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UNITED STATES
NUCLEAR REGULATORY COMMISSION

NUCLEAR REACTOR REGULATION

In the Matter of:)
)
MEETING REGARDING)
)
TECHNICAL SPECIFICATIONS)
)
FOR SEABROOK)

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Wednesday,
May 4, 1988

Nuclear Regulatory Commission
11555 Rockville Pike
Room No. 14-B-13
Rockville, Maryland

The meeting convened, pursuant to notice, at 1:00 p.m.

BEFORE: DONALD BRINKMAN
Chairman

CALVIN MOON
Technical Specifications Branch

ATTENDEES:

ROB SWEENEY

WARREN HALL

RICHARD BELANGER

MR. BRINKMAN: Good afternoon, everyone. My name is Donald Brinkman. I am assisting Victor Nerses in his duties as Project Manager for Seabrook.

This meeting has been requested by the Seabrook licensee, and its purpose is to discuss the technical specifications for the Seabrook operating license.

Calvin Moon from the Technical Specifications Branch is here to assist me in today's meeting.

The tech specs for the Seabrook Station operation license will be based upon the tech specs issued with the October, 1986 fuel load license. The tech specs were issued as NUREG 1207.

Subsequent to the issuance of the fuel load license tech specs, various reviews have identified certain required changes to those tech specs.

I have a package of replacement pages that contains some required changes that have been identified to date. I have a copy of the replacement pages for each of you.

The changes are marked with change bars in the margins. And these changes include the following topics: typographical, editorial changes, corrections to reactor trip setpoints for steam generator water level and pressurizer pressure, additions of some notations to make the tech specs more consistent with plant design in its as-built configuration, relocation of the seismic instrumentation,

revisions to permit leak testing of a reactor coolant system at reduced pressures, and interim updating of the licensee's organizations charts. However, understand that this area will require a further change when the provisions of generic letter 8806 are implemented. In addition, an addition, which requires the licensee to implement a program for accident monitoring instrumentation gradually exceeding 5 percent of weighted thermal power.

Yesterday, I received a package of additional changes which are being -- which were prepared by the licensee. I have made copies of these proposed changes and I have copies of the proposed changes for each of you.

Cal and I are prepared to discuss those proposed changes at this meeting.

And I think with that as an introduction, Rob, I'll let you start from there.

MR. SWEENEY: Okay. Well, I would like to just get into these tech specs that we've been discussing for a while.

John, I take it this package is the package of information, the list of items that we wanted to discuss?

DR. BRINKMAN: That's the package that I received from you people yesterday.

MR. SWEENEY: Okay. Well, I guess our best bet is to just look into things page by page unless George or Warren or Rich has anything to add. I will probably want to turn it over

to Rich or Warren, whatever you like, as we go through page by page. And I'll just add one other item. If anybody has any problems with what Mr. Brinkman handed out, we can discuss them now or later. It's up to you folks.

MR. BRINKMAN: Do you want to take them first if there's any problems with that? That's fine with me.

MR. SWEENEY: Whatever. We can go through our package or yours first. It doesn't matter.

MR. BRINKMAN: It is my understanding that the package that I handed out is work that was developed over the past several months prior to my becoming part of the project.

MR. SWEENEY: Yes. Several of the items had been discussed with the project manager and Ed Cartier, who was an engineering support individual for Rick at the time. We will just go through that package quickly and if there are any questions and clarifications, we'll address them.

MR. HALL: We are going to go through this one first, the second one he handed out, or the first one he handed out?

MR. SWEENEY: The first one. Let's go through that first, because I think ours is going to require more time and explanation. Let's just go through page by page. Warren, do you want to start?

MR. HALL: Yes. Okay. We had been through this, we went through this this morning and I didn't have -- I ran into a few glitches. Nothing really major. I think it was a typo,

on Page 3-, let's start with 41, that's the seismic monitoring instrumentation. We had, after we had the April meeting a year ago, where we put this package together, we submitted a formal request or request of information that we had discussed with Gus Giesekoch regarding the seismic instrumentation, and the relocation of that instrumentation, and we subsequently received a letter from the staff stating that they didn't have any problems with what they were going to do, and they had changed our tech specs, per se, and they would issue them at a later date. And with that in mind, we have some changes to reflect that that we would like to point out at this particular point.

MR. BRINKMAN: All right. I was under the impression that the changes in here reflected that, but if there are errors, let's correct it.

MR. HALL: That's why we wanted to bring that up right at this point.

MR. BELANGER: What is here actually reflects what we had agreed to at the meeting on April 7 of last year and it does not incorporate the changes for relocating the monitors.

MR. BRINKMAN: Okay. I stand corrected. If that's the way it is, let's get it straight.

MR. HALL: Okay. On Page 3-41, with the relocation of the three monitors, the 4332 surveillance on the third line starting with "except" -- "except the triaxial peak

accelographs, 1 FMXR 6702 and 6703 shall be restored within seven days." That should be deleted.

Now, I can go back and give you some history as to why that should be deleted. Cal, if you remember when we talked about this last April, when we were asking that this be done, it was because of the location of these two things with regards to getting to them if we had to have a shutdown, and so forth, and that was the reason that this was a problem, because we couldn't get to them within the 24 hours that had originally been in there. So the seven days was granted.

Now, with the relocation of the transmitters, this is not necessary.

MR. BRINKMAN: Okay. Go back to exactly what we o[illegible]ally had.

MR. HALL: Basically, yes.

MR. THOMAS: It was a letter to the staff?

MR. HALL: No. In the letter that we sent to you and was approved by the staff and they sent the letter back.

Now, if you would turn to the next page, 3-42, Item 1, triaxial time history accelographs A, B and C are okay.

Item 2, triaxial peak accelographs, 1-SM-XR-6702. Now, its location now should be accumulator tank SI-CK-9C.

MR. BRINKMAN: Would you repeat those numbers?

MR. HALL: It you want to just keep that, Don, why don't you do that?

MR. BRINKMAN: All right.

MR. HALL: Now, in Item 3, the reason we did not submit, we didn't delete the triaxial switches like we did in the copy that you handed out in your package is because we really had never been issued those to delete, okay, so we couldn't delete something we didn't have, or have the authority to delete.

So at this point I would say we would scratch those out, just like you have it in the package you gave us.

MR. BRINKMAN: Use exactly what I have in the package that I gave you under 3. Is that correct? Is that right?

MR. BELANGER: Yes. These changes reflect only changes resulting from the relocation of the monitors and not those changes which were discussed at the meeting last April. So in other words, the three instruments, 1-SM-XR-6702, 6703 and 6706, on your page, should have their locations changed to reflect what's on this page.

MR. BRINKMAN: Okay. I understand that. And we will take what you just handed me and include it as an attachment to the transcript.

MR. HALL: And the deletion of the seismic switches in 3 is also okay. It shows on your markup. It shows on your paper.

MR. BRINKMAN: Item 3. What we have in our handout I made is accepted.

MR. HALL: That's correct.

MR. BRINKMAN: And what is in your submittal here showing four switches should be corrected to just one?

MR. HALL: Yes.

MR. BRINKMAN: I understand.

MR. HALL: There is one thing. On your Page 42, Item 3, under 6709, it should be elevation 26, minus 26, not 27.

MR. BRINKMAN: Minus 26 rather than minus 27.

MR. HALL: Right. It is correct on the next page.

MR. BRINKMAN: Okay.

MR. HALL: So you have Page 42 and 43, so I won't bother with 43.

MR. BRINKMAN: Correct.

MR. HALL: Okay. There wasn't anything else on the seismic, was there?

MR. BRINKMAN: Warren and Richard, if you would like a break, I will make a copy of what they had and then give you a copy.

MR. HALL: Is there anything else in this package, Rich, that we had a comment on? I don't believe there is.

MR. BELANGER: I'm going back through it. I do not believe there is anything else in question here. No, that was it.

MR. SWEENEY: There is one item in the package, and that we'll get to later in our package, but it's on the

organization charts.

MR. BELANGER: Realizing that there are -- packaged, in the second package you handed out which impacts upon this.

MR. BRINKMAN: I realize that, particularly in the administrative control section.

MR. HALL: Okay. I guess we are ready for the next package? The second package.

Okay. I guess it is my turn to ask you, the second package that you handed out, we had given this to them, correct?

MR. SWEENEY: Yes. The other day.

MR. HALL: To look at. And I wondered if you guys had any questions on any aspect of it, or do you want us to go through each page?

MR. BRINKMAN: We have comments on various pages. I understand on the first page, Page 2-4, these are changes associated with your change in transmitters.

MR. HALL: Correct. We're changing our Verifax transmitters and replacing them with Rosemounts. The change has been completed. The Rosemounts are in place and we are living with the tech spec set forms that we had for the old Verifax.

MR. BRINKMAN: I have no real particular problem with these changes. We will take, at the completion of this effort, we will take all the pages that have been changed and we will

transmit them to you, as we did before the license was issued, and identify the changes that have been made as I did in the first package I gave you with the margin bars. We will ask you to review that in conjunction with the rest of the tech spec package and begin certifying the accuracy of them to us.

MR. MOON: One question. Are there any changes in the FSAR or SER that are needed at this time or were they taken care of before?

MR. HALL: I think with the package that we will submit on the Rosemounts we'll have FSAR corrections in them and should point out any discrepancies in the SER. I'm not sure that there was anything in the SER that would directly impact --

MR. SWEENEY: Well, the safety evaluation is the responsibility of the NRC. However, we will be submitting to you folks a letter that will basically outline the technical basis and indicate where the FSAR will be changed in the FSAR update.

MR. HALL: That has to be part of our design change package.

MR. BRINKMAN: Then I think we're ready to go on to the next page which is 1-1 in Section 3 of the LCOs. The change there is basically acceptable, will simply end the phrase, make it equal to 1.3 percent billed to KOK period. The rest of that phrase is simply a restatement of the

applicability.

MR. SWEENEY: Don, do you have the letter?

MR. BRINKMAN: Yes, I do.

The next page, 1-8, I believe, Cal, this is a variation from the Westinghouse standard tech spec change, isn't it?

MR. BELANGER: That is correct.

The reason this is proposed is to make the action requirements consistent with the statement of applicability where you are, the requirements apply only in modes 1, 2, and 3. Therefore to be consistent with specification 303, the action statement should only drive you down to mode 4, not down to mode 5.

MR. BRINKMAN: I fully understand that. Unfortunately, we are I think required by our own internal procedures to ask you to want this change pursuant as they are being planned to a generic change.

I understand your point, and basically agree with it but we are construed by our own--

MR. HALL: At this point let me ask--

MR. BRINKMAN: Guidance.

MR. HALL: Let me ask a question. When we were issued the tech specs that, and I'll address this to Calvin, he may be able to better answer it. -- wrote in his letter that if the -- would entertain the improvements, if they would

entertain improvements at a later hour, are we still going to able to put this forth, or are we going to be constrained by changing actions in the specs?

MR. MOON: I believe our operating procedures will change to suit that point. If you are speaking in terms of the Seabrook tech specs --,

MR. HALL: Right.

MR. MOON: I believe that the first line of the other procedures has gone, at least to the override, that thing you obtain --.

MR. BELANGER: So that if we were to pursue any of the other changes from the tech spec improvement program, they would have to be undertaken on the leave of plant basis, is that correct?

MR. BRINKMAN: That's my understanding of it Cal, is that--?

MR. HALL: Well, if we were trying to give -- in that situation.

MR. MOON: Okay, first of all, the question is, is it a generic issue. This one obviously is. Right. Two things we have are one, you may request the change and then we can ask you to get the owners we have endorsed whether it is done with the plant from high up.

If you do not want to do that, there is one possibility the staff itself could take it upon them, or the

plant as we now do, treat it as a generic issue, which would lead up to the issue both from a generic level, in fact.

I believe in this case that it would be -- likely to endorse --. I guess there is a question here, Don, as to whether or not this should be done prior to the -- flight or after the --, I guess it could be done at either time.

MR. BRINKMAN: Yes, I don't have a strong feeling or guidance on it.

MR. MOON: I think that is up to you, isn't it? If there is any constraint on the part of Mr. Wilson or on --

MR. THOMAS: Yes, it should be up to us to determine how we proceed.

MR. BELANGER: That might be covered under Item 2b of the Agenda, additional short term improvements, I think on Item 2a.

MR. BRINKMAN: I think that takes us to the next page then, 1-9 where you're proposing to add in the word, centrifugal, to make it one centrifugal charging pump for LCO 3.1.2.3. This is something that I have seen in the past, and I have advised against it in the past in that the tech spec is written permits you to use any charging pump as a means of injecting boron while in a shutdown mode. You would, with your change, restrict that to only a centrifugal charging pump and would exclude the reciprocating pump.

MR. HALL: Would it exclude it? If you read that, it

says, one charging pump in the boron injection flow path required by spec 3.1.3.1. shall be operable and capable of being powered from an operable emergency power source.

If you were to change it, I understand what you're saying, I'm just trying to figure out if it really would exclude that you couldn't --

MR. BRINKMAN: If you add in the word, centrifugal, I think it requires a centrifugal pump.

MR. BELANGER: Yes, but I don't think that would preclude using the positive displace pump, only require the centrifugal pump be operating.

MR. BRINKMAN: Oh, you could use it. I agree you could use it for injecting the boron, but my point was if you change the tech spec as you propose, then you must have a centrifugal pump operable. My original tech spec would say any charging pump could meet the LCO.

MR. THOMAS: One of the considerations with that is due to a specific plant design. The specification and the requirement in the specification of having the capability of being powered by an operable emergency power source can't be done under certain conditions when you have, say, diesel out of service. And as a result of that, I understand what you're saying, this would give us more flexibility under that condition.

MR. BRINKMAN: Which would?

MR. THOMAS: What we're proposing.

MR. BRINKMAN: I don't understand why it would give you more flexibility. When you put in the word, centrifugal, it, by putting it in, to me, excludes counting on a positive displacement pump.

MR. THOMAS: You're right, it would.

MR. BRINKMAN: And I think the original wording of the tech spec gives you the maximum flexibility and satisfies our requirement for having a pump to inject boron.

MR. THOMAS: It would, it does. I think one of the considerations here is because we've been in MODE 5 for a period of time, that there would be some advantages to running the positive displacement pump. And in certain conditions, it can't be run because of the first wording of this spec. For example, when the diesel's out of service.

MR. BRINKMAN: I understand that, but then you could use a centrifugal charging pump to meet the LCO.

MR. THOMAS: That's right.

MR. HALL: I see what you're saying.

MR. BELANGER: Yes, but we can use the centrifugal pump to meet the LCO but under surveillance, we're precluded from using one to meet the LCO and another one to actually do the charging.

MR. HALL: But I think I understand what he's saying. Maybe we ought to think about it.

MR. THOMAS: Well, and I think that's why we're having this discussion to put it out on the table. We haven't officially submitted the change request yet.

MR. MOON: I think all he's saying is it doesn't add anything to it and it doesn't take anything away from it.

MR. BRINKMAN: Yes, the original wording. It adds flexibility if you --

MR. SWEENEY: Are you saying what we're proposing is more rigid?

MR. BRINKMAN: Absolutely.

MR. THOMAS: Under some conditions it is, and under other conditions, it isn't. And for an example, what we're proposing would allow us to have both a positive displacement pump and one centrifugal charging pump in service.

MR. BRINKMAN: Yes.

MR. THOMAS: Now, that would again allow us to run the positive displacement pump without running the centrifugal pump. Now, that would be the advantage to us under those conditions.

MR. BRINKMAN: Okay, now the question then becomes, is your low temperature over pressure protection analysis valid with a centrifugal charging pump and a positive displacement pump both running?

MR. THOMAS: The answer's yes. It has been designed to meet that situation. That's why I say we would have to

submit something if we were to go ahead and definitely propose this because of that consideration.

MR. BRINKMAN: Yes, it would.

MR. THOMAS: But, yes, it has been designed to be able to handle that capacity.

MR. BRINKMAN: Did our review of that include that possibility of two pumps?

MR. THOMAS: That I couldn't answer. I'd have to go back and take a look at that.

MR. BRINKMAN: I don't know either.

MR. THOMAS. I don't know. It's been a while.

MR. SWEENEY: Well, is this an item that should be looked at more?

MR. THOMAS: Oh, I think there's no question about it.

MR. BRINKMAN: I'm not ready to accept this one right now because of the --

MR. THOMAS: I understand. We should go back and take a look. I understand and I think that's why we wanted to bring it up to talk with you about it and tell you we were interested in it. It does have some advantages under certain operating conditions for us.

MR. BRINKMAN: Shall we proceed on?

MR. THOMAS: I think so.

MR. BRINKMAN: Page 1-10 again is the same discussion

we had earlier on engineering change.

MR. BELANGER: Yes, it's the same changes we had on page 1-8.

MR. BRINKMAN: Page 3-20.

MR. BELANGER: Yes, we would like to withdraw 3-20 and 3-22.

MR. BRINKMAN: Okay.

MR. HALL: 3-26 was also part of the Rosemount.

MR. BRINKMAN: I thought it was. Let's go on then. Page 3-28 is Rosemount associated.

MR. HALL: Page 3-33. Let me ask for an interpretation here. I'll tell you how we interpret what this means.

Emergency feedwater manual initiation motor driven pump, turbine driven pump, the surveillance requires a trip actuating device operational test for this particular item.

I will ask you how do you interpret this? How do you interpret this refueling outage trip actuation device test? What is this thing supposed to do?

MR. BRINKMAN: Do you have manual actuation buttons or switches for this?

MR. HALL: We have buttons, if you're asking if we have a button that says, manual feedwater actuation, the answer is, no.

MR. BRINKMAN: You have a motor driven pump?

MR. HALL: We have a pump start or a switch that will start the motor driven pump, excuse me, the steam driven pump by opening the valve. That's all it does, opens the valve and allows the steam to the turbine. We have a switch that starts the motor driven pump. It does not give you feedwater actuation.

MR. THOMAS: There are individual component control switches that could be used and would be used to manually activate the system and I would use the surveillance test for example for individual components of the system. There is not one single switch that allows you to manually activate the system. And that's the reason we brought it up, because we don't really feel because of our specific design that this is truly an applicable requirement because of the system design.

MR. BRINKMAN: The controls that you were just describing can start the motor driven pump, start the power to the pump, where are these controls then required to be tested in the tech specs on an annual basis?

MR. HALL: That's the question here. We have in Table 3.3.3., we have the manual initiation for the turbine driven pump and the motor driven pump, and we have the proper channels for the valves,

MR. BRINKMAN: That's operability.

MR. HALL: -- and that's the operability requirement for this surveillance.

And now the question here is how do we handle this surveillance to make it --

MR. THOMAS: The response to the question, do we have operability requirements, requirement testing of the pumps. Do we have operability requirement testing on the valves specified somewhere either in here or in a document that's connected with this. I think --

MR. BRINKMAN: I think that's the question, yes.

MR. THOMAS: -- that's the question.

MR. HALL: Yes. Well, before I say, yes, let me look.

MR. BRINKMAN: The purpose of this surveillance is to require you to periodically test those manual actuation devices.

MR. HALL: We have, in the auxiliary feedwater spec, we have surveillance that requires us to verify that the motor driven pump develops a discharge pressure of greater than or equal to the -- which you can't do unless you start it.

MR. BRINKMAN: That's true, but that doesn't say where you start it or how you start it.

MR. HALL: This is true but we can always work that, we can always come up with that point. And I would guess, and if I'm not mistaken, I would think that that's how we satisfy part of the surveillance for these two would be through the manual initiation control starting these items, verifying that

they do start and then come up to speed and get discharge pressure. I can't say that that's a fact without verifying the procedure.

MR. MOON: So what would be the reason for deleting the tech spec surveillance.

MR. HALL: If the Staff is interpreting the tech spec to mean that this manual initiation starts the whole feedwater system from starting the pump to opening the valves to putting water in the generator, no, it doesn't do that. And we just want to get that straight up front.

MR. BELANGER: There is no single control switch which is manual initiation for emergency feedwater. There are switches for individual components of the system.

MR. HALL: We're trying to eliminate a point of confusion is where we're headed.

MR. BRINKMAN: I think what we're looking for as I recall is a demonstration that those switches do their functions.

MR. MOON: That when needed, you can do all of these things.

MR. HALL: That's not a problem. Can you add a sentence or two in the basis to explain what's meant there?

MR. BRINKMAN: We could do that, yes.

MR. HALL: It's not a problem, okay, as far as testing each one of the components in the system. They are

surveilled and they are surveilled per the tech specs.

MR. THOMAS: The question is are they surveilled by the tech specs versus their manual activation device. And that's what we've got to go back and look at. I'm quite sure that they are but I'd like to go back and recheck the procedures.

And the reason I'm quite sure that they are is there's no effective way to test them other than by the manual activation device.

MR. HALL: And we just did not want a point of confusion here with this that someone comes in and says, okay, where's your manual initiation.

MR. BRINKMAN: The tech specs are not, I'll say it again, I've said it many times, are not intended to make you put in such a button, or make a design change for that. But the tech specs are intended to require that you test these devices that you have. And you may certainly do one operation and count perform several surveillances.

MR. HALL: Right.

MR. THOMAS: Assuming that we go back and check that, and as I said, I'm quite confident our check will indicate that we don't do it, do you feel that if that's the case, that by changing the bases indicating it will be tested that way would be an adequate way of doing it in handling this problem?

MR. BRINKMAN: My feeling would be if you want to add

something to the bases, we will certainly entertain that, but I would be inclined to leave this requirement here and in your bases explain what you're doing to satisfy this requirement.

MR. HALL: That's fine.

MR. BRINKMAN: Okay.

MR. MOON: I don't feel that we necessarily agree that there are changes needed.

MR. BRINKMAN: No, I don't. We may add something for you. I don't feel that the change is needed. What I hear you describing and what I've seen in other plants is not unusual. I think it's the same at other plants.

MR. HALL: Well, our folks are concerned over interpretation by one party or another differently from what we actually had, and they felt that this was indeed not a true realization of what they interpreted this thing to mean, and they were saying, hey, we don't do this, we test each component individually, so why don't we delete this.

MR. THOMAS: Well, okay, but at the same time, if we have a common understanding, we can administratively handle this.

MR. HALL: Yes, we can handle that through --

MR. BRINKMAN: If you have any problems, can you discuss it at all with the residents?

MR. HALL: No, we haven't had any problems with the residents. Our surveillance people were kind of concerned that

some people may interpret it differently, but if we can spell it out to those folks in the bases or in some of our own internal documents.

MR. BRINKMAN: If you can handle it in your own internal documents, it's probably very convenient.

MR. BELANGER: We're approaching it as a possible future problem area which we would like clarified at this point.

MR. HALL: You said this would be handled on a generic basis.

MR. BRINKMAN: Yes. Page 4-11. Okay, now page 5-1.

MR. HALL: You can scratch that one.

MR. BELANGER: Scratch that.

MR. BRINKMAN: Page 5-3.

MR. HALL: I think we have already discussed that with the Staff and I think they had already --

MR. SWEENEY: I had contacted Ed Schrondier and my recollection from telephone conversations I had with him, he said he'd touched base with certain staff people and they didn't have a problem with it. It's basically lends itself to afford the opportunity to do maintenance of the valve from my understanding.

MR. THOMAS: As the spec as presently written does not allow maintenance to be done on the valve without going out of the action state, going beyond the action statement as

presently written.

MR. SWEENEY: And by all means, we want to be able to maintain the status.

MR. HALL: The way this thing is set up right now, we're stuck between MODES 1, 2, and 3, we have to have them open at a thousand pounds above and in MODES 4 and 5, we have to have them closed at over a thousand pounds below. And we have no -- there's no place in there where we can maintain the valves.

MR. MOON: I think our only question here is the form in which you've done this. I think it's not clear. This applies only in MODE 5. Is it also intended to apply in MODE 4, or MODE 5 only. So I think you meant to say MODE 4, comma, without MODE 5.

MR. BRINKMAN: I think what you need here is to a location on the mode in which you intend to apply this exemption rather than the phrase that you've added there.

MR. THOMAS: Double asterisk.

MR. HALL: Double asterisk on MODE 5 with a note at the bottom.

MR. BRINKMAN: Yes. That would be fine. Do you wish to draft a note?

MR. HALL: Yes, we'll propose it and get it down to Rob.

MR. THOMAS: You wouldn't want to be working on these

valves even though, tech spec wise, you could do it, physically you wouldn't want to do it. It would only be a MODE 5 item.

MR. HALL: I'd like to talk to Greg and find out. He was the one that had proposed.

MR. BRINKMAN: I think you understand my -- you want a note --

MR. HALL: Yes, and I would want to check with our tech support people that had this and find out, because I think he was looking at potentially MODE 4 and MODE 5, but I'll talk to him and find out.

MR. BRINKMAN: Page 6-9.

MR. HALL: This is part of the Rosemounts, also. Convoluted that --

MR. BRINKMAN: It sounds pretty convoluted to me.

MR. HALL: Trust me. Let me find the other --

MR. SWEENEY: The technical packages forthcoming will have --

MR. HALL: Yes. Basically what this is saying is that there was a requirement or a discussion at one time about putting in a high energy line break alarm in the containment consisting of pressure sensors. And this was due to the fact that we had the problem with the referenced heat-up with the rear track transmitters. When we installed the Rosemounts, temperature and environmental qualifications and performed the calculations for our particular environment, we found that the

reference leg heat up was in essence not any -- was no problem. The reference leg heat up error changed something like three tenths of a pound in a harsh environment from normal operating activity temperatures to a harsh environment temperature in the containment, and therefore there was really no need for the high energy line break alarm which was going to be part of the technical package to do away with that.

And as such with the reference leg we felt that this was also a viable change based on the stability of the Rosemount transmitters during that type of, during a harsh environment. We do have the capability in the tech specs to keep the purge valves open. We do have the capability to open those things and use those fans to keep --

MR. THOMAS: There was a restriction or there is a restriction in our existing specs on opening those valves when either in MODE 1 or MODE 2, pending resolution of what effectively amounts to the high energy line break. And the high energy line break issue thus solves that problem and thus will allow us to remove that restriction on opening the eight inch purge valves.

Now, when you do that, that allows you then to purge when in MODE 1 which would then allow this note to be added. That's how you get there.

MR. BRINKMAN: I think there's another consideration here which I haven't heard being discussed. Typically, the

lower limit on this spec, in this case, 14.6, seems a little high for what I'm thinking of, but the typical consideration here is that there is some lower limit on pressure in the containment such that if there is an inadvertent spray actuation during that time when you're at that lower limit, you will not have an excessively negative pressure in the containment.

MR. THOMAS: That is correct and that is the basis of the 14.6 psi.

MR. BRINKMAN: All right. Now, if you remove that limit when these purge valves are opened, what does that do to that --

MR. THOMAS: Okay, what it does to that is it means that the pressure inside and outside the containment are equalized or the internal pressure is no higher than the fan differential, the purge fan differential above it, but it certainly doesn't allow the containment to be at a lower pressure than outside.

MR. BRINKMAN: Well, there'll be some transient there. Is that analyzed as the spray comes on, cools the containment atmosphere?

MR. THOMAS: I'm not talking about that now. I'm talking about a situation where the plant is sitting there and it's operating in MODE 1. And when that is the case, you would normally be limited to 14.6 psi as the lower pressure.

MR. BRINKMAN: Yes.

MR. THOMAS: Okay. Now, what this note will allow you to do is if you drop below the 14.6 psi due say to a low pressure condition outside for an extended period of time, then you could open those valves at which point in time once the valves are opened, you equalize pressure. Start the purge fan, and then the way this spec is written would not be able to reclose those valves until the pressure was above 14.6. Now, the differential pressure across the fan is greater than a pound per square inch. So basically, what this would be used to do is to build up the pressure inside the containment.

It's a pressure control mechanism.

MR. MOON: I'm trying to recall, the fans push in the --

MR. THOMAS: That's correct.

MR. MOON: There is no suction.

MR. THOMAS: There is not.

And again, this is how the system was originally designed and has been licensed to operate with the removal of that restriction.

MR. MOON: But do you need this footnote in order to pump up the pressure in the containment?

MR. THOMAS: Yes, because there's no other way to get the pressure up there. Now, this would only be used if we had an extended low pressure condition during operation.

MR. MOON: But what I'm trying to say is, you are permitted to start these fans and operate them, right?

MR. THOMAS: That's correct.

MR. MOON: Even without this footnote?

MR. THOMAS: We are not under there's another page that goes along with this.

MR. HALL: And it's missing from this spec.

MR. THOMAS: There is another page that goes along with that and it is page --

MR. HALL: 6-12, I believe.

MR. THOMAS: Oops, I'm sorry. Yes, it is 6-12. Yes, I have it. And if you note in LCO 3617, part b, it says, the eight inch containment purge supply and exhaust isolation valves shall be sealed closed except when open for purge system operation for pressure control. Then in addition to that, you've got the asterisk down at the bottom that prohibits that in MODES 1 and 2. Now, what the Rosemount change will allow us to do is eliminate the asterisk.

MR. BRINKMAN: Are you talking on page 6-12, now?

MR. THOMAS: On 6-12.

MR. BRINKMAN: Right.

MR. THOMAS: Now, because these two are connected, if you go back to 6-9, that's how one would do it, by opening those valves. And that's why the proposed asterisk is in there.

MR. BRINKMAN: I think I'm beginning to understand your concern. However, I am confused as to whether or not this notation that you put on page 6-9 is needed there. I believe that what you're explaining to me you need something on page 6-12 to permit you to open the valves and equalize pressure, but I think that the limitation on differential pressure on page 6-9 is still necessary.

MR. MOON: As a matter of fact, it doesn't look like you even need to add anything on page 6-12.

MR. BRINKMAN: You can delete --

MR. THOMAS: No. When you would need that is again if your atmospheric pressure was such that it was below 14.6 because if you didn't have that, once you open those valves, containment would then equalize with the 14.6 and you would be out of the spec. This allows you to pump the containment up without going out of the spec.

MR. MOON: That's not what the words say, as I read them.

MR. BRINKMAN: Me either.

MR. MOON: It just says you can operate at less than 14.6.

MR. THOMAS: With the valves open. But only with the valves open. It's a question of how to get to increasing the pressure to do pressure control. That's what this is allowing you to do. And if the outside air was below 14.6, thus causing

your containment pressure to go below 14.6, the only way to do it would be to open those valves to get the air source to pump it in.

That's why you need this.

MR. MOON: But is it not possible to pump the pressure up to say 15.45 and then close the valves and turn the fans off?

MR. THOMAS: Yes, it is.

MR. MOON: And therefore cannot you not live within 14.6 limit without the footnote?

MR. THOMAS: The question is can you start the fan before you open the valves to be able to do that. And I don't know what the answer to that is. That's something we'll have to look at.

MR. BRINKMAN: George, your discussion of the outside air pressures below 14.6?

MR. THOMAS: Yes.

MR. BRINKMAN: And then you open the valve to -- it will not immediately equalize. It will take some time for that volume of air to equalize.

MR. THOMAS: That's correct.

MR. BRINKMAN: And I'm concerned with the structure of this footnote here. It really removes the portion control as I see it, and I don't think that's appropriate.

MR. THOMAS: It's not intended to. It's not intended

to.

MR. BRINKMAN: It may not be intended to. But I think if we put this in the tech spec, it in effect removes the limitation that we see necessary on that.

MR. HALL: I guess I'm not real sure how because if you read this note it says that the only time this 14.6 would not be applicable is when the fan is running and the valves are open, which would be when you're trying to equalize pressure. You wouldn't just open those valves and let it sit there to drop below 14.6. The only time you would do that would be when the fan is running and the supply valves are open, as allowed by spec 3.6.1.7.

MR. THOMAS: The reason for the latter part of that note is to insure that that would be the only time that they were being opened. That's what that second part, as allowed by spec 3.6.1.7 is supposed to indicate. It isn't supposed to indicate that you could operate with these valves open so as to nullify the intent of this.

MR. HALL: I think this is similar to what they did at Palo Verde to use those valves to pressurize the, so you'd maintain pressure control in the containment.

MR. BRINKMAN: I see no problem with using the valves to maintain pressure control, but I think that is basically permitted by the spec on page 6-12. But I am not at all convinced yet that this is needed, the proposed footnote is

needed on page 6-9.

MR. HALL: Well, it would be if we were going to try and maintain pressure if you had a low pressure system and your outside pressure was below 14.6, it would be a problem.

MR. BRINKMAN: It's a problem if you open the valve and let the pressure equalize with the outside pressure.

MR. HALL: Without running the pump. You wouldn't do that because if it was that low and you open the valve, you'd start the pump. That's the whole key, is starting the purge fan and opening the valves together, or you know, in the appropriate sequence and keep the pressure in the containment with whatever the pressure is you're operating to outside.

MR. MOON: Is what you're saying you can't manipulate the valve and the fan so as to merge them both to 14.6 transiently?

MR. HALL: Yes. That's right.

MR. SWEENEY: Yes. Would it be appropriate to just footnote the applicability whereby the outside, this is applicable when the outside pressure is equal to or greater than 14.7 or something?

MR. THOMAS: No. Because it doesn't have to be, because that's the only time you need pressure control. The original intent of page 6-12 was to provide pressure control, and that would be the only time you would need it.

MR. MOON: The middle of pressure also enters into

the ECCS calculations, in addition -- no, the starting pressure I believe enters into the lower limits on the ECCS.

MR. HALL: Are you referring to the containment spray?

MR. BRINKMAN: The RHR.

MR. THOMAS: The NPSA requirements

MR. BRINKMAN: Yes. Which also enters into containment spray on research. It's both those.

MR. HALL: Bruce looked at that.

MR. MOON: I guess I don't understand why it is you can't avoid this transient below 14.6?

MR. HALL: We have no control over the pressure if the pressure drops, we don't have any control over atmospheric pressure if the pressure falls.

MR. BRINKMAN: You don't have control over the outside pressure but you do have control over the pressure in the containment. And --

MR. HALL: We don't control the differential pressure.

MR. THOMAS: But that isn't what the question was, and we have to go back and look.

MR. BRINKMAN: I think you have to go back and look to see, you start the pump, open the valve, sets the pressure in the containment doesn't drop and discharge air into the fan immediately.

MR. MOON: It would be a slow transient, so you ought to be able to get the pumps going before the pressure drops.

MR. THOMAS: Absolutely, yes.

MR. MOON: So it doesn't seem like you need the footnote.

MR. HALL: Why? If you open the valves and you start the thing, the fan, and your outside pressure is less than 14.6, you can't do it.

MR. MOON: No, you do this while your pressure's at 14.6.

MR. HALL: How do we know whether or not the pressure's going to drop below that.

MR. THOMAS: The reason it was proposed the way it is is this: is you've got some purge inlet and some purge outlet valves. You have the fan on the supply side or between the atmosphere and the purge inlet valves. The proper valving operation here is first of all you don't want a pressure transient down the line. What you would do is open the purge outlet valves to equalize --

Excuse me, let me go back. You are in a situation where atmospheric pressure was below 14.6. And you felt that you had to increase pressure in the containment. The logical way to do that is to open the outlet valves and equalize pressure with the atmosphere, so when you open the inlet valves, you don't get a pressure surge back through there,

okay.

Then close the outlet valves, start the -- and I don't recall now whether yo' start the fan first or then open the inlet valves -- but the reason for this is so you don't get a pressure surge back the line and as a result of that have pressure from inside the containment coming back through that fan.

That was the reason it was proposed in that way. It would allow you to equalize pressure before you brought that fan on to increase pressure.

MR. BRINKMAN: I guess my thought on that would be why don't you leave the outlet one closed, start the fan and open the inlet valve and dump some air in?

MR. THOMAS: They looked at that. They feel that the instrumentation was within the accuracy to be able to detect it. At the same time, they felt that it was a better operating practice to go this way, better operating practice in the overall scheme of things.

If you folks feel that it is a problem, and --

MR. BRINKMAN: I see the problem, yes.

MR. THOMAS: Okay. Let us go back and first take a look at it, and second of all, again, we've indicated this would be part of the Rosemount package, and we'd have to submit obvious justification as part of that.

I have question. Is your concern with the fact that

you're concerned about what we've looked at the two considerations you've brought up. The NPSH was done on the lowest possible atmospheric pressure and I don't know what that was right now, but it was well below the 14.6.

The other consideration of the spray is obviously when you're equalized with the atmosphere, you're not going to be below the atmosphere. The spray limitation is when the outside pressure is high and containment pressure is low.

MR. BRINKMAN: That's true.

MR. THOMAS: And then you could go down from there.

MR. BRINKMAN: Yes.

MR. THOMAS: So strictly from a safety analysis point of view, those two concerns have been looked at.

MR. BRINKMAN: The other concern that I have is a notation here which would in essence say don't worry about the internal pressure of the lower limit with this footnote, and I just have a bad feeling about that.

MR. THOMAS: Okay. And maybe we've got to make this a little stronger. I feel that the second part of the sentence on 6.9 that says, the supply valves are open as allowed in Spec 3.6.1.7, it was our attempt to solve your concern. But maybe we could make it stronger than that.

MR. BRINKMAN: Okay, I think you should.

MR. THOMAS: Okay.

MR. BRINKMAN: Are we ready to go on, then?

MR. THOMAS: Yes.

MR. BRINKMAN: Okay. You've handed me here a page 6-12 which was not in the package that I handed out at the beginning of the meeting. Is that intended to be in there or not? I had not seen this before.

MR. SWEENEY: Yes.

MR. THOMAS: It should have been in there.

MR. HALL: Do you have page 6-12 there, Cal? That as you can see, that was part of the, that was the high energy line break alarm that I spoke of earlier that was required to be put in. And when we put in the Rosemounts, we did the calculation, and determined that it really was not necessary since the environmental change in the reference leg heat up error was only three tenths of a pound.

MR. BRINKMAN: Okay, and that's in an analysis to be submitted?

MR. HALL: That is an analysis, and in fact if you'll look at the stuff we've done, it only affected steam generator water level by three tenths of a percent, and we threw in a little bit of extra conservatism into the set point and set it at 14 percent using the Rosemount transmitters and felt that would obviate the need for putting in a new alarm.

MR. BRINKMAN: Okay. There's a page here which the observers have not seen before because it wasn't in their package, and if you want this included, I will make a copy of

it at a break here and provide everybody a copy.

MR. HALL: That's fine.

MR. SWEENEY: In essence, that footnote was put in there back during the review as a limitation on those valves because of the initial conditions per se of the analysis that was done at that time.

MR. HALL: That's true. That's why we ended up putting the 14.6 in there.

MR. BRINKMAN: I see the notation here on page 6-12 and the last part of it is, until installation of the narrow range containment pressure channels alarms have been completed. I think what you're telling me now is that's completed. So there's no --

MR. HALL: No, what we're saying is that we don't need it.

MR. BELANGER: That was so we did not have to take into account reference leg heat up error for the set points we used with the veritrack transmitters. The set points we've proposed with the Rosemount transmitters which we've shown here incorporate the maximum reference leg heat up error already and that's in the package that will be fully explained in the package.

MR. MOON: I think the staff's going to have to be satisfied what's in the SER before this change is made.

MR. SWEENEY: There will be significant amount of

technical review that they will require safety evaluation checks.

MR. BRINKMAN: Before we can meet the 6-12, but I'll provide everybody a copy of it here in a few minutes.

Let's go on to page 6-13 then.

MR. HALL: This was a request and we didn't feel it was unreasonable by our operations department shift superintendents that they wondered why the necessity was to check to insure that each one of these valves is closed every thirty one days if we don't go into the containment once we lock it up and insure that everything is done and close down the containment, is it necessary just to go in every 31 days and check these valves if there's not been any entry in the containment since they closed it up. We thought that was probably a viable comment.

MR. BRINKMAN: I hear your discussion and Cal and I did talk about this one I think yesterday. And we noted a relationship here which I don't know if you noted or not with the spec on page 6-1. Which there is a footnote saying you don't have to do it for valves that are located inside the containment. The notation that you've added on page 6-13 to the surveillance there, the surveillance on page 6-13 that the notation is on is something that is in the standard but I see a conflict.

MR. HALL: We saw that footnote but we were concerned

over whether or not that was strictly applicable to the containment integrity for the isolation valves or whether that footnote could be applied, and that was the concern that they had.

MR. MOON: On page 6-1, it does apply to --?

MR. BRINKMAN: Deactivated valves.

MR. MOON: Okay, but the surveillance applies to valves that are capable of automatic isolation, which these purge valves are, I think, right?

MR. SWEENEY: That's correct.

MR. HALL: No, the 36 inch are closed and locked closed.

MR. THOMAS: But they also get a closing signal if you're in like refueling. They do get a signal. They do have the physical capability of sending a signal to those valves.

MR. MOON: Is there a question of whether or not entry into the containment is the only factor to be considered, or are there other things that affect the integrity of the closure?

MR. HALL: You lost me, maybe I missed something here.

MR. SWEENEY: Are we asking them to interpret for us this particular footnote in tech spec 3.4.6 that that includes the tech spec on 4.6.1.7.1? Is that what we're asking for?

MR. BRINKMAN: No, I do not intend for this on 6-1 to

be applied to page 6-13.

MR. HALL: We didn't think so.

MR. BRINKMAN: No. But there's a relationship there.

MR. HALL: Yes.

MR. MOON: I do not recall that other plants that have been recently licensed have had such a footnote as this. I'm trying to recall if there's been some precedent set here. I don't recall if there has. Is there an undue hardship involved here?

MR. HALL: No, we just didn't see the need to go inside a containment if you didn't have to.

MR. THOMAS: I think the question is this. If the only reason that one was going in the containment was to verify the locks on these valves, is it necessary to do it, because if you're concerned about tampering or something like that, again during an operating period, there's no justification. During a shutdown period, it's obvious there's no problem in doing it, and we can understand it. But during an operating period, it just doesn't make sense to go in there simply to look at these valves. Now, if you go in for other reasons, then it makes sense.

MR. HALL: I think that's basically what we said.

MR. MOON: I guess it would be my recommendation that we attempt to investigate the background of this.

MR. BRINKMAN: All right. I'll go along with that.

MR. HALL: Okay, so you're going to take it and look at it and let us know something?

MR. MOON: Have you considered alternatives to the note such as checking each time you do enter the containment?

MR. HALL: I think that's basically what we said.

MR. MOON: I'm not sure that's what it says.

MR. HALL: It says that these valves do not have to be checked until containment entry has been made. So if we went back in there again, --

MR. MOON: But the note doesn't say you make it, the note doesn't say you do the surveillance if you make an entry in 15 days.

MR. HALL: Say that again?

MR. BELANGER: He's looking at more frequent because you've gone in.

MR. HALL: Oh. I don't know. My gut reaction is, no, because if they checked it 15 days ago, and they went in 15 days later, they wouldn't check it again, because it wouldn't be up on our repetitive task sheet.

MR. BRINKMAN: Let us look into it.

7-1 is another generic, as is 7-3, I believe.

MR. BELANGER: No, 7-3 is not.

MR. BRINKMAN: 7-3 is not, okay.

MR. BELANGER: It is the same change as we have looked at previously in that MODES 1, 2 and 3 go into cold

shutdown. However, there is precedent in this particular instance.

MR. HALL: Yes, I went back and looked at some of my old paper work in my files and we had this at shutdown MODE 4 and several of the copies that we had that went back at 4 and we even went and pulled a couple of other existing --

MR. SWEENEY: Shearon Harris.

MR. HALL: -- we pulled Shearon Harris and there's is -- I think that was the type, because we corrected this one time.

MR. BRINKMAN: Cal, can we check this if it's at variance with the standard rule, we'll change it.

MR. HALL: I don't know what the standard is.

MR. BRINKMAN: I don't either.

MR. HALL: We picked this up this morning and I went over and pulled the Shearon Harris tech spec and all of there's are hot. And I did go and look back at some of our older stuff, the real old files that I had on when we were doing this.

MR. BRINKMAN: We'll check it.

Page 7-23?

MR. HALL: These were inadvertently left off when we did this. We went back and found out that this stuff was all there, all the temperature things there, the computer stuff is there, it had been monitoring the thing ever since day one, it

just did not get picked up and added to the list. And we felt it should be on the list. Our residents agree with us that it should be on the list, so --

MR. BRINKMAN: Sounds to me like we ought to add it then.

MR. BELANGER: Yes, added to the list.

MR. BRINKMAN: Page 8-6 I think is the next one then?

MR. BELANGER: Yes, the changes on 8-6 and 8-8 were proposed by the staff, deleting the words, shutdown, emergency (accident) and then on page 8-8, emergency (accident) twice.

MR. BRINKMAN: Who recommended that these come out? Ed Troffier?

MR. BELANGER: Yes.

MR. SWEENEY: There were several conference calls to discuss this. This was the result of our interpretations of those telecons.

MR. HALL: This was not an interpretation. He specifically said, you will take this word out and that word out. And we said, okay, we will take this word out and that word out.

MR. THOMAS: To us, it doesn't make any difference. Because of the way we're testing, it doesn't make any difference. I would guess his concern is legitimate.

MR. BRINKMAN: This surprises me a little bit in that I recall some of the work that went into developing this

surveillance. And the first one on top of page 8-6 there, connected shutdown loads, the intent was there to do a testing to verify that in a shutdown condition, you have different loads than what you did in an operating condition automatically and sequentially loaded onto the diesel. And the surveillance there was to check that sequence and make sure it loads properly.

And down a little further on page 8-6 and on page 8-8, the intent was there to check the sequencing under the loads of true accident conditions. And I don't know what's happened here.

MR. HALL: Well, actually, it does nothing because our sequencer is such that certain loads are loaded on the diesel when you get a loss of off site power and certain loads are loaded on the diesel when you get an automatic start, and you don't get a loss of offsite power. So consequently, we went back and looked at what was going to happen under each one of these scenarios and the words don't mean any differences as to what we load on the bus with the loss of off site power test and then with an automatic start test with off site power available.

So the deletion of the words does not change what we sequence or load on the bus.

MR. MOON: You're saying which loads and how they're sequenced is independent of external events?

MR. HALL: It's independent of the words.

MR. THOMAS: No, it's independent of external events.

MR. MOON: For your design?

MR. THOMAS: Yes.

MR. MOON: But not necessarily for all designs?

MR. THOMAS: When you say, external events, are you talking about plant conditions or --

MR. MOON: About combinations of LOCA and loss of off site power.

MR. THOMAS: Well, loss of off site power is different than a LOCA.

MR. MOON: You have a different sequence of loads.

MR. THOMAS: It's not as much a different sequence but certain loads aren't activated.

MR. SWEENEY: Certain loads aren't required, certain loads are in each scenario.

MR. HALL: That also plays a part as to whether you still have off site power available or you don't have off site power.

MR. MOON: So in any non-external event, you would get a different loading sequence on the diesel.

MR. THOMAS: That's right.

MR. MOON: Why should we not simulate both of them?

MR. HALL: We do.

MR. BRINKMAN: You didn't?

MR. HALL: No, we do.

MR. BRINKMAN: You do?

MR. HALL: Yes, we do.

MR. BRINKMAN: That's what we, as I recall this surveillance, originally intended to do.

MR. MOON: So that seems to be consistent with leaving the words in instead of taking them out.

MR. HALL: We don't care.

MR. MOON: I'm just trying to understand your system.

MR. HALL: Yes, we did not request this change. For whatever reason we're still not sure of, you all wanted this changed.

MR. MOON: Okay, you can live without the change.

MR. HALL: Right. We didn't have any problems with it the way it was.

MR. BRINKMAN: We will review it.

Would anybody like to take break right now before we start the administrative controls?

MR. HALL: Yes.

MR. BRINKMAN: Let's take ten minutes.

(Whereupon a brief recess was taken.)

MR. BRINKMAN: During the break, I made copies of the two items we discussed earlier, and I'll pass those out. Here's a copy for the Reporter.

Continuing on then with the package that I passed out

earlier, we are now at page 6-1 of the administrative controls.

MR. BELANGER: What we've got here on pages 6-1 and 2 and 3 are the changes per generic letter 8806. And deleting specific information. Specifically, incorporating the information in textual form.

MR. BRINKMAN: I looked at that earlier this morning, and it appears to me is that you followed the generic letter verbatim.

MR. THOMAS: We had one question with regard to that and that is, in the generic letter where it talks about off site and on site organizations, our whole organization is on site, and by on site, I mean on the same place as the station is located. And I don't think that the words on-site and off-site in our specs are really applicable.

And I wanted to throw out the idea of just changing that to, organization, to say, the organization shall be established, --. And I just wanted to get your feelings out that?

MR. BRINKMAN: Cal, I'm going to defer to you because you are far more familiar with this than I am.

MR. THOMAS: We could also say, the New Hampshire Yankee Organization. But we really don't have an off site organization per se. That is in line with responsible for plant operation.

MR. MOON: And it spells out criteria for each?

MR. THOMAS: No, not really.

MR. MOON: Well, is there any part of corporate management that is off site?

MR. THOMAS: Not of the line management. We do have, for example, the Yankee Atomic Electric folks that supplement our engineering folks that are off site. But they don't have line management responsibility which this is really trying to address.

MR. MOON: But might they have in the future?

MR. THOMAS: I don't think so.

MR. SWEENEY: If that ever happens, there'll be other application amendments that would have to be submitted, so --.

MR. THOMAS: The reason I brought it up is I wondered if you had run into this before and had any thoughts or preconceived ideas about it?

MR. MOON: I personally have not been in direct line and generation of the generic letter. I think it's appropriate for me to make some inquiries. But my offhand impression is it does no harm to say off site and on site that it applies to whichever you have or both right.

Is your problem increased confusion, or?

MR. THOMAS: Well, I think the way the first sentence under 6.2.1 is written, it says on site and off site organizations shall be established for unit operation and corporate management, respectively.

MR. MOON: Okay. I understand what you're saying now.

MR. BRINKMAN: You'll look into it, Cal.

MR. MOON: What would you recommend?

MR. THOMAS: Just to say, an organization shall be established for unit operation and corporate management, period. And then the second sentence would say, the organizatior shall include the positions for activities affecting the safety of the nuclear power plant.

MR. MOON: Those words aren't in this package?

MR. THOMAS: No, they are not. I'll be glad to mark this up if you would like.

MR. HALL: What we intend to do, we're going to go ahead and make this submittal. We just wanted to give this, because we don't know just exactly when this other thing may happen with the licensing and so forth, and we thought that this was, there have been changes in the organization.

MR. MOON: But you prefer to make the submittal with the changes.

MR. HALL: We prefer to make the submittal with the correct things in there so that all you have to do is -- and send us back the paper.

MR. MOON: Right. I'll get word back to Don.

MR. HALL: Okay. If you could do that and get it back to us, we would probably go ahead and get this. The

reason we sent this down is so that you could see and we let you know what we're coming in with, and that it will be on its way down. And we'd like to get the right words in, so that --.

MR. BRINKMAN: You are intending to submit that then as a proposed revision to the existing fuel license?

MR. THOMAS: Yes. In accordance with the generic letter.

MR. BRINKMAN: In accordance with the generic letter. Page 6-8.

MR. HALL: Yes, page 6-8, what we have done is combined the senior vice president and president position and the word should read, in lieu of NHY President and Chief Executive Officer, it just should be, NHY President, and no chief executive officer.

MR. BRINKMAN: The words in here on page 6-8, and Chief Executive Officer should be deleted?

MR. HALL: Correct.

MR. BRINKMAN: In all these places?

MR. HALL: Yes.

MR. BRINKMAN: Such that the change would be NHY President replacing senior vice president?

MR. HALL: Correct.

MR. BRINKMAN: Throughout all these places.

MR. HALL: That's correct.

MR. BRINKMAN: I understand that.

MR. HALL: All right. Same way on the bottom of page 6-10.

MR. BRINKMAN: All right, how about 6-11?

MR. HALL: 6-11, yes, same thing, except for one other item. And let's get that one first. There are three places I believe on this page.

MR. BRINKMAN: I see three pages up at the top of page 6-11.

MR. HALL: Right.

MR. BRINKMAN: And then the other change at the top of page 6-11, 14 days proposed change to 30 days.

MR. HALL: Right.

MR. BRINKMAN: I think you've heard this suggestion before.

MR. MOON: Yes. I've heard this many times. It's generic, right?

MR. HALL: Why did I know you were going to say that.

MR. MOON: Or is it that everybody else can do it and Seabrook can't.

MR. HALL: Have other people done this?

MR. MOON: I believe so. Other people had this 14 days spec.

MR. HALL: No, I mean has anybody gotten it changed to 30?

MR. MOON: I don't recall that anybody has. I've had

a lot of requests.

(Laughter)

MR. SWEENEY: What was the basis for 14 days? Since we've got some experts here. Just out of curiosity, do you remember?

MR. HALL: Yes, I mean, here are two guys that helped write this stuff. I mean, --

MP. BRINKMAN: It was to provide a prompt solidification of copies of the report.

MR. HALL: You feel that 30 days is prompt enough? These guys haven't been with NSARC and seen the volume of paper .hat we have to go through. I mean, we had one yesterday, --

MR. MOON: No, the staff is very conscious of the paper problem you're submitting. And this question's come up many times. I don't think there's any formal request as a lead plant item before the staff at this time, at least none that I know of.

MR. HALL: Should we consider this a lead plant request?

MR. MOON: Do you have an endorsement at this point?

MR. HALL: No.

MR. SWEENEY: I think this would be another item --

MR. HALL: We can put it under the short term. We can take it to the owners group. I don't think that this is really a high priority item. But it is a real problem to get

these things out within 14 days. I mean, that's a lot of paper work.

MR. MOON: We appreciate the arguments. And I guess the other question is I think other places in the tech specs are similar reporting times that other people should be making also. I guess at this point, I do not know whether or not the owners group my have some proposal before the staff or have been considering it.

MR. BELANGER: I do not believe that the Westinghouse owners group has.

MR. MOON: Okay. And I'm suggesting these others in that maybe you'd want to consider more than just this one item.

MR. HALL: Oh, yeah, we can go back and look at some of these things. This was the only one that's been giving our folks a real hard time. And we went over this ground once before.

MR. MOON: I understand.

MR. BRINKMAN: You're not alone going over it, but as I recall years ago, many others asked for longer time and it was not accepted at that time. I don't know what the environment is right now, but I think that Cal's suggestion here is that you may want to bundle this with other extensions.

MR. THOMAS: One little word of background just for your information, that part of the reason for the request is that the guys do a very very nice job. They do a very thorough

job and a typical package would be about the size of this handout. I mean, it's probably 12 to 15 to 20 pages of handwritten material from the meetings, and that's part of the reasons where it's a burden, not at all times, but occasionally to get it out within that time frame. And that's really the basis for the request.

I think we hear what you're saying, and if that's the way you feel that it should be treated, then that's the proper way to treat it.

MR. BRINKMAN: That takes us to the last page of my package.

MR. BELANGER: Excuse me. Why don't we finish this.

MR. BRINKMAN: All right.

MR. BELANGER: This should have been part of what as just discussed. This page 6-5 was inadvertently omitted from the other organizational changes that you have received from us. The position of executive assistant has been incorporated into the vice president of engineering, licensing and quality programs and therefore that title change should be made on that page.

MR. BRINKMAN: All right, this is page 6-5. If we want to take a two minute break here, I will go make copies of it and pass them out to everybody.

MR. THOMAS: Yes. Well, one other question. Did you want for your benefit a mark-up of the proposed 6-2-1 which had

to do with the on site and off site organization to just take a look at? That's the item we just discussed.

MR. BRINKMAN: We just discussed that. I was under the impression that you were going to go back and --

MR. HALL: Well, Cal was going to talk to his folks about the on site off site thing.

MR. BRINKMAN: Right.

MR. THOMAS: But I can give you a mark-up just for your benefit as to what we might propose to solve the problem. It's fairly simple to do.

MR. SWEENEY: I think that's a good idea, so that Cal, when he has the opportunity to talk to his folks, he at least knows what we intend to propose as the change.

MR. BRINKMAN: That's fine.

(Whereupon, a brief recess was taken.)

MR. BRINKMAN: All right, I just passed out copies to every one of page 6-5, Administrative Controls, and a licensee proposed change to clarify their organization of on site and off site of their submittal that they gave to me yesterday for the organization changes in accordance with the generic letter.

I think that we're ready to proceed onward or have you got something, Rob?

MR. SWEENEY: Are we finished with this package now?

MR. HALL: We don't need to go over 6-5, do we? That's fairly clear.

MR. BRINKMAN: That's just title changes.

MR. SWEENEY: And the last page, the bases of Section 3.4.1.2.

MR. HALL: That's to do with the charter itself. We will carry on with that when we decide what we're going to do with the other thing.

MR. BRINKMAN: All right, fine.

Earlier, you gave me two pages which I have made copies of. One is on the remote shutdown system, page 3\4 3-47, which I'll pass out now. This has to do with the remote shutdown instrumentation.

Would you care to explain that one to us?

MR. BELANGER: There was an error which occurred in the development of this table initially for the Seabrook tech specs. The T sub-C and T sub-H were previously listed on one line with the location listed as CP108A and B. They were later split to two lines, one carrying CP108A and one carrying CP108B. Each one is located on CP108A and B. So it's correcting an error in the table.

MR. MOON: And that's consistently two channels.

MR. BELANGER: Yes.

MR. BRINKMAN: The other page is page 3\4 6-3. And this has to do with containment leak ray testing.

MR. HALL: Yes. And what we're doing here is we're deleting the words, "using the methods and provisions of

ANSI\N45.4-1972," based on the recent issuance of a rule change.

MR. SWEENEY: That's a proposed rule change.

MR. HALL: Is it a proposed? It's the proposed rule change to endorse mass point balance analysis. We are proposing that you delete using the methods and provisions of ANSI\N45 too because if you read Appendix J to 10 CFR 50, it refers you to ANSI\Section 3 and Section 3 says you have to use ANSI\N45.4-1972.

MR. SWEENEY: In essence, this already as exists is redundant to Appendix J.

MR. HALL: It's redundant to Appendix J and by deleting it, when and if the new rule is approved, we won't have to make any changes then or at that point in time, either.

MR. THOMAS: And likewise, if the rule isn't approved, it's included.

MR. HALL: If the rule is not approved, we still have to do what Appendix J says with regard to section 3.

MR. SWEENEY: And N45.4.

MR. BRINKMAN: So all you're saying is it's redundant.

MR. HALL: It's redundant.

MR. SWEENEY: And affords flexibility later on if and when the rule change that's been proposed goes through and the likelihood of that is pretty good from industry indications.

MR. BRINKMAN: Did you, by any chance, go back and

examine when ANSI\N45.4 was put into Appendix J?

MR. HALL: No. We just went and looked.

MR. BRINKMAN: I think was originally put in the surveillance here before Appendix J was revised to include that. I think that's why we put it in the tech spec. I don't remember for sure.

MR. HALL: I couldn't tell you. All we did was we went and looked in the Appendix J and then went and looked in the ANSI, and it was there, so we said it's redundant. And if we went ahead and make this change and if the other rule is approved, and we're fat and happy.

MR. MOON: Well, if the rule is implemented, will there be other changes to this section?

MR. HALL: I don't think so. Our people that take care of this did not indicate. They indicated that this would satisfy any problems that they might have.

MR. MOON: I've had indications in other tech spec reviews that people thought there would be other changes in this section apart from that one. It seems to me like all you're asking for is to take it out now to avoid changing it later.

MR. SWEENEY: This is better not only to us but also to the NRC administrative changes that would be required.

MR. HALL: Well, it is redundant also.

MR. MOON: It's redundant and does no harm being in

there.

MR. HALL: Right, but it would save a problem later on.

MR. BRINKMAN: Cal, in their defense, you say it would do no harm to have it in there. It does harm if we leave it in there, and Appendix J is subsequently changed to the lead reference to this, then this says you'd have to according to Appendix J using ANSI\N45.4-1972 in that they would be required to do the retesting in accordance with that if Appendix J is subsequently changed to give them other options. In that light, it does them harm, and if in fact, Appendix J already includes this as they indicated and I suspect it does, I haven't looked at it for a long time, taking it out probably does no harm at this point.

I don't know. You are the current resident expert on tech specs. I'll defer to you.

MR. MOON: Let me take this as an item that I'll research.

MR. BRINKMAN: Anything else?

MR. THOMAS: We thought we might give you heads up on a couple of other areas that we're looking at with regards to tech spec changes. They weren't included in today's packet but we are looking at them down the road.

Are you in a position to talk about those?

MR. HALL: Let me find my piece of paper. One of

them, Cal, is the electrical spec 3.8.1. We don't have any marked up here, but if you'll recall, we had that go around and we made the change in there and knocked 72 down to 24 hours for one of the allowed outage times and Sandy was the one, Sandy Israel was responsible for that, if you'll recall.

MR. THOMAS: Let me be more specific. The present configuration at Seabrook Station has two off site power lines. And as a result of that, you folks opted to limit the allowed outage time for one of those lines going out of service from I believe it was the standard spec of 72 hours down to 24 hours. And at that point in time, we indicated to you that we'd be back at the point in time we put in the third line, if you recall, the second line was deferred due to financial considerations -- excuse me -- let me reclarify that. Due to permitting considerations combined with a need for the line at the time, or at least a perceived need for the line at the time.

Subsequent to that, the decision has been made to go ahead with the line about the time frame that we expected. The line is being installed right now. It's expected to be into service in the very early part of the third quarter of this year. And at that point in time, we would propose that the allowed outage time for a single line be that of a standard tech spec, which would be the 72 hours.

MR. MOON: For three lines being operable?

MR. THOMAS: For the condition with three lines operable, that's correct.

MR. MOON: And then you would want a two-tier thing so that if two of them were out, it would be 24 hours?

MR. HALL: No.

MR. THOMAS: I think we'd have to look at the standard spec with regards to that.

MR. HALL: I think we'd still like to go back to the argument, and I don't believe that as I stated long ago and far away, we had a real hard spot with Sandy's justification for reducing that from 72 to 24 hours based on what we saw that he wrote. And still feel that he was way off base and don't feel that his technical justification was adequate to justify reducing that because outage times with six systems have habitually shown that if you fail an SF-6 system, you're out of line for two weeks.

And what the tech specs is looking for is switch yard failures, things in your switch yards, transformers, breakers, that type of things. And the SF-6 is not something that you're going to repair in 72 hours. And for whatever reason, we never understood, and still like to revisit that is the fact that the 72 hours, if you fail a breaker, you may not be able to fix it in 24, but you can fix it in 72 or 36 or 48. And it's severely limits us for no real particular reason other than the fact that Sandy had an idea.

MR. MOON: Okay. I guess I'm confused as to what your proposal is.

MR. HALL: Well, what we're going to propose is we've got three lines coming back in. And that was the condition that Sandy put on us. He said, well, when you get the third line available, come back and visit us and we'll see about changing it.

And we're going to come back in based on that, and we'd like to look at some probabilities here since he figured that that was what he used to reduce the 72 to 24.

MR. MOON: Well, is your proposal going to be to have an LCO that says two must be operable on a 72-hour outage sustainment?

MR. HALL: Basically, yes.

MR. MOON: Even though you have a third line.

MR. HALL: Even though we have a third line.

MR. MOON: So you're really asking to revisit the probabilistic assessment?

MR. HALL: Asking to revisit the probabilistic assessment.

MR. MOON: Okay, that probably involves significant staff research.

MR. BRINKMAN: Sure does.

MR. HALL: Well, we realize this would have to be something after --

MR. MOON: The reason I suggested the 72 and the 24 as an alternative to revisiting the risk assessment would be go ahead and put a two level action statement in with two different times, depending on whether one or two are out.

MR. THOMAS: That might be an interim step. Let us take a look at that.

MR. HALL: Okay. I think that might be entertainable, yes.

MR. MOON: I understand that your feelings are strong on the risk assessment. My recollection was that the staff was considerably strong in its conclusions. I would see that as a significant effort.

MR. THOMAS: Okay.

MR. MOON: It's not that we can't do it, but --

MR. HALL: Okay, we appreciate the perspectives here, and that's the reason we brought it up. We could propose something, or will look into proposing something once that line is in and up and it should be, what, June?

MR. THOMAS: I would expect it will be in full service by July. It might be at the end of June, but certainly in full service by July.

MR. MOON: Then you'd anticipate a submittal in July.

MR. HALL: Well, we'll look at the schedule as we approach getting this line in, we'll see what the schedule is with a five percent license and so forth. We'll be back in

touch regarding that point.

MR. MOON: Fine.

MR. HALL: One other area that I wanted to touch base with you guys on, and I'm not sure whether you're fully up to speed on it. Maybe you are, but I know we are doing a modification to our control room ventilation system. And as part of that, we're going to have to change the tech specs. The staff is currently reviewing the proposed modification, and I think we have some questions that we have to provide some answers to the staff on. We're going to make sure that everything is okay, and that all the questions are answered for the staff and they're happy with our design. Then we'll get some proposed tech specs in here.

But I did have a question up front.

MR. MOON: Do you have a proposal to amend the FSAR?

MR. HALL: When the staff finishes with the review of the proposed design, we will submit an amendment to the tech specs.

MR. MOON: And also modify the FSAR.

MR. HALL: As necessary, yes. They are reviewing the modification now which includes proposed changes to the FSAR. All of that's there.

MR. SWEENEY: We intend to finalize that technical package very soon and we'll follow up with an official tech spec request as a result of staff review.

MR. MOON: I guess somehow or other the two ought to be before the staff at the same time, all in one package. The tech spec and the design change.

MR. HALL: You can't put out a proper tech spec until you get the designed approved.

MR. MOON: Well, you can have the proposed tech spec so that the reviewers are looking at it while they are looking at the design.

MR. HALL: That's something I think that we have to decide.

MR. SWEENEY: The tech spec always follows the design because that's how you implement the limits of the design. And we've taken a two prong approach and that's the best approach in my mind.

MR. HALL: Processing these things through our house to get them to you is as laborious for us as it is for you to process them through your house, so that the number of times we have to process them as you is preferable to keeping them to a minimum, so that's why we're proposing this.

But one of the questions that I did want to ask if you've got yours there, if you look at page 7-16. Excuse me. Surveillance Requirement A. Control room area ventilation systems shall be demonstrated operable at least once per 12 hours by verifying the control room area ventilation system is maintaining the temperature of equipment instrumentation the

control room area below its limit equipment qualification temperature.

Since we and most of the new plants and probably the old ones too are beginning to get these tech specs that have the area temperature requirements in them, we were looking or entertaining something here in this surveillance that would read to the effect, at least once per 12 hours of verifying that the control room area ventilation system is maintaining the temperature of equipment and instrumentation in the control room area in accordance with the requirements of Technical Specification 3.7.10, which is the area temperature monitoring tech spec.

It would certainly take away some confusion and tie us directly to what you're looking for with regards to what this is supposed to be.

MR. MOON: I'm not sure that I understand what your change is really saying.

MR. HALL: What we're saying is that this surveillance would be tied directly to the requirements of specification 3.7.10, tech spec 3.7.10.

MR. MOON: That's where I get lost.

MR. HALL: Why is that?

MR. MOON: Because Tech Spec 3.7.10 doesn't tell you anything about the temperature of the control room -- oh, areas, okay. Okay. These are the starting temperatures which

would assure that you do not exceed the equipment qualification temperatures.

MR. HALL: Right. Yes. And by so doing, that will ties us to doing what's there if we exceed the 75 degrees, they wouldn't have a lot of --

MR. MOON: Now, the control room area ventilation system serves some but not all of the items listed in Table 37-3, is that correct?

MR. HALL: The control room area ventilation system serves some of the areas but not all of what?

MR. MOON: Of the items on Table 37-3.

MR. HALL: It's kind of difficult to explain without the whole system diagram in here.

Excuse me, go ahead.

MR. BELANGER: What we're actually trying to do here is make it clear that these two specifications cascade.

MR. HALL: Right.

MR. THOMAS: That's been a source some on site confusion but I think some undue effort on our part and it would just clarify it.

MR. MOON: Let me ask you this. If you simply did as the other tech specs do, have a single temperature like 80 degrees or under 20 for the control room, if you had a specification 37-6 of 75 degrees, it would be possible that some other areas served by that ventilation system could exceed a temperature in this table, is that you're suggestion?

MR. HALL: Say that again.

MR. MOON: If you followed the pattern for most recent NTOLs, you'd simply put a temperature of 75 degrees in here.

MR. HALL: Okay.

MR. MOON: For the control room area itself, right?

MR. HALL: Okay.

MR. MOON: If you did that, then am I to understand that you're saying that would not necessarily insure that you

might not violate one of these other temperatures?

MR. HALL: No. The problem we have here is that the cooling effect in the control room is controlled, is different as it's tied into the control room area, the control room habitability system. The control room habitability system and the air conditioning system that keeps that room cool are tied together. They are not in I guess more or less a parallel situation would be more apropos than a series situation, than a series hook-up. Such that you could lose one train of your control room habitability system and maintain control room habitability and still maintain both, maintain appropriate cooling, okay, of the control room equipment.

Conversely, we could maintain both trains of our control room habitability system but lose a control room chiller which would force us into a tech spec action statement that is not really applicable.

You follow me?

MR. MOON: Well, not completely. The purpose of this surveillance in specification 4.7.6 is to assure the operability of each of the trains.

MR. HALL: Of the control room equipment.

MR. MOON: Of each of the trains.

MR. HALL: Oh, yes.

MR. MOON: Each train by itself or --

MR. HALL: That's what I'm saying. This is

incorrect. It shouldn't be like this. If at least once per 12 hours you have to verify the control room area ventilation system is maintaining the temperature and equipment and instrumentation in the control area below its limiting qualification temperature, I don't have any problem with doing that

MR. MOON: Okay. Well, I'll withdraw what I said. The current tech specs in most plants simply say demonstrate that the temperature is below such and such value, which does nothing to tell you about the operability of the equipment.

MR. HALL: Okay.

MR. MOON: But now if you try to make it into a surveillance that does say something about the operability of the equipment, that's what you're trying to do, right?

MR. HALL: Yes. No, that's what I'm trying not to do, as far as this one is concerned. Because I can maintain control room habitability, both trains, I can have both trains of my control room habitability operational, operable, whatever you want, and meet these LCOs just fine. I can lose a chiller, if you will, and still maintain my control room habitability or still maintain my control room temperature below 75 degrees without losing two trains of my control room habitability system and I don't want to be forced into an action statement because I lose a chiller and still have both trains of my control room habitability system available.

I would like this to be tied to the control room temperature, you know, the area temperature monitor the way it's meant to be, what we're actually trying to do here. And my control room habitability system do what it's supposed to do here.

MR. MOON: Am I correct that in part what you're suggesting is making generic correction to the standard tech spec?

MR. HALL: No. This is in no way generic. This is plant specific procedure. It is not generic unless UNC decides somebody else is likely to do ours.

MR. MOON: Well, the present --

MR. HALL: I'm not trying to get out of doing anything. All I want to do is get the right thing applicable to the right spot.

MR. MOON: -- the present technical specifications do not really address the question of air conditioning performance.

MR. HALL: That's correct.

MR. MOON: And yet that is an important function.

MR. HALL: That's correct.

MR. MOON: And in your proposal, you're still not going to try to correct that lack in the present tech specs?

MR. HALL: Well, no. That's what area temperature monitoring tells you to do. You have to maintain those areas

at temperatures less than or equal to whatever the equipment qualification is in those areas.

MR. MOON: But that's not the design basis for your air conditioning system.

MR. HALL: No, that's not the design basis for the air conditioning system.

MR. MOON: I thought the design basis for air conditioning systems take care of the heat moisture in the incident.

MR. HALL: Depending on the area.

MR. MOON: Yes.

MR. HALL: Depending on the area, that's right.

MR. MOON: And that also enters into the qualification question.

MR. HALL: That's right. And that's why ours is designed to control and maintain the temperature we have over here.

MR. MOON: During normal steady state operation.

MR. THOMAS: Normal steady state operation and the worst initial conditions. In other words, your highest temperature.

MR. MOON: But what I'm trying to put together is the question of whether you succeed in doing what you intend to do during the incident is question both the initial temperature and the performance of the air conditioning.

MR. HALL: If we have to bottle up the control room, the air conditioning is usable and will maintain the equipment at 75 degrees or less.

MR. MOON: There's nothing in the current tech specs that covers the performance of the air conditioning.

MR. HALL: No.

MR. MOON: Were you proposing to put that in?

MR. HALL: No.

MR. MOON: Do you understand what they're proposing?

MR. BRINKMAN: No, not totally.

MR. HALL: I'm not trying to change anything what you've got here other than to get it to the right spec to what it's supposed to be doing for Seabrook. I'm not trying to change anything. I'm not trying to short circuit any tech spec or requirement that's there. I'm just merely trying to tie the correct surveillance to the correct spec.

MR. MOON: Okay. You essentially are saying you want to make these temperatures the ones that apply to the correct surveillance?

MR. HALL: This temperature. This temperature right here.

MR. MOON: Just one temperature?

MR. HALL: Yes, that's the only one. This control room habitability system, we want to tie it to the requirement of this, of this spec, 3.7.10.

MR. MOON: Well, why don't you just put 75 degrees in then?

MR. HALL: Because, this, if I do that, that says that if I lose part of the my habitability system, then I've got to go into an action statement, which is fine. But if I lose an air conditioner and graze about 75 degrees whether I've got both trains of my habitability system available or not, I have to enter this action statement. And they are not the same. They are parallel systems.

And the habitability system has nothing to do with the HVAC system to that extent that it is necessary to maintain habitability.

MR. MOON: The area affected by the control room area ventilation system by implication of surveillance A includes equipment and instrumentation.

MR. HALL: Yes, in the control room.

MR. MOON: And I thought that was equivalent other than in item 1 here?

MR. HALL: No. This is what --

MR. MOON: Doesn't include cable spreading room?

MR. HALL: No. Cable spreading room has its own number. Has a separate ventilation.

MR. MOON: Okay. So again, why is it you can't simply put 75 degrees in here instead of tieing it to a tech spec?

MR. HALL: If you read this, this says, if one control area ventilation system inoperable, restore the inoperable system to operable status within seven days or be in hot standby within the next six hours and cold shutdown the following 30. There is no action statement for two being inoperable, okay. Which leads me into 3.0.3 which says I have to shut down. This says with one inoperable.

But if I lose a chiller here, my other chiller is still capable of maintaining my control room temperature at less than 75 degrees, I have not lost the capability of having two trains of control room habitability, so I'm saying by changing this, this says the surveillance requirement has to comply with the technical specification 3.7.10, I'm tieing the cooling to the spec that it has to be tied to.

And the habitability spec still remains the same. If I lose one train of habitability, I've got seven days to get it back. If I lose both --

MR. MOON: Is what you're proposing any different than simply eliminating surveillance A in this spec?

MR. HALL: No. We could remove it, put it over there.

MR. SWEENEY: Yes it is.

MR. HALL: Yes, it is. You still have to do this.

MR. BELANGER: It's more restrictive than just eliminating surveillance A because if you get into a situation

where you've exceeded the action statement of specification 3.7.10, now you're in a situation where you have action under 3.7.6, also. Because you have not met that surveillance, either.

MR. MOON: Are you saying this is more restrictive than the other?

MR. BELANGER: The action for this is more restrictive than the other.

MR. HALL: But this action's not applicable with what we're trying to do here, for that spec.

MR. BELANGER: So by referencing this from here, you keep the more restrictive actions as are appropriate for the control room ventilations. However, you make clear the temperature requirements for area temperature modules.

MR. MOON: Maybe Don disagrees with me, but I think in general we would rather see you keep it within this spec, even if you have to rewrite the action statement, rather than have them cross connected.

MR. BRINKMAN: That's generally true, Cal. And we tried to make these specs more stand alone than willing them together.

MR. MOON: You could do that by modifying your action statement.

MR. HALL: I don't know. I think what you really want to do here is if you can't keep your control room at 75

degrees or less, you want to do what's over here. If I can't maintain the habitability of this control room, then I want to do what's here.

MR. THOMAS: So what you're saying if you can't maintain the habitability temperature of the control room below 75 degrees, you want this spec to drive it as compared to your other spec?

MR. HALL: No, if I can't maintain it below 75 degrees, I want the other spec to drive it, because I think the standard was written assuming you have an intake that intakes air in through a chiller, through a filter, then through the chiller, and then dumps it in. We don't have that. They're independent to the point that we take air out of the inside of the building that's pumped inside through this system and cooled, and pump it back in and mix it in with the outside air and dump it into the control room.

MR. BELANGER: Making the change to surveillance A, although it does cross tie to the other specification, is in our opinion less of a deviation from the standard than trying to rewrite these actions to cover all the various situations. It's more in keeping with the standard specification.

MR. HALL: There are instances in other surveillances where they do cross reference.

MR. BRINKMAN: I know that.

MR. HALL: And we had quite a lengthy discussion

yesterday, our technical people and engineering people, and felt that this was probably the best way to approach it without totally rewriting the whole tech spec, that this would be the easiest way to do it.

MR. BRINKMAN: I guess my thoughts are, I know of the work that's going on to redesigning the control room ventilation system. I think I would suggest to you that when that's done, review your specs and come up with something.

MR. THOMAS: That's what we'd do anyway.

MR. HALL: Okay. We just wanted to throw this out to see what kind of feedback we'd get, so we don't have to rehash this when I come down with the other one.

MR. THOMAS: And that's fine. I think it isn't something that you've been doing just by your reaction with other licensees and --

MR. HALL: No, I think because the standard tech spec was probably written for a system that takes it off an intake through a chiller or through the filter, then through the chiller, and then dumps it into the room.

MR. BRINKMAN: Yes. It was written as one system --

MR. HALL: As one continuous system, that's right. And ours is different. We don't do it that way. Especially with this redesign, it's really changing things around here. And this is an ideal time to try and get this thing straightened out and make it do what it's really supposed to

do.

MR. MOON: When would this submittal be?

MR. HALL: We've got one more some answers to some questions to get down here to the staff and once that is done and the staff gets their SER completed with regards to the design of the system, then we'll be right after that with the tech specs.

MR. BRINKMAN: Anything else?

MR. HALL: I don't have anything else unless you guys do. That's it.

Anybody else?

MR. THOMAS: I just wanted to express our appreciation to come in here and talk to you folks about this before we send paper back and forth because of the fact that it's saving your resources and saving our resources in sending paper back and forth. And this meeting's been very helpful in trying to get some of these things straightened out.

MR. BRINKMAN: Well, thank you, George. I think it has been worthwhile.

I have nothing further.

And I think the meeting's adjourned.

(Whereupon, at 3:30 p.m., the meeting was adjourned.)

CERTIFICATE

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

Name: MEETING ON TECHNICAL SPECIFICATIONS FOR SEABROOK

Docket Number:

Place: Rockville, Maryland

Date: May 4, 1988

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

/s/ Margaret Daly

(Signature typed): Margaret Daly

Official Reporter

Heritage Reporting Corporation

MONITORING INSTRUMENTATION

SEISMIC INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more of the above required seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.8.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above required seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above required seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01 g shall be restored to OPERABLE status within 24 hours ~~except that triaxial time-history accelerographs shall be restored within 7 days~~ and a CHANNEL CALIBRATION performed within 30 days following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.8.2 within 14 days describing the magnitude, frequency spectrum, and resultant effect upon facility features important to safety.

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS		MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1. Triaxial Time-History Accelerographs			
a.	1-SM-XT-6700 Free Field East Cont. Room Air Intake	± 1g	1*
b.	1-SM-XT-6701 Containment Foundation	± 1g	1*
c.	1-SM-XT-6710 Cont. Opr. Floor	± 1g	1*
2. Triaxial Peak Accelerographs			
a.	1-SM-XR-6702 ~~Reactor Cooling Support~~ Accumulator Tank SI-TK-9C, Elevation (-)6'0"	0-20 Hz.	1
b.	1-SM-XR-6703 ~~Reactor Coolant~~ Safety Injection Piping, Elevation (-)24'0"	0-20 Hz.	1
c.	1-SM-XR-6704 PCCW Piping	0-20 Hz.	1
3. Triaxial Seismic Switches			
a.	1-SM-XS-6700 Free Field	N.A.	1*
b.	1-SM-XS-6701 Containment Foundation	N.A.	1*
c.	1-SM-XS-6709 Containment Foundation	0.025g to 0.25g	1*
d.	1-SM-XS-6710 Cont. Opr. Floor	N.A.	1*
4. Triaxial Response-Spectrum Recorders			
a.	1-SM-XR-6705 Containment Foundation	1-30 Hz.	1*
b.	1-SM-XR-6706 ~~Reactor Coolant~~ Containment Foundation next to SI-TK-9C, Elevation (-)26'0"	1-30 Hz.	1
c.	1-SM-XR-6707 Prim. Aux. Bldg.	1-30 Hz.	1
d.	1-SM-XR-6708 Service Water Pump House	1-30 Hz.	1

*With reactor control room indication

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTS AND SENSOR LOCATIONS	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST
1. Triaxial Time-History Accelerographs			
a. 1-SM-XT-6700 Free Field East Cont. Room Air Intake	M*	R	SA
b. 1-SM-XT-6701 Containment Foundation	M*	R	N.A.
c. 1-SM-XT-6710 Cont. Opr. Floor	M*	R	N.A.
2. Triaxial Peak Accelerographs			
a. 1-SM-XR-6702 ~~Reactor Vessel Support~~ Accumulator Tank SI-TK-9C, Elevation (-)6'0"	N.A.	R	N.A.
b. 1-SM-XR-6703 ~~Reactor Coolant~~ Safety Injection Piping, Elevation (-)24'0"	N.A.	R	N.A.
c. 1-SM-XR-6704 PCCW Piping	N.A.	R	N.A.
3. Triaxial Seismic Switches			
a. 1-SM-XS-6700 Free Field **	M	R	SA
b. 1-SM-XS-6701 Containment Foundation**	M	R	N.A.
c. 1-SM-XS-6709 Containment Foundation**	M	R	N.A.
d. 1-SM-XS-6710 Cont. Opr. Floor **	M	R	N.A.
4. Triaxial Response-Spectrum Recorders			
a. 1-SM-XR-6705 Containment Foundation**	M#	R	N.A.
b. 1-SM-XR-6706 ~~Cont. Elev. Tendon~~ Containment Foundation next to SI-TK-9C, Elevation (-)26'0"	N.A.	R	N.A.
c. 1-SM-XR-6707 Prim. Aux. Bldg.	N.A.	R	N.A.
d. 1-SM-XR-6708 Service Water Pump House	N.A.	R	N.A.

*Except seismic trigger

**With reactor control room indications.

#CHANNEL CHECK to consist of turning the test/reset switch and verify all lamps illuminate on 1-SM-XR-6705.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

a. Each 36-inch containment shutdown purge supply and exhaust isolation valve shall be closed and locked closed, and

b. The 8-inch containment purge supply and exhaust isolation valve(s) shall be sealed closed except when open for purge system operation for pressure control; for ALARA, respirable, and air quality considerations to facilitate personnel entry; and for surveillance tests that require the valve(s) to be open.

APPLICABILITY: MODES 1*, 2*, 3, and 4.

ACTION:

a. With a 36-inch containment purge supply or exhaust isolation valve open or not locked closed, close and lock close that valve or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more of the 8-inch containment purge supply or exhaust isolation valves open for reasons other than given in Specification 3.6.1.7.b above, close the open 8-inch valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

c. With one or more containment purge supply or exhaust isolation valves having a measured leakage rate in excess of the limits of Specifications 4.6.1.7.2 or 4.6.1.7.3, restore the inoperable valve(s) to OPERABLE status or isolate the affected penetration(s) so that the measured leakage rate does not exceed the limits of Specifications 4.6.1.7.2 or 4.6.1.7.3 within 24 hours and close the purge supply if the affected penetration is the exhaust penetration, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

*The 8-inch containment purge supply and exhaust isolation valves may not be opened while in MODE 1 or MODE 2 until installations of the narrow-range containment pressure instrument channels and alarms are completed.

6.2.3 INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

FUNCTION

6.2.3.1 The ISEG shall function to examine station operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of station design and operating experience information, including units of similar design, which may indicate areas for improving station safety. The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving station safety to the ~~Executive Assistant to the Senior Vice President~~ Vice president of Engineering, Licensing and Quality Programs.

COMPOSITION

6.2.3.2 The ISEG shall be composed of at least five, dedicated, full-time engineers located on site. Each shall have a bachelor's degree in engineering or related science and at least 2 years professional level experience in his field, at least 1 year of which experience shall be in the nuclear field.

RESPONSIBILITIES

6.2.3.3 The ISEG shall be responsible for maintaining surveillance of station activities to provide independent verification* that these activities are performed correctly and that human errors are reduced as much as practical.

RECORDS

6.2.3.4 Records of activities performed by the ISEG shall be prepared, maintained, and forwarded each calendar month to the ~~Executive Assistant to the Senior Vice President~~ Vice President of Engineering, Licensing and Quality Programs.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide advisory technical support to the Shift Superintendent in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the station.

6.3 TRAINING

6.3.1 A retraining and replacement licensed training program for the station staff shall be maintained under the direction of the Training ~~Center~~ Manager and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix A of 10 CFR Part 55 and the supplemental requirements specified in Sections A and C of Enclosure 1 of the NRC letter dated March 28, 1980 to all licensees, and shall include familiarization with relevant industry operational experience.

*Not responsible for sign-off function.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50; ~~using the methods and provisions of ANSI/N45.4-1972.~~

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at a pressure not less than P_a, 49.6 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

b. If any periodic Type A fails to meet 0.75 L_a, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 L_a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a at which time the above test schedule may be resumed;

c. The accuracy of each Type A test shall be verified by a supplemental test which:

1) Confirms the accuracy of the test by verifying that the supplemental test result, L_c, is in accordance with the following equation:

$$|L_c - (L_{am} + L_o)| \leq 0.25\ L_a$$

where L_{am} is the measured Type A test leakage and L_o is the superimposed leak;

2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test; and

3) Requires that the rate at which gas is injected into the containment or bled from the containment during the supplemental test is between 0.75 L_a and 1.25 L_a.

NH4 Proposed changes NRC/NH4 4th ltr 5/4/88

INSERT A

6.2.1 ~~ORGANIZATION AND ONSITE~~ ORGANIZATIONS

~~Onsite and offsite~~ An organizations shall be established for unit operation and corporate management, ~~responsibility~~. The ~~onsite and offsite~~ organizations shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined for the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions for departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the FSAR and updated in accordance with the requirements of 10CFR50.71.

b. The Station Manager shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.

c. The Vice President - Nuclear Production shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

INSERT B

f. The Operations Manager and Assistant Operations Manager shall hold a senior reactor operator license.

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.
2. Power Range, Neutron Flux					
a. High Setpoint	7.5	4.56	0	≤109% of RTP*	≤111.1% of RTP*
b. Low Setpoint	8.3	4.56	0	≤25% of RTP*	≤27.1% of RTP*
3. Power Range, Neutron Flux, High Positive Rate	1.6	0.5	0	≤5% of RTP* with a time constant ≥2 seconds	≤6.3% of RTP* with a time constant ≥2 seconds
4. Power Range, Neutron Flux, High Negative Rate	1.6	0.5	0	≤5% of RTP* with a time constant ≥2 seconds	≤6.3% of RTP* with a time constant ≥2 seconds
5. Intermediate Range, Neutron Flux	17.0	8.41	0	≤25% of RTP*	≤31.1% of RTP*
6. Source Range, Neutron Flux	17.0	10.01	0	$\leq 10^5$ cps	$\leq 1.6 \times 10^5$ cps
7. Overtemperature ΔT	6.5	3.31	1.04** +0.47**	See Note 1	See Note 2
8. Overpower ΔT	4.8	1.43	0.12	See Note 3	See Note 4
9. Pressurizer Pressure - Low	3.12 ~~3.1~~	0.86 ~~0.71~~	0.99 ~~1.69~~	≥1945 psig	≥1931 ~~≥1,936~~ psig
10. Pressurizer Pressure - High	3.12 ~~3.1~~	1.00 ~~0.71~~	0.99 ~~1.69~~	≤2385 psig	≤2398 ~~≤2,396~~ psig

*RTP = RATED THERMAL POWER

**The sensor error for T_{avg} is 1.04 and the sensor error for Pressurizer Pressure is 0.47. "As measured" sensor errors may be used in lieu of either or both of these values, which then must be summed to determine the overtemperature ΔT total channel value for S.

3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN - T_{avg} GREATER THAN 200°F

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN for four-loop operation shall be greater than or equal to ~~1.6%~~ 1.3% $\Delta k/k$ in MODES 1, 2, ~~and~~ 3, and ~~1.3% $\Delta k/k$ in MODE~~ 4.

APPLICABILITY: MODES 1, 2*, 3, and 4.

ACTION:

With the SHUTDOWN MARGIN less than the limiting value, immediately initiate and continue boration at greater than or equal to 30 gpm of a solution containing greater than or equal to 7000 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.1.1 The SHUTDOWN MARGIN shall be determined to be greater than or equal to the limiting value:

a. Within 1 hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. If the inoperable control rod is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s);

b. When in MODE 1 or MODE 2 with k_{eff} greater than or equal to 1 at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.6;

c. When in MODE 2 with k_{eff} less than 1, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical control rod position is within the limits of Specification 3.1.3.6;

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of Specification 4.1.1.1.1e. below, with the control banks at the maximum insertion limit of Specification 3.1.3.6; and

*See Special Test Exceptions Specification 3.10.1.

REACTIVITY CONTROL SYSTEMS

BORATION SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. The flow path from the boric acid tanks via a boric acid transfer pump and a charging pump to the Reactor Coolant System (RCS), and

b. Two flow paths from the refueling water storage tank via charging pumps to the RCS.

APPLICABILITY: MODES 1, 2, and 3*

ACTION:

With only one of the above required boron injection flow paths to the RCS OPERABLE, restore at least two boron injection flow paths to the RCS to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1.3% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in ~~COLD SHUTDOWN~~ HOT SHUTDOWN within the next ~~30~~ 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;

b. At least once per 18 months during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal; and

c. At least once per 18 months by verifying that the flow path required by Specification 3.1.2.2a. delivers at least 30 gpm to the RCS.

*The provisions of Specifications 3.0.4 and 4.0.4 are not applicable for entry into MODE 3 for the centrifugal charging pump declared inoperable pursuant to Specification 4.1.2.3.2 provided that the centrifugal charging pump is restored to OPERABLE status within 4 hours or prior to the temperature of one or more of the RCS cold legs exceeding 375°F, whichever comes first.

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 One centrifugal charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency power source.

APPLICABILITY: MODES 4, 5, and 6.

ACTION:

With no centrifugal charging pump OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.3.1 The above required centrifugal charging pump shall be demonstrated OPERABLE by verifying, on recirculation flow, that a differential pressure across the pump of greater than or equal to 2480 psid is developed when tested pursuant to Specification 4.0.5.

4.1.2.3.2 All centrifugal charging pumps, excluding the above required OPERABLE pump, shall be demonstrated inoperable* by verifying that the motor circuit breakers are secured in the open position within 4 hours after entering MODE 4 from MODE 3 or prior to the temperature of one or more of the RCS cold legs decreasing below 325°F, whichever comes first, and at least once per 31 days thereafter, except when the reactor vessel head is removed.

*An inoperable pump may be energized for testing provided the discharge of the pump has been isolated from the RCS by a closed isolation valve with power removed from the valve operator, or by a manual isolation valve secured in the closed position.

REACTIVITY CONTROL SYSTEMS

BORATION SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.*

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1.3% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in ~~COLD~~ HOT SHUTDOWN within the next ~~30~~ 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.4 At least two charging pumps shall be demonstrated OPERABLE by verifying, on recirculation flow, that a differential pressure across each pump of greater than or equal to 2480 psid is developed when tested pursuant to Specification 4.0.5.

*The provisions of Specifications 3.0.4 and 4.0.4 are not applicable for entry into MODE 3 for the centrifugal charging pump declared inoperable pursuant to Specification 4.1.2.3.2 provided that the centrifugal charging pump is restored to OPERABLE status within 4 hours or prior to the temperature of one or more of the RCS cold legs exceeding 375°F, whichever comes first.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
c. Safety Injection	See Item 1. above for all Safety Injection initiating functions and requirements.				
7. Emergency Feedwater					
a. Manual Initiation					
(1) Motor driven pump	1	1	1	1, 2, 3	21
(2) Turbine driven pump	2	1	2	1, 2, 3	21
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3	20
c. Stm. Gen. Water Level--Low-Low					
Start Motor-Driven Pump and Start Turbine-Driven Pump	4/stm. gen.	2/stm. gen.	3/stm. gen.	1, 2, 3	18*
d. Safety Injection Start Motor-Driven Pump and Turbine-Driven Pump	See Item 1. above for all Safety Injection initiating functions and requirements.				
e. Loss-of-Offsite Power Start Motor-Driven Pump and Turbine-Driven Pump	See Item 9 for Loss-of-Offsite Power initiating functions and requirements.				
8. Automatic Switchover to Containment Sump					
a. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3, 4	13

TABLE 3.3-3 (Continued)

TABLE NOTATIONS

*The provisions of Specification 3.0.4 are not applicable.

#Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.

**Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on low steam line pressure is not blocked.

+For the steam turbine-driven pump, when the secondary steam supply pressure is greater than 500 psig.

ACTION STATEMENTS

ACTION 13 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 14 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.

ACTION 16 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves are maintained closed.

ACTION 17 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 18 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
4. Steam Line Isolation					
a. Manual Initiation (System)	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure--Hi-2	5.2	0.71	1.67	≤4.3 psig	≤5.3 psig
d. Steam Line Pressure--Low	13.1	10.71	1.63	≥585 psig	≥568 psig*
e. Steam Generator Pressure - Negative Rate--High	3.0	0.5	0	≤100 psi	≤123 psi**
5. Turbine Trip					
a. Automatic Actuation Logic Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. Steam Generator Water Level--High-High (P-14)	4.0	~~2.18~~ 2.24	~~1.76~~ 0.55	≤86.0% of narrow range instrument span.	~~≤87.2%~~ ≤87.7% of narrow range instrument span.
6. Feedwater Isolation					
a. Steam Generator Water Level--Hi-Hi-(P-14)	4.0	~~2.18~~ 2.24	~~1.76~~ 0.55	≤86.0% of narrow range instrument span.	~~≤87.2%~~ ≤87.7% of narrow range instrument span.
b. Low RCS T_{avg} Coincident with Reactor Trip	4.6	1.12	1.38	≥564°F	≥561.2°F
c. Safety Injection	N.A.	N.A.	N.A.	N.A.	N.A.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
9. Loss of Power (Start Emergency Feedwater)					
a. 4.16 kV Bus E5 and E6 Loss of Voltage	N.A.	N.A.	N.A.	$\geq$ 2975 volts with a $\leq$ 1.20 second time delay.	$\geq$ 2908 volts with a $\leq$ 1.315 second time delay.
b. 4.16 kV Bus E5 and E6 Degraded Voltage	N.A.	N.A.	N.A.	$\geq$ 3933 volts with a $\leq$ 10 second time delay.	$\geq$ 3902 volts with a $\leq$ 10.96 second time delay.
Coincident with: Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
10. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	N.A.	N.A.	N.A.	$\leq$ 1950 psig	$\leq$ 1964 ~~$\leq$ 1960~~ psig
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level, P-14	See Item 5. above for all Steam Generator Water Level Trip Setpoints and Allowable Values.				

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

CHANNEL FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
4. Steam Line Isolation								
a. Manual Initiation (System)	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A	N.A	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Containment Pressure-Hi-2	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Steam Line Pressure-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
e. Steam Line Pressure-Negative Rate-High	S	R	M	N.A.	N.A.	N.A.	N.A.	3
5. Turbine Trip								
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2
b. Steam Generator Water Level-High-High (P-14)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2
6. Feedwater Isolation								
a. Steam Generator Water Level--High-High (P-14)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2
b. Low RCS T_{avg} Coincident with Reactor Trip	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2
c. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
7. Emergency Feedwater								
a. Manual Initiation								
1) Motor-driven pump	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
2) Turbine-driven pump	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3

delete

3/4.4.4 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.4 All power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one or more PORV(s) inoperable, because of excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 6 hours.

b. With one PORV inoperable due to causes other than excessive seat leakage, within 1 hour either restore the PORV to OPERABLE status or close the associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 6 hours.

c. With both PORV(s) inoperable due to causes other than excessive seat leakage, within 1 hour either restore each of the PORV(s) to OPERABLE status or close their associated block valve(s) and remove power from the block valve(s) and be in HOT STANDBY within the next 6 hours and ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 6 hours.

d. With one or more block valve(s) inoperable, within 1 hour: (1) restore the block valve(s) to OPERABLE status, or close the block valve(s) and remove power from the block valve(s), or close the PORV and remove power from its associated solenoid valve; and (2) apply the ACTION b. or c. above, as appropriate, for the isolated PORV(s).

e. The provisions of Specification 3.0.4 are not applicable.

3/4.5 EMERGENCY CORE COOLING SYSTEMS

3/4.5.1 ACCUMULATORS

HOT STANDBY, STARTUP, AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

3.5.1.1 Each Reactor Coolant System (RCS) accumulator shall be OPERABLE with:

a. The isolation valve open and power removed,

b. A contained borated water volume of between 6121 and 6596 gallons,

c. A boron concentration of between 1900 and 2100 ppm, and

d. A nitrogen cover-pressure of between 585 and 664 psig.

APPLICABILITY: MODES 1, 2, and 3*.

ACTION:

a. With one accumulator inoperable, except as a result of a closed isolation valve, restore the inoperable accumulator to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

b. With one accumulator inoperable due to the isolation valve being closed, either immediately open the isolation valve or be in at least HOT STANDBY within 6 hours and reduce pressurizer pressure to less than 1000 psig within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.5.1.1.1 Each accumulator shall be demonstrated OPERABLE:

a. At least once per 24 hours by:

1) Verifying, by the absence of alarms, the contained borated water volume and nitrogen cover-pressure in the tanks, and

~~2) Verifying that each accumulator isolation valve is open.~~

b. At least once per 31 days and within 6 hours after each solution volume increase of greater than or equal to 1% of tank volume by verifying the boron concentration of the accumulator solution; and

*Pressurizer pressure above 1000 psig.

EMERGENCY CORE COOLING SYSTEMS

ACCUMULATORS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.5.1.2 Each reactor coolant system accumulator isolation valve shall be shut with power removed from the valve operator.

APPLICABILITY: MODES 4* and 5 { , AND ACCUMULATOR PRESSURE GREATER THAN 100 PSIG

ACTION:

a. With one or more accumulator isolation valve(s) open and/or power available to the valve operator(s), immediately close the accumulator isolation valves and/or remove power from the valve operator(s).

b. The provisions of Specification 3.0.4 are not applicable for entry into MODE 4 from MODE 3.

SURVEILLANCE REQUIREMENTS

4.5.1.2 Each accumulator isolation valve will be verified shut with power removed from the valve operator at least once per 31 days.

*Within 12 hours prior to entry into MODE 3 from MODE 4 and if pressurizer pressure is greater than 1000 psig, each accumulator isolation valve shall be open as required by Specification 3.5.1.1.a.

PRIMARY CONTAINMENT

INTERNAL PRESSURE

LIMITING CONDITION FOR OPERATION

3.6.1.4 Primary containment internal pressure shall be maintained between 14.6* and 16.2 psia.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With the containment internal pressure outside of the limits above, restore the internal pressure to within the limits within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.4 The primary containment internal pressure shall be determined to be within the limits at least once per 12 hours.

*There is no lower limit on containment pressure when the containment on-line purge supply fan is operating and the supply valves are open as allowed by specification 3.6.1.7.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 Each 36-inch containment purge supply and exhaust isolation valve shall be verified to be locked closed at least once per 31 days.*

4.6.1.7.2 At least once per 6 months on a STAGGERED TEST BASIS, the inboard and outboard isolation valves with resilient material seals in each sealed closed 36-inch containment purge supply and exhaust penetration shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than or equal to 0.05 L_a when pressurized to P_a.

4.6.1.7.3 At least once per 92 days each 8-inch containment purge supply and exhaust isolation valve with resilient material seals shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than or equal to 0.01 L_a when pressurized to P_a.

4.6.1.7.4 Each 8-inch containment purge supply and exhaust isolation valve shall be verified to be sealed closed or open in accordance with Specification 3.6.1.7.b at least once per 31 days.

*If no containment entry has been made since checking the inside containment 36-inch valves locked closed, these valves do not have to be checked until a containment entry has been made.

3/4.7 .PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line Code safety valves associated with each steam generator shall be OPERABLE with lift settings as specified in Table 3.7-2.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With four reactor coolant loops and associated steam generators in operation and with one or more main steam line Code safety valves inoperable, operation in MODES 1, 2, and 3 may proceed, provided that within 4 hours either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 6 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional requirements other than those required by Specification 4.0.5.

PLANT SYSTEMS

TURBINE CYCLE

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. One motor-driven emergency feedwater pump, and one startup feedwater pump capable of being powered from an emergency bus and capable of being aligned to the dedicated water volume in the condensate storage tank, and

b. One steam turbine-driven emergency feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With two emergency feedwater pumps inoperable, restore at least one emergency feedwater pump to OPERABLE status within 12 hours and restore both emergency feedwater pumps to OPERABLE status within 72 hours, or be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 6 hours.

c. With one emergency feedwater pump and the startup feedwater pump inoperable, restore both emergency feedwater pumps to OPERABLE status within 24 hours and all three pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

d. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1) Verifying that the motor-driven emergency feedwater pump develops a discharge pressure of greater than or equal to 1460 psig at a flow of greater than or equal to 270 gpm;

TABLE 3.7-3

AREA TEMPERATURE MONITORING

AREA		TEMPERATURE LIMIT (°F)
1.	Control Room	75
2.	Cable Spreading Room	104
3.	Switchgear Room - Train A	104
4.	Switchgear Room - Train B	104
5.	Battery Rooms - Train A	97
6.	Battery Rooms - Train B	97
7.	ECCS Equipment Vault - Train A	104
8.	ECCS Equipment Vault - Train B	104
9.	Centrifugal Charging Pump Room - Train A	104
10.	Centrifugal Charging Pump Room - Train B	104
11.	ECCS Equipment Vault Stairwell - Train A	104
12.	ECCS Equipment Vault Stairwell - Train B	104
13.	PCCW Pump Area	104
14.	Cooling Tower Switchgear Room - Train A	104
15.	Cooling Tower Switchgear Room - Train B	104
16.	Cooling Tower SW Pump Area	127
17.	SW Pumphouse Electrical Room - Train A	104
18.	SW Pumphouse Electrical Room - Train B	104
19.	SW Pump Area	104
20.	Diesel Generator Room - Train A	120
21.	Diesel Generator Room - Train B	120
22.	EFW Pumphouse	104
23.	Electrical Penetration Area - Train A	100
24.	Electrical Penetration Area - Train B	85
25.	Fuel Storage Building Spent Fuel Pool Cooling Pump Area	104
26.	Main Steam and Feedwater Pipe Chase - East	130
27.	Main Steam and Feedwater Pipe Chase - West	130
28.	Hydrogen Analyzer Room	104
29.	MSFW East Pipe Chase Electrical Room	104

SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

a) Verifying deenergization of the emergency busses and load shedding from the emergency busses, and

b) Verifying the diesel starts on the loss of offsite power signal, energizes the emergency busses with permanently connected loads within 12 seconds, energizes the auto-connected [redacted] loads through the emergency power sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.

5) Verifying that on an SI actuation test signal, without loss-of-offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test;

6) Simulating a loss-of-offsite power in conjunction with an SI actuation test signal; and

a) Verifying deenergization of the emergency busses and load shedding from the emergency busses;

b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected [redacted] loads through the emergency power sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test; and

c) Verifying that all automatic diesel generator trips, except engine overspeed, low lube oil pressure, 4160-volt bus fault, and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection actuation signal.

SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

13) Verifying that the following diesel generator lockout features prevent diesel generator starting:

a) Barring device engaged, or

b) Differential lockout relay.

14) Simulating a Tower Actuation (TA) signal while the diesel generator is loaded with the permanently connected loads and auto-connected [redacted] loads, and verifying that the service water pump automatically trips, and that the cooling tower pump and fan(s) automatically start. After energization the steady state voltage and frequency of the emergency buses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz; and

15) While diesel generator 1A is loaded with the permanently connected loads and auto-connected [redacted] loads, manually connect the 1500 hp startup feedwater pump to 4160-volt bus E5. After energization the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz.

g. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 514 rpm in less than or equal to 10 seconds; and

h. At least once per 10 years by:

1) Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, or equivalent, and

2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110% of the system design pressure.

6.1 RESPONSIBILITY

6.1.1 The Station Manager shall be responsible for overall station operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Superintendent (or during his absence from the control room, a designated individual) shall be responsible for the control room command function. A management directive to this effect, signed by the Vice President, Nuclear Production shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

~~OFFSITE~~

INSERT A

~~6.2.1 The offsite organization for station management and technical support shall be as shown in Figure 6.2-1.~~

STATION STAFF

6.2.2 ~~The station organization shall be as shown in Figure 6.2-2 and:~~

a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1;

b. At least one licensed Operator shall be in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3, or 4, at least one licensed Senior Operator shall be in the control room;

c. A Health Physics Technician* shall be on site when fuel is in the reactor;

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Operator or licensed Senior Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation; and

e. Administrative procedures shall be developed and implemented to limit the working hours of station staff who perform safety-related functions, e.g., licensed Senior Operators, licensed Operators, health physicists, auxiliary operators, and key maintenance personnel. The amount of overtime worked by station staff members performing safety-related functions shall be limited in accordance with the NRC Policy Statement on working hours (Generic Letter No. 82-12).

INSERT B

*The Health Physics Technician may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence, provided immediate action is taken to fill the required positions.

INSERT A

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined for the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions for departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the FSAR and updated in accordance with the requirements of 10CFR30.71.

b. The Station Manager shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.

c. The Vice President - Nuclear Production shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

INSERT B

f. The Operations Manager and Assistant Operations Manager shall hold a senior reactor operator license.

RESPONSIBILITIES

6.4.1.7 (Continued)

and the Station Manager however, the Station Manager shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1.

RECORDS

6.4.1.8 The SORC shall maintain written minutes of each SORC meeting that, at a minimum, document the results of all SORC activities performed under the responsibility provisions of these Technical Specifications. Copies shall be provided to the Vice President-Nuclear Production and the NSARC.

6.4.2 NUCLEAR SAFETY AUDIT REVIEW COMMITTEE (NSARC)

FUNCTION

6.4.2.1 The NSARC shall function to provide independent review and audit of designated activities in the areas of:

a. Nuclear power plant operations,
b. Nuclear engineering,
c. Chemistry and radiochemistry,
d. Metallurgy,
e. Instrumentation and control,
f. Radiological safety,
g. Mechanical and electrical engineering, and
h. Quality assurance practices.

The NSARC shall report to and advise the ~~Senior Vice President~~ President and Chief Executive Officer on those areas of responsibility specified in Specifications 6.4.2.7 and 6.4.2.8.

COMPOSITION

6.4.2.2 The NSARC shall be composed of at least five (5) individuals. The Chairman, Vice Chairman and members, including designated alternates, shall be appointed in writing by the ~~Senior Vice President~~ President and Chief Executive Officer. Collectively, the individuals appointed to the NSARC should be competent to conduct reviews identified by Specification 6.4.2.1. Each member shall meet the qualifications of ANSI 3.1-1978, Section 4.7.

ALTERNATES

6.4.2.3 All alternate members shall be appointed in writing by the ~~Senior Vice President~~ President and Chief Executive Officer to serve on a temporary basis; however, no more than a minority shall participate as voting members in NSARC activities at any one time.

CONSULTANTS

6.4.2.4 Consultants shall be utilized as determined by the NSARC to provide expert advice to the NSARC.

AUDITS

6.4.2.8 (Continued)

provided the combined time interval for any three consecutive intervals shall not exceed 3.25 times the specified interval. These audits shall encompass:

a. The conformance of station operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months;

b. The performance, training, and qualifications of the entire station staff at least once per 12 months;

c. The results of actions taken to correct deficiencies occurring in station equipment, structures, systems, or method of operation that affect nuclear safety, at least once per 6 months;

d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months;

e. The fire protection programmatic controls including the implementing procedures at least once per 24 months by qualified licensee QA personnel;

f. The fire protection equipment and program implementation at least once per 12 months utilizing either a qualified offsite licensee fire protection engineer or an outside independent fire protection consultant. An outside independent fire protection consultant shall be used at least every third year;

g. The Radiological Environmental Monitoring Program and the results thereof at least once per 12 months;

h. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months;

i. The PROCESS CONTROL PROGRAM and implementing procedures for processing and packaging of radioactive wastes at least once per 24 months;

j. The performance of activities required by the Quality Assurance Program for effluent and environmental monitoring at least once per 12 months;

k. The Emergency Plan and implementing procedures at least once per 12 months;

l. The Security Plan and implementing procedures at least once per 12 months; and

m. Any other area of station operation considered appropriate by the NSARC or the ~~Senior Vice President~~, President and Chief Executive Officer.

NHY

RECORDS

6.4.2.9 Records of NSARC activities shall be prepared and distributed as indicated below:

a. Minutes of each NSARC meeting shall be prepared and forwarded to the NHY ~~Senior Vice President~~ within ~~15~~ 30 days following each meeting; President and Chief Executive Officer

b. Reports of reviews encompassed by Specification 6.4.2.7 shall be included in the minutes where applicable or forwarded under separate cover to the ~~Senior Vice President~~ within 14 days following completion of the review; and President and Chief Executive Officer

c. Audit reports encompassed by Specification 6.4.2.8 shall be forwarded to the ~~Senior Vice President~~ and to the management positions responsible for the areas audited within 30 days after completion of the audit by the auditing organization.

NHY President and Chief Executive Officer

6.5 REPORTABLE EVENT ACTION

The following actions shall be taken for REPORTABLE EVENTS:

a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the SORC and the results of this review shall be submitted to the NSARC and the Vice President-Nuclear Production.

6.6 SAFETY LIMIT VIOLATION

The following actions shall be taken in the event a Safety Limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President-Nuclear Production and the NSARC shall be notified within 24 hours;

b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the SORC. This report shall describe: (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence;

c. The Safety Limit Violation Report shall be submitted to the Commission, the NSARC, and the Vice President-Nuclear Production within 14 days of the violation; and

d. Operation of the station shall not be resumed until authorized by the Commission.

BASES

BORATION CONTROL

3/4.1.1.3 MODERATOR TEMPERATURE COEFFICIENT (Continued)

The Surveillance Requirements for measurement of the MTC at the beginning and near the end of the fuel cycle are adequate to confirm that the MTC remains within its limits since this coefficient changes slowly due principally to the reduction in RCS boron concentration associated with fuel burnup.

3/4.1.1.4 MINIMUM TEMPERATURE FOR CRITICALITY

This specification ensures that the reactor will not be made critical with the Reactor Coolant System average temperature less than 551°F. This limitation is required to ensure: (1) the moderator temperature coefficient is within its analyzed temperature range, (2) the trip instrumentation is within its normal operating range, (3) the pressurizer is capable of being in an OPERABLE status with a steam bubble, and (4) the reactor vessel is above its minimum RT_{NDT} temperature.

3/4.1.2 BORATION SYSTEMS

The Boron Injection System ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include: (1) borated water sources, (2) charging pumps, (3) separate flow paths, (4) boric acid transfer pumps, and (5) an emergency power supply from OPERABLE diesel generators.

With the RCS in MODES 1, 2, or 3, a minimum of two boron injection flow paths are required to ensure single functional capability in the event an assumed failure renders one of the flow paths inoperable. The boration capability of either flow path is sufficient to provide a SHUTDOWN MARGIN from expected operating conditions of 1.3% $\Delta k/k$ after xenon decay and cooldown to 200°F. The maximum expected boration capability requirement occurs at EOL from full power equilibrium xenon conditions and requires 22,000 gallons of 7000 ppm borated water from the boric acid storage tanks or a minimum contained volume of 477,000 gallons of 2000 ppm borated water from the refueling water storage tank (RWST).

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable in MODES 4, 5, and 6 provides assurance that a mass addition pressure transient can be relieved by operation of a single PORV or an RHR suction relief valve.

As a result of this, only one boron injection system is available. This is acceptable on the basis of the stable reactivity condition of the reactor, the emergency power supply requirement for the OPERABLE charging pump and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity changes in the event the single injection system becomes inoperable.

INDEX

2.0 SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.0 BASES

3.0/4.0 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
11. Pressurizer Water Level - High	8.0	2.18	1.82	≤92% of instrument span	≤93.8% of instrument span
12. Reactor Coolant Flow - Low	2.5	1.87	0.6	>90% of loop design flow*	>89.4% of loop design flow*
13. Steam Generator Water Level Low - Low	17.0	15.28	1.76	≥21.6% of narrow range instrument span	≥20.5% of narrow range instrument span
14. Undervoltage - Reactor Coolant Pumps	15.0	1.39	0	≥10,200 volts	≥9,822 volts
15. Underfrequency - Reactor Coolant Pumps	2.9	0	0	≥55.5 Hz	≥55.3 Hz
16. Turbine Trip					
a. Low Fluid Oil Pressure	N.A.	N.A.	N.A.	≥500 psig	≥450 psig
b. Turbine Stop Valve Closure	N.A.	N.A.	N.A.	≥1% open	≥1% open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.

*Loop design flow = 95,700 gpm

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
Reactor Trip System Interlocks (Continued)						
e. Power Range Neutron Flux, P-10	N.A.	R(4)	R	N.A.	N.A.	1, 2
f. Turbine Impulse Chamber Pressure, P-13	N.A.	R	R	N.A.	N.A.	1
19. Reactor Trip Breaker	N.A.	N.A.	N.A.	M(7, 11)	N.A.	1, 2, 3*, 4*, 5*
20. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	M(7)	1, 2, 3*, 4*, 5*
21. Reactor Trip Bypass Breaker	N.A.	N.A.	N.A.	M(7, 14), R(15)	N.A.	1, 2, 3*, 4*, 5*

TABLE 3.3-4

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Safety Injection (Reactor Trip, Feedwater Isolation, Start Diesel Generators, Phase "A" Isolation, Containment Ventilation Isolation, and Emergency Feedwater, Service Water to Secondary Component Cooling Water Isolation, CBA Emergency Fan/Filter Actuation, and Latching Relay).					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure--Hi-1	4.2	0.71	1.67	$\leq$ 4.3 psig	$\leq$ 5.3 psig
d. Pressurizer Pressure--Low	12.1	10.71	1.69	$\geq$ 1875 psig	$\geq$ 1865 psig
e. Steam Line Pressure--Low	13.1	10.71	1.63	$\geq$ 585 psig	$\geq$ 568 psig*
2. Containment Spray					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure--Hi-3	3.0	0.71	1.67	$\leq$ 18.0 psig	$\leq$ 18.7 psig

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
7. Emergency Feedwater					
a. Manual Initiation					
(1) Motor driven pump	N.A.	N.A.	N.A.	N.A.	N.A.
(2) Turbine driven pump	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level--Low-Low Start Motor-Driven Pump and Start Turbine-Driven Pump	17.0	15.28	1.76	$\geq$ 21.6% of narrow range instrument span.	$\geq$ 20.5% of narrow range instrument span.
d. Safety Injection Start Motor-Driven Pump and Turbine-Driven Pump	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
e. Loss-of-Offsite Power Start Motor-Driven Pump and Turbine-Driven Pump	See Item 9. for Loss-of-Offsite Power Setpoints and Allowable Values.				
8. Automatic Switchover to Containment Sump					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. RWST Level--Low-Low Coincident With Safety Injection	2.75	1.0	1.8	$\geq$122,525 gals.	$\geq$121,609 gals.
	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				

INSTRUMENTATION

MONITORING INSTRUMENTATION

SEISMIC INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more of the above required seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.8.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above required seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above required seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01 g shall be restored to OPERABLE status within 24 hours except that Triaxial Peak Accelerographs 1-SM-XR-6702 and 1-SM-XR-6703 shall be restored within 7 days and a CHANNEL CALIBRATION performed within 30 days following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.8.2 within 14 days describing the magnitude, frequency spectrum, and resultant effect upon facility features important to safety.

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1. Triaxial Time-History Accelerographs*		
a. 1-SM-XT-6700 Free Field Control Room East Air Intake, elevation 11' 6"	± 1g	1**
b. 1-SM-XT-6701 Containment Foundation, elevation -26' 0"	± 1g	1**
c. 1-SM-XT-6710 Containment Operating Floor, elevation 25' 0"	± 1g	1**
2. Triaxial Peak Accelerographs		
a. 1-SM-XR-6702 Reactor Vessel Support, Containment Building, elevation -13' 4"	0-20 Hz	1
b. 1-SM-XR-6703 Reactor Coolant System Piping, Containment Building, elevation -7' 8"	0-20 Hz	1
c. 1-SM-XR-6704 PCCW Piping, Primary Auxiliary Building, elevation 47' 0"	0-20 Hz	1
3. Triaxial Seismic Switch		
1-SM-XS-6709 Containment Foundation#, elevation -27' 0"	0.025g to 0.25g	1**
4. Triaxial Response-Spectrum Recorders		
a. 1-SM-XR-6705 Containment Foundation, elevation -26' 0"	1-30 Hz	1**
b. 1-SM-XR-6706 SG 11B Support, Containment Building, elevation -20' 0"	1-30 Hz	1
c. 1-SM-XR-6707 Primary Auxiliary Building, elevation 25' 0"	1-30 Hz	1
d. 1-SM-XR-6708 Service Water Pump House, elevation 4' 0"	1-30 Hz	1

*Trigger mechanism in accelerograph unit activates recorders in control room when it senses a ground motion of 0.01g.

**With reactor control room indication

#Switch setpoint is 0.13g for horizontal and vertical axis.

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTS AND SENSOR LOCATIONS	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST
1. Triaxial Time-History Accelerographs*			
a. 1-SM-XT-6700 Free Field Control Room East Air Intake, elevation 11' 6"	M	R	SA
b. 1-SM-XT-6701 Containment Foundation, elevation -26' 0"	M	R	N.A.
c. 1-SM-XT-6710 Containment Operating Floor, elevation 25' 0"	M	R	N.A.
2. Triaxial Peak Accelerographs			
a. 1-SM-XR-6702 Reactor Vessel Support, Containment Building, elevation -13' 4"	N.A.	R	N.A.
b. 1-SM-XR-6703 Reactor Coolant System Piping, Containment Building, elevation -7' 8"	N.A.	R	N.A.
c. 1-SM-XR-6704 PCCW Piping, Primary Auxiliary Building, elevation 47' 0"	N.A.	R	N.A.
3. Triaxial Seismic Switch			
1-SM-XS-6709 Containment Foundation,** elevation -26' 0"	M	R	N.A.
4. Triaxial Response-Spectrum Recorders			
a. 1-SM-XR-6705 Containment Foundation,** elevation -26' 0"	M#	R	N.A.
b. 1-SM-XR-6706 SG 11B Support, Containment Building, elevation -20' 0"	N.A.	R	N.A.
c. 1-SM-XR-6707 Primary Auxiliary Building, elevation 25' 0"	N.A.	R	N.A.
d. 1-SM-XR-6708 Service Water Pump House, elevation 4' 0"	N.A.	R	N.A.

*Each accelerograph has a triaxial trigger to activate the recorder.

**With reactor control room indications.

#CHANNEL CHECK to consist of turning the test/reset switch and verify all lamps illuminate on 1-SM-XR-6705.

TABLE 4.3-6 (Continued)

TABLE NOTATIONS

* At all times.

** During RADIOACTIVE WASTE GAS SYSTEM operation.

*** When the gland seal exhauster is in operation.

**** The CHANNEL OPERATIONAL TEST for the flow rate monitor shall consist of a verification that the Radiation Data Management System (RDMS) indicated flow is consistent with the operational status of the plant.

\# Noble Gas Monitor for this release point is based on the main condenser air evacuation monitor.

(1) The DIGITAL CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if the instrument indicates measured levels above the Alarm/Trip Setpoint.

(2) The DIGITAL CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if the instrument indicates measured levels above the Alarm Setpoint.

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

(4) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent oxygen, balance nitrogen, and

b. Four volume percent oxygen, balance nitrogen.

(5) The CHANNEL CALIBRATION shall be performed using sources of various activities covering the measurement range of the monitor to verify that the response is linear. Sources shall be used to verify the monitor response only for the intended energy range.

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 21.6% at least once per 12 hours.

4.4.1.2.3 The required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required reactor coolant pump(s), if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE by verifying secondary-side water level to be greater than or equal to 21.6% at least once per 12 hours.

4.4.1.3.3 At least one reactor coolant or RHR loop shall be verified in operation and circulating reactor coolant at least once per 12 hours.

REACTOR COOLANT SYSTEM

REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation*, and either:

a. One additional RHR loop shall be OPERABLE**, or

b. The secondary-side water level of at least two steam generators shall be greater than 21.6%.

APPLICABILITY: MODE 5 with reactor coolant loops filled***.

ACTION:

a. With one of the RHR loops inoperable and with less than the required steam generator water level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible.

b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

4.4.1.4.1.2 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

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*The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

**One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

***A reactor coolant pump shall not be started unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold-leg temperatures.

REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM LEAKAGE

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 gpm UNIDENTIFIED LEAKAGE,

c. 1 gpm total reactor-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,

d. 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System,

e. 40 gpm CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 psig ± 20 psig, and

f. 0.5 gpm leakage per nominal inch of valve size up to a maximum of 5 gpm at a Reactor Coolant System pressure of 2235 ± 20 psig from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.*

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*Test pressures less than 2235 psig but greater than 150 psig are allowed. Observed leakage shall be adjusted for the actual test pressure up to 2235 psig assuming the leakage to be directly proportional to pressure differential to the one-half power.

TABLE 4.4-3

REACTOR COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE AND ANALYSIS REQUIRED
1. Gross Radioactivity Determination	At least once per 72 hours.	1, 2, 3, 4
2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days.	1
3. Radiochemical for $\bar{E}$ Determination*	1 per 6 months**	1
4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	a) Once per 4 hours, whenever the specific activity exceeds 1 μCi/gram DOSE EQUIVALENT I-131 or 100/$\bar{E}$ μCi/gram of gross radioactivity, and	1#, 2#, 3#, 4#, 5#
	b) One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1-hour period.	1, 2, 3

*A radiochemical analysis for $\bar{E}$ shall consist of the quantitative measurement of the specific activity for each radionuclide, except for radionuclides with half-lives less than 10 minutes and all radioiodines, which is identified in the reactor coolant. The specific activities for these individual radionuclides shall be used in the determination of $\bar{E}$ for the reactor coolant sample. Determination of the contributors to $\bar{E}$ shall be based upon those energy peaks identifiable with a 95% confidence level.

**Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since reactor was last subcritical for 48 hours or longer.

#Until the specific activity of the Reactor Coolant System is restored within its limits.

SURVEILLANCE REQUIREMENTS

4.5.1.1.1 (Continued)

c. At least once per 31 days when the RCS pressure is above 1000 psig by verifying that power to the isolation valve operator is disconnected.

d. At least once per 18 months by verifying that each accumulator isolation valve opens automatically under each of the following conditions:

1) When an actual or a simulated RCS pressure signal exceeds the P-11 (Pressurizer Pressure Block of Safety Injection) Setpoint, and

2) Upon receipt of a Safety Injection test signal.

4.5.1.1.2 Each accumulator water level and pressure channel shall be demonstrated OPERABLE:

a. At least once per 31 days by the performance of an ANALOG CHANNEL OPERATIONAL TEST, and

b. At least once per 18 months by the performance of a CHANNEL CALIBRATION.

SURVEILLANCE REQUIREMENTS

4.5.2 (Continued)

d. At least once per 18 months by:

1) Verifying automatic isolation and interlock action of the RHR system from the Reactor Coolant System to ensure that:

a) With a simulated or actual Reactor Coolant System pressure signal greater than or equal to 365 psig, the interlocks prevent the valves from being opened, and

b) With a simulated or actual Reactor Coolant System pressure signal less than or equal to 660 psig, the interlocks will cause the valves to automatically close.

2) A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.

e. At least once per 18 months, during shutdown, by:

1) Verifying that each automatic valve in the flow path actuates to its correct position on (Safety Injection actuation and Automatic Switchover to Containment Sump) test signals, and

2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:

a) Centrifugal charging pump,

b) Safety Injection pump, and

c) RHR pump.

f. By verifying that each of the following pumps develops the indicated differential pressure on recirculation flow when tested pursuant to Specification 4.0.5:

1) Centrifugal charging pump, $\geq$ 2480 psid;

2) Safety Injection pump, $\geq$ 1445 psid; and

3) RHR pump, $\geq$ 176 psid.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR Part 50 using the methods and provisions of ANSI/N45.4-1972:

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals during shutdown at a pressure not less than P_a, 49.6 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

b. If any periodic Type A test fails to meet 0.75 L_a, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 L_a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a at which time the above test schedule may be resumed;

c. The accuracy of each Type A test shall be verified by a supplemental test which:

1) Confirms the accuracy of the test by verifying that the supplemental test result, L_c, is in accordance with the following equation:

$$|L_c - (L_{am} + L_o)| \leq 0.25\ L_a$$

where L_{am} is the measured Type A test leakage and L_o is the superimposed leak;

2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test; and

3) Requires that the rate at which gas is injected into the containment or bled from the containment during the supplemental test is between 0.75 L_a and 1.25 L_a.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

a. Each 36-inch containment shutdown purge supply and exhaust isolation valve shall be closed and locked closed, and

b. The 8-inch containment purge supply and exhaust isolation valve(s) shall be sealed closed except when open for purge system operation for pressure control; for ALARA, respirable, and air quality considerations to facilitate personnel entry; and for surveillance tests that require the valve(s) to be open.

APPLICABILITY: MODES 1*, 2*, 3, and 4.

ACTION:

a. With a 36-inch containment purge supply or exhaust isolation valve open or not locked closed, close and lock closed that valve or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more of the 8-inch containment purge supply or exhaust isolation valves open for reasons other than given in Specification 3.6.1.7.b above, close the open 8-inch valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

c. With one or more containment purge supply or exhaust isolation valves having a measured leakage rate in excess of the limits of Specifications 4.6.1.7.2 or 4.6.1.7.3, restore the inoperable valve(s) to OPERABLE status or isolate the affected penetration(s) so that the measured leakage rate does not exceed the limits of Specifications 4.6.1.7.2 or 4.6.1.7.3 within 24 hours and close the purge supply if the affected penetration is the exhaust penetration, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

*The 8-inch containment purge supply and exhaust isolation valves may not be opened while in MODE 1 or MODE 2 until installations of the narrow-range containment pressure instrument channels and alarms are completed.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST* and automatically transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position;

b. By verifying, that on recirculation flow, each pump develops a differential pressure of greater than or equal to 262 psi when tested pursuant to Specification 4.0.5;

c. At least once per 18 months during shutdown, by:

1) Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure-Hi-3 test signal, and

2) Verifying that each spray pump starts automatically on a Containment Pressure-Hi-3 test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

*In MODE 4, when the Residual Heat Removal System is in operation, an OPERABLE flow path is one that is capable of taking suction from the refueling water storage tank upon being manually realigned.

CONTAINMENT SYSTEMS

COMBUSTIBLE GAS CONTROL

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent Hydrogen Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying during a Hydrogen Recombiner System functional test that the minimum heater sheath temperature increases to greater than or equal to 850°F within 90 minutes. Upon reaching 850°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 65 kW; and

b. At least once per 18 months by:

1) Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,

2) Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and

3) Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

3/4.6.5 CONTAINMENT ENCLOSURE BUILDING

CONTAINMENT ENCLOSURE EMERGENCY AIR CLEANUP SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.1 Two independent Containment Enclosure Emergency Air Cleanup Systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Containment Enclosure Emergency Air Cleanup System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1 Each Containment Enclosure Emergency Air Cleanup System shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes;

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1) Verifying that the cleanup system satisfies the in-place penetration leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978*, and the system flow rate is 2100 cfm ± 10%;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978*, meets the laboratory testing criteria

*ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Rev. 2, March 1978.

SURVEILLANCE REQUIREMENTS

4.6.5.1b.2 (Continued)

of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978*, by showing a methyl iodide penetration of less than 2.14% when tested at a temperature of 30°C and at a relative humidity of 95% in accordance with ASTM-D3803; and

3) Verifying a system flow rate of 2100 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978*, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978*, by showing a methyl iodide penetration of less than 2.14% when tested at a temperature of 30°C and at a relative humidity of 95% in accordance with ASTM-D3803.

d. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the system at a flow rate of 2100 cfm ± 10%,

2) Verifying that the system starts on a Safety Injection test signal,

3) Verifying that the filter cross connect valves can be manually opened, and

4) Verifying that each system produces a negative pressure of greater than or equal to 0.25 inch Water Gauge in the annulus within 4 minutes after a start signal.

e. After each complete or partial replacement of a high efficiency particulate air (HEPA) filter bank, by verifying that the cleanup system satisfies the in-place penetration leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a dioctyl phthalate (DOP) test aerosol while operating the system at a flow rate of 2100 cfm ± 10%; and

*ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Revision 2, March 1978.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1a. (Continued)

2) Verifying that the steam turbine-driven pump develops a discharge pressure of greater than or equal to 1460 psig at a flow of greater than or equal to 270 gpm when the secondary steam supply pressure is greater than 500 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3;

3) Verifying that the startup feedwater pump develops a discharge pressure of greater than or equal to 1375 psig at a flow of greater than or equal to 425 gpm;

4) Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position;

5) Verifying that each automatic valve in the flow path is in the fully open position whenever the Auxiliary Feedwater System is placed in automatic control or when above 10% RATED THERMAL POWER; and

6) Verifying that valves FW-156 and FW-163 are OPERABLE for alignment of the startup feedwater pump to the emergency feedwater header.

b. At least once per 18 months during shutdown by:

1) Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an Emergency Feedwater System Actuation test signal;

2) Verifying that each emergency feedwater pump starts* as designed automatically upon receipt of an Emergency Feedwater Actuation System test signal;

3) Verifying that with all manual actions, including power source and valve alignment, the startup feedwater pump starts within the required elapsed time; and

4) Verifying that each emergency feedwater control valve closes on receipt of a high flow test signal.

*For the steam turbine-driven pump, when the secondary steam supply pressure is greater than 500 psig.

3/4.7.6 CONTROL ROOM AREA VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two Control Room Area Ventilation Systems shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3, and 4:

With one Control Room Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

a. With one Control Room Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Area Ventilation System in the recirculation mode.

b. With both Control Room Area Ventilation Systems inoperable, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Area Ventilation System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the Control Room Area Ventilation System is maintaining the temperature of equipment and instrumentation in the control room area below its limiting equipment qualification temperature.

b. At least once per 18 months or after any significant modification to the Control Room Area Ventilation Systems by verifying a system flow rate of 25,700 cfm ± 10% through the air conditioner unit (3A and 3B) and a flow rate of 1200 cfm ± 10% makeup from each intake to the emergency filtration unit with a discharge of 2000 cfm ± 10% from the filtration unit.

ELECTRICAL POWER SYSTEMS

A.C SOURCES

OPERATING

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the Onsite Class 1E Distribution System shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1) Verifying the fuel level in the day fuel tank;

2) Verifying the fuel level in the fuel storage tank;

3) Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank;

4) Verifying the lubricating oil inventory in storage;

5) Verifying the diesel starts from ambient condition and accelerates to at least 514 rpm in less than or equal to 10 seconds.* The generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds* after the start signal. The diesel generator shall be started for this test by using one of the following signals:

a) Manual, or

b) Simulated loss-of-offsite power by itself, or

*All diesel generator starts for the purpose of this surveillance test may be preceded by an engine prelube period. Further, all surveillance tests and all other engine starts for the purpose of this surveillance testing, with the exception of once per 184 days, may also be preceded by warmup procedures (e.g., gradual acceleration and/or gradual loading greater than 60 seconds) as recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

c) Simulated loss-of-offsite power in conjunction with an SI Actuation test signal, or

d) An SI Actuation test signal by itself.

6) Verifying the generator is synchronized, loaded to greater than or equal to 6083 kW in less than or equal to 120 seconds*, and operates with a load greater than or equal to 6083 kW for at least 60 minutes; and

7) Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day fuel tank;

c. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;

d. By sampling new fuel oil in accordance with ASTM-D4057-81 prior to addition to storage tanks and:

1) By verifying in accordance with the tests specified in ASTM-D975-81 prior to addition to the storage tanks that the sample has:

a) An API Gravity of within 0.3 degree at 60°F, or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific gravity at 60/60°F of greater than or equal to 0.81 but less than or equal to 0.89, or an API gravity of greater than or equal to 28 degrees but less than or equal to 42 degrees;

*All diesel generator starts for the purpose of this surveillance test may be preceded by an engine prelube period. Further, all surveillance tests and all other engine starts for the purpose of this surveillance testing, with the exception of once per 184 days, may also be preceded by warmup procedures (e.g., gradual acceleration and/or gradual loading greater than 60 seconds) as recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification;

c) A flash point greater than or equal to 125°F; and

d) A clear and bright appearance with proper color when tested in accordance with ASTM-D4176-82.

2) By verifying within 30 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-81 are met when tested in accordance with ASTM-D975-81 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-79 or ASTM-D2622-82.

e. At least once every 31 days:

1) By obtaining a sample of fuel oil in accordance with ASTM-D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-78, Method A, and

2) By visually inspecting the lagging in the area of the flanged joints on the silencer outlet of the diesel exhaust system for leakage (also after an extended operation of greater than 24 hours).

f. At least once per 18 months, during shutdown, by:

1) Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service;

2) Verifying the generator capability to reject a load of greater than or equal to 671 kW while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 4.0 Hz;

3) Verifying the generator capability to reject a load of 6083 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection;

4) Simulating a loss-of-offsite power by itself, and:

ELECTRICAL POWER SYSTEMS

ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES AND PROTECTIVE DEVICES FOR CLASS 1E POWER SOURCES CONNECTED TO NON-CLASS 1E CIRCUITS

LIMITING CONDITION FOR OPERATION

3.8.4.2 Each containment penetration conductor overcurrent protective device and each protective device for Class 1E power sources connected to non-Class 1E circuits shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4, 5,* and 6.*

ACTION:

a. With one or more of the containment penetration conductor overcurrent protective device(s) inoperable:

   1) Restore the protective device(s) to OPERABLE status or deenergize the circuit(s) by tripping the associated circuit breaker or racking out or removing the inoperable protective device within 72 hours, declare the affected system or component inoperable, and verify the circuit breaker to be tripped or the inoperable protective device to be racked out or removed at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their circuit breakers tripped, or their inoperable protective devices racked out, or removed; or

   2) Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more of the Class 1E power source protective device(s) inoperable, restore the protective device(s) to OPERABLE status or deenergize the circuit(s) by tripping the circuit breaker or racking out or removing the inoperable protective device within 72 hours, declare the affected component inoperable, and verify the circuit breaker to be tripped or the inoperable protective device to be racked out or removed at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their circuit breakers tripped, or their inoperable protective devices racked out, or removed.

SURVEILLANCE REQUIREMENTS

4.8.4.2 Each containment penetration conductor overcurrent and Class 1E power source protective device shall be demonstrated OPERABLE:

a. At least once per 18 months:

   1) By verifying that the medium voltage 13.8-kV and 4.16-kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least one of the circuit breakers, and performing the following:

*Only for Class 1E power source protective devices.

4.8.4.2.a.1) (Continued)

a) A CHANNEL CALIBRATION of the associated protective relays (because of the large currents involved, it is impractical to inject primary side signals to current transformers; therefore, the channel calibration will be performed by injecting a signal on the secondary side of those transformers at their test plug),

b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed, and

c) For each circuit breaker found inoperable during these functional tests, one additional circuit breaker of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

2) By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers and overload devices. Circuit breakers and overload devices selected for functional testing shall be selected on a rotating basis.

Testing of air circuit breakers shall consist of injecting a current with a value equal to 300% of the pickup of the long-time delay trip element and 150% of the pickup of the short-time delay trip element. The instantaneous element shall be tested by injecting a current equal to ±20% of the pickup value of the element.

Testing of thermal magnetic molded-case circuit breakers shall consist of injecting a current with a value equal to 300% of the circuit breaker trip rating and -25% to +40% of the circuit breaker instantaneous trip range or setpoint.

Testing of combination starters (a magnetic only molded-case circuit breaker in series with a motor starter and integral overload device) shall consist of injecting a current with a value equal to -25% to +40% of the circuit breaker instantaneous trip setpoint, and 200% and 300% of the thermal overload device trip rating to the respective devices.

Circuit breakers and/or overload devices found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker and or overload devices found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers and or overload devices of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers and or overload devices of that type have been functionally tested.

4.8.4.2.a (Continued)

3) Corrective actions for any generic degradation of overcurrent protective devices, such as setpoint drift, manufacturing deficiencies, material defects, etc., shall be applicable to all (Class 1E and non-Class 1E) protective devices of identical design.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

RADIOACTIVE EFFLUENTS

GASEOUS EFFLUENTS

EXPLOSIVE GAS MIXTURE - SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.2.5 The concentration of oxygen in the GASEOUS RADWASTE TREATMENT SYSTEM shall be limited to less than or equal to 2% by volume.

APPLICABILITY: At all times.

ACTION:

a. With the concentration of oxygen in the GASEOUS RADWASTE TREATMENT SYSTEM greater than 2% by volume, reduce the oxygen concentration to the above limit within 48 hours unless the hydrogen concentration is verified to be less than 4% by volume.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.5 The concentration of hydrogen or oxygen in the GASEOUS RADWASTE TREATMENT SYSTEM shall be determined to be within the above limit by continuously monitoring the waste gases in the GASEOUS RADWASTE TREATMENT SYSTEM with the hydrogen or oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.10.

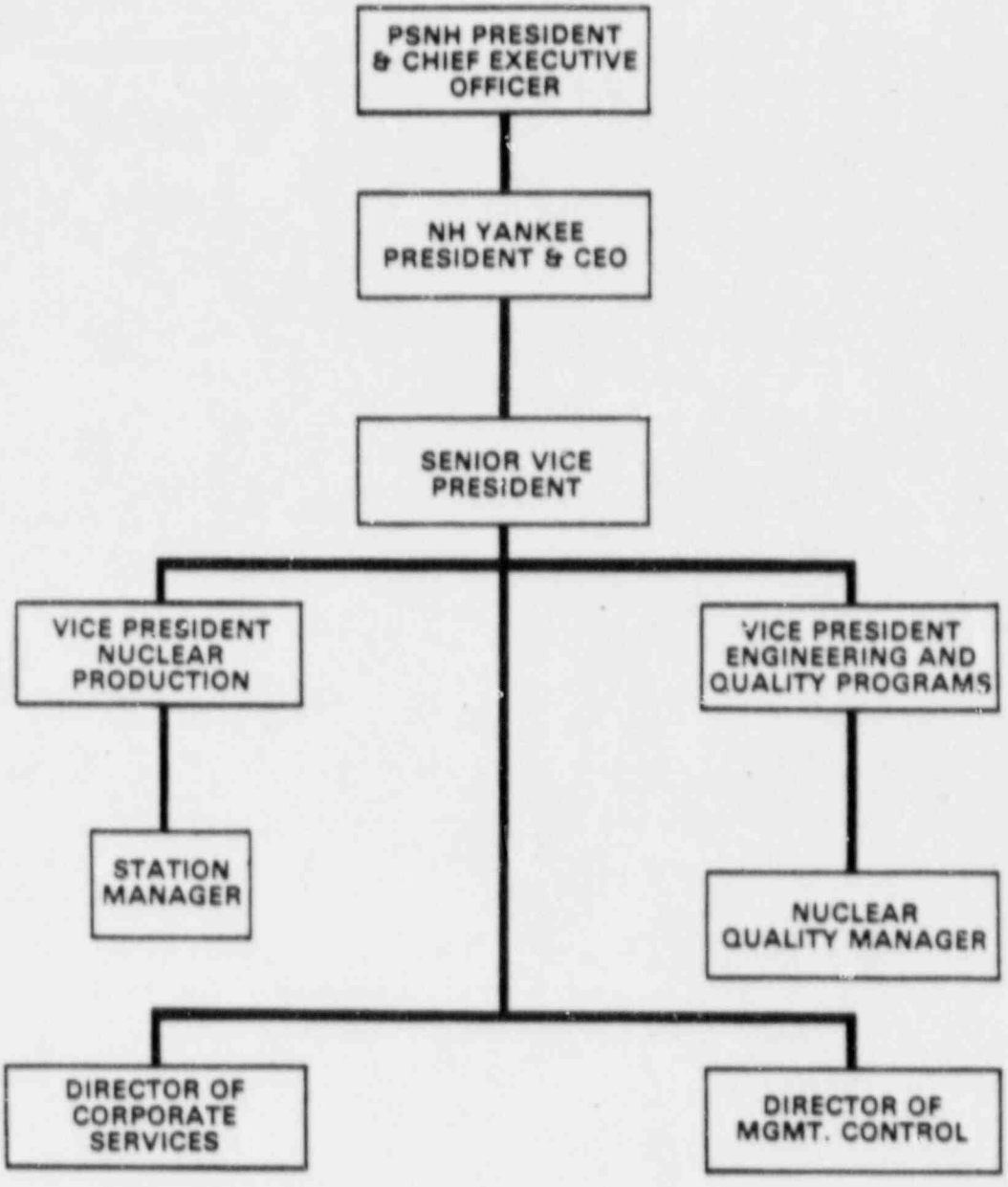

FIGURE 6.2-1

OFFSITE ORGANIZATION

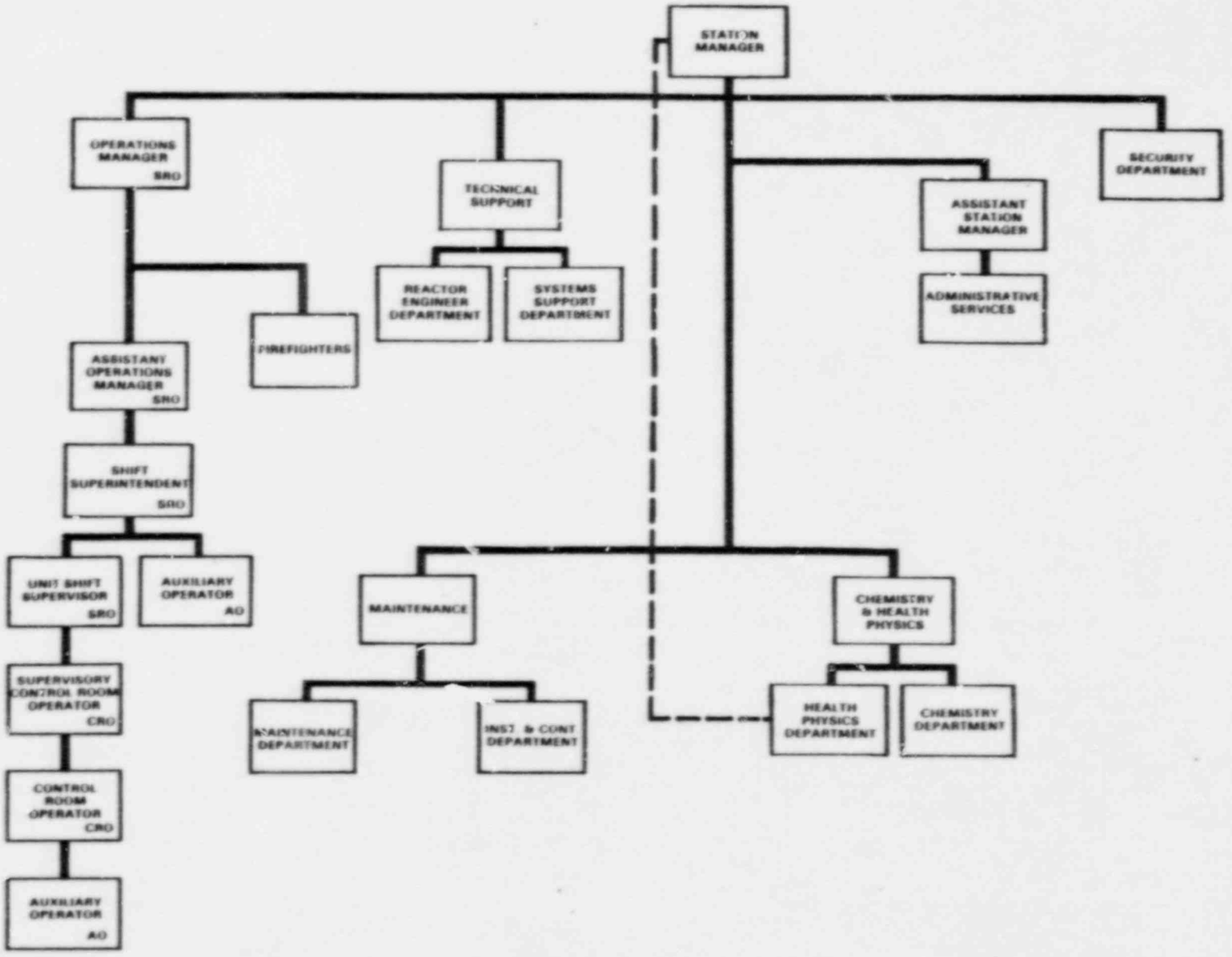

FIGURE 6.2-2
STATION ORGANIZATION

6.2.3 INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

FUNCTION

6.2.3.1 The ISEG shall function to examine station operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of station design and operating experience information, including units of similar design, which may indicate areas for improving station safety. The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving station safety to the Executive Assistant to the Senior Vice President.

COMPOSITION

6.2.3.2 The ISEG shall be composed of at least five, dedicated, full-time engineers located on site. Each shall have a bachelor's degree in engineering or related science and at least 2 years professional level experience in his field, at least 1 year of which experience shall be in the nuclear field.

RESPONSIBILITIES

6.2.3.3 The ISEG shall be responsible for maintaining surveillance of station activities to provide independent verification* that these activities are performed correctly and that human errors are reduced as much as practical.

RECORDS

6.2.3.4 Records of activities performed by the ISEG shall be prepared, maintained, and forwarded each calendar month to the Executive Assistant to the Senior Vice President.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide advisory technical support to the Control Room Commander in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the station.

6.3 TRAINING

6.3.1 A retraining and replacement licensed training program for the station staff shall be maintained under the direction of the Training Center Manager and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix A of 10 CFR Part 55 and the supplemental requirements specified in Sections A and C of Enclosure 1 of the NRC letter dated March 28, 1980 to all licensees, and shall include familiarization with relevant industry operational experience.

*Not responsible for sign-off function.

PROCEDURES AND PROGRAMS

6.7.4d. (Continued)

1) Training of personnel, and

2) Procedures for monitoring.

e. Post-Accident Sampling

A program that will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

1) Training of personnel,

2) Procedures for sampling and analysis, and

3) Provisions for maintenance of sampling and analysis equipment.

f. Accident Monitoring Instrumentation*

A program which will ensure the capability to monitor plant variables and systems operating status during and following an accident. This program shall include those instruments provided to indicate system operating status and furnish information regarding the release of radioactive materials (Category 2 and 3 instrumentation as defined in Regulatory Guide 1.97, Revision 2) and provide the following:

1) Preventive maintenance and periodic surveillance of instrumentation,

2) Pre-planned operating procedures and backup instrumentation to be used if one or more monitoring instruments become inoperable, and

3) Administrative procedures for returning inoperable instruments to OPERABLE status as soon as practicable.

6.8 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.8.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Regional Administrator of the Regional Office of the NRC unless otherwise noted.

STARTUP REPORT

6.8.1.1 A summary report of station startup and power escalation testing shall be submitted following: (1) receipt of an Operating License, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the station.

*Implementation of this specification shall take effect when plant goes above 5% power for the first time.

The Startup Report shall address each of the tests identified in the Final Safety Analysis Report and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

Startup Reports shall be submitted within: (1) 90 days following completion of the Startup Test Program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of Startup Test Program, and resumption or commencement of commercial operation), supplementary reports shall be submitted at least every 3 months until all three events have been completed.

ANNUAL REPORTS*

6.8.1.2 Annual Reports covering the activities of the station as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

Reports required on an annual basis shall include:

a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions** (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance [describe maintenance], waste processing, and refueling). The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole-body dose received from external sources should be assigned to specific major work functions;

b. The results of specific activity analyses in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded (in graphic and tabular format); (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration (μCi/gm) and one other radioiodine isotope concentration (μCi/gm) as a function of time for the

*A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

**This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

6.8.1.2 (Continued)

duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

c. Documentation of all challenges to the pressurizer power-operated relief valves (PORVs) and safety valves.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.8.1.3 Routine Annual Radiological Environmental Operating Reports covering the operation of the station during the previous calendar year shall be submitted prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following initial criticality and shall include copies of the preoperational Radiological Environmental Program of the unit for at least 2 years prior to criticality.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with preoperational studies, with operational controls, as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of the Land Use Census required by Specification 3.12.2.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the Offsite Dose Calculation Manual, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the Radiological Environmental Monitoring Program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor; the results of licensee participation in the Interlaboratory Comparison Program and the corrective action taken if the specified program is not being performed as required by Specification 3.12.3; reason for not conducting the Radiological Environmental Monitoring Program as required by specification 3.12.1, and discussion of all deviations from the sampling schedule; discussion of environmental sample measurements that exceed the reporting levels but are not the result of plant effluents, pursuant to ACTION b. of Specification 3.12.1; and discussion of all analyses in which the LLD required was not achievable.

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*A single submittal may be made for a multiple unit station.

**One map shall cover locations near the SITE BOUNDARY; the more distant locations shall be covered by one or more additional maps.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT*

6.8.1.4 Routine Semiannual Radioactive Effluent Release Reports covering the operation of the station during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The period of the first report shall begin with the date of initial criticality.

The Semiannual Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the station as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof. For solid wastes, the format for Table 3 in Appendix B shall be supplemented with three additional categories: class of solid wastes (as defined by 10 CFR Part 61), type of container (e.g., LSA, Type A, Type B, Large Quantity) and SOLIDIFICATION agent or absorbent (e.g., cement).

The Semiannual Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year**. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.*** This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. This same report shall also include an assessment of the radiation doses from radioactive liquid and gaseous effluents to MEMBERS OF THE PUBLIC due to their activities inside the SITE BOUNDARY (Figure 5.1-3) during the report period. All assumptions used in making these assessments, i.e., specific activity, exposure time, and location, shall be included in these reports. The meteorological conditions concurrent with the time of release of radioactive materials in gaseous effluents, as determined by sampling frequency and measurement, shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

The Semiannual Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed MEMBER OF THE PUBLIC from reactor releases and other nearby uranium fuel cycle sources, including doses from primary effluent pathways and direct radiation, for the previous calendar year

*A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

**The dose calculations may be reported in a supplement submitted 30 days later.

***In lieu of submission with the Semiannual Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data on site in a file that shall be provided to the NRC upon request.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

6.8.1.4 (Continued)

to show conformance with 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operation." Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1, October 1977.

The Semiannual Radioactive Effluent Release Reports shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Semiannual Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM and the ODCM, pursuant to Specifications 6.12 and 6.13, respectively, as well as any major change to Liquid, Gaseous, or Solid Radwaste Treatment Systems pursuant to Specification 6.14. It shall also include a listing of new locations for dose calculations and/or environmental monitoring identified by the Land Use Census pursuant to Specification 3.12.2.

The Semiannual Radioactive Effluent Release Reports shall also include the following: an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not corrected within the time specified in Specification 3.3.3.10 or 3.3.3.11, respectively; and description of the events leading to liquid holdup tanks or gas storage tanks exceeding the limits of Specification 3.11.1.4 or 3.11.2.6, respectively.

MONTHLY OPERATING REPORTS

6.8.1.5 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Director, Office of Resource Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the Regional Office of the NRC, no later than the 15th of each month following the calendar month covered by the report.

RADIAL PEAKING FACTOR LIMIT REPORT

6.8.1.6 The F_{xy} limits for RATED THERMAL POWER (F_{xy}^{RTP}) shall be provided to the NRC Regional Administrator with a copy to Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D. C. 20555, for all core planes containing Bank "D" control rods and all unrodded core planes and the plot of predicted ($F_q^T \cdot P_{Rel}$) vs Axial Core Height with the limit envelope at least 60 days prior to each cycle initial criticality unless otherwise approved by the Commission by letter. In addition, in the event that the limit should change requiring a new substantial or an amended submittal to the Radial Peaking Factor Limit Report, it will be submitted 60 days prior to the date the limit would become effective unless otherwise approved by the Commission by letter. Any information needed to support F_{xy}^{RTP} will be by request from the NRC and need not be included in this report.