

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards
US-APWR Subcommittee: Open Session

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Thursday, September 20, 2012

Work Order No.: NRC-1899

Pages 1-58

NEAL R. GROSS AND CO., INC.
Court Reporters and Transcribers
1323 Rhode Island Avenue, N.W.
Washington, D.C. 20005
(202) 234-4433

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

+ + + + +

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

+ + + + +

US-APWR SUBCOMMITTEE

+ + + + +

OPEN SESSION

+ + + + +

THURSDAY, SEPTEMBER 20, 2012

+ + + + +

ROCKVILLE, MARYLAND

+ + + + +

The Subcommittee met at the Nuclear
Regulatory Commission, Two White Flint North, Room
T2B1, 11545 Rockville Pike, at 8:30 a.m., John W.
Stetkar, Chairman, presiding.

COMMITTEE MEMBERS:

JOHN W. STETKAR, Chairman

J. SAM ARMIJO

DENNIS C. BLEY

CHARLES H. BROWN, JR.

JOY REMPE

WILLIAM J. SHACK

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

NRC STAFF PRESENT:

GIRIJA SHUKLA, Designated Federal Official

JEFF CIACCO

STEPHEN MONARQUE

AMY SNYDER

MIKE TAKACS

ALSO PRESENT:

JAY AMIN

RUSS BYWATER

TIM CLOUSER

JOHN CONLY

KENJI MASHIO

ROBERT REIBLE

DAN WOODLAN

* Present via telephone

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

T-A-B-L-E O-F C-O-N-T-E-N-T-S

Discussion of Comanche Peak Units 3 and 4
R-COLA, Chapter 13, Conduct of Operations
By Luminant Generation Company 6

Discussion of the SER for Comanche Peak
Units 3 and 4, R-COLA Chapter 13
By NRC Staff49

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

(8:31 a.m.)

CHAIR STETKAR: The meeting will now come to order. This is a meeting of the United States Advanced Pressurized Water Reactor Subcommittee. I am John Stetkar, chairman of this subcommittee meeting.

ACRS members in attendance are Dennis Bley, Sam Armijo, Bill Shack. I believe we will be joined by Charlie Brown and Joy Rempe. Mr. Girija Shukla of the ACRS staff is the designated federal official.

The subcommittee will discuss Chapter 13, Conduct of Operations and the staff safety evaluation associated with the Comanche Peak Combined License Application.

The committee will also receive briefings from the staff on the US-APWR advanced accumulator, and from MHI on the resolution of generic safety issue 191, Assessment of Debris Accumulation on PWR Sump Performance for the US-APWR design.

You will hear presentations from Mitsubishi Heavy Industries, Luminant Generation Company, and the NRC staff. We have received no written comments or requests for time to make oral statements from members of the public regarding

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 today's meeting.

2 The subcommittee will gather information,
3 analyze relevant issues and facts, and formulate
4 proposed positions and actions as appropriate for
5 deliberation by the full Committee.

6 The rules for participation in today's
7 meeting have been announced as part of the notice of
8 this meeting previously published in the Federal
9 Register.

10 Parts of this meeting may need to be
11 closed to the public to protect information
12 proprietary to MHI or other parties. I am asking the
13 NRC staff and the applicant to identify the need for
14 closing the meeting before we enter into such
15 discussions, and to verify that only people with a
16 required clearance and need to know are present.

17 We will close the afternoon session when
18 we discuss the advanced accumulator. If anything
19 arises during the morning session that is either
20 proprietary, or we need to close the meeting for
21 discussions, just let me know and we'll arrange that.

22 A transcript of this meeting is being kept
23 and will be made available as stated in the Federal
24 Register notice. Therefore, we request that
25 participants in the meeting use the microphones

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 located throughout the meeting room when addressing
2 the Subcommittee.

3 Participants should first identify
4 themselves and speak with sufficient clarity and
5 volume so they may be readily heard. A telephone
6 bridge line has also been established for this
7 meeting.

8 To preclude interruption of the meeting,
9 the phone will be placed in a listen-in mode during
10 the presentations and subcommittee discussions. I
11 believe also, that later this morning or this
12 afternoon, we may be joined on the bridge-line by Dr.
13 Sanjoy Banerjee.

14 Please silence your cell phones during the
15 meeting. We will now proceed with the meeting. And
16 I call upon Stephan Monarque to begin.

17 MR. MONARQUE: Okay, good morning. Thank
18 you, Chairman. My name is Stephan Monarque. I am the
19 lead project manager for the Comanche Peak COL
20 Application.

21 I wanted to thank the Committee members
22 for giving us the opportunity to present Chapter 13,
23 Safety Evaluation with Open Items to the Subcommittee
24 this morning.

25 Today we have presented six chapters to

1 the Subcommittee. And last week we had, of course,
2 full Committee meetings so we're making a lot of
3 progress. And with that, I'll have to introduce my
4 branch chief, Amy Snyder.

5 MS. SNYDER: Good morning. I am Amy
6 Snyder. It is a pleasure to be here today to present
7 to you Chapter 13 for Comanche Peak. To set the
8 stage, the purpose of Chapter 13 is to provide
9 adequate assurance that the COL applicant establishes
10 and maintains a plant staff of adequate size and
11 technical competencies.

12 And that operating plans, to be followed
13 by the licensee, are adequate to protect public health
14 and safety. We are prepared today to present our
15 Safety Evaluation with Open Items and answer your
16 questions. Thank you.

17 CHAIR STETKAR: Thank you very much. And
18 I guess the first presentation we will hear is from
19 Luminant. The chairs seem to be, ah, they're being
20 filled. Yes?

21 MEMBER REMPE: I had a question about the
22 agenda before they start, if that's acceptable.

23 CHAIR STETKAR: Yes, certainly.

24 MEMBER REMPE: I was just looking at it
25 and I notice that MHI will be presenting about GSI-191

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 but there is no compatible presentation from the
2 staff. And is that because the staff has not had time
3 to review that information? And when would we expect
4 to hear on that information?

5 CHAIR STETKAR: Yes?

6 MR. MONARQUE: We have someone joining,
7 Jeff in the back areas.

8 CHAIR STETKAR: There he is.

9 MR. CIACCO: Good morning. My name is
10 Jeff Ciacco. I am the lead project manager for the
11 US-APWR design certification. This morning's briefing
12 on the sump design, sump performance is going to be
13 given by Mitsubishi.

14 It is a status informational briefing on
15 where Mitsubishi is in its design of the US-APWR
16 design sump. NRC staff is in the review process, in
17 the Phase 2 review process.

18 We will be in attendance to answer any
19 questions. Staff has not completed its Safety
20 Evaluation Report. This is all a part of Chapter 6 of
21 the DCD so we haven't completed our Safety Evaluation
22 Report yet. And I think we're tentatively scheduled
23 to present Chapter 6 next year, early in the spring of
24 next year.

25 MEMBER REMPE: Okay.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. CIACCO: So it is just an information
2 briefing and we will be here to participate in
3 discussions and we'll have technical staff here as
4 well. But we haven't concluded yet our safety
5 evaluation. I think you will hear in the presentation
6 where Mitsubishi is in its design process.

7 MEMBER REMPE: Okay, thank you.

8 MR. CIACCO: You're welcome.

9 CHAIR STETKAR: Thanks, Jeff. Also, for
10 just general information and the record, the whole
11 issue of sump performance and long-term cooling is a
12 bit different between the staff and the ACRS. Because
13 we, as a Committee, obviously review each of the
14 chapters of the Safety Evaluation Report on the issue
15 of long-term cooling, sump performance, et cetera.

16 It is mostly covered in Chapter 6 of the
17 Safety Evaluation, with some partial coverage in
18 Chapter 15 in terms of accident analyses. That being
19 said, the ACRS has a separate tasking from the
20 Commission to write a separate letter on the viability
21 and safety implications of long-term cooling for each
22 new design certification.

23 So we have that separate task to address,
24 specifically, the issue of long-term cooling, outside
25 of the context of the Safety Evaluation Report breach

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 of the chapters in the design certification.

2 And that is another reason why we tend to
3 have some of these separate briefings on the status of
4 GSI-191 and some of the long-term cooling issues. And
5 thanks, Jeff, that helped. With that, I guess I will
6 turn it over to Don.

7 MR. WOODLAN: Good morning. I am Don
8 Woodlan. I am the licensing manager for Luminant for
9 the new build project, Comanche Peak Units 3 and 4.
10 On behalf of Luminant, it is a pleasure to be here
11 this morning and to continue this process.

12 We are here to discuss Chapter 13. And
13 this is going to be coordinated, this morning, by John
14 Conly. And also presenting will be Bob Reible, both
15 Luminant, John, help me out, you're the COLA project
16 manager?

17 MR. CONLY: Yes.

18 MR. WOODLAN: All right. I am going to
19 turn it over to John now.

20 MR. CONLY: Thank you, Don. Good morning.
21 My name is John Conly. I am the COLA project manager
22 for Luminant, Units 3 and 4. We will be presenting
23 Chapter 13 briefly, an introduction, a discussion of
24 site-specific information and followed by a short
25 summary.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 As far as introduction, the R-COLA uses
2 the incorporated by reference methodology, with which
3 you are all familiar. There are no departures from
4 the US-APWR DCD taken in FSAR Chapter 13. There are
5 no contentions pending before the ASLB.

6 Section 13.1 of the FSAR, Organization
7 Structure of the Applicant. General education and
8 experience requirements do meet the ANSI/ANS-3.1-1993.
9 Shift staffing meets NUREG-0737 TMI. And the reactor
10 operator and senior reactor operator candidates meet
11 ACAD 09-001.

12 CHAIR STETKAR: John, can I ask you,
13 you're not going to address specifics of the shift
14 staffing. But I noticed looking at your staffing, I
15 recognize that it meets NUREG-0737. And I have a
16 couple of questions.

17 As I understand it, the minimum shift
18 staffing is that for the two units you will have three
19 senior reactor operators, one of whom will be the
20 shift manager. Is that correct?

21 MR. CONLY: That is correct. And let me
22 ask Tim Clouser of Luminant to respond to specifics.

23 MR. CLOUSER: Yes, you're right so far.

24 CHAIR STETKAR: We have the right name.

25 MR. CLOUSER: And I am Tim Clouser.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 CHAIR STETKAR: Thanks. The shift manager
2 is shared between the two units, is that correct?

3 MR. CLOUSER: That is the minimum
4 requirement in practice. Our administrative
5 requirement will be to have a separate shift manager
6 for each unit.

7 CHAIR STETKAR: A separate shift, so you
8 will have four SROs?

9 MR. CLOUSER: That is correct.

10 CHAIR STETKAR: Okay. Good, thank you.
11 But that's the way you will do business but it's not
12 what you're committing to?

13 MR. CLOUSER: That's correct.

14 CHAIR STETKAR: I got it, okay. Also, the
15 commitment is you have two reactor operators for each
16 unit and I think I read that they are indeed dedicated
17 to the units.

18 MR. CLOUSER: That's correct.

19 CHAIR STETKAR: So how does Luminant
20 organize their reactor operators? Many plants, for
21 example, have electrical operators and mechanical
22 operators. So is one of your two reactor -- I'm
23 sorry, I was getting ahead of myself. You have two
24 reactor operators per unit in the control room,
25 they're licensed?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. CLOUSER: Right.

2 CHAIR STETKAR: And then you have two
3 nuclear equipment operators per unit. They are the
4 ones I actually wanted to ask you about. In many
5 plants, the nuclear equipment operators, the people
6 out in the plant, you have an electrical operator and
7 a number of mechanical operators.

8 Does Luminant organize your operation
9 skills that way, such that, of the two, one is
10 primarily electrical and the other one is primarily a
11 mechanical operator who turns valves?

12 MR. CLOUSER: No. We don't organize that
13 way. We typically organize by building, so components
14 that are associated with a given building, and this is
15 on Units 1 and 2. So for Units 1 and 2, we actually
16 have seven auxiliary operators, field operators for
17 two units.

18 And that is divided up by all the outside
19 equipment, the electrical equipment, the control
20 building where all the inverters, et cetera are, so
21 that would be like, also by the turbine building or
22 the balance of plant. And then by the primary side,
23 the NSSS systems.

24 So in Units 3 and 4, it will be largely
25 the same. Although, our minimum staffing is a little

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 bit lower because there is no requirement for safe-
2 shutdown operators in the field based on the design.

3 CHAIR STETKAR: The reason I am asking
4 about this, it's a two-unit site and I'm thinking
5 about events that may affect both units. And to me,
6 the committed staffing, quite honestly, looks really
7 thin for that.

8 Especially if one of your operators is
9 dedicated to only switching electrical things because
10 he is the electrical control building operator. And
11 you have one other operator running everywhere else in
12 the plant to turn all of the valves that need to be
13 turned. That's a difficult thing to do.

14 MR. CLOUSER: Right, and I don't disagree
15 with you at all. But again, this is minimum staffing.
16 Our administrative minimum levels are eight field
17 operators for two units.

18 CHAIR STETKAR: Okay. Let me just make
19 some notes. What about the shift technical advisor
20 that again, the commitment is to have one shift
21 technical advisor shared between the two units?

22 MR. CLOUSER: That is correct. That is
23 the commitment.

24 CHAIR STETKAR: And what is your
25 administrative position for the shift technical

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 advisor?

2 MR. CLOUSER: The administrative position
3 will likely remain one shift technical advisor.

4 CHAIR STETKAR: As it is for rad
5 protection technicians?

6 MR. CLOUSER: That is correct.

7 CHAIR STETKAR: Insects over in the corner
8 somewhere.

9 MEMBER BLEY: As we think about that, let
10 me just throw something in if I might. We've seen a
11 couple events, especially one, in recent times, where
12 people went to their minimums, rather than their usual
13 mode of operation, in preparation for upcoming outages
14 to have people dedicated to planning that work.

15 And then unfortunately, a significant
16 event has happened right in that window of time when
17 they are down at minimum staff and it has led to some
18 pretty significant difficulties. So I don't know
19 that, I expect that is something we want to talk about
20 a little bit more.

21 CHAIR STETKAR: Well, and the minimum
22 commitments are actually reduced if you have one unit
23 in shutdown, from even --

24 MEMBER BLEY: Well, this was approaching
25 at times of need. I don't know if does everywhere.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 But it led people to go down to their minimums a week
2 or two early. And unfortunately, that's right when
3 the difficult situations popped up.

4 CHAIR STETKAR: Well, I will just make
5 that note. I know from my experience, this was many
6 many years ago, and I don't like to tell old stories.

7 But we had a shared two units. And when
8 things happened on both units we were pretty thin.
9 And we had more staff. We had seven, similar staffing
10 to what you mentioned for Units 1 and 2.

11 MR. CLOUSER: Right.

12 CHAIR STETKAR: But even with that, times
13 got a little pressed if you had problems in both
14 units. And occasionally we did.

15 MR. CLOUSER: And just to be clear, we
16 actually, Units 1 and 2 will be the same way on Units
17 3 and 4. There is actually three levels of minimum
18 staff is to expect minimum, which we never get to.
19 There is a procedural minimum --

20 CHAIR STETKAR: We almost never got to it
21 too, almost never.

22 MR. CLOUSER: The procedural minimum, we
23 may occasionally get to. And then there is an
24 administrative, a normal operations staffing.

25 CHAIR STETKAR: Okay, thank you. And

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 since we're talking about staffing here a little bit,
2 how will you staff the fire brigade?

3 MR. CLOUSER: Currently the way we staff
4 the fire brigade on Unit 1 and 2, on our existing
5 units, is to use two equipment operators. One of
6 those being the fire brigade leader. Then we also use
7 I&C techs and some security officers to make up a
8 total of five people on the fire brigade.

9 Currently we are still evaluating how we
10 will do that on Unit 3 and 4. Because of the scale of
11 the additional units, it may be beneficial to go back
12 to a contract fire brigade, which is how we used to do
13 it on Unit 1 and 2 to keep that completely separate.

14 It will really depend on what we end up
15 with for staffing with the equipment operators and the
16 maintenance people, to see if we are going to have
17 adequate people to do these as fire brigade.

18 CHAIR STETKAR: Because there is a section
19 of the FSAR that does specifically state that the fire
20 brigade has five members.

21 MR. CLOUSER: Right.

22 CHAIR STETKAR: And in principle, they are
23 independent from other duties. So if you're pulling
24 operations folks off there, and you're down to your
25 minimum staffing, that could get really difficult in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 a fire.

2 MR. CLOUSER: And that's exactly why I
3 said we may end up with a contract. Because if we
4 have enough people in Unit 1 and 2 that we can
5 dedicate when the fire brigade is required, we can
6 dedicate those people to the fire brigade, without
7 any other incurred duties. We're not sure we will be
8 there with 3 and 4 so we may end up with contract.

9 CHAIR STETKAR: How do you do it on 1 and
10 2? Because as I read in the FSAR, it said that the
11 fire brigade members for a shift are designated in
12 accordance with established procedures at the
13 beginning of the shift. Does somebody just get
14 together and say, today you are on the fire brigade
15 and you're on the fire brigade or is --

16 MR. CLOUSER: Actually, it's --

17 CHAIR STETKAR: -- there a specific --

18 MR. CLOUSER: -- very similar to that.

19 CHAIR STETKAR: It is?

20 MR. CLOUSER: Yes, there is a field
21 supervisor who is, more of his responsibilities or her
22 responsibilities is to build the watch bill and to
23 make sure that all the safe-shutdown positions are
24 filled and the fire brigade positions are filled, that
25 the folks are qualified for those positions.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 And they don't have concurrent duties that
2 would keep them from performing those duties. So that
3 is done on a daily basis. So in other words, the
4 field operator may be assigned to the electrical
5 control building for their normal duties. But if a
6 fire comes up, then they are part of the fire brigade.

7 CHAIR STETKAR: And then you have nobody
8 doing switching?

9 MR. CLOUSER: No, but there is a safe-
10 shutdown operator that goes into his position as safe-
11 shutdown and does all the switching, et cetera. The
12 duties are transferred at that time. It sounds
13 complicated. It's not. It's something that is done
14 --

15 CHAIR STETKAR: Well, it does, you said
16 you also rely on security personnel. Does that mean
17 that everybody, essentially everybody onsite is fully
18 trained as a fire brigade member?

19 MR. CLOUSER: No. There are specific
20 officers that are trained for the fire brigade. And
21 that's coordinated again, before the shift, similarly
22 with the maintenance people.

23 There are specific maintenance people that
24 are trained and qualified on the fire brigade and
25 prior to the beginning of shift, and go out on the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 watch bill and stuff.

2 CHAIR STETKAR: Okay.

3 MEMBER BLEY: Before you leave that, since
4 you brought it up, I'm interested at the way you're
5 organized. If you do have a significant fire and have
6 to implement your fire procedure, does one of your two
7 ROs take that up as a dedicated activity, is managing
8 the fire procedure, from the control room?

9 MR. CLOUSER: I would have to say that it
10 depends. It depends on whether their current
11 activities are going on. That would normally be
12 something that the SRO would drive. However, if there
13 was a higher priority procedure or an accident
14 condition --

15 MALE PARTICIPANT: Can you speak closer to
16 the microphone, please?

17 MEMBER BLEY: Yes, if you were just
18 assuming the fire leads to a reactor trip and they are
19 in their emergency procedures in the control room.
20 And you're trying to implement the fire procedure at
21 the same time, who would take charge of the fire
22 personnel?

23 MR. CLOUSER: That would be the fire
24 brigade leader out in the field.

25 MEMBER BLEY: Okay, nobody in the control

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 room.

2 MR. CLOUSER: Right.

3 MEMBER BLEY: Okay.

4 CHAIR STETKAR: Anything more on kind of
5 on-shift staffing at that level? If not, continue,
6 please.

7 MR. CONLY: Thank you. This is the slide
8 depicting the nuclear generation organization. This
9 organization has been built based on the success and
10 lessons learned from many years operating Units 1 and
11 2.

12 As you can see, the executive vice
13 president, chief nuclear officer is in charge. He is
14 assisted by the site vice president, by nuclear
15 engineering and support, oversight and Reg Affairs.
16 We will discuss the site organization in the next
17 slide.

18 As you see, quality assurance is under the
19 vice president, nuclear Engineering and Support.
20 SAFETEAM is under Reg Affairs. Fairly standard
21 organization. Next?

22 The site organization under the site vice
23 president, as depicted here, plant manager,
24 performance improvement, plant support, and nuclear
25 training, with the individual subdivisions as shown.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 Again, based on 20 years of successful operation of
2 Units 1 and 2.

3 FSAR Section 13.2, Training. NEI 06-
4 13Alpha, Rev. 2, the template for the industry
5 training program description endorsed by the NRC is
6 incorporated by reference. FSAR Section 13.3,
7 Emergency Planning. Bob Reible will address this.

8 MR. REIBLE: Bob Reible from Luminant.
9 The emergency planning, the Units 3 and 4 are within
10 the Emergency Planning Zone for our operating units.
11 The EP draws heavily from the operating units from
12 Units 1 and 2, but is an independent plan. And the EP
13 plan reads both 10 CFR 50 and 52 requirements.

14 MEMBER BROWN: Before you go on, I wanted
15 to ask, because I don't know which section is going to
16 be covered, if it is going to covered at all, would be
17 the cyber security.

18 MR. WOODLAN: We do have a follow-up slide
19 if you want to wait until we get to that.

20 MEMBER BROWN: Was that later in this --

21 MR. WOODLAN: In this presentation, yes.

22 MEMBER BROWN: Okay, fine.

23 MR. WOODLAN: Okay.

24 MEMBER BROWN: Is it follow-up or one of
25 the main ones --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. WOODLAN: It's one of the main ones.

2 MEMBER BROWN: Okay, I didn't --

3 MR. WOODLAN: Just a couple more slides.

4 MEMBER BROWN: I didn't see the magic
5 words in there, I don't think. So either that or I am
6 blind right now.

7 MR. WOODLAN: We may have left off the
8 magic words.

9 MEMBER BROWN: Okay, thank you.

10 MR. CONLY: FSAR Section 13.4, Operational
11 Program Implementation. Table 13.4-201 identifies
12 implementation of operational programs, which are
13 fully described in the FSAR. There is a single
14 proposed license condition for the implementation of
15 operational programs that are implemented by means of
16 a license condition.

17 13.5, Plant Procedures. The
18 administrative controls are consistent with Reg Guide
19 1.33, Rev. 2. Computer-based procedures meet NUREG-
20 0700, 0711, 0899, and DNIC-ISG-04 and are backed up by
21 paper-based procedures.

22 CHAIR STETKAR: John?

23 MR. CONLY: Yes?

24 CHAIR STETKAR: Who will develop the
25 Emergency Operating Procedures? Is MHI developing

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 those for you and you're just checking revisions for
2 any plant specific, site-specific features? Or will
3 you actually be writing the procedures?

4 MR. CONLY: And let me again, ask Tim
5 Clouser to address that specifically.

6 MR. CLOUSER: Again, I am Tim Clouser.
7 MHI is writing the ERGs and it will be almost exactly
8 as you describe, that would be a generic, where we
9 will essentially just add that information, and use
10 those as our Emergency Operating Procedures.

11 CHAIR STETKAR: Because again, it is not
12 our role here at the ACRS to become overly involved in
13 the administrative issues. But in some cases, you
14 will look at schedules and things and you wonder
15 whether adequate time has been provided for a good
16 review.

17 And in particular, in the FSAR, I noted
18 that the procedure, what you call your procedure
19 generation package, which essentially includes
20 Luminant's version of all of, as I understand it
21 anyway, all of the technical background.

22 The description of the program, for V&V of
23 the Emergency Operating Procedures and so forth, will
24 be delivered to the NRC three months prior to
25 commencing formal operator training on the EOPs, three

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 months.

2 Operator training is scheduled to begin 18
3 months prior to fuel load, as I understand it. This
4 means that the NRC staff will first see any
5 information about the technical bases for the EOPs for
6 this plant under, my opinion, a very very tight
7 schedule.

8 Because if they discover any questions
9 that they want to raise about the EOPs or the V&V,
10 it's going to have a direct affect on your operator
11 training program, which is already fairly tight.
12 Eighteen months is not an awfully long time to bring
13 a new group of operators up to speed on a plant.

14 MR. CLOUSER: And I can answer part of
15 your question. I'll let MNES answer the rest of it.
16 Our actual plan for operator training is that we will
17 commence that process four years and nine months
18 before fuel load in the first unit, so significantly
19 longer than the commitment.

20 CHAIR STETKAR: Than what you committed
21 to.

22 MR. CLOUSER: And the ERGs are largely
23 done and I'll let MNES verify that. And I have had
24 the opportunity to review them and I get quarterly
25 updates on exactly where they are at with that. So

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 that said, let me turn it back over, who can give you
2 some details on when they will be available to the
3 NRC, et cetera.

4 MEMBER BLEY: Before you give it to them,
5 have you had any of your own operators involved in
6 that development process to date?

7 MR. CLOUSER: The only way that I have
8 been involved, I was previously licensed at Comanche
9 Peak Units 1 and 2. So I have been involved in
10 overseeing the development of the ERGs.

11 We have used some of those procedures with
12 some currently licensed operators on Unit 1 and 2, at
13 the simulator in Pittsburgh. So they have seen some
14 early development. They've actually seen some similar
15 simulator.

16 MEMBER BLEY: All right, thanks.

17 MR. CLOUSER: Did you want to, maybe
18 restate the rest of the question? When the NRC is
19 going to get the --

20 CHAIR STETKAR: Well, my fundamental
21 concern is, if I look at the commitments and I
22 recognize that there are other plans in the
23 background, but the only thing I see are the
24 commitments.

25 MR. CLOUSER: Right.

1 CHAIR STETKAR: The concern is that if
2 there are elements of the Emergency Operating
3 Procedures, or more importantly their technical basis
4 documents, or part of the V&V plan for human factors
5 engineering and so forth, that could have a
6 fundamental affect on how the procedures are
7 developed, or certain strategies within those
8 procedures, for particular plant conditions.

9 The NRC does not have, at least according
10 to the committed schedule, a very long time to examine
11 that documentation before again, according to the
12 committed schedule, the operators will begin training
13 on those procedures.

14 And it seems to be an awful lot of time
15 pressure on the staff, if that is indeed the schedule
16 that they will receive the information. So again,
17 it's not the ACRS's role to speak too much in terms of
18 administrative issues or timing.

19 But if there is some implication that the
20 timing could affect the quality of the procedures, oo
21 the quality of the staff's review of the procedures,
22 or the technical basis documents for those procedures,
23 that is an area I think we're interested.

24 So in terms of MNES, I don't know if you
25 would like to have them add something about the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 schedule or the timing of their development.

2 MR. CLOUSER: Go ahead.

3 MR. BYWATER: My name is Russ Bywater from
4 MNES. And for that kind of question, Mr. Kenji
5 Mashio, would you be able to discuss some of the
6 development, staffs or schedule?

7 MR. MASHIO: This is Kenji Mashio with
8 MNES.

9 MR. CLOUSER: It's on, you're okay.

10 MR. MASHIO: We do look at V&V. And this
11 information describes not only the process of our
12 procedure but also how to verify project procedure,
13 inquiry that EOP.

14 And this describe the process of the
15 schedule issue which, based on the engineering
16 procurement contract action, we set a date, then we
17 back-up those schedule to reach a maximum. So that
18 means scheduling issue depends on that.

19 CHAIR STETKAR: Thank you. I come back to
20 this concern, that Emergency Operating Procedures, I
21 think, we're finding are an important part of plant
22 life.

23 And certainly one would expect that the
24 Emergency Operating Procedures would be fully verified
25 and validated with respect to any human factors

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 engineering concerns, man/machine interface,
2 procedural flow, et cetera long before three months
3 before the operators start training on the EOPs.

4 Now you might start training the
5 operators, whatever you said, four years and nine
6 months before hand but some of that training is, this
7 is a pump, this is a valve, electricity flows from
8 positive to negative, that sort of stuff.

9 Training on the Emergency Operating
10 Procedures may come along later in the training
11 program, once the control room staff, licensed ROs and
12 SROs, become a little more proficient on the design
13 and actual systems and things like that.

14 So indeed, the EOPs might be later in that
15 whole training schedule anyway by natural flow. But
16 it strikes me that a lot of that work, about
17 verification and validation of the procedures, and the
18 human factors engineering of the procedures and their
19 interface, needs to be well before this committed time
20 schedule.

21 On the other hand, if you just stick to
22 the commitment and say, now see our commitment says
23 here we are, three months before the time that our
24 time-line says we are going to train our operators, it
25 really doesn't leave people an awful lot of time to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 think about how well those procedures might or might
2 not work.

3 I'll just leave that. I think we have
4 belabored it enough. As I said, we don't get involved
5 in timing but it is a bit of a concern. And I will
6 just leave it there. Dennis, do you have anything
7 else? Thanks.

8 MEMBER BLEY: I agree with you.

9 CHAIR STETKAR: One of the reasons I bring
10 this up, by the way, we had a question, I think MHI,
11 and MNES, and Luminant will find out that we don't
12 forget because we write things down.

13 Back in one of our discussions about, one
14 of the other chapters had a question about how are you
15 going to organize your strategies for cool-down under
16 station blackout situations.

17 Because it's not at all clear your
18 batteries, your two-hour batteries can handle the
19 cool-down cycling, the steam relief valves. So what
20 are you going to tell the operators to do?

21 And the answer is well, we will need to
22 develop that in the Emergency Operating Procedures
23 when we get a little more information. Well, some of
24 those decisions will need to be made at some time and
25 they could have real safety implications. Thank you.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. WOODLAN: Are you ready to move on?

2 CHAIR STETKAR: Yes.

3 MR. WOODLAN: Sorry.

4 MR. REIBLE: Section 13.6, Security. The
5 CP 3 and 4 security plan is based on the NEI 03-12,
6 Rev. 6 template. The security plan includes the
7 physical security, training, qualifications plan, and
8 the safeguards contingency plan.

9 The R-COLA IBRs, the DCD vital equipment
10 list, and the R-COLA defensive strategies are
11 demonstrated in the DCD Appendix A to their high-
12 assurance evaluation technical report. Section 13.7,
13 Fitness for Duty --

14 MEMBER BROWN: Did you all just pass the
15 part --

16 CHAIR STETKAR: No, no, we have two more
17 slides.

18 MR. REIBLE: Well, 13.7, Fitness for Duty.
19 There is going to be two-phase implementation of the
20 fitness for duty construction and an operational
21 program.

22 The construction fitness for duty plan is
23 based on NEI 06-06, Rev. 5, FFD program guidance, and
24 the CPNPP uses an offsite contractor for licensed
25 testing facility. You do not have an onsite licensed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 testing facility.

2 Section 13.8, Cyber Security. Cyber
3 security for CP 3 and 4 incorporates the guidance of
4 Reg Guide 5.71 and Appendices A, B, and C. It uses
5 the template with no deviations and exceptions. The
6 BOP SSCs are also included in the template from the
7 SRM.

8 And the one difference from the template
9 is organizational difference of having our cyber
10 security report up to our engineering versus our
11 security organization.

12 MEMBER BROWN: Okay, is it not turned on?

13 CHAIR STETKAR: Charlie, do you have a
14 question?

15 MEMBER BROWN: I brought this up, I think
16 it has been a couple years ago when we looked at the
17 DCD Chapter 13. My memory fails me a little bit on
18 that. And I brought it up at that time. If you
19 looked at the DCD that was issued it had three -- now,
20 I lost my place. That's not too cool. I'll give it
21 back.

22 CHAIR STETKAR: I had a question so I'll
23 give you --

24 MEMBER BROWN: I'm ready.

25 CHAIR STETKAR: -- so you can find --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MEMBER BROWN: I'm ready.

2 CHAIR STETKAR: Did you find it?

3 MEMBER BROWN: Yes, I'm ready. Anyways
4 the DCD goes through and in Section, I don't know,
5 13.3, it talks, as the following countermeasures are
6 applied to prevent cyber security threats.

7 And it says they were going to have one-
8 way communication links, doesn't talk about RG 5.71.
9 I acknowledge everything you say in here but that's
10 not arguing about that.

11 There are three specific items in there
12 where it talked about communication, if you look at
13 the architecture, which we haven't seen yet for
14 Chapter 7, and what the buses and although, there is
15 a picture in Chapter 7, which I have looked at.

16 It says communication from the unit
17 management computer, which is outside, to the station
18 bus is restricted to one direction. Supposedly it's
19 from a plant out to the outside world.

20 But it says dedicated transmission
21 protocols is used, which is not general purpose, such
22 as transmission control protocol, TCPIP. In other
23 words, datagram protocols, et cetera. That is a
24 software-based methodology of one-way communication.

25 Another part talks about, if you have a

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 firewall, it's an adequate gateway processor-type with
2 a firewall function which again, is a software-based
3 firewall.

4 And then it talks, in the last bullet,
5 about the firewall program currently used, is a 128-
6 bit code key. It's safer than the data encryption
7 standard code and all this other kind of good stuff.
8 Again, that's a software-based firewall.

9 And the real issue is the use of software
10 in order to provide the one-way direction
11 restrictions, as opposed to a hardware diode. And if
12 you go look at your COL, you don't address that. You
13 just say you will submit the safety plan.

14 And the safety plan has been submitted.
15 And there is an SER and the staff doesn't really
16 address that, other than to say you have done what you
17 have said. They reviewed your safety. I guess they
18 are going to talk about that later in their SER.

19 So I'm still struck by the absence of any
20 real strict hardware architecture that is going to
21 guarantee that there will be no external access into
22 this plant. There is nothing that illustrates how
23 that will be accomplished.

24 I brought this up before. You are not the
25 first to have this question asked. And I guess when

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 we get to Chapter 7, I will be expecting to see some
2 type of more definition in the designing which does
3 not, even though the DCD says it, allow a software
4 that somebody can come in and hack through.

5 And all of a sudden say hey, look, now I
6 am going to go the other way, not because I am going
7 to change the protocol restrictions.

8 And it's going to be very very hard to
9 convince, and I know what the vendors are going to
10 say, oh, we have this marvelous algorithm that we have
11 developed, which actually is absolutely impervious to
12 anybody ever hacking in.

13 And I would like to see, if they are that
14 good, they ought to go talk to the DoD and maybe they
15 should give the Pentagon some help at keeping their
16 computers from being hacked, which they are fighting
17 on a daily basis.

18 CHAIR STETKAR: That's right.

19 MEMBER BROWN: With limited success, by
20 the way. Those firewalls area breached and they are
21 reported, unfortunately, the rest of us to know that.
22 So this is really not, right now, there is little, if
23 any, definition.

24 And in order to really feel comfortable
25 and be able to, at least from my standpoint, I can't

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 speak for the Committee as a whole, to pony-up and
2 agree with the approach being taken, I really need to
3 see a good hardware diode-based interface between the
4 plant, at station bus, and all external
5 communications.

6 One of the difficulties I noticed in the
7 one limited diagram you had, the overall big diagram,
8 the EOF is connected outside. It doesn't connect
9 directly off the other buses, it looks like it is fed
10 separately.

11 And I will be asking that question when we
12 get to Chapter 7. But whereas, the TFC and MCR main
13 control room come off of the internal parts of it. So
14 anyway, just wanted to give you a heads up.

15 What you have got in here is what you've
16 got in here. But it is largely procedural. When you
17 follow Reg Guide 5.1 it does give a preference for
18 data diodes. In other words, one-way hardware.

19 And then it provides in one section, well,
20 if you don't do that here is a list of, I don't know,
21 27 things or something like that, and that you have to
22 have really fancy this and fancy that and whatever.

23 And it's unfortunate that it is in there.
24 I didn't realize it when we agreed with that. But
25 that is just a heads up, on letting you all know now

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 for when and if we ever get to Chapter 7.

2 CHAIR STETKAR: A lot of this is Chapter
3 7. And a lot of it is design certification, Chapter
4 7.

5 MEMBER BROWN: And DCD, Chapter 7.

6 CHAIR STETKAR: But there is that
7 interface. You will establish your Emergency
8 Operating Facility and I guess be responsible for the
9 communications between the internal part of the plant
10 and that facility. And I actually, Charlie, I
11 struggle, I don't know how that interface is made in
12 practice.

13 MEMBER BROWN: Totally --

14 CHAIR STETKAR: Now I understand the
15 programs. I understand MHI's part of the certified
16 design. But where that design interconnects with the
17 semi-outside world and the outside world, I'm not sure
18 where does that responsibility lay.

19 And if it is Chapter 7, fine, we'll
20 address it in Chapter 7, certainly with MHI for the
21 certified design, but to the extent that we need to
22 understand those interfaces with Luminant because you
23 will ultimately be responsible for making those
24 connections.

25 MR. WOODLAN: I think we understand the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 issue. I think he explained it quite well. It does
2 sound to me like a Chapter 7 and I don't know, we
3 should take as a heads up --

4 CHAIR STETKAR: Yes.

5 MR. WOODLAN: -- for Chapter 7. But had
6 our the audience, so is this something we can add to
7 today? Or is this just wait until Chapter 7?

8 MR. REIBLE: I can add some things --

9 MR. WOODLAN: Come over to the mike.

10 CHAIR STETKAR: Okay. I don't want to get
11 too far off topic. You need to come up to a
12 microphone and identify yourself. But I don't want to
13 get too far off into the Chapter 7 area --

14 MR. WOODLAN: Okay.

15 CHAIR STETKAR: -- because we will have a
16 meeting, I'm confident, at some time. I'm not
17 confident this year. At some time, I am confident
18 that we will have a meeting.

19 MR. WOODLAN: Just to summarize before Jay
20 responds. Basically, the question is, we appear to be
21 relying mostly on software.

22 MEMBER BROWN: Totally on software.

23 MR. WOODLAN: Totally on software, why
24 have we not considered, and will we consider using
25 hardware to ensure that it is only one-way

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 communications?

2 MEMBER BROWN: Literally that you have to
3 take a module out of some cabinet somewhere and put
4 another two-way or reverse, it's very hard to do. I
5 can look at it that way.

6 MR. AMIN: Okay, my name is Jay Amin and
7 I am the plant cyber security and digital programs
8 manger at Comanche Peak for operating as well as the
9 new bills.

10 Your question, Charlie, was valid. The
11 current architecture and the MNES cyber security plan
12 has the same defense in that five-layer approach that
13 we have for the operating plant.

14 But the plant I&C is isolated via data
15 diodes, actually two of them that goes from the unit
16 bus to the station bus, that is one diode. So that
17 isolates the plant completely.

18 And so the EOF, the ERGs, and all that is
19 another layer, level three, and that is also isolated
20 via data diode from the so-called business LAN or
21 business applications. So these physical hardware-
22 based data diode that provides logical and physical
23 isolation.

24 MEMBER BROWN: That is in your existing
25 plants, correct?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. AMIN: Yes.

2 CHAIR STETKAR: What I want to be careful
3 about here is we need to be a bit cautious about
4 details of design, when we talk about cyber security.
5 This is for Units 1 and 2.

6 And I think we ought to be a little
7 careful about not continuing too much discussion about
8 design details in this open session. If we want to
9 close it and talk and obviously it is up to Luminant
10 because it is your site. I will just raise that
11 question.

12 MEMBER BROWN: Okay, I would argue that
13 the architecture, that part, I'm --

14 CHAIR STETKAR: Architecture is one thing.
15 But if you talk about details --

16 MEMBER BROWN: Well, he's talking about --

17 CHAIR STETKAR: -- of how it is
18 implemented.

19 MEMBER BROWN: If you looked at the DCD it
20 literally says, the comprehensive physical security
21 program, and if you read the next few lines down,
22 cyber security plan, are the responsibility of the COL
23 applicant.

24 So regardless of what it says in the DCD,
25 that doesn't mean that as part of your COL

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 presentation, relative to the Chapter 7 architecture,
2 doesn't mean you can't provide the illumination of how
3 that is going to be done so that it is literally
4 impervious and is impervious to software.

5 In other words, it does not rely on
6 software. Every time you put a processor in that data
7 exchange process, it's just like putting a pipeline
8 from the outside into the inside plant.

9 And if you look at the way those are
10 constructed, and it's not peculiar to you,
11 particularly, once you get into that station bus, you
12 can mess with all of the stuff in the main control
13 room and everything else. You have access, smart
14 people will do that. So I will leave it at that and
15 we will --

16 CHAIR STETKAR: We will pick it up in
17 Chapter 7.

18 MEMBER BROWN: -- pick it up in Chapter 7.
19 Thank you very much for your --

20 CHAIR STETKAR: Chapter 7, we have a
21 little bit more flexibility because there will be more
22 discussion of details.

23 MR. WOODLAN: And probably in closed
24 session like you suggested.

25 CHAIR STETKAR: Right, yes. I'm just a

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 little bit, we can talk about programmatic issues in
2 an open session. But if we start to talk about too
3 much details of design specifics, I get a bit
4 concerned.

5 MEMBER BROWN: My chairman is trying to
6 constrain me right here since I am so passionate and
7 enthusiastic. And figures illustrating this, when you
8 get to the, whether it is the COL part of it, or
9 whether it is the DCD part of it, illustrate what
10 those are and call that out.

11 Because if it is in the DCD, then it
12 becomes part of the licensing basis. And you want
13 some of these smart guys, when they're building this
14 stuff four years from now, that is a big concern.

15 And say oh, man, we've have come up with
16 this great algorithm. And nobody is going to be able
17 to decipher that thing that it is safe. Thank you
18 very much for being patient, John.

19 CHAIR STETKAR: Thank you, sir. Enjoy
20 your comments.

21 MEMBER BROWN: Sorry for phone.

22 CHAIR STETKAR: That's okay.

23 MEMBER BROWN: I forgot to mute my phone
24 when I came in. I apologize for that.

25 CHAIR STETKAR: That's all right. You owe

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 me. I had another question regarding cyber security.
2 And I am not sure where this is in the interface. But
3 I noted in the SER it says, in its response to RAI
4 6.013 dated September 16th, 2011, Luminant revised its
5 cyber security plan to include the following
6 paragraph.

7 Within the scope of the NRC's cyber
8 security rule at 10 CFR 73.54, systems or equipment
9 that perform important safety functions include
10 structure systems and components in the balance of
11 plant, that could directly or indirectly affect
12 reactivity in a nuclear power plant, and could result
13 in an unplanned reactor shutdown or transient.

14 What that means is that you have committed
15 to extend the cyber security plan to include SSCs that
16 are "important to safety," out in the balance of
17 plant, non-safety related equipment.

18 Who determines and how is it determined
19 what that complement of SSCs, that are important to
20 safety, is? And when is it determined? Because this
21 could be an important issue.

22 MR. REIBLE: I think that --

23 CHAIR STETKAR: Because you have made the
24 commitment to include that.

25 MR. REIBLE: Right.

1 CHAIR STETKAR: And the architecture of
2 how you protect that information --

3 MR. REIBLE: Right, and I would like to --

4 CHAIR STETKAR: -- depends on what the
5 scope of it is.

6 MR. REIBLE: -- call on Jay Amin, our SME
7 for cyber security code at Comanche Peak.

8 MR. AMIN: Okay, to answer your question,
9 you are referring to the FERC 706-B order that the
10 NRC, now ends up regulating the balance of plant
11 equipment, the other reactivity excursion which
12 results due to any interruption in power, whether it's
13 a full plant trip or reduction.

14 So what would happen there is the defense
15 in-depth philosophies would be similar. Because it is
16 a plant system, it will all be within the same layers,
17 provided, afforded the same protection of Reg Guide
18 5.71, across the board applies to those activity of
19 power assets and would be treated as such.

20 When the BOP designs get finalized, those
21 CDAs, when I say finalized or meaning in early design
22 phases, they would have to be identified. Because the
23 way we work at Comanche Peak is that we want to make
24 sure that many of the technical security controls,
25 that are required, are implemented as much as part of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 the original equipment that it is going to support.

2 So that's how we would evolve and
3 characterize the CDAs within the plant. I hope that
4 answers the question.

5 MR. WOODLAN: Well, let my try some words,
6 Jay, and then you correct me if I am wrong.

7 MR. AMIN: Okay.

8 MR. WOODLAN: First of all, who is
9 responsible? It will be Luminant.

10 MR. AMIN: It will be.

11 MR. WOODLAN: But since it will include
12 both plant-specific designed NSSS, we would be working
13 with Mitsubishi in a joint effort, I'm sure.

14 MR. AMIN: Right.

15 MR. WOODLAN: The exact criteria that we
16 are going to use, we don't have that laid out yet.
17 But it will be based on the words that you just read
18 about scenarios that could lead to changes in
19 reactivity control.

20 CHAIR STETKAR: What I am interested in,
21 Don, is these words, important to safety, get tossed
22 around a lot in a various parts of design
23 certification and the COLA.

24 And I am a bit concerned that they're
25 going to be perhaps misinterpreted in different places

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 or create an infrastructure that is so complex because
2 for one part of, either the certified design, or your
3 security plan, or operating procedures, this
4 particular component is considered important to safety
5 for those features. But it is not considered
6 important to safety for some other features. And
7 that's a bit of my concern.

8 And from what I am hearing, the
9 interpretation of important to safety for the purposes
10 of this narrowly defined reactivity transient
11 function, under the cyber security plan, might be
12 different than important to safety, for example, for
13 the maintenance rule, or the design reliability
14 assurance program or other programs that are finally
15 implemented at the site.

16 And that's a bit disconcerting because we
17 ought to understand what is important to safety and
18 what is not important to safety. And have programs
19 and procedures in place to ensure that we protect, and
20 maintain, and operate the important safety equipment
21 accordingly. And that's the reason I asked that
22 question.

23 MR. WOODLAN: Yes, I agree with your
24 comments. We got into this a little bit the last time
25 when we talked GDC-5.

1 CHAIR STETKAR: And you're going to hear
2 it again.

3 MR. WOODLAN: And from a licensing
4 manager's point of view, we recognize the ambiguity
5 when you're talking important to safety. For the
6 newer plants, there is almost an overlay between
7 safety-related and important to safety but there are
8 some things that are important to safety that are not,
9 it's not like the older plants where there was a lot
10 of difference.

11 CHAIR STETKAR: Not the DRAP list, which
12 is --

13 MR. WOODLAN: Yes.

14 CHAIR STETKAR: -- populated by important
15 to safety equipment.

16 MR. WOODLAN: I believe what it comes down
17 to and this is talking broadly now, not just limiting
18 to cyber security. Where that becomes important is
19 when the programs are developed. And we don't task
20 the operators or the people in the field to determine,
21 is something important to safety.

22 CHAIR STETKAR: Right, sure.

23 MR. WOODLAN: That is done up front when
24 the program is developed. So here, in the case of
25 cyber security, when we develop the program we will

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 identify the components that this applies to.

2 And then so as far as implementation they
3 have a list of components. Same thing is true with
4 the maintenance rule. Same thing is true with GDC-5.
5 That will all be defined at that level. And that is
6 where we will struggle and try to deal with that
7 definition.

8 CHAIR STETKAR: Well, struggle is a bit
9 what I am concerned about. Because obviously there
10 needs to be discussion between Luminant, and MNES, and
11 MHI I guess, because determination that a particular
12 component, let's say in the turbine building, is
13 "important to safety," has implications about
14 procedure development. I'll grant you, that is one
15 issue.

16 But how that particular piece of
17 equipment, if it's got local indications of feedback
18 circuits that communicate through an open bus network,
19 back into the plant, how that information is protected
20 can be important in terms of the design of real
21 systems, Charlie's issues.

22 MR. WOODLAN: Yes.

23 CHAIR STETKAR: So early on identification
24 that that piece of equipment is important to safety
25 can have real design implications in terms of how

1 people design this hardware, I won't say software, and
2 also programs, to provide appropriate cyber security
3 protection in terms of communications from that
4 particular piece of equipment.

5 And that's not just a procedure related
6 issue. That isn't just putting something in the
7 maintenance rule again, or a different reliability
8 assurance program. So that's why I am a bit concerned
9 about how that will really work and when those
10 determinations will be made. They can't be made at
11 the eleventh hour.

12 MR. WOODLAN: Agreed.

13 CHAIR STETKAR: Anything that can affect
14 the fundamental design can't be made at the eleventh
15 hour. So I'll just leave that on the table. But I
16 think we would be interested to hear more about that.
17 And that's not particularly a Chapter 7 issue.

18 MR. WOODLAN: No.

19 CHAIR STETKAR: That's more of an
20 integration of the transition from the certified
21 design into something that you own and operate.
22 Anything more on cyber security? Next?

23 MR. CONLY: In summary --

24 CHAIR STETKAR: Didn't think it was going
25 to be this long, did you?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 MR. CONLY: The COL information items
2 specified in the US-APWR DCD are addressed in the
3 Comanche Peak FSAR for Units 3 and 4. And the FSAR
4 takes no departures from the US-APWR DCD. Are there
5 any other further questions?

6 CHAIR STETKAR: Anything else from any of
7 the members? If not, thank you. We appreciate it
8 very much. And I guess we will hear from the staff.

9 MR. TAKACS: Good morning, Chairman
10 Stetkar and Subcommittee members. My name is Mike
11 Takacs. I am the chapter PM for this chapter, Conduct
12 of Operations, Chapter 13. And I am going to provide
13 you with the overview of the Safety Evaluation with
14 Open Items.

15 MEMBER BROWN: Can I make one observation
16 before, and this is back on the cyber security of
17 Luminant. One of my concerns -- one of my concerns
18 when I read the DCD was, and I didn't know how
19 Luminant would respond to this, was that -- that's not
20 a negative comment -- from a technical standpoint, was
21 that it was pretty specific in terms of what was
22 called out for providing the isolation. It was all
23 software-based.

24 It did not talk about data diodes or
25 anything like that, as RG 5.71 does in its guidance.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 One of the reasons for bringing the issue up and the
2 point was, and I didn't see anything in the COL that
3 modified it, like you did for some of the other
4 licensing items that were in Chapter 13.

5 So I was hoping you weren't saying oh,
6 gee, we're prohibited from doing something smarter,
7 and easier, and less management falforal we would have
8 to go through by using actual hardware one-way
9 restrictions as opposed to a software-based.

10 So I was worried about a restriction from
11 the DCD becoming a licensing basis item without having
12 any comment on it, relative to hey, we're going to do
13 something, we might do something different, or we
14 whatever, just in that context. So that was part of
15 the thought process. And I'm complete with that.
16 John, thank you very much for your patience again.

17 CHAIR STETKAR: Thanks. Mike?

18 MR. TAKACS: Okay. As was pointed out
19 earlier, Steve Monarque is the lead project manager.
20 And on this slide I list the technical reviewing
21 staff, from NRC, that are supporting this chapter.

22 Okay, as far as the Safety Evaluation with
23 Open Items, back in December 22nd of 2011 we provided
24 the Safety Evaluation with Open Items for Chapter 13,
25 Conduct of Ops. At the time, you will notice, there

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 are eight subsections, we know, for Chapter 13.

2 Two sections are not submitted for this
3 safety evaluation. And those are 13.6, Physical
4 Security, and 13.7, Fitness for Duty. The snapshot in
5 time back then was those reviews were ongoing and had
6 not been completed. So in the safety evaluation they
7 are listed as two open items. And that information is
8 briefly expressed in this safety evaluation.

9 There is one additional open item. It is
10 a generic open item and that talks about again, at the
11 time of this review of the R-COLAs, the DCD, the IBR
12 US-APWR had not been completed. It was close to
13 completion.

14 But we have a generic open item throughout
15 the SE that states the review of the DCD is not yet
16 done. So those are the three open items listed in the
17 SE.

18 The one item of particular interest here,
19 for this presentation, is the one with emergency
20 planning. And I am going to go into that information
21 momentarily.

22 We provided this safety evaluation in
23 December 22nd of 2011. The following day, the
24 revision to the emergency planning rules, December
25 23rd, took effect. So I will just give a high-level

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 account of what we're heading towards from there.

2 This slide just captures the fact, the two
3 sections that were currently under review, one point,
4 physical security, we generally don't present at the
5 meeting. However, we provide the full package of
6 eight subsections for the next meeting.

7 Okay. As I mentioned, the emergency
8 planning rules were revised, enhanced and the Federal
9 Register notice was issued November 23rd. It became
10 effective December 23rd.

11 The path forward now for both, first for
12 Luminant now, they are going to submit revised two
13 parts to their COLA, Part 2, the FSAR which contains
14 the Chapter 13 emergency planning information, and
15 Part 5, the comprehensive emergency plans of the COLA
16 as well. And that will address the revised enhanced
17 rules. And they will do that in March, March of this
18 year is the plan.

19 As far as the staff here, at the NRC, NSIR
20 will do the review and they will update their SE based
21 on the revised documents. They also have now an
22 internal document recently published, for their
23 internal use, to help them do that review of the
24 Interim Staff Guidance 01 for NSIR. Questions?

25 MEMBER BROWN: I don't need to repeat

1 myself. I think he was sitting here for the last part
2 of the presentation.

3 CHAIR STETKAR: Anything else, from any of
4 the members?

5 MEMBER BROWN: Other than the expected
6 staff report.

7 CHAIR STETKAR: If not, do we have anybody
8 on the bridge-line? Stephen, did you want to say
9 something?

10 MR. MONARQUE: I wanted to review the
11 action items. But I will wait until you've concluded.

12 CHAIR STETKAR: Okay. Let me just ask
13 first, if we have any comments from the public, anyone
14 in the room?

15 It is open? If someone is out there, can
16 you just say something so that we can confirm that the
17 bridge-line is open, if you're listening in. It just
18 helps us confirm that the line is open. Okay, hearing
19 nothing. You said it is open for --

20 MR. SHUKLA: Yes.

21 CHAIR STETKAR: -- incoming?

22 MR. SHUKLA: Yes.

23 CHAIR STETKAR: I would like to open the
24 bridge-line so that if there is a member of the
25 public, who would like to make a comment regarding to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 this, that person can make that comment. We'll wait
2 for that. Stephen, in the interim --

3 MR. MONARQUE: Okay. I have, I guess,
4 several concerns expressed by the staff. And I wanted
5 to go over them to make sure I understood them
6 correctly. One was a concern about being minimum
7 staffing, especially during significant events, which
8 could lead to difficulties. Did I term that
9 correctly?

10 CHAIR STETKAR: That's right, I know there
11 are constraints about what is written. But that was
12 a concern we were expressing, in particular, multi-
13 unit events.

14 MR. MONARQUE: Multi-unit events.

15 CHAIR STETKAR: We raised questions, it
16 went back pretty quickly. We heard Luminant's
17 administrative versus commitment. But it sounds like
18 their commitment and their administrative is they are
19 going to share a technical advisor. They are going to
20 share a rad protection technician, which are people
21 who could get involved in a multi-unit event.

22 And questions about staffing the fire
23 brigade, how are they going do that. Because that
24 could have an affect on the number of personnel that
25 they have available to deal with events that indeed do

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 involve fires.

2 MR. MONARQUE: And then the second one I
3 have was a concern about the staff only having three
4 months to review the EOPs before operators started
5 training.

6 CHAIR STETKAR: Yes. And that is
7 something, as I said, we can't tread too much on
8 administrative issues, but it --

9 MR. MONARQUE: It was a concern by the
10 Committee members.

11 CHAIR STETKAR: It's a concern by the
12 Committee members.

13 MR. MONARQUE: And then the last, the
14 third one was on cyber security, regarding more
15 hardware protection. And I think that some of you a
16 heads up that we will need to address in Chapter 7,
17 not relying solely on software protection but having
18 hardware.

19 MEMBER BROWN: Not relying any on
20 software.

21 MR. MONARQUE: Any on software.

22 MEMBER BROWN: Very, very clear. Not more
23 hardware protection, but all hardware protection. And
24 the fact that there is a module, micro-processors, I
25 know that is hardware but that is not the kind of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 hardware we are talking about.

2 MR. MONARQUE: I think that was at --

3 CHAIR STETKAR: The one that I raised, and
4 Charlie has his pet issues, and one of my pet issues
5 is this notion of defining and identifying those SSCs
6 that are important to safety, for the purposes of all
7 integrated programs on the part of, eventually, the
8 applicant, Luminant.

9 But there are important interface issues
10 here that could affect design decisions that are made
11 by MHI in the certified design. In addition, to just
12 scope of equipment that are included on their
13 particular operating or maintenance procedures, or
14 things that are identified in the paper part of your
15 cyber security plan.

16 So the issue, because they have, at least
17 in that response to an RAI, for the COL applicant,
18 committed to, including under their cyber security
19 plan, SSCs in the balance of plant, non-safety-related
20 SSCs that are "important to safety."

21 Now I don't know whether that is a more
22 narrowly defined important to safety because it has
23 got a qualifier than can affect reactivity transients
24 or something like that. That is a different important
25 safety than SSCs that are important to safety, for

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 example, that are identified under the DRAP program,
2 or under what will eventually evolve into the
3 maintenance rule program, that side.

4 So that was another issue that we raised.

5 And I think that was it. Was that everyone's
6 recollection? And now, if there is anyone on the
7 bridge-line, if you could indulge us and just say
8 something. I hear clicking which means it is usually
9 open but just say something so that we can confirm the
10 line is open. Anyone out there?

11 If you're self-conscious, if anyone is
12 actually listening in who wants to make a statement,
13 the line is open. Okay. Hearing nothing, I'll ask
14 again, do any of the members have any questions for
15 either the staff or Luminant?

16 With that, we will close this part of the
17 meeting. The next topic we are going to hear about is
18 GSI-191. And I think it would be best, we're
19 scheduled for break, well, it is a little early in the
20 morning for our normal breaks. But I think for
21 transition, it's best if we take a break. So we will
22 recess until 10:05.

23 (Whereupon, the meeting in the above-
24 entitled matter went off the record at 9:45 a.m.)

25



Luminant



LUMINANT GENERATION COMPANY

Comanche Peak Nuclear Power Plant, Units 3 and 4

ACRS US-APWR Subcommittee



**FSAR Chapter 13 –
Conduct of Operations**

September 20, 2012



Agenda – FSAR Chapter 13, Conduct of Operations

- ❑ Introduction**
- ❑ Discussion of Site-Specific Information**
- ❑ Summary**



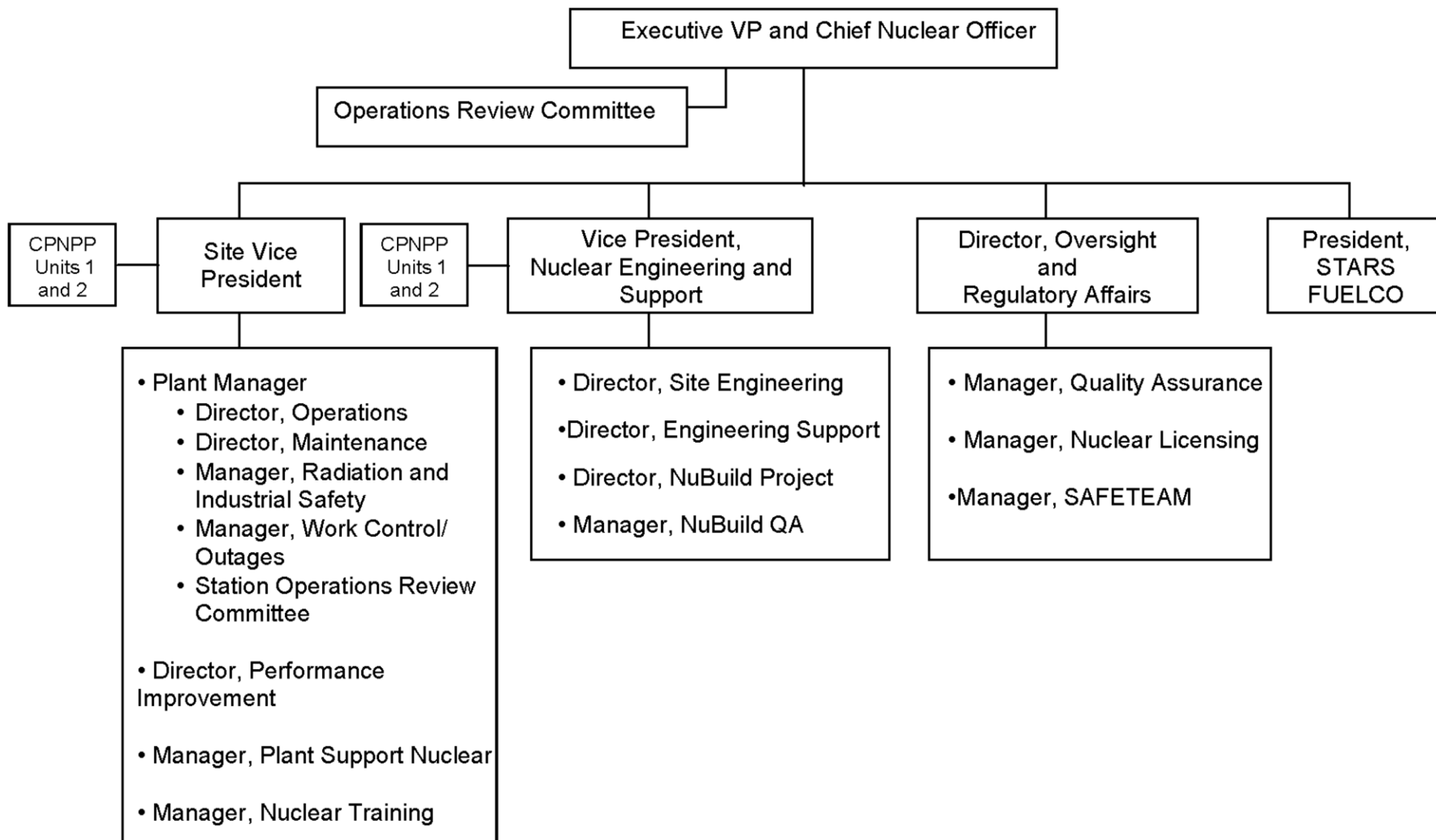
Introduction

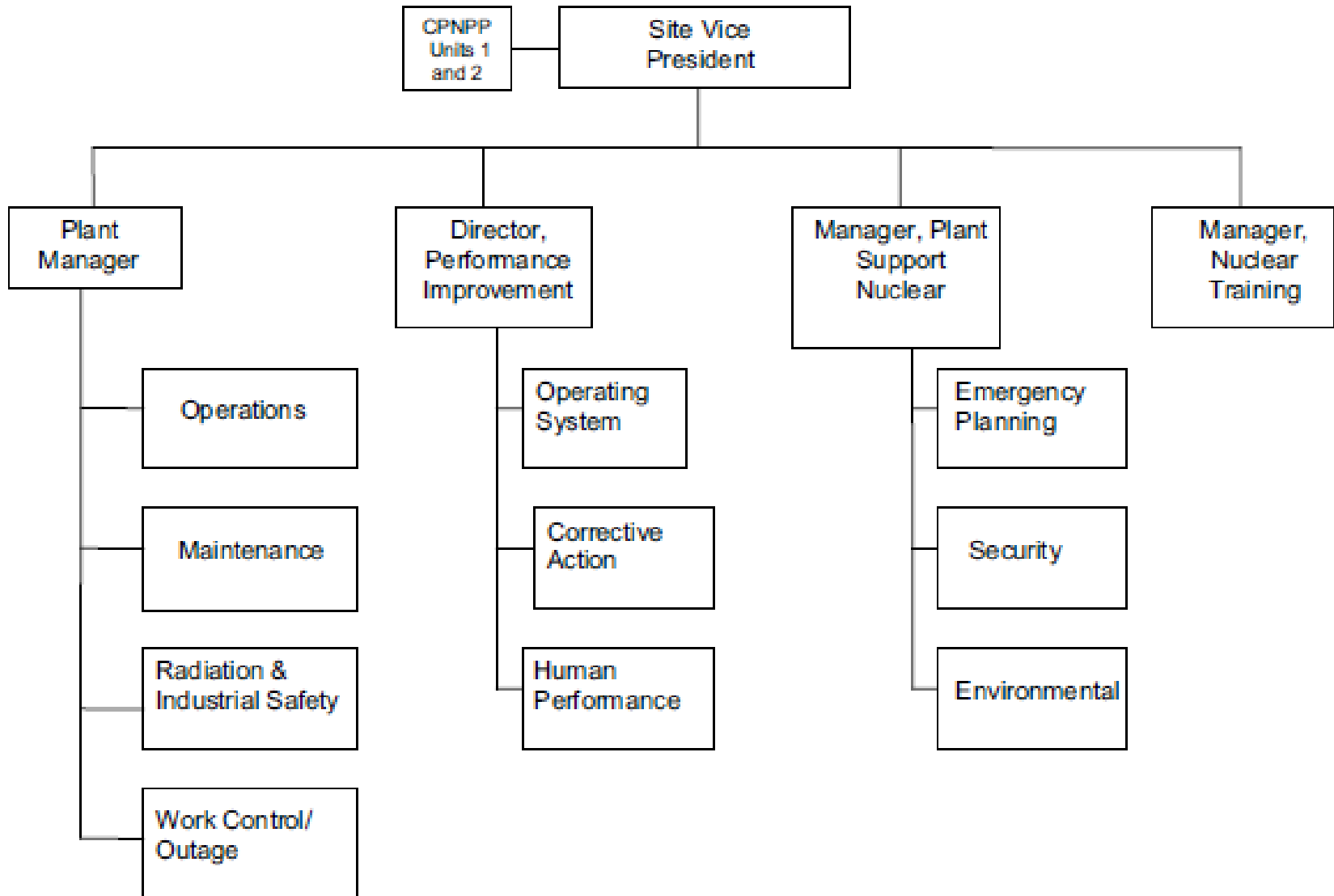
- ❑ R-COLA uses “Incorporated by Reference” methodology**
- ❑ No departures from the US-APWR DCD taken in FSAR Chapter 13**
- ❑ No contentions pending before ASLB**



13.1 Organization Structure of Applicant

- ❑ General education and experience requirements meet ANSI/ANS-3.1-1993**
- ❑ Shift staffing meets NUREG-0737**
- ❑ RO and SRO candidates meet ACAD 09-001**







Luminant



13.2 Training

- ❑ **NEI 06-13A incorporated by reference**



13.3 Emergency Planning

- ❑ **CPNPP 3&4 are within operating units EPZ**
- ❑ **CPNPP 3&4 EP draws heavily from operating units EP, but is independent**
- ❑ **EP meets both 10 CFR 50 and 52**



13.4 Operational Program Implementation

- ❑ Table 13.4-201 identifies implementation of Operational Programs, which are fully described in the FSAR**

- ❑ Single proposed License Condition for implementation of all Operational Programs**



13.5 Plant Procedures

- ❑ **Administrative controls consistent with RG 1.33**

- ❑ **Computer-based procedures meet NUREG-0700, -0711, -0899, and ISG-04, and are backed up by paper-based procedures**



13.6 Security

- ❑ Security Plan based on NEI 03-12 Rev 6 template**
- ❑ Security Plan includes Physical Security, Training and Qualification, and Safeguards Contingency**
- ❑ R-COLA adopts DCD Vital Equipment List**
- ❑ R-COLA Defensive Strategies are demonstrated in DCD Appendix**



13.7 Fitness For Duty

- **Two phase FFD Implementation - Construction and Operational**
- **Construction FFD Plan based on NEI 06-06**
- **CPNPP uses an offsite contractor Licensed Testing Facility**



13.8 Cyber Security

- **Incorporates guidance of RG 5.71 and Appendices A, B, C**
 - **Includes BOP SSC's per SRM, CMWCO-10-0001**
 - **Addresses Luminant organizational differences from template**



Luminant



Summary

- ❑ **COL Information Items specified in the US-APWR DCD are addressed in the CPNPP Units 3 and 4**
- ❑ **No departures from the US-APWR DCD**



Presentation to the ACRS Subcommittee

**Comanche Peak Nuclear Power Plant, Units 3 and 4
COL Application Review**

Safety Evaluation with Open Items

CHAPTER 13: Conduct of Operations

September 20, 2012

Staff Support

- Lead Project Manager - Stephen Monarque
- Project Manager - Mike Takacs
- Supporting Technical Staff:
 - ♦ Jim Kellum - NRO
 - ♦ Rick Pelton - NRO
 - ♦ Mark Lintz - NRO
 - ♦ Ed Robinson - NSIR
 - ♦ Monika Coflin - NSIR

Sections Reviewed

- 13.1 Organizational Structure of Applicant
- 13.2 Training
- 13.3 Emergency Planning*
- 13.4 Operational Program Implementation
- 13.5 Plant Procedures
- 13.8 Cyber Security

* Revision to the emergency planning regulatory requirements effective December 23, 2011

Sections Under Review

- 13.6 Physical Security
- 13.7 Fitness for Duty

* **Emergency Planning Rule Changes**

- Changes to EP regulations in 10 CFR 50.47, “Emergency Plans,” and Appendix E, “Emergency Planning and Preparedness for Production and Utilization Facilities,” to 10 CFR Part 50, were published in the *Federal Register (FR)* on November 23, 2011 (reference 76 FR 72560).
- Luminant expected to submit revised COLA Part 2-FSAR and Part 5-Emergency Plan based on the new EP rule requirements in March 2013.
- Staff will review the revised application and update the SER in accordance with guidance provided in NSIR/DPR-ISG-01.

Questions?