
23	(Slide.)
24	This summarizes the topics that we are going to
25	be covering this morning, and shows whether they are

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reflections of the SWEC methodology or changes to meet the 1 current NRC regulatory position, or changes to provide 2 clarification. 3 This chart is intended just as a summary. I'm 4 going to cover each topic in detail. 5 (Slide.) 6 The first topic is the computer programs 7 utilized by Stone & Webster. The proposed change is to 8 specify, in the FSAR, those computer codes that Stone & 9 Webster is using in the requalification effort. Currently, 10 the FSAR does not show these codes, so it needs to be 11 corrected to list them. 12 Now, as Larry said earlier, this plant was not 13 committed to the standard review plan, but we are using the 14 standard review plan as guidance for piping and supports in 15 the regualification effort. 16 17 (Slide.) These computer programs that we intend to use 18 are listed here. We have tried to portray where these 19 20 codes have been used before. The Xs represent inclusion of the codes in other 21 dockets, the FSAR of other dockets, and the dots represent 22 codes that are used on these projects. These dots are 23 representative of computer codes that are data processing 24 in nature or arithmetic, or public domain programs. 25

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1	MR. NOONAN: Do they use this on Diablo at all?
2	MR. KLAUSE: They are the SWEC dockets. We
3	don't believe there is a requirement to list all the codes
4	in the dockets. But some utilities have chosen to do so.
5	MR. TRAMMELL: The X means it was used?
6	MR. KLAUSE: X means it was listed in the docket
7	of the FSAR. The dot means it was used but not required to
8	be listed in the docket. These dots are programs that are
9	data processing in nature, arithmetic, or public domain
10	programs.
11	MR. SISKIN: In each case, each of these
12	programs is qualified per Stone & Webster's engineering
13	assurance program.
14	MR. KLAUSE: That's correct.
15	(Slide.)
16	The second topic is the SSE loading combination.
17	The proposed change is to delete SSE from the loading
18	combinations in emergency plant conditions, or service
19	level C.
20	The reasons for these changes are for
21	consistency with the standard review plan, class 1 analysis,
22	and Stone & Webster methodology.
23	The present version of the FSAR considered the
24	plant emergency condition considered SSE in the plant
25	emergency condition. This was based on Reg Guide 1.48, but

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1	this has been superseded by the NUREG-0800. We intend to
2	apply this to ASME class 2 and 3 piping systems, and class
3	1.
4	MR. TERAO: Does the proposed change also
5	include adding the SSE to service level D? Or are you
6	saying you are deleting SSE from service level C, period.
7	MR. KLAUSE: Deleting it from service level C and
8	including it in service level D.
9	MR. TERAO: It's not clear from the frame there.
10	MR. NOONAN: What does that do for you?
11	MR. KLAUSE: What does that do for us?
12	(Slide.)
13	It provides a couple of things. Like I said, it
14	provides consistency, what's excepted today by Staff
15	thinking
16	MR. NOONAN: As far as hardware is concerned.
17	MR. KLAUSE: It's certainly a relief as far as
18	the using the faulted event for emergency conditions. I
19	guess, as a by-product, it can be elimination of supports.
20	(Slide.)
21	The third topic is the seismic response in the
22	zero period acceleration region. The proposed change is to
23	add the method in NUREG/CR-1161, December '79, to address
24	high frequency seismic responses in the ZPA region in the
25	amplified response spectrum.

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1	MR. BAGCHI: I'm sorry, I was not following.
2	Could you go back to the previous slide?
3	MR. KLAUSE: Sure.
4	(Slide.)
5	MR. BAGCHI: In the application you indicated
6	class 2 and 3 piping systems and class 1, 2, and 3 piping
7	supports.
8	MR. KLAUSE: That's correct.
9	MR. BAGCHI: So this does not apply to class 1
10	piping itself?
11	MR. NACE: Stone & Webster's scope does not
12	include class 1 piping.
13	MR. BAGCHI: But this FSAR change, who's scope
14	is it?
15	MR. & "ISE: There's a section in the FSAR that
16	deals specifice'ly with class 1 piping and already
17	specifies this loading in the faulting.
18	MR. BAGCHI: So it's going to be in 3.9B as
19	opposed to 3.9A?
20	MR. KLAUSE: That's right.
21	MR. BAGCHI: Thank you.
22	MR. KLAUSE: The reason for this change is the
23	existing FSAR is silent on the issue. We need to include
24	this change to explain how it's being addressed in our
25	requalification program.

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1	(Slide.)
2	We need to ensure that participation of all
3	significant modes used in response spectra analysis are
4	accounted for in piping systems.
5	MR. NOONAN: Is that because the cutoff on the
6	frequency now is too low and you can take it that high? Is
7	that what you are doing?
8	MR. KLAUSE: That's correct.
9	MR. NOONAN: How far are you taking it?
10	MR. KLAUSE: In our design criteria CPPP-7, we
11	specify 50. 50 plus the ZPA.
12	MR. NOONAN: Okay.
13	MR. BAGCHI: Maybe we need to go back to that
14	one more time. How much of the physical mass, or do you
15	ever check whether the entire physical inertia of the
16	system has been included?
17	MR. CHAN: We do not check the physical mass.
18	The reactor has taken the correction with the ZPA analysis
19	so you would include everything in our analysis. We did
20	not make any cutoff or any approximation; we basically have
21	included the whole spectrum.
22	MR. BAGCHI: But there's nothing in the program
23	to see what amount of the total inertia is participating?
24	MR. CHAN: I don't believe there is.
25	MR. KLAUSE: Okay.

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(Slide.)

The next topic is combination of peak dynamic 2 3 responses.

The proposed change is that the peak dynamic 4 responses of piping systems due to seismic, LOCA or 5 6 occasional loads are combined by the SRSS technique.

The reasons for the change, again, is that of 7 consistency with Stone & Webster methodology and class 1 8 analytical methods. As an additional reason for the change, 9 we believe this would minimize the plant maintenance, thereby 10 reducing personnel exposures. As a by-product, this would --11 this change would result in the elimination of some 12 snubbers and supports, which we believe is current with the 13 14 latest Staff thinking.

MR. BAGCHI: Is there an independent support 15 motion analysis? This is just module analysis combination --16 17 MR. KLAUSE: Right.

MR. NOONAN: You take the squares of all of them 18 and put them all underneath the square root sign? 19

MR. CHAN: Right. 20

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MR. NOONAN: You don't bring out the primary --21 MR. CHAN: This is the combination of different 22 loading events. The peak values from seismic combined with 23 location of event and RIF LOCA. 24

MR. LANDERS: Clarification. If one of the 25

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1	loading events are in history, why are you going to
2	MR. TRAMMELL: Would you all speak up a little
3	bit? Especially when the air compressor is going on.
4	MR. LANDERS: The question was: Are you going
5	to have SRSS times history peaks with spectra peaks?
6	MR. CHAN: Yes.
7	MR. KLAUSE: The next topic is plastic analysis.
8	(Slide.)
9	The proposed change is to revise 3.9B.1.4.1 to
10	include the option permitted by the code to use plastic
11	analysis for class 2 and 3 components.
12	MR. CHANDLER: Does that involve a change of
13	code as well? The code presently listed in paragraph 3.9B?
14	MR. KLAUSE: Yes.
15	MR. BAGCHI: It's the ASME code he's talking
16	about.
17	MR. SISKIN: Let's defer that question until
18	later on when we explain what codes we are talking about
19	using and that will be consistent with this.
20	MR. CHANDLER: Fine.
21	MR. KLAUSE: The reason for the change is to
22	provide a basis for the qualification of class 2 and 3
23	piping for local effects. It's appropriate to use the
24	class 1 approach in NB-3228 to evaluate these localized
25	effects.

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1	It is our intent to inform the Staff
2	specifically where this type of analysis is going to be
3	utilized, and seek their approval as required.
4	MR. MIZUNO: To date, how many specific examples
5	do you expect to notify Staff that you are going to be
6	using or have already used?
7	MR. KLAUSE: We haven't asked specifically for
8	the use of this method yet. We believe in the local
9	bearing type stresses for piping it may be sought.
10	MR. MIZUNO: Also, on your basis for change, you
11	make the statement that it is appropriate to use this
12	approach, the class 1 approach for class 2 and 3. To be
13	more expansive?
14	MR. SISKIN: There is no procedure specified for
15	class 2 and class 3 approach. It just says it should be
16	addressed. Since we are addressing it, we thought it would
17	be appropriate to use the one specific technique that is
18	permitted.
19	MR. KLAUSE: If it's good for class 1, it's good
20	for class 2 and 3 also.
21	(Slide.)
22	The next topic is functional capability. The
23	proposed change is to add functional capability assurance
24	requirements for piping systems by the criterion in
25	NEDO-21985. Although there is a previous licensing

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1	commitment to provide functional capability for stainless
2	steel elbows in response to your FSAR number 3, this change
3	expands the commitment to all essential systems to meet the
4	requirements of the standard review plan. The reason is to
5	assure operability of essential piping systems during and
6	after a postulated event accident condition.
7	(Slide.)
8	The next topic, spectral broadening, code case
9	N-397, and damping values, CC-N-411.
10	The proposed change is to apply these
11	alternative rules to spectral broadening and damping values
12	in the ASME code.
13	The reason for the change is to update these
14	already-approved alternative rules and the conditional
15	requirements for their use.
16	The basis is letters from Mr. Noonan to
17	Mr. Counsil as shown here.
18	This area is a highly researched approach for
19	analysis utilized in more than 20 plants.
20	MR. BAGCHI: Do you plan to use N-397
21	extensively?
22	MR. KLAUSE: No. To date there has been no plan
23	to use 397, but we put it in there
24	MR. BAGCHI: For completeness?
25	MR. KLAUSE: Just for completeness.

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1	MR. BAGCHI: Will you notify the Staff when you
2	do so?
3	MR. KLAUSE: That's a requirement. We have to
4	notify you and list it in the FSAR.
5	(Slide.)
6	The next topic is stress cycles for the seismic
7	event. The proposed change is to specify a maximum of 50
8	maximum amplitude loading cycles for the five OBE events
9	and 10 maximum amplitude loading cycles for the SSE event.
10	This reason for change is consistency with Stone
11	& Webster methodology used on other dockets which are
12	licensed, and to conform to the current regulatory
13	acceptance criteria.
14	Now, specification of stress cycles are
15	generally not required for class 2 or 3 systems. Currently,
16	there are questions concerning fatigue for certain supports
17	and for welded attachments in the vicinity of arbitrary
18	intermediate breaks. We would use this change to further
19	justify the fatigue as not a problem for these supports.
20	MR. SISKIN: Or determine if there is a problem.
21	MR. KLAUSE: Or determine if there is a problem.
22	(Slide.)
23	The next topic is to discuss other FSAR updates.
24	These proposed changes listed here are procedural in nature,
25	to meet the intent of the reg guide, of NUREG-0800 of the

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1 standard review plan.

2	Just looking at a couple of these, the first one,
3	the valve modeling technique is to include the eccentric
4	mass effects; the second is to add the containment
5	displacement loading combination, which was previously not
6	considered for this plant. One of the others, the fluid
7	transient analysis method is to identify the techniques
8	that we are using in the requalification program. The
9	current FSAR is vague in this area, as far as transient
10	analysis is concerned.
11	The reason for the change, again, is for
12	consistency. By upgrading these sections of the FSAR, it
13	will reflect the Stone & Webster design criteria being used
14	in our piping requalification program. This will be
15	included for the ASME class 2 and 3 piping systems and for
16	the class 1, 2 and 3 supports.
17	(Slide.)
18	MR. LANDERS: Every time you talk about these
19	kind of changes and you talk about class 1 supports, if the
20	class 1 piping systems do not have these changes, are you
21	going to redo the analysis of the class 1 systems to
22	include these effects?
23	MR. KLAUSE: I want to make sure I understand
24	your question, Don. Our scope is to qualify
25	MR. NOONAN: I understand. But you are saying

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1	the application includes class 1 supports. You are not
2	doing class 1 piping analysis. If the class 1 piping
3	analysis does not include these effects, then I don't think
4	you can apply these changes to the supports, since the
5	loads are going to come from the piping analysis.
6	MR. KLAUSE: The loading combinations that we
7	have specified in our design criteria has been transmitted
8	to Westinghouse. They are using
9	MR. LANDERS: So Westinghouse is going to redo
10	the piping analysis and they are including these effects
11	also?
12	MR. KLAUSE: That's correct.
13	MR. LANDERS: So these are applicable to class 1
14	also? They are going to hear from someone else on what the
15	class 1 effects are?
16	MR. SISKIN: I think in most cases the class l
17	already includes them. The one Mr. Bagchi talked about
18	already was specified in class 1.
19	MR. LANDERS: You were quite clear in the
20	transparency there was. In this you are not. I'm
21	wondering if we are going to have a disconnect here.
22	MR. NACE: The answer is no, we weren't planning
23	to have, because what was asked for was the Stone & Webster
24	scope. But we certainly don't plan to have a disconnection.
25	MR. NOONAN: Can we have an answer to that? I

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1	don't want to have this hanging. I guess what Don is
2	asking is what are you going to are these changes
3	included in the class 1 piping analysis? And, if not, are
4	they going to go back and redo it?
5	MR. NACE: I think it's all in there. We'll get
6	back to you.
7	MR. KLAUSE: Westinghouse had their own methods
8	for doing fluid transient analysis. That's described in
9	the FSAR in their program.
10	MR. NOONAN: Okay.
11	MR. KLAUSE: We, like I said, have transmitted
12	our design criteria for piping to Westinghouse for
13	consistency. They are using loading combinations, as we
14	have described, for the requalification of class 2 and 3
15	piping systems. So we know that, for instance, the
16	containment displacement and the thermal and seismic anchor
17	displacement, they are included in their analysis of the
18	ASME class 1.
19	MR. LANDERS: I think somebody needs to be
20	responsible for making sure that that happens.
21	MR. NACE: We will do that.
22	MR. KLAUSE: Okay.
23	(Slide.)
24	The last topic is the ASME code edition
25	paragraphs and code cases I'm sorry. I got my slides

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1	out of order here. It's the ASME code of record, is the
2	last topic.
3	The proposed change is to state that the ASME
4	Section III, '74 edition, including the summer '74 addenda
5	subsections NC, ND, and the winter '74 addenda subsection NF,
6	is the ASME code edition of record.
7	The reason for this change is to clarify in the
8	FSAR what the code of record is, which currently the FSAR
9	is not specific. It just states it's ASME III. So this is
10	for completeness.
11	MR. LANDERS: Does this mean that 1974 edition
12	with no addenda is what I would look at for NCA, for
13	example, and for the appendices? Because you are quite
14	specific in pointing out summer addenda as applicable to NC,
15	and ND, and I'm assuming that's "only." So what do I look
16	at for NC and the appendices, just the '74 edition?
17	MR. KLAUSE: And then I'll cover later sections
18	in the next slide.
19	MR. SISKIN: The exceptions will be shown on the
20	next slide.
21	MR. LANDERS: Thank you.
22	MR. KLAUSE: Which brings us to part two of my
23	presentation.
24	(Slide.)
25	As I stated earlier, TUGCO made a commitment to

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1	the Staff to provide a list of the code cases and later
2	sections of code that are being used in the requalification
3	effort. As permitted by paragraph NA-1140 of the '74
4	edition of the code, specific paragraphs in more recent
5	editions and addenda of the ASME code have been invoked.
6	These are shown in attachment 1, which I'll put next.
7	But these later sections are adopted primarily
8	because the '74 code either did not provide guidance or was
9	not complete. So these later sections clarify the intent
10	of the '74 code and provide additional guidance.
11	(Slide.)
12	Attachment 1 is these later sections of the code.
13	I think they are all included in your handout.
14	(Slide.)
15	Attachment 2 are the code cases being utilized.
16	You'll notice on this list it needs a little
17	explanation. If you look under the column "listed in Reg
18	Guide 1.84 or 1.85," you'll see all of those code
19	indications with the exception of one have been included in
20	Reg Guide 1,84 or 1.85. The one that has not, specific
21	permission to use this is in process. There's a dash,
22	blank over on the side of this because we don't know what
23	the requirements will be as far as listing this is in the
24	FSAR.
25	I think another point of clarification, if you

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> 1 would look at N-397 and N-411. We show "yes" out in the 2 column of utilization required to be listed in FSAR. This 3 is not a requirement of 1.84 or 1.85, but it is a 4 requirement for TUGCO to use these code cases, and the 5 conditions that were tied to them. So these will be listed 6 in the FSAR.

Now, TUGCO has met its commitment by providing this list. Information for these code cases and the later sections of code are included in our design criteria, CPPP-7, which has been transmitted to the Staff and I think it would be appropriate if you would review this list and get back to us if you have any questions on any of those later sections for the code cases.

14 This concludes my presentation.

MR. CHANDLER: If you could help out a poor dumb lawyer for a moment, when I had asked my question earlier on, I believe it was sl de 5, on plastic analysis, and I asked whether there was a change in code involvement, Ed suggested I wait. Now you have gone through the listing of codes.

I gather what you have said on slide 10, ASME code of record, is that you are now specifying certain code editions and addenda that you will be utilizing. I understood you to say that right now is simply a reference to Section III, ASME Section III, without specifying a

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> 1 particular edition or addenda or anything else. 2 MR. SISKIN: Exactly. MR. CHANDLER: But do I understand that the 3 reference to these particular editions and addenda of the 4 5 codes represent changes from the editions and addenda used 6 previously for Comanche Peak or is that an incorrect 7 understanding? 8 MR. KLAUSE: I think we are confusing computer codes with later sections of the ASME code here. 9 10 MR. CHANDLER: Help me out. MR. KLAUSE: The later sections of the codes, 11 12 some of these were included in the previous analysis. Some 13 are additions. 14 MR. CHANDLER: All right. 15 MR. SISKIN: Basically what was done was the 16 FSAR just satisfied ASME III. They used the editions that 17 we are talking about here, but in general did not use all 18 of the specific editions that we have mentioned here, so we 19 are formalizing exactly what was done for our reanalysis. 20 It in most cases is consistent but not in all cases is 21 consistent with what was done before we arrived on the 22 scene. 23 MR. CHANDLER: Where there are differences, is that identified? In other words, where a particular code 24 25 was not previously specified --

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1	MR. SISKIN: The basic code was previously used.
2	Not necessarily specified.
3	We did not go back and do a detailed review to
4	find out what Gibbs & Hill or anybody else did before we
5	came on the scene. Our intent was to have our effort stand
6	alone.
7	MR. CHANDLER: Then let me ask you, Larry: Is
8	the project undertaking to do that? For example, I
9	understand TERA has some effort to do some reconciliation.
10	MR. NACE: I do not believe it is included in
11	TERA's scope. The method the reason we are bringing
12	these later addenda up is because Stone & Webster has used
13	that alternate method for analyses and it is important to
14	list what is inherent within their codes and standard
15	practices. Their alternate method is just another way of
16	verifying the design.
17	MR. CHANDLER: All right.
18	MR. NOONAN: All right go ahead.
19	MR. LANDERS: On attachment 1 you have a list of
20	all of these different editions and paragraphs that you are
21	using. I'm assuming, knowing how you people do things,
22	that in adopting these paragraphs you have gone through the
23	process of reviewing the code with respect to
24	interdependence of other sections and that somewhere there
25	is that effort could be looked at. True?

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1	MR. KLAUSE: Correct.
2	MR. SISKIN: We are not playing a game of
3	assuming the most desirable part of one and the most
4	desirable part of the other.
5	MR. NACE: I do want to raise a point here,
6	answering Don's question, which is back to Mr. Chandler's
7	question.
8	TERA, as the third party, is overviewing this
9	whole exercise. If there is a disconnect, it would become
10	apparent.
11	MR. CHANDLER: How are you using the term
12	"disconnect" there, so I understand that?
13	MR. NACE: I think your concern I heard to be
14	the same as Don's.
15	MR. LANDERS: My concern is a common disconnect
16	concern and I think
17	MR. SISKIN: What Don is concerned about is
18	there is a revision that has a different set of rules. You
19	take one small piece of this new set of rule, a couple
20	one small piece of the other set of rule
21	MR. LANDERS: As shown in attachment 1 that's
22	what you have done, but to get to that point, you have done
23	a lot of work to demonstrate that it stands alone.
24	MR. SISKIN: That's right. That's no problem.
25	As Ron made the point, the majority of these

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1	later references are just to pick up where earlier editions
2	did not explain how to do something or what the acceptance
3	criteria was, or something like that provide some
4	credibility to our own requirements.
5	MR. TRAMMELL: While we are on the subject of
6	codes, I know this is probably not a problem but I just
7	thought I'd ask you. Section 50.55(a) of our regulations,
8	codes and standards sets out the editions of the code that
9	will be used for nuclear power plants for ISI, IST, for
10	design, based on, probably I think based on the
11	submission of a construction permit.
12	We don't have any conflict, here, with the
13	regulations, do we?
14	MR. SISKIN: No.
15	MR. NACE: No, we don't.
16	MR. CHEN: I have a question. This is Paul Chen.
17	On attachment 1, last item, a concern which was raised,
18	concerning bolt holes, arose because of the limitations on
19	the sizes of holes. This summer 1985 addendum allows you
20	to use larger bolt holes. Are you going to be ignoring the
21	technical concern that was raised by CASE or not?
22	MR. KLAUSE: We don't ignore any technical
23	concerns by CASE.
24	MR. CHEN: The summer '85 addendum says you can
25	use larger bolt holes. CASE's concerns don't go away. Are

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1	you still going to be addressing the concerns that were
2	raised relative to the smaller bolt holes?
3	MR. KLAUSE: I don't believe there is a
4	requirement to go further than that, since the holes are
5	accepted by this addendum.
6	MR. MIZUNO: Are you speaking from a piping
7	support and qualification standpoint? Are you approaching
8	it from being able to prevail at a hearing?
9	MR. KLAUSE: Hopefully, both.
10	MR. TERAO: I would like to clarify what the
11	Staff concern is. The issue of bolt holes has a long
12	history, as I'm sure you are aware of.
13	Recently, in discussions about what will be
14	covered by the CPRT program plan, a discussion came up
15	whether or not let's say past QA/QC practices were
16	deficient. In the case of the bolt holes, there is a
17	stipulation in the guidelines previously that the use of
18	bolt holes for a 1-inch bolt happened to be a 16th of an
19	inch greater than what the code specified. So the question
20	was: Why was that acceptable at the time?
21	From your understanding of current code
22	practices, that has been clarified. From a technical
23	standpoint, you are saying from a technical and engineering
24	standpoint, the code has accepted the use of the 16-inch
25	oversize bolt hole for concrete expansion bolts. But the

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1 question which still hasn't been answered is whether or
2 not -- why was it accepted in the past? Why was this bolt
3 hole acceptable in the past?

MR. NACE: First of all, I think the questions you are asking are questions that need to be asked, if they need to be asked, to the CPRT, TRT-type of people.

7 Stone & Webster's purpose is to completely 8 requalify class 2 and 3 piping systems and class 1, 2 and 3 9 supports. So that at the end of their effort we are all 10 convinced that we have a design that is safe to operate and 11 that we can all defend from a technical standpoint.

12 MR. NOONAN: Let me suggest something. I think 13 at the end of this session what we'll do is we'll caucus 14 with the Staff and the kind of question, maybe, that you 15 are asking is the kind that I need to look at and see whether I do send those forms to the CPRT, and we have 16 17 something outstanding -- I'll send those to the appropriate 18 members of the CPRT, and hopefully we'll get a response 19 back.

20 MR. TERAO: I just needed a clarification right 21 now of exactly what Stone & Webster's scope was and 22 Mr. Nace has clarified that for us. This is probably the 23 dilemma that TERA is under. Because at this point they --24 I believe they have been asking Stone & Webster these same 25 type of questions, the kind of questions which will require

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1	a technical organization to resolve the these type of
2	questions.
3	Now, TERA, themselves, as I understand it, is
4	not performing these type of analyses. I'm just trying to
5	clarify today exactly if Stone & Webster was going to do
6	this analysis or not.
7	MR. SISKIN: Stone & Webster may very well get
8	involved in other technical issues. In order to keep the
9	line of demarcation completely clear, I would propose not
10	to do it on the pipe stress and support project. I would
11	use other people. I want to keep the scope of this project
12	as originally defined.
13	If there's other technical work we need to do, I
14	will have other people off this project involved in it.
15	MR. NOONAN: Okay.
16	I have one other question, Ron, on attachment 2.
17	There was a note that said: Request for specific NRC
18	approval is in process. What does that mean?
19	MR. SISKIN: It means the letter is
20	MR. TRAMMELL: The check is in the mail.
21	MR. NACE: The letter was signed Tuesday. The
22	check is in the mail.
23	(Laughter.)
24	We carefully arranged it so you didn't get it
25	before the meeting.

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1	(Laughter.)
2	MR. TRAMMELL: I was wondering if this might be
3	a good time for a short break?
4	MR. TERAO: I would like to bring up one more
5	point, a technical point. On the use of code case 318-2,
6	this has been accepted in the Reg Guide 1.84, Revision 24,
7	as you so note.
8	When you say the "utilization required to be
9	shown in the FSAR," I would like a little more
10	clarification of what that means.
11	MR. NACE: I'm sorry, Dave, I was writing and
12	not listening.
13	MR. TERAO: The last page, attachment 2 of your
14	slide, in the middle you show N-318-2 code case, listed in
15	the reg guide, you say yes, and in the second column, you
16	have "utilization required to be shown in the FSAR." I
17	just needed clarification on what you mean by that.
18	MR. NACE: Well, take, for example, the 397, 411.
19	The specific letter we got back from Vince asked that we
20	show in the FSAR where they are used.
21	MR. EVANS: Reg Guide 1.84 itself requires
22	listing in the FSAR, so we are just complying with the reg
23	guide itself.
24	MR. TERAO: So it's not only listing the use of
25	the code cases but the reg guide itself states: identify

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1	the FSAR, the method of attachment, piping system involved
2	and location of the system where the case is to be applied.
3	MR. EVANS: That will all be there.
4	MR. HOOKWAY: The only code case not listed by
5	the accepted reg guides is 253-4. I think -2 was accepted
6	by the reg guide.
7	Can you tell me describe briefly the
8	difference between the 4 and the one that has been accepted?
9	MR. EVANS: As far as we know, nothing has been
10	accepted.
11	MR. HOOKWAY: Nothing? No 253?
12	MR. TERAO: I would like to clarify that.
13	In Revision 24 of the Reg Guide 1.84, I believe
14	you are correct, and 253 that had not been accepted at
15	that point. But, subsequently, the NRC Staff has been
16	reviewing the code cases and is proposing what code cases
17	should be added to the next revision of the reg guide. So,
18	the 253, Revision 2, has, to date, been accepted by the
19	Staff.
20	MR. EVANS: Very well. Let me say something to
21	make you happier. That is, for our purposes, Rev. 2 and
22	Rev. 4 are identical. So if you are going to accept Rev. 2,
23	we can use Rev. 2 just as easily as we can use Rev. 4.
2.4	MR. TERAO: That was the gist of our question.
25	If you can tell us what the difference between Rev. 2 and

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1	Rev. 4 is
2	MR. EVANS: No difference.
3	MR. CHAN: We requested the latest one. That's
4	why we put Rev. 4 in.
5	MR. TRAMMELL: Would this be an appropriate time
6	for a short break?
7	MR. NACE: Do you want just a break or do you
8	intend to caúcus?
9	MR. TRAMMELL: We could use a few minutes to
10	discuss a few of the things. I don't need a caucus but I
11	do need a break.
12	(Laughter.)
13	MR. NACE: I need a break, too. At this point,
14	what our intent was was to have whatever discussion of this
15	point you all feel necessary. Our intent is to go back and
15	formalize the changes we are requesting and to get our
17	request to you by about the 12th of September, no later
18	than that, documenting what we discussed here today.
19	MR. NOONAN: Are you done with your presentation
20	at this point? Time? Then maybe I will let's go ahead
21	and break. I will caucus with Staff for a few minutes.
22	(Recess.)
23	MR. TRAMMELL: We are back. We have got copies
24	of the attendance list here for everybody that would like.
25	There's numerous copies there.

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1	MR. NOONAN: During the caucus we probably
2	generated a couple of thousand questions for you but
3	some of the questions you might hear today will be
4	questions that are outside the scope of Stone & Webster.
5	When you hear that, you know, just tell us that you think
6	it's outside your scope. What I'll probably do is document
7	those types of questions in a formal letter and send it to
8	the CPRT, and request answers. If you hear those kind of
9	questions identify it.
10	MR. NACE: Okay.
11	MR. NOONAN: One of the main concerns, now, the
12	Staff has, is when Stone & Webster came on site, they came
13	on site and looked at a system that was built and sitting
14	there. Now, today, you have done a reanalysis and you are
15	making a number of modifications to that system.
16	What the Staff is concerned about is making sure
17	we understand what all those changes are, making sure we
18	can identify all those changes that took place to date and
19	in some cases why was it necessary to make those changes.
20	Why did you feel it was necessary to make those changes.
21	That's kind of briefly. You'll get additional questions
22	From the Staff.
23	MR. SISKIN: It is our intent to provide that as
24	part of the report. We will be giving really two reports
25	as follow-on to the previous information: one is

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identifying what we are doing and why, and the second is 1 what we found and what changes we have made and why they 2 are there, as well. 3 MR. NACE: In addition to that, through the 4 50.55(e), we have been trying to keep you informed on the 5 progress and status, putting numbers of changes in there by 6 grouping, which you will probably want to look into at some 7 point in time. 8 9 MR. NODNAN: Okay. 10 MR. SISKIN: You will be deluged with that 11 information. 12 MR. TRAMMELL: Are we talking about a results report? DSAP 9? 13 14 MR. NACE: Jack, you have to answer that. Technically it comes from TERA. 15 MR. EEODING: Jack Redding, from CRT, It's 16 17 really SRT, senior review team. MR. CHANDLER: When will the Stone & Webster 18 reports be issued? DO you have some time frame for those? 19 MR. SISKIN: We are not prepared to give it yet, 20 at this point. 21 MR. NACE: Stone & Webster's task is a 22 23 corrective action portion of the CPRI program related to piping and pipe supports. That is a portion of input to 24 TERA, in the formulation of the final CPRT products, if you 25

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> will. But their portion, then, leaves us with a 1 regualified -- Stone & Webster's portion leaves us with a 2 3 regualified design. MR. CHANDLER: I understand. I think last week 4 5 there was a meeting that we held with the applicants in Region 4, in Texas. And at that time I had asked a 6 question based on the progress report that was submitted by 7 the applicants, in response to the board, which listed 8 9 several dates for input on piping and pipe support-related issues. One of those dates called for submittal of 10 information, of a results report, by the end of October 11 Of '86. 12 MR. REDDING: That's a tentative date and we are 13 14 shooting for that. 15 MR. CHANDLER: I understand. And that report will be the CPRT results report on DSAP 9. 16 17 MR. REDDING: That's correct. 18 MR. CHANDLER: In -- I believe it was mid-'87, 19 there is a report due, I understood, on at least the 20 initial output of Stone & Webster on their efforts. Is 21 that correct? Wrong? MR. NACE: Your report is to TERA --22 23 MR. CHANDLER: That's part of the problem I see. MR. NACE: The sequence is, he has to issue a 24 25 report to give TERA sufficient time to review so TERA can

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1	meet that "end of October" commitment. I'm not sure what
2	the '87 report is you are talking about. Jack, do you
3	remember?
4	MR. REDDING: That's the joint advocacy, the
5	total report that we are shooting for. There will be some
6	input from Stone & Webster on that, also.
7	MR. SISKIN: In each case, our report is a
8	precursor to the report you are talking about.
9	MR. CHANDLER: I understand. So it will be
10	somewhat sooner than the end of October of '86. Fine.
11	MR. NOONAN: I think Larry is indicating that
12	the progress report that we got is somewhat confusing as to
13	the number of dates in there, as to when the Stone &
14	Webster work when we would get a report. Some dates
15	probably meant that maybe it was the total corrective
16	action work that's going to be done sometime. It wasn't
17	really clear. That's why we had some question as to when
18	we could expect, at least the report out of you that the
19	Staff will look at what I refer to as the Stone &
20	Webster report.
21	MR. SISKIN: The reason I'm saying put an "s" on
22	the end of it, there will be reports.
23	MR. NACE: And you are also speaking
24	specifically of the unit 1 portion?
25	MR. NOONAN: You know, this effort includes both

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> 1 units 1 and 2. 2 MR. NACE: Yes. 3 MR. NOONAN: So we best make sure we are doing both units here. Not just unit 1. 4 5 MR. SISKIN: But the October report and what we are preparing to support that October report is strictly 6 unit 1. 7 8 MR. NOONAN: Unit 1. Okay. 9 MR. TERAO: Can I get a little clarification 10 while we are on this topic? The CPRT program plan is quite 11 clear with respect to the type of results reports and 12 collective evaluation reports that TERA will be issuing. 13 But it doesn't explain at all or describe any of the reports that Stone & Webster will be issuing. 14 15 Now that you are talking about issuing reports, 16 plural, could you give us a preview of what these reports 17 will be? We have seen this generic technical issue report. 18 What other reports would Stone & Webster be issuing? 19 MR. NACE: Just one, really. 20 MR. SISKIN: Really, the next one to support the October thing -- it's all done. Here is the final result. 21 22 MR. NACE: That might be what Mr. Chandler is 23 talking about. 24 MR. SISKIN: The report that we are preparing 25 now and sometime to support the end of October, basically

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reports the completion of all the piping analysis
preliminary results with respect to the supports
walkdown in that report as well?
MR. KLAUSE: Large bore for piping and final
walkdown report.
MR. SISKIN: Yes. It does not include small
bore?
MR. KLAUSE: NO.
MR. TRAMMELL: If you would like to confer on
this subject, take a minute to do that.
MR. KLAUSE: We are trying to get our facts
straight here.
MR. TRAMMELL: We'd be happy to take a short
break so you can get it clear. I want to get clear in my
mind what reports you all will be producing and when.
MR. SISKIN: Obviously everything we are going
to do will eventually be documented. In what forum we
present it to TUGCO and eventually to the NRC may very well
change. But the information necessary to support the
October 30th report is in preparation now. It should be
available sometime before October 30th.
MR. NACE: You are really asking the wrong group
that question about the CPRT reports. I haven't kept that
close tabs on their report schedule.
Jack? You probably know better than I

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MR. NOONAN: Maybe I'll turn to Mr. Redding, and 1 ask Mr. Redding if he would try to clarify Dave's question 2 3 for us. MR. REDDING: Dave's question was relating to 4 Stone & Webster. 5 6 Actually, Stone & Webster -- we have not, so to speak, committed to issue Stone & Webster reports. But 7 8 they will be part of the filed information that supports 9 these results reports from the CPRT program. Stone & 10 Webster is actually right now in the process of making some other proposals in some other areas that Mr. Counsil talked 11 12 about. But we are not at this time prepared to talk about when, exactly, Stone & Webster is going to be prepared to 13 issue any reports that will subsequently support results 14 15 reports from the SRT. MR. NACE: Let's start again. Somebody ask the 16 17 question that you want clarified. MR. NOONAN: I think what Dave was indicating --18 you correct me -- when you said there will be reports, 19 plural, I think Dave is trying to figure out what that is. 20 MR. TERAO: We want to know what type of reports 21 will Stone & Webster be issuing when they complete their 22 piping and supports redesign? As opposed to reports that 23 TERA will be issuing. 24 MR. SISKIN: We are going to issue a document, 25

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1	exactly what we have done, what we found, and what the
2	results are. Hopefully, the information in large bore pipe
3	and supports is going to be out sometime before the end of
4	October.
5	MR. NOONAN: That would cover the large bore
6	piping. Do we have similar reports for the other piping?
7	MR. SISKIN: Small bore and walkdowns.
8	MR. MIZUNO: These reports will be for both unit
9	1 and unit 2?
10	MR. SISKIN: Eventually. Yes, at this point we
11	are talking just about unit 1.
12	MR. NOONAN: But we will see reports for unit 2.
13	MR. LANDERS: Excuse me, I have to admit I'm
14	more confused than the honorable Mr. Chandler. We cover
15	large bore and small bore piping, and supports are covered
16	by how can TERA write these reports?
17	MR. NACE: They can't.
18	MR. LANDERS: We don't anticipate seeing DSAP 9
19	in '87.
20	MR. NACE: DSAP 9 covers all of it in its
21	entirety. I don't recall what was in the progress report
22	but the progress report was addressed to the unit 1 large
23	bore report,
24	MR. LANDERS: There's going to be a partial
25	results report, maybe?

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1	MR. SISKIN: The DSAP 9 will be broken up. The
2	report at the end of October is just for large bore.
3	MR. MIZUNO: Let's just say the progress report
4	had no no breakdown that way. That's fine. Thank you
5	for telling us.
6	MR. SISKIN: I don't know what the progress
7	report said.
8	MR. NACE: We are all speculating here.
9	MR. SISKIN: I just know the information we are
10	giving would support a progress report supporting large
11	bore for unit 1.
12	MR. MIZUNO: That's good information. I just
13	want to tell you that's new information we never saw in the
14	progress report before.
15	MS. VIETTI-COOK: But the proposed amendment to
16	the FSAR is going to be here next month; is that what you
17	said?
18	MR. NACE: Yes.
19	MR. NOONAN: Let me talk about that one for a
20	moment, the proposed amendment change here. The last I
21	heard, you are going to submit something on September 12th?
22	MR. NACE: By September 12th.
23	MR. NOONAN: When would you be looking for some
24	type of staff action?
25	MR. NACE: Well, obviously we'd like it

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1	processed as soon as possible. We just need to eliminate
2	uncertainties.
3	MR. NOONAN: I'm looking at the standpoint of
4	eventually this is going to go into a hearing. In order to
5	prepare for that, whatever that day is, what do you think
6	you need? Are you talking you need something by the end of
7	September? Or you need something by 1 November? I am just
8	trying to get an idea.
9	MR. NACE: I think these cases, the 1st of
10	November will be adequate. We should try and do it by that
11	time.
12	MR. NOONAN: You'd like to see something out of
13	the Staff in about two months, nevertheless, is what you
14	are telling me?
15	MR. LANDERS: You are almost going to be roped
16	into doing something with respect to approving it just by
17	approving DSAP 9.
18	MR. TRAMMELL: Is this a critical path item?
19	MR. LANDERS: This information is going to be in
20	DSAP 9.
21	MR. SISKIN: That's the end of October.
22	MR. NACE: It's a critical path item from the
23	standpoint of finishing the Stone & Webster copy from the
24	standpoint of requalifying pipe and pipe supports on unit 1
25	That can't be finished until you all are comfortable with

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> 1 the codes and use. MR. TRAMMELL: I have a question related to that. 2 Never mind. 3 MS. VIETTI-COOK: I want to make sure on this. 4 When you submit this, I want to make sure, is it going to 5 be proposed amendment or --6 MR. BAGCHI: No. 7 MR. TRAMMELL: For amending the FSAR, this is 8 definitely a proposal. And I want to make it clear from 9 10 people starting certain pages in the FSAR with questions on what's approved and not approved. My preference on this 11 12 would be to submit, in whatever form you want, in letter form -- rather -- a proposed amendment to the FSAR as a 13 package. We will review that package and report out on it 14 and assuming that it gets approved or partially approved or 15 whatever happens to it, we send you a letter back saying: 16 Okay, now send us FSAR pages. 17 I'd prefer to do it that way because, frankly, 18 it can get confusing as to what, especially when you mix 19 apples and oranges. You may send us a FSAR amendment 20 addressing only piping and pipe supports and then slip in 21 in the last page something about a radiation protection 22 engineer or something like that which is unrelated, or 23 maybe prior approval has already been given. It mixes 24 things up. 25

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> I'd rather keep this as a proposed package. 1 Then when we report out on that package, you submit a 2 conforming change to the FSAR. 3 MR. NACE: They have already gotten it mixed 4 because we have two cases already approved that you direct 5 us to put in the FSAR. 6 MR. TRAMMELL: We already approved it? You 7 haven't done it yet, then wait on it and it can all be done 8 at once if you haven't done it yet anyway. 9 MR. NACE: This is a departure from the normal 10 11 practice, isn't it? MS. VIETTI-COOK: No. I don't think so. In 12 some cases, special cases, you have proposed amendments to 13 the FSAR. 14 MR. BAGCHI: We have submitted amendments by 15 letter in the past, the assumption being if the Staff has a 16 problem with it, changes can be made before it becomes an 17 official amendment. So that's the way we would handle this 18 19 one. MS. VIETTI-COOK: In certain cases you have done 20 21 it that way. MR. TRAMMELL: 411 was done that way; 397. It's 22 not totally consistent, but we can be overwhelmed by this 23 process. A voluminous amendment all of a sudden gets 24 inserted into peoples' pages in the different technical 25

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1	groups and all of a sudden we've got a paper problem.
2	MS. VIETTI-COOK: What happens, 40 amendments
3	come in here, it goes to all the various branches, they
4	pull out pages, insert pages, and nobody knows whether we
5	have ever approved it. Do you know what I mean?
6	MR. NACE: Your document control program.
7	MR. REDDING: We have separated this proposal
8	from any other amendments we have been making, so this will
9	be a separate amendment package.
10	MR. NOONAN: We'll talk logistics of that. I
11	don't want to take anymore time on it.
12	I guess I would like to turn to the Staff and
13	see what other kind of questions they have. I know there
14	were some additional questions. Whoever wants to speak
15	first?
16	MR. LANDERS: In your submittal on plastic
17	analysis, would you define the appropriateness for the
18	basis of the change? I'm not suggesting that I'm
19	disagreeing. I just think that it needs to be defined,
20	since we are all aware that class 1 allowables are based on
21	the use of class 1 material fabrication examination
22	techniques. So, I think this change is quite similar to
23	what the concerns I expressed are on attachment 1. We need
24	to define how you walk through that. That's all.
25	And I think that disconnect concern I had on the

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1	one slide may be appropriate to others. Therefore,
2	whenever you talk about changes that are applicable to
3	class 2 and 3 piping and class 1, 2 and 3 supports, we make
4	sure that in dealing with the loads on the class 1 supports
5	that in fact the piping analysis is reflective of what you
6	propose for the supports. And that goes beyond just the
7	one slide that we talked about.
8	I asked a question earlier with respect to
9	attachment 1, and you said that someone could go and audit
10	your consideration of the impact of other changes, for
11	example in the winter 1978 addenda well, I picked a bad
12	one.
13	In the winter 1976 addenda you pick paragraph
14	NC-31-13 and NC-36-49. I assume somewhere you have a
15	review of the winter '76 addenda that ends up saying:
16	These two paragraphs are not dependent on any other changes
17	that took place in the '76 addenda. And, if not, then I
18	would hope that you would have that so that that could be
19	and that one, I guess, is easy.
20	Most of them are easy. Some of them aren't so
21	easy.
22	That's all I have.
23	MR. TERAO: I just have one question that I
24	would like, perhaps, Stone & Webster's definition of.
25	In accepting code case N-411, we had asked a

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1	question regarding the need to revise the PSAR.
2	MR. NACE: The which?
3	MR. TERAO: The PSAR.
4	In your letter of November 18, 1985, you stated
5	that the damping values that you are proposing to use in
6	N-411 do not alter the principle architectural and
7	engineering criteria. I would like to know what your
8	definition, then, is of principal architectural and
9	engineering criteria if it's not damping values.
10	MR. SISKIN: Would you like to answer that or
11	MR. NACE: Go ahead.
12	MR. SISKIN: I would consider the principal
13	values that would bring a change to the PSAR decision to go
14	from a BWR to a PWR, a change in licensee. I think you'll
15	find decisions at that level are the kinds of changes that
16	would warrant a PSAR. The whole concept that we have used
17	in this industry for many years is that the SAR is a living
18	document and kept up to date with the evolution, and the
19	concept of going back and revising a PSAR, after the fact
20	on that, is totally foreign.
21	MR. TERAO: I'm not asking you what would
22	constitute a change in the PSAR. I'm asking you a
23	definition of a principal architectural and engineering
24	criteria.
25	MR. SISKIN: A very fundamental change. We are

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1	talking about the change in the type of reactor. I'm not
2	talking about something of a much smaller scope than that.
3	Location, basically. Type of containment. Things that
4	would appear on a checklist when you are listing all the
5	plants in the country, as to what the plants' basic
6	characteristics are. The decision to go from a 950 to a
7	much larger plant, although I can think of several cases
8	where plants were upgraded substantially and the PSAR was
9	not changed.
10	MR. TERAO: As a clarification, do you consider
11	any of the information presented in your slides today to be
12	principal architectural or engineering criteria?
13	MR. SISKIN: Absolutely not.
14	MR. NACE: NO.
15	MR. MIZUNO: As an attorney speaking, I commend
16	to you this thought: That principal architectural and
17	engineering criteria are required to be listed in the
18	original application, the original PSAR. Before you
19	support the construction program. The point is that, if it
20	had if something has to be included in there in order
21	for an approval to be given, and any change to those types
22	of things an initial legal view would be those are
23	principal engineering and architectural changes.
24	MR. NACE: That's preposterous.
25	MR. SISKIN: That really is preposterous. You

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1	are saying if additional information is provided
2	MR. MIZUNO: I didn't say additional. I said
3	changed. I'm not setting down the legal law now. I'm
4	just it's something for you to consider. If some
5	principal engineering criteria, architectural and
6	engineering criteria are required to be set forth
7	MR. SISKIN: What is the legal contribution of
8	precedent and practice in this entire situation?
9	MR. CHANDLER: Always very important, Ed. I
10	refer you to the Bailey case, Commission decision, 1979.
11	Lengthy discussions about the length of piles. For your
12	information.
13	MR. MIZUNO: Which would be the kind of minor
14	things which wouldn't require a change.
15	MR. NACE: It is our position there is no
16	fundamental change in these recommendations. No basis, no
17	requirement that we even consider what you suggested.
18	Furthermore, in my opinion, considering what you suggested
19	is similar to requiring PSAR changes to submit the FSAR.
20	MR. SISKIN: Before you meddle with past
21	practice on very obtuse interpretations, I would recommend
22	that you look at the ramifications for every plant in the
23	country. Before you take that ridiculous position.
24	MR. CHANDLER: No one is meddling at this point,
25	Ed. It's just a concern that exists whenever changes are

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1	made. That's not a question that's simply limited to here.
2	MR. BAGCHI: Are you done?
3	MR. TERAO: That's all I have.
4	MR. BAGCHI: I guess I have one thing to clarify.
5	You made a statement earlier on that all of these changes
6	are going to make the plant safer. A lot of changes
7	MR. SISKIN: Some of these changes will confirm
8	that the plant is safe.
9	MR. BAGCHI: I don't expect you to come
10	necessarily with an amendment which explains how that is.
11	However, I think for our discussion, our approval of the
12	changes, it is relevant to know how some of the earlier
13	discrepancies came about and how this is going to address
14	those deficiencies, if you like, which are going to go away
15	as a result of this approval of the changes.
16	MR. SISKIN: How it came about, I'm not in a
17	position to answer. What we are doing, I am.
18	MR. BAGCHI: Indicate how that is going to be
19	answered, and when?
20	MR. NOONAN: Well, let me get in on that. I
21	think what I want to do, for Stone & Webster you know,
22	you came in at a point and you see certain things at that
23	point and that's documented. You know what you are
24	starting with, what you are finishing up with.
25	How we handle the part before that is a part

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1	that that's something we can go back to CPRT. That's a
2	CPRT question. We'll raise that.
3	MR. NACE: That's CPRT.
4	MR. BAGCHI: What I was looking for is some kind
5	of a road map which says: These questions are going to be
6	answered, this, that, and the other way. Prior approval
7	it's rather important to know that information for our
8	approval.
9	MR. NOONAN: As soon as the Staff gets a chance
10	to look at the package, and I'll look at these questions,
11	I'll do a sort on it at our level here and then we'll
12	decide which questions are really to the amendment package
13	and which questions go to the CPRT.
14	MR. NACE: Okay.
15	MR. TRAMMELL: A question I had about sampling.
16	I heard that we were going to do a sampling of small bore
17	piping. I haven't heard much about that in a long time.
18	But I missed a couple of these progress meetings.
19	Are we sampling small bore piping to decide
20	whether it's okay? Or are we going to go look at each one?
21	MR. KLAUSE: What we are doing in the small bore
22	effort is described in CPPP-15, which you have a copy of.
23	It states what is actually included in the analysis for
24	small bore and what part of the small bore will be sampled.
25	MR. NACE: The ultimate answer to your question

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> is it hasn't been decided yet because the sample itself 1 isn't concluded. 2 MR. TRAMMELL: You are sampling now and you 3 haven't decided what to do. Let's say you pass the sample. 4 Everything is hunky-dory. Who becomes the architect 5 engineer of the piping system if the sample indicates 6 everything is okay? 7 MR. SISKIN: Stone & Webster is going to stand 8 behind the piping system. We are going to do whatever is 9 necessary to stand behind the piping system. 10 MR. TRAMMELL: Would that mean you become the 11 12 engineer of record, based on a sample? MR. KLAUSE: No. The way I understand it -- Ed 13 can correct me if I'm wrong -- but, for the analysis that 14 we do and perform for the small bore, we will be the 15 architect of record for that. 16 If everything shows that it's okay, then Stone & 17 18 Webster is in the position to say that the analysis done previously for those others are the analysis of record. 19 MR. NACE: You are mixing two questions, Charlie. 20 One is what is the documentation of record, and the other 21 is who is defending the design? The charter we have given 22 these people is to put themselves in a position of being 23 able to defend the design. 24 If, in the course of doing that, they redo X 25

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1	percent of the documentation, it is their engineering
2	documentation. But the remaining documentation would be
3	whoever authored it as the record documentation.
4	MR. NOONAN: I think Ron answered it fine.
5	That's clear.
6	Has Staff any other questions?
7	MR. MIZUNO: I have an observation, not a
8	question. This really does not apply to Stone & Webster.
9	Actually it is directed to the applicants themselves.
10	Given the charter that is given to the
11	applicants currently to Stone & Webster, I believe that
12	this is in fact, which is addressed to you, because we
13	have raised this earlier with Stone & Webster and they have
14	said this is not in our scope: Some of our questions you
15	have gathered are questions which reflect the sensitivity,
16	not just to the licensing process itself and whether
17	something will be able to meet the standard Staff review
18	and concerns involved in changes to the operating license
19	application; we are also concerned, obviously, that
20	whatever changes are made will be able to withstand a
21	scrutiny by the licensing board in the hearing.
22	Again, I would like to suggest something to you
23	to consider, which is that something which may be
24	acceptable from a technical a strict, technical
25	engineering standpoint, may not necessarily be sufficient

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1	to withstand scrutiny in a licensing hearing.
2	Especially where the acceptability of a change
3	may be more legalistic, as it were; in other words,
4	something is permitted without an explicit engineering
5	reasoning or justification for that something like that,
6	based upon experience in our proceedings, has not worked in
7	the past in terms of persuading the board.
8	Another thing, sort of a related question, is
9	that, although technical questions may be answered in broad
10	scope by Stone & Webster, they are aware of it and they
11	have either addressed it or we just want to make the
12	applicants aware that we are concerned that there may be
13	small individual issues that may not be picked up, either
14	by Stone & Webster or by the TERA effort. And that these
15	individual issues be addressed in some fashion.
16	MR. NACE: Such as?
17	MR. MIZUNO: In other words, we would say that
18	would not be appropriate for resolution through the Stone &
19	Webster requalification effort but we think that some
20	applicant attention has to be given to that in order to
21	prevail at the hearing.
22	MR. CHANDLER: Let me give you an example of
23	what Gary has in mind, to help you understand.
24	As a for example, I think it was Paul Chen asked
25	earlier about the bolt hole issue. You have got one level

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1	of review and evaluation through the code, and what may or
2	may not satisfy the code requirements in terms of allowable
3	bolt hole size.
4	Yet, a somewhat different, very related issue,
5	was raised through the TRT and Staff review process earlier
6	on. A different issue was identified. Not simply one of
7	the acceptability of the bolt hcle.
8	MR. MIZUNO: And to expand upon that
9	MR. CHANDLER: There are two kinds of answers,
10	then, that are necessary to fully address the question. Or
11	may be necessary to answer the question.
12	1: Is it technically acceptable? In terms of
13	compliance with the Commission's regulations and
14	requirements? And thus, is the plant safe?
15	2: The related questions that were raised
16	through the TRT and other Staff inspection processes, of
17	which you have been aware.
18	For example, on bolt holes, that wasn't what the
19	original provisions allowed. How did that happen? What
20	allowed it to happen? I think that's what Gary had in mind.
21	MR. MIZUNO: That's one part.
22	MR. SISKIN: I understand what you are saying
23	and appreciate what Gary is saying as well.
24	MR. MIZUNO: Let me say one more thing about the
25	example to expand on that apart from the TRT.

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1	CASE's witnesses raise questions with the bolt
2	hole, not just because you violated a provision but they
3	have a reason for saying why was it something that you
4	could not forget? They had a technical reason, be it a
5	good a valid technical reasonable or invalid one is for
6	the Staff and the applicants to justify in front of the
7	board. But the point is that we if they presented a
8	technical reason for that, for their concern, that somehow
9	it has to be addressed. I'm not seeing that Stone &
10	Webster's role in it, as a matter of fact, as I said, I
11	think
12	MR. NACE: That's a CPRT role.
13	MR. SISKIN: Gary, I don't disagree with what
14	you are saying. All I'm asking, and what I was trying to
15	say earlier, is let's at least keep the issues separated.
16	Because some of these things get very clouded when you say:
17	Is it technically acceptable? That's one question. And
18	how can you get into it and what generic questions are
19	raised because of that is another question. If you mix
20	them, you never get them settled. And
21	MR. CHANDLER: Gary's concern is let's not drop
22	the ball somewhere in the middle. Recognizing today we are
23	here to talk about what Stone & Webster is doing, I think
24	maybe the comments I have made and Gary and maybe Paul
25	MR. NACE: I heard.

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1	MR. CHANDLER: Okay.
2	MR. MIZUNO: That's why I directed it to
3	Mr. Nace, as opposed to Stone & Webster.
4	MR. SISKIN: Back to an earlier point I made
5	that I think is very important, too, it doesn't mean Stone
6	& Webster won't be involved in some of these other
7	questions, but in order to keep the technical and other
8	separate, I would propose to do that separate from the
9	project.
10	MR. MIZUNO: That's fine.
11	MR. NACE: The purpose here was to give you
12	bases for the work they are doing, such that, regardless of
13	other questions you have, at the point in time they are
14	finished with the requalification effort, when we all know
15	that the piping system is going to perform their intended
16	safety function, period.
17	MR. NOONAN: Okay.
18	MR. MIZUNO: All right.
19	MR. TRAMMELL: At the beginning you said that
20	every change that is intended or known today has been
21	identified here at this meeting. It seems to me that you
22	are so close to the end of the process that you might be
23	very close to being telling us this is all.
24	MR. NACE: It may be.
25	MR. TRAMMELL: When does the other shoe fall?

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1	In a month from now? Will you know when you submit this
2	application for proposed change? At what point will we
3	know this is all?
4	MR. NACE: I don't know, Charlie. It's just
5	like any nuclear design job, it's all when you are done.
6	Where they stand on unit 1, 315 out of 317
7	stress problems are done except for confirmation-type
8	activities. About close to 7000 of the supports have been
9	requalified with changes identified. So that says there's
10	about 3000 more supports to go, and two stress problems on
11	unit 1.
12	Unit 2 stress is
13	MR. KLAUSE: Essentially just beginning, as far
14	as 100 percent confirmation. It has been the 8 percent
15	effort going right along.
16	MR. NACE: I don't think you are going to see
17	another meeting in another month. But I can't promise you.
18	MR. TRAMMELL: Before we close, I would like to
19	give the intervenor, CASE, Adam Palmer, a chance to make
20	any remarks you may have if you have any.
21	MR. PALMER: I have one question. Yes. One
22	question I have is: What information did you use that you
23	relied upon to determine that you needed to change the code?
24	That you needed an amendment? CASE doesn't understand
25	where you get your information that there needs to be a

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1 change?

MR. KLAUSE: I think one of the slides I showed up there addressed that, that identified the changes required to meet the methodology that we normally use. Also, changes that were made to meet the intent of the regulatory position in NUREG-0800, and then the other changes required for clarification where it was not clear or specific in the FSAR.

9 MR. PALMER: Did you use CPRT? Or independent 10 analysis? Where specifically? What information did you 11 rely upon that said this is wrong, we need to change it?

MR. NACE: Let me try to answer that, Ron, and then you can say if I'm correct or not. They start out with an SAR that has a set of words in it. They also start out over here with a Stone & Webster standard practice that has evolved over the course of years and has been used to license recent plants. You identify the differences.

MR. CHANDLER: I didn't mean to interrupt you 18 but you all got some discovery ongoing. I'm not sure how 19 this relates to it or if it does relate to it. I don't 20 know -- I don't see their counsel here right now. I guess, 21 in fairness to them, if you've got questions, why don't you 22 ask them so we get them out on the record. Maybe it would 23 be best if they took those questions home and got back to 24 you in a formal response, rather than trying to answer them 25

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1	now and get their lawyers all upset and exercised over
2	something.
3	MR. PALMER: That was my only question.
4	MR. CHANDLER: Okay.
5	MR. PALMER: On behalf of Juanita Ellis, she
6	would like you to send the transcripts as soon as possible,
7	preferably when the Staff gets theirs.
8	MR. TRAMMELL: We get 24-hour service.
9	MR. NOONAN: Billy Bob's checklist is in the
10	mail. If you want to pick one up there, you can get it.
11	I'm finished. Thank you very much.
12	(Whereupon, at 11:30 a.m., the meeting was
13	adjourned.)
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#### CERTIFICATE OF OFFICIAL REPORTER

This is to certify that the attached proceedings before the UNITED STATES NUCLEAR REGULATORY COMMISSION in the matter of:

NAME OF PROCEEDING:

COMANCHE PEAK REANALYSIS OF PIPING AND PIPE SUPPORT BY STONE AND WEBSTER

DOCKET NO.:

PLACE :

BETHESDA, MARYLAND

DATE:

THURSDAY, AUGUST 28, 1986

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission.

(sigt)

JOEL BREITNER

Official Reporter ACE-FEDERAL REPORTERS, INC. Reporter's Affiliation

## AGENDA

## **TUGCO PRESENTATION TO THE NRC**

### AUGUST 28, 1986

A. INTRODUCTION B. SWEC OVERVIEW C. SWEC PRESENTATION L.D. NACE, TUGCO E.J. SISKIN, SWEC R.P. KLAUSE, SWEC

- I. FSAR UPDATES FOR PIPING REQUALIFICATION PROGRAM
- II. ASME CODE EDITIONS, ADDENDA, AND CODE CASES USED FOR THE PIPING REQUALIFICATION PROGRAM

# **SWEC PRESENTATION**

- I. FSAR UPDATES FOR PIPING REQUALIFICATION PROGRAM
- II. ASME CODE EDITIONS, ADDENDA, AND CODE CASES USED FOR THE PIPING REQUALIFICATION PROGRAM

I. UPDATING COMANCHE PEAK (CPSES) UNITS 1 AND 2 FSAR

### PIPING SYSTEM REQUALIFICATION PROGRAM

**OBJECTIVES:** 

- TO ASSURE FSAR ACCURATELY REFLECTS THE SWEC DESIGN METHODOLOGY
- TO INCLUDE THE SWEC COMPUTER PROGRAMS USED FOR PIPING SYSTEM REQUALIFICATION PROGRAM IN THE FSAR
- TO UPDATE THE FSAR FOR THE PIPING SYSTEM REQUALIFICATION PROGRAM TO MEET THE INTENT OF USNRC STANDARD REVIEW PLAN NUREG-0800.

CH85 1136

### TOPICS INCLUDED IN THE UPDATE

TOPICS	SWEC METHODOLOGY	CURRENT REGULATORY POSITIONS	CLARIFICATION OR ADDITION
1. COMPUTER PROGRAMS	X		
2. SSE LOADING IN EMERGENCY PLANT CONDITION	х	х	
3. SEISMIC RESPONSE IN ZPA REGION	Х	Х	
4. COMBINATION OF PEAK DYNAMIC RESPONSES	х	Х	
5. PLASTIC ANALYSIS	X		X
6. FUNCTIONAL CAPABILITY	X	Х	
7. SPECTRAL BROADENING & DAMPING VALUES			x
8. STRESS CYCLES	X	Х	
9. MISCELLANEOUS UPDATES	Х	х	
10. ASME CODE OF RECORD			х

C1186-1117

### **1. COMPUTER PROGRAMS UTILIZED**

#### **PROPOSED CHANGE:**

TO SPECIFY IN THE FSAR THOSE COMPUTER PROGRAMS WITH THEIR VERIFICATION THAT ARE UTILIZED BY SWEC IN THE PIPING SYSTEM REQUALIFICATION PROGRAM.

### **REASON FOR CHANGE:**

UPDATE THE LIST OF COMPUTER PROGRAMS USED FOR ANALYSIS OF PIPING SYSTEMS.

### **BASIS FOR CHANGE:**

TO CONFORM TO GUIDANCE IN NUREG-0800, SECTION 3.9.1, SUBSECTION II.2.

### **APPLICATIONS:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS INCLUDING SUPPORTS FOR ASME CODE CLASS 1, 2, AND 3 PIPING (APPENDIX 3B OF FSAR).

### COMPUTER PROGRAMS PREVIOUSLY UTILIZED ON OTHER DOCKETS

COMPUTER PROGRAM	RIVER BEND	NINE MILE 2	BEAVER VALLEY 2	MILLSTONE 3	SHOREHAM
NUPIPE-SW	X	Х	х	Х	Х
BAP		X	X	•	
BSPLT	•	•			
STARDYNE	X	х	•	х	
PITRUST	X	х	х	x	х
PILUG	X	х	х	x	х
PITRIFE			х	х	х
STEHAM	X	X	X	X	х
WATHAM	X	х	X	x	х
WATSLUG			Х	х	
ELBOW			X		
PSPECTRA	X	х	х	X	
STRUDL-SW	X	х	X	X	х
STRUDAT AND SANDUL		•			
BASEPLATE-II			х	•	•
BIP			х	•	
APE			х	•	
CHPLOT		•	Х	х	•
RELAP	•	•	•	•	•

CHER. LEAD
## 2. SSE LOADING COMBINATIONS

#### **PROPOSED CHANGE:**

DELETE SSE FROM LOADING COMBINATIONS IN EMERGENCY PLANT CONDITIONS (SERVICE LEVEL C).

#### **REASONS FOR CHANGE:**

- TO CONFORM WITH TABLE 1, APPENDIX A, NUREG-0800, (JULY, 1981)
- TO BE CONSISTENT WITH NSSS (CLASS 1) LOADING COMBINATIONS
- TO BE CONSISTENT WITH SWEC METHODOLOGY ON MORE THAN 8 OTHER DOCKETS

#### **BASIS FOR CHANGE:**

PRESENT VERSION OF FSAR CONSIDERED SSE IN PLANT EMERGENCY CONDITION FOR BOP SYSTEMS. IT WAS BASED UPON REGULATORY GUIDE 1.48 (MAY, 1973) POSITION FOR CLASS 2 AND 3 PIPING. NUREG-0800, SECTION 3.9.3, APPENDIX A, SUBSECTION 4.2 STATED "APPENDIX A REQUIREMENTS SUPERSEDE THOSE IN THE MAY 1973 VERSION OF REGULATORY GUIDE 1.48".

#### **APLICATIONS:**

ASME SECTION III CLASS 2 AND 3 PIPING SYSTEMS AND CLASS 1, 2, AND 3 PIPE SUPPORTS (SECTION 3.9B.1.1, 3.9B.3.1, TABLES 3.9B-1B AND 3.9B-1C OF FSAR).

# **3. SEISMIC RESPONSE IN ZPA REGION**

### **PROPOSED CHANGE:**

ADD THE METHOD IN NUREG/CR-1161 (DECEMBER, 1979) TO RESPONSE SPECTRUM ANALYSIS OF PIPING SYSTEMS TO ADDRESS HIGH FREQUENCY SEISMIC RESPONSES IN THE ZERO PERIOD ACCELERATION (ZPA) REGION OF THE SPLCTRA (ARS).

### **REASON FOR CHANGE:**

• THE EXISTING FSAR IS SILENT ON THIS ISSUE.

### **BASIS FOR CHANGE:**

• TO ASSURE PARTICIPATION OF ALL SIGNIFICANT MODES IN RESPONSE SPECTRUM ANALYSIS OF PIPING SYSTEMS.

### **APPLICATIONS:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS, (SECTION 3.7B.3.1 OF FSAR).

# 4. COMBINATION OF PEAK DYNAMIC RESPONSES

#### **PROPOSED CHANGE:**

PEAK DYNAMIC RESPONSES OF PIPING SYSTEMS DUE TO SEISMIC, LOCA, AND/OR OCCASIONAL LOADS ARE COMBINED BY THE SQUARE ROOT OF THE SUM OF SQUARES (SRSS) TECHNIQUE.

### **REASONS FOR CHANGE:**

- UPDATE TO BE CONSISTENT WITH SWEC METHODOLOGY ON MORE THAN 8 OTHER DOCKETS
- MINIMIZE PLANT MAINTENANCE THEREBY REDUCING PERSONNEL EXPOSURES (ALARA)
- TO BE CONSISTENT WITH NSSS (CLASS 1) METHODOLOGY

#### **BASIS FOR CHANGE:**

- SRSS COMBINATION OF SSE AND LOCA RESPONSES IS IN CONFORMANCE WITH NUREG-0484 (MAY 1980).
- SRSS PROCEDURE OF COMBINING WATER HAMMER EVENTS (OCCASIONAL LOADS) WITH EARTHQUAKES AND PLANT DYNAMIC EVENTS IS AN ACCEPTABLE METHOD IN NUREG-1061 (VOLUME 4, JANUARY 1985).

### **APPLICATIONS:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS AND CLASS 1, 2, AND 3 PIPE SUPPORTS (SECTIOL 3.9B.3.1 OF FSAR).

# **5. PLASTIC ANALYSIS**

### **PROPOSED CHANGE:**

REVISE PARAGRAPH 3.9B.1.4.1 TO INCLUDE THE OPTION PERMITTED BY THE CODE TO USE PLASTIC ANALYSIS FOR ASME CODE CLASS 2 AND 3 COMPONENTS.

### **REASON FOR CHANGE:**

TO PROVIDE A BASIS FOR THE QUALIFICATION OF CLASS 2 AND 3 PIPING FOR LOCAL EFFECTS

### **BASIS FOR CHANGE:**

IT IS APPROPRIATE TO USE THE CODE CLASS 1 APPROACH IN NB-3228 TO EVALUATE THESE LOCALIZED EFFECTS.

### **APPLICATION:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS FOR LOCAL STRESS EVALUATION BETWEEN PIPE AND SUPPORT MEMBERS.

CH86-1139

# 6. FUNCTIONAL CAPABILITY

### **PROPOSED CHANGE:**

ADD FUNCTIONAL CAPABILITY ASSURANCE REQUIREMENTS FOR PIPING SYSTEMS BY THE ANALYTICAL CRITERIA IN NEDO-21985 (SEPTEMBER, 1978) AND RELATED DOCUMENTS. IN ADDITION, THE STRESS LIMITS FOR ESSENTIAL SYSTEMS (FSAR TABLE 3.9B-1B) HAVE BEEN REVISED.

### **REASONS FOR CHANGE:**

- TO ASSURE OPERABILITY OF ESSENTIAL PIPING SYSTEMS DURING AND AFTER A POSTULATED PLANT ACCIDENT CONDITION.
- TO CONFORM WITH THE REGULATORY POSITION C.2.3 IN APPENDIX A, SECTION 3.9.3, OF NUREG-0800 (APRIL, 1984).

### **BASIS FOR CHANGE:**

THE PROPOSED ANALYTICAL CRITERIA TO ASSURE THE FUNCTIONAL CAPABILITY REQUIREMENTS MEET THE OBJECTIVES OF NUREG-0800.

### **APPLICATIONS:**

ASME CLASS 2 AND 3 PIPING SYSTEMS TO BE OPERATIONAL DURING AND AFTER A POSTULATED PLANT ACCIDENT CONDITION (SECTION 3.9B.3.1.2 OF FSAR).

# 7. SPECTRAL BROADENING (CC-N-397) AND DAMPING VALUES (CC-N-411)

### **PROPOSED CHANGE:**

APPLY ALTERNATIVE RULES TO THE SPECTRAL BROADENING AND DAMPING VALUES IN ASME CODE CASES N-397 AND N-411 RESPECTIVELY.

### **REASON FOR CHANGE:**

UPDATE TO INCLUDE APPROVED ALTERNATIVE RULES.

### **BASIS FOR CHANGE:**

- NRC LETTER FROM V.S. NOONAN TO W.G. COUNSIL, DATED MARCH 13, 1986.
- TUGCO LETTER FOR W.G. COUNSIL TO V.S. NOONAN, DATED NOVEMBER 18, 1985.
- HIGHLY RESEARCHED APPROACH UTILIZED ON MORE THAN 20
  PLANTS

### **APPLICATIONS:**

• ASME CODE CLASS 2 AND 3 PIPING SYSTEMS ANALYZED BY RESPONSE SPECTRUM METHODS.

# 8. STRESS CYCLES FOR SEISMIC EVENT

#### **PROPOSED CHANGE:**

SPECIFY A MINIMUM OF 50 MAXIMUM AMPLITUDE LOADING CYCLES FOR THE FIVE OBE EVENTS AND 10 MAXIMUM AMPLITUDE LOADING CYCLES FOR THE SSE EVENT.

### **REASON FOR CHANGE:**

TO BE CONSISTENT WITH SWEC METHODOLOGY ON OTHER DOCKETS AND TO CONFORM WITH CURRENT REGULATORY ACCEPTANCE CRITERIA.

#### **BASIS FOR CHANGE:**

NUREG-0800, SECTION 3.7.3, SUBSECTION II.2.B: AND SECTION 3.9.2, SUBSECTION II.2.B.

#### **APPLICATION:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS COMPONENTS (SECTION 3.7B.3.2 OF FSAR).

### 9. OTHER FSAR UPDATES

#### **PROPOSED CHANGES:**

- UPGRADE VALVE MODELING TECHNIQUE IN SECTION 3.7B.11.
- ADD CONTAINMENT DISPLACEMENT LOAD COMBINATIONS IN TABLES 3.9B-1B, 3.9B-1C, AND 3.9B-1E.
- ADD THERMAL AND SEISMIC ANCHOR DISPLACEMENT LOADING COMBINATIONS FOR SYSTEMS WHOSE NORMAL OPERATION IS REQUIRED IN FAULTED CONDITION, TABLE 3.9B-1B.
- ADD STRESS LIMITS FOR SUPPORTS FOR SYSTEMS WHOSE NORMAL OPERATION IS REQUIRED IN FAULTED CONDITION, TABLE 3.9B-1E.
- UPGRADE THE FLUID TRANSIENT ANALYSIS METHODS FOR PRESSURE RELIEVING DEVICES IN SECTION 3.9B.3.3, IN CONFORMANCE WITH APPENDIX 0 OF ASME SECTION III CODE.

#### **REASON FOR CHANGES:**

UPGRADE THESE SECTIONS OF FSAR TO REFLECT SWEC DESIGN CRITERIA OF PIFING SYSTEM REQUALIFICATION PROGRAM.

#### **BASIS FOR CHANGES:**

THESE CHANGES ARE ADDITIONS OR UPGRADES OF THE DESIGN PROCEDURES FOR COMPLETENESS AND TO BE CONSISTENT WITH THE INTENT OF NUREG-0800.

#### **APPLICATIONS:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS AND CLASS 1, 2, AND 3 PIPE SUPPORTS.

CH86 1128

# **10. ASME CODE OF RECORD**

#### **PROPOSED CHANGE:**

TO STATE THAT ASME SECTION III, 1974 EDITION INCLUDING SUMMER 1974 ADDENDA SUBSECTIONS NC, ND, AND 1974 EDITION INCLUDING WINTER 1974 ADDENDA SUBSECTION NF IS THE ASME CODE EDITION OF RECORD.

### **REASON FOR CHANGE:**

TO CLARIFY THE CODE OF RECORD.

### **BASIS FOR CHANGE:**

NOT APPLICABLE

### **APPLICATIONS:**

ASME CODE CLASS 2 AND 3 PIPING SYSTEMS AND CLASS 1, 2, AND 3 PIPE SUPPORTS.

# ASME CODE EDITION PARAGRAPHS AND CODE CASES

- AS PERMITTED BY PARAGRAPH NA-1140 OF THE 1974 EDITION OF THE CODE, SPECIFIC PARAGRAPHS IN MORE RECENT EDITIONS AND ADDENDA OF THE ASME CODE HAVE BEEN INVOKED. THESE ARE SHOWN IN ATTACHMENT 1.
- ASME CODE CASES UTILIZED ARE SHOWN IN ATTACHMENT 2.

CH86-1130

### **ATTACHMENT 1**

ASME BOILER AND PRESSURE VESSEL CODE, SECTION III, DIVISION 1 NUCLEAR POWER PLANT COMPONENTS:

1974 EDITION — SUMMER 1974 ADDENDA SUBSECTION NB — FOR EVALUATION OF NOZZLE STIFFNESS, QUALIFICATION OF ELBOWS WITH BRANCH CONNECTIONS, AND FUNCTIONAL CAPABILITY.

1974 EDITION — WINTER 1976 ADDENDA PARAGRAPH NC-3113 — SERVICE CONDITIONS AND PARAGRAPH NC-3649 — FOR EVALUATION OF FLEXIBLE HOSE.

1977 EDITION — WINTER 1978 ADDENDA, APPENDIX 0 — FOR EVALUATION OF SAFETY RELIEF VALVES.

1977 EDITION — WINTER 1978 ADDENDA, PARAGRAPHS XVII-2211 AND NF-3226.5, NF-3321.1, AND FIGURES NF-3226.5-1 AND XVII-2211(c)-1.

1977 EDITION — WINTER 1979 ADDENDA, PARAGRAPH XVII-2454(c).

1980 EDITION, PARAGRAPHS NF-1131.6, NF-1133, AND XVII-2462.

1980 EDITION — WINTER 1982 ADDENDA, PARAGRAPHS NF-3225.1, NF-3225.2, NF-3324.5(A), NF-3324.6(A), AND TABLES NF-3225.2-1 AND NF-3324.5(D)(1)-1.

1983 EDITION, PARAGRAPH NC-3658.3 — FOR FLANGE QUALIFICATION, PARAGRAPH NC-3673 — FOR BRANCH CONNECTION QUALIFICATION.

1983 EDITION — SUMMER 1985 ADDENDA, PARAGRAPH NF-4721 — BOLT HOLES.

# **ATTACHMENT 2**

	LISTED IN	UTILIZATION
CODE	REG. GUIDES	<b>REQUIRED TO BE</b>
CASES	1.84 OR 1.85	SHOWN IN FSAR
N-71-9 (1644-9)	YES	NO
N-224	YES	NO
N-225	YES	NO
N-247	YES	NO
N-249-3	YES	NO
N-253-4 (NOTE)	NO	<u> </u>
N-318-2	YES	YES
N-392	YES	NO
N-397	YES	YES
N-411	YES	YES
N-413	YES	NO
N-1606-1	YES	NO
N-1724	YES	NO
N-1734	YES	NO

NOTE: REQUEST FOR SPECIFIC NRC APPROVAL IS IN PROCESS.

COMANCHE PEAK MEETING THURS AUG 28

NAME AFFILIATION Charles Trammell NRC Annette Vietti-Cak NRC VINCEN S. NOONAN NRC NRC DAVID TERAO NRC/NRR/ PWR-A/EB GOUTAM BAGEHI W. PAUL CHEN ETEC Adam Palmer CASE BOR DACILO TUGCO Alan CHAN SWEC ROU KLAUSE SWEC E.J. SISKIN SUEC L.D. NACE TUGCO. Peter J. Pleck. Heron Burchette Ruckert and Rothwell/Tex-La 605 Assocrates / TEA-LA, BRAZIS KAUN C. GARLENETIN John C. Finneran Jr. TUGCO LOUIS C.S. NIEH SWEC Leif Dietrich SWEL ELWYN EVANS SWEC Georg S. Mizuno NRC Hans Shar EB/PA/NRC Nail: ZHOIJG LAEA Fellow /NRC JACK REDDING TUGCO RLCA R.L. CLOUD L. J. CHANDLER NRC-OGC RHookway 1D. Landers Teledyne