

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: PERIODIC MEETING WITH THE ADVISORY COMMITTEE
ON REACTOR SAFEGUARDS

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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PERIODIC MEETING WITH THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

- - - -

PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, November 8, 1990

The Commission met in open session,
pursuant to notice, at 2:00 p.m., Kenneth M. Carr,
Chairman, presiding.

COMMISSIONERS PRESENT:

KENNETH M. CARR, Chairman of the Commission
KENNETH C. ROGERS, Commissioner
JAMES R. CURTISS, Commissioner
FORREST J. REMICK, Commissioner

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PRESENTERS SEATED AT THE COMMISSION TABLE:

CARLYLE MICHELSON, Chairman, ACRS

JAMES CARROLL, ACRS

DAVID WARD, ACRS

WILLIAM KERR, ACRS

CHESTER SIESS, ACRS

PAUL SHEWMON, ACRS

HAROLD LEWIS, ACRS

IVAN CATTON, ACRS

ERNEST WILKINS, JR., ACRS

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

2:05 p.m.

CHAIRMAN CARR: Good afternoon, ladies and gentlemen.

The Advisory Committee on Reactor Safeguards is here today to brief the Commission on items of importance to development of future regulatory positions. They will be giving us their independent views on essentially complete design, decoupling of siting and source term, the proposed resolution of generic safety issue B-56 concerning diesel generator reliability, progress on formulation of containment design criteria and the reevaluation of the systematic assessment of licensee performance, or the SALP program.

I understand that copies of recent ACRS letters on these subjects are available at the entrances to the meeting room.

Before we begin, I want to recognize Doctor J. Ernest Wilkins, Jr., Distinguished Professor of Applied Mathematics and Mathematical Physics from Clark Atlanta University, has joined the ACRS since the last briefing and is with us today. I want to welcome him on behalf of the Commission and thank him for his willingness to give his time and energy to an

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1 effort which is so important to the further progress
2 of the nation's nuclear regulatory program.

3 In addition, Mr. Carlyle Michelson has
4 been appointed to a third term on the Committee. Mr.
5 Michelson, I want to thank you on behalf of the
6 Commission for your past contributions to the Agency's
7 mission and we will look forward to working with you
8 in the coming years.

9 Do any of my fellow Commissioners have any
10 opening remarks they wish to make?

11 If not, Mr. Michelson, I want to welcome
12 you and the other ACRS members, and you may proceed
13 with the presentation.

14 MR. MICHELSON: Thank you, Mr. Chairman.

15 The way I would propose this afternoon is
16 to cover the items that you had listed, in that order,
17 and the first item is the essentially complete design.
18 I'm going to give you just a brief opening statement
19 on it and I believe we would go to a question and
20 answer mode to cover the concerns that you may have,
21 unless you need a more detailed briefing than that.
22 But I believe you received all the material you
23 probably need from the past.

24 So, let me just refresh your memory on
25 the -- the ACRS did write you a letter on August 14th,

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1 1990 which dealt with our review of SECY-90-241. This
2 SECY was related to the level of design detail
3 required for design certification under Part 52. We
4 held a Subcommittee meeting on August 8th, 1990 to
5 discuss this matter and then the full Committee in
6 August wrote the letter that you have now received.

7 This SECY paper dealt with two important
8 issues. First of all was the level of design required
9 for applying for certification, and the second was the
10 level of design detail that would be required in the
11 certification document itself. The first issue, of
12 course, must be resolved before the staff can complete
13 its review. The second issue is something that's
14 settled when you decide what portion of the design
15 material needs to go into the certification
16 application.

17 The SECY-90-241 listed four options for
18 you to consider. The Committee did have some
19 questions about how some of these items might be
20 defined, but for a first cut these four options seemed
21 to be a somewhat reasonable approach to the question.
22 So, we looked at those four options and in our letter
23 indicated to you that we would recommend the level 2
24 option that was indicated. However, we also pointed
25 out to you carefully that first of all the level of

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1 detail selected must be sufficient for the Commission
2 to reach closure on all safety related issues and to
3 establish assurances that the future construction will
4 be in conformance with the design.

5 Now, we're not quite sure until we see a
6 lot more detail on level 2 whether that requirement
7 would be satisfied. But clearly that is the first
8 requirement. Whatever level of detail you select, you
9 must be able to do your safety -- to establish that
10 your safety issues have been taken care of.

11 Having said that and having adopted level
12 2, we are now here today to answer whatever questions
13 you may have or whether you'd like to solicit further
14 views on any of the issues that might have been
15 covered.

16 CHAIRMAN CARR: Commissioner Remick?

17 COMMISSIONER REMICK: When you say level
18 2, are you talking kind of an average? In other
19 words, is it possible that some systems you might want
20 to see level 1? Reactor pressure vessel comes to mind
21 as maybe an example of reactor protection system.
22 Would there be some systems that perhaps less than
23 level 2 might make sense? An example might be
24 something like ultimate heat sink if you had the
25 courses site specific. But if you had the interface

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1 specifications, would that be adequate? So, when you
2 say level 2, I wasn't quite clear if you were saying
3 uniformly subject to the caveats you just expressed
4 or was that kind of an average?

5 MR. MICHELSON: I guess you'd have to poll
6 each of the members to find out how they viewed level
7 2 at the time. I'll start out by telling you how I
8 viewed level 2 and then we can work around the table
9 as required.

10 I viewed level 2 as -- well, first of all,
11 as you recall, I said they didn't define these various
12 elements that might go into the level 2. It was what
13 is a system and facility layout drawing? Well, that
14 means a little bit -- it's a little different meaning
15 according to who you talk to. I've seen many facility
16 layout drawings and they do vary somewhat in degree
17 of detail shown. But most all of them are not of the
18 level of detail I would need to do a systems
19 interaction study, for instance, because it was simply
20 not --

21 So, when you do have to determine -- make
22 a safety determination on something like an external
23 hazard such as fire or flooding, you will have to have
24 whatever level of detail it takes in that particular
25 area to make that determination. Level 2 might take

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1 care of it in some areas and not in other areas.

2 My own view is that level 2 is an average,
3 to answer your question. But that's clearly it either
4 has to be a somewhat graded approach, and I think the
5 staff is proposing a graded approach.

6 COMMISSIONER REMICK: Anybody else wish
7 to comment on that? All right.

8 You volunteered that you'd be willing to
9 talk about the criteria that industry and staff is
10 proposing in deciding what goes in the two tiers.
11 Would you want to elaborate on that?

12 MR. MICHELSON: Well, what I think the
13 intention of the letter was is that the Committee is
14 certainly willing to review the SECY as it comes out
15 indicating how it's going to be divided up. It's our
16 understanding we're going to receive that SECY now
17 tomorrow. It will get here sooner than I had thought.
18 Yes, we do intend to look at it. We have a
19 Subcommittee meeting already scheduled for December.
20 We intend to write a letter in December. Not having
21 seen the SECY, of course, I can't at all comment, but
22 yes, we are anxious to look at it.

23 COMMISSIONER REMICK: So, at this point,
24 you don't have any views on that?

25 MR. MICHELSON: No, because we haven't

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1 seen it.

2 COMMISSIONER REMICK: You haven't seen it,
3 okay. Well, you answered my next question. That was
4 when do you anticipate that you would have a letter
5 for the Commission, assuming you get the document this
6 week? It would be the December meeting?

7 MR. MICHELSON: December meeting.

8 COMMISSIONER REMICK: Good.

9 That's all.

10 CHAIRMAN CARR: Commissioner Curtiss?

11 COMMISSIONER CURTISS: I want to pick up
12 on the last question. On the issue of when you came
13 make a change in the design detail, the so-called tier
14 one, tier two approach, I gather you've had a chance
15 to talk to the NUMARC folks and the representatives
16 of the industry on what they're proposing, recognizing
17 that the staff's paper isn't out yet and all the
18 details that haven't been fleshed out. Based on what
19 the industry is proposing, do you have a feel for
20 what -- what are your thoughts on the two-tiered
21 approach?

22 MR. MICHELSON: I would be a little
23 reluctant to comment on what the industry is proposing
24 since it was several months ago we heard. They were
25 scheduled to come to our Subcommittee meeting that we

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1 held a week ago, but they did not come. They have not
2 elected to give us any further briefing, so I don't
3 know what they're proposing.

4 COMMISSIONER CURTISS: Let me step back
5 -- go ahead.

6 MR. CARROLL: One of the reactions I had
7 to the presentation we had from NUMARC was that in my
8 experience there has been a wide range of approaches
9 taken to interpreting 5059. That, of course, is a
10 very key element to what they're proposing for the
11 tier two. I believe that somebody's got to come to
12 grips with really defining and understanding what 5059
13 means in the context of level of design detail.

14 MR. MICHELSON: There was an NSAC document
15 produced, NSAC-125, dealing with such interpretations,
16 how well it applies to this particular problem.

17 COMMISSIONER CURTISS: Okay.

18 MR. KERR: It seems to me the problem is
19 that we are trying to solve a difficult problem and
20 take care of all of the details the first time. We
21 almost certainly can't do that. If there is some
22 mechanism that exists that retains a large degree of
23 flexibility as we go through at least the first
24 effort, it seems to me we'll be better off because
25 this is going to be a learning process. If every

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1 detail is specified and it is extremely difficult to
2 change these details, we'll get lost in procedures.

3 DOCTOR WILKINS: Isn't it fair to say
4 though that tier one details would be a lot harder to
5 change than tier two? Let me rephrase that. Will be
6 more formal, require a more formal process in order
7 to change than tier two, and it may make a difference
8 as to when you want to change them, if you want to
9 change them before certification, if you want to
10 change them after certification but before the
11 combined operating license or after the combined
12 operating license and before authorization to operate,
13 and so on. I think it's very difficult to spell all
14 that out, as Bill has said, in advance.

15 COMMISSIONER CURTISS: Well, I guess I
16 would encourage you on that question, when you get the
17 staff's paper, to look at really two aspects of it.
18 Number one, where do you draw the line? What
19 information that's set out in the application do you
20 want to codify and codify in a manner that cannot be
21 changed, say, for an amendment or an exemption? Then
22 two, what process do you use for changing the design
23 below that level of detail and, as Commissioner Remick
24 has suggested before, how do you do that in a manner
25 that encourages the objective of standardization, keep

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1 it as standardized as reasonably achievable? I'll
2 look forward to what you have to say in December.

3 That's all I have.

4 CHAIRMAN CARR: Commissioner Rogers?

5 COMMISSIONER ROGERS: Well, the couple of
6 questions I had have already been asked and answered.
7 I wonder if you want to make any comments about
8 standardization, particularly some of the negative
9 safety considerations that ought to be paid particular
10 attention to now. Some of them are fairly obvious,
11 but perhaps it would be helpful if you wanted to call
12 our attention to any that you think are particularly
13 important.

14 MR. MICHELSON: Any members wish to
15 comment?

16 DOCTOR WILKINS: Larry Minnick had some
17 additional views, as I recall, in the letter that was
18 written by the Committee on August 14th. He did
19 address some of those issues, at least in a general
20 philosophical way. I'm not competent to speak for
21 him.

22 CHAIRMAN CARR: I have only one question.
23 Do any of you see any technical reason that we
24 couldn't have a complete design for certification?

25 MR. SIESS: In technical you leave out

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1 financial?

2 CHAIRMAN CARR: Yes, I leave out
3 financial. I mean technically is there any reason you
4 can't design that plant before it's built?

5 MR. SIESS: We built them before they were
6 designed. I guess you could do it the other way.

7 CHAIRMAN CARR: That's what I'm trying to
8 get away from, you know?

9 COMMISSIONER ROGERS: That's easier.

10 MR. SIESS: I think it was done on the
11 SNUPPS replication, on the Byron-Braidwood
12 replication. Those were pretty well designed. I
13 don't know that anybody's looked to see how much
14 detail there was.

15 CHAIRMAN CARR: My concern is that they're
16 telling the Commission that it's going to be roughly
17 30 to 40 percent of the design will be complete at the
18 time we're expected to certify it. I'm a little
19 uneasy about certifying a design when 60 to 70 percent
20 of it is out there.

21 MR. KERR: The French, it seems to me,
22 have been more successful than any group I know of in
23 standardization. But one must recall that when they
24 went from the 900 megawatt electric to I guess a 1300
25 megawatt electric, they changed the length of the fuel

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1 elements only slightly. Everybody assured them that
2 this would make no particular impact, have no
3 particular impact on performance. They installed
4 these, started operating and a vibration that had been
5 unanticipated occurred and they had to redesign.

6 This was a minor perturbation in a plant.
7 We're talking about major perturbations in some of the
8 things that are going into the standard plant. The
9 only thing I would say is that as much confidence as
10 I have in engineers, it is difficult to foresee some
11 of the problems that may be encountered until one
12 builds something.

13 CHAIRMAN CARR: Yes. Well, that leads --

14 MR. SIESS: Let me --

15 CHAIRMAN CARR: Excuse me, go ahead.

16 MR. SIESS: Yes. You know, when you put
17 the question that way, you're clearly thinking about
18 the first plant. If it's only going to be one plant,
19 there's not much point in having standardization. But
20 to go the certification process, that's what we're
21 going to have to do, look at the first plant. Now,
22 there's something wrong in my mind about getting into
23 all of this hassle about the details of the level of
24 design and the completeness of design for the first
25 plant when we are really hoping to have five or six

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1 or seven or eight or ten or 20, like the French do.
2 Now, is there any way out of this --

3 CHAIRMAN CARR: Well, you lead into my
4 second question. Recently I've been hearing a lot of
5 words about the first of a kind, the FOAK. And the
6 implication is that the first of a kind should
7 probably have more leeway than plant number 2. This
8 tells me that we really ought not to certify plant
9 number 1, we ought to certify the design after plant
10 number 1 is built and then say, "That design is now
11 certified." That leads to standardization, but that's
12 not the way we wrote it. Nobody likes the word
13 "prototype." I don't care if we call it a first of
14 a kind instead of a prototype if that makes people
15 feel good.

16 Are we asking for trouble by trying to
17 certify a design when we'd be better off to certify
18 as much of the design as we could and then, at the end
19 of that, certify the entire design? That was kind of
20 the point you were trying to make, I think, wasn't it?

21 MR. KERR: Yes, sir.

22 MR. SIESS: This was the second plant.
23 The kind of questions we would be asking would be
24 quite different than what we're asking now about what
25 do we need to know about that first plant to certify

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1 it.

2 COMMISSIONER CURTISS: I guess that
3 approach presupposes that you don't get a second order
4 while that first plant is being constructed.

5 MR. KERR: That's probably a pretty good
6 assumption.

7 DOCTOR LEWIS: Wasn't part of the push for
8 certification that you weren't -- that you knew what
9 it was that you had to build before you committed to
10 it?

11 CHAIRMAN CARR: Well, one of the ideas of
12 certification was that we would have all the questions
13 answered before we broke ground. If there's 70
14 percent of the design or 60 percent of the design
15 still out there, I'm not sure all the questions are
16 going to be answered before we break ground. That
17 concerns me, especially in light of the recent court
18 decision that says the opportunity for a second
19 hearing is more broadly construed than we construed
20 it perhaps. I'm somewhat uneasy about certifying a
21 design that's not "essentially complete."

22 Having said that, do you want to go on to
23 the next subject?

24 COMMISSIONER REMICK: Do you want to
25 respond?

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1 MR. CARROLL: Well, I guess you've got to
2 understand though what 50 percent complete means.
3 In my mind -- or 30 percent or 40 percent. I guess
4 I've been hearing 50 percent from the staff.

5 CHAIRMAN CARR: They're coming up.

6 MR. CARROLL: Yes, I noticed that. But
7 I think that means that design decisions that really
8 impact safety have been made for the most part.
9 What's left over in the residual 50 percent is
10 implementation of a lot of very small things, the
11 detail design and hangers and the detailed stress
12 analysis on piping. But the way you're going to do
13 it has been dealt within the first 50 percent. That's
14 my understanding of the situation. I don't think
15 that's so bad.

16 MR. MICHELSON: I guess I'll have to
17 interject only that in that first 50 percent of the
18 design, you generally do not do your cable routings
19 and so forth. Yet to do the first hazards analyses
20 required by regulation, the standard review plan, and
21 to do flooding analyses and so forth, you need to know
22 quite a bit about what's in a particular area subject
23 to a fire or flood. That information, I think, is
24 developed in that last 50 percent, not necessarily in
25 the first 50 percent.

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1 The first 50 percent places the pumps and
2 places major piping, but it doesn't -- it may or may
3 not even place where the cable trays are. It may only
4 say they'll be along a wall or something. The details
5 come later. Of course, in doing certain hazards
6 examinations, you must know the details in that area.
7 So, I have a problem with it if that's not available.
8 But, of course, I think it has to be available because
9 you do have to determine if it's a safe design.

10 MR. CATTON: But, Carl, on new plants with
11 the isolation or the separation that they have, that's
12 not as important, I don't believe. They literally can
13 let one train go and things are still under control.
14 So, it makes the importance of the routing less, I
15 think.

16 MR. MICHELSON: I becomes important
17 though, of course, to address the issues of systems
18 interaction and so forth to what extent a fire causes
19 unwanted actions from the equipment that it is
20 affecting and how that affects train too. That
21 analysis has to be done as well. To do it, you've got
22 to know a fair amount of the detail. You have to know
23 first of all which cables are in the fire area and
24 what could happen to them that might cause an unwanted
25 action to occur on another safety system.

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1 Our safety systems aren't supposed to be
2 interconnected, but there are many other subtle things
3 that happen. We run non-safety systems through these
4 cable trays and so forth and that's when you start
5 getting in trouble. We use common ducting systems to
6 some extent, things of this sort. We provide
7 appropriate isolation, but we don't analyze for
8 unwanted actions. They particularly come from control
9 systems. The solid state devices are affected even
10 by warming up a room. They start performing unwanted
11 actions. If you analyze for all these and you can
12 show that you're okay, fine. The alternative is to
13 shut all the equipment off before it starts getting
14 warm. That's not proposed either.

15 COMMISSIONER REMICK: Let's shift gears
16 a minute. You were involved in reviewing two
17 evolutionary designs proposed for certification on the
18 assumption the Commission came out something near
19 where you're recommending of level 2 on the average.
20 What you're reviewing, what you see, would it meet
21 that?

22 MR. CARROLL: We asked that specific
23 question of Combustion Engineering last week and they
24 stated that they thought their present design or their
25 present application presented a design that was at

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1 level 3 plus. We suggested they might want to be
2 thinking about what the impact of a two plus design
3 was and they said that it would be a very major
4 impact.

5 MR. SHEWMON: Two plus or 2 minus?

6 MR. CARROLL: Well, I'm moving up towards
7 one.

8 CHAIRMAN CARR: He's coming closer to 1
9 minus.

10 DOCTOR WILKINS: Two minus, I guess you
11 mean.

12 MR. CARROLL: Do I mean 2 minus?

13 DOCTOR WILKINS: You mean 2 minus.

14 MR. CARROLL: All right.

15 DOCTOR WILKINS: I deliberately didn't say
16 that this morning.

17 CHAIRMAN CARR: You said -- if you meant
18 2 minus, if they said 2 minus, it would have a major
19 impact?

20 COMMISSIONER ROGERS: Did they mean 3 plus
21 or 3 minus?

22 MR. CARROLL: I guess they must have meant
23 3 minus.

24 DOCTOR WILKINS: They meant 3 minus,
25 between 2 and 3.

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1 MR. CARROLL: Yes.

2 COMMISSIONER ROGERS: Okay.

3 CHAIRMAN CARR: Any other questions?

4 MR. CARROLL: Well, it's better than 3 in
5 my terminology.

6 CHAIRMAN CARR: Subject two.

7 MR. MICHELSON: Okay.

8 CHAIRMAN CARR: We'll revisit that one
9 again.

10 MR. MICHELSON: The next subject -- yes.
11 By the way, we will be sending you that letter in
12 December and I would expect after that you may want
13 to talk to us.

14 The next subject is the source term
15 update. Hal Lewis has that particular subject.

16 DOCTOR LEWIS: Thank you, Carl.

17 You will recall that the question of
18 siting of plants and decoupling sitings on the source
19 term has been a hot one. It's been going on for some
20 time. We had a briefing awhile back, after which we
21 wrote a letter to you. The problem was that as the
22 source term has been updated -- this is an issue
23 that's been around since TMI, at the very least -- it
24 has become increasingly clear that the estimates that
25 had been made in the early '60s about the amount of

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1 radiation emitted by an accident and its chemical
2 character and that sort of thing, were high. They
3 were -- and they have been going down.

4 The siting is connected to that because
5 siting is governed in the rules only by Part 100,
6 which specifies that you have to do an analysis of a
7 certain number of design basis accidents and show that
8 people at the periphery of the boundary -- I'll just
9 use the term boundary for the moment -- don't receive
10 an excessive dose. So, that as the estimated source
11 term goes down, the necessary size of both the
12 exclusion area and the low population zone
13 automatically go down too if you do the same
14 calculation.

15 People have been concerned about that
16 because these things have been going down and it's in
17 principle possible to imagine somebody coming in with
18 a design and a siting proposal that is within the
19 rules as they're now written and which is in the
20 middle of name your city, some city that has a large
21 park in the middle. Nobody wants that. In fact,
22 nobody is, in fact, proposing that. So, in a certain
23 sense this is a novel occurrence.

24 Nonetheless, the staff briefed us about
25 their proposals to deal with this problem and the

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1 proposals were, in effect, to stick to the siting
2 criteria regardless of how they were obtained.
3 They're contained in a reg. guide which is Reg. Guide
4 4.7. At the time that we were briefed by the staff,
5 they said that they were going to try to deal with
6 this issue by continuing the leisurely update of the
7 source term by encouraging people to conform to Reg.
8 Guide 4.7.

9 I don't need to remind you it's the
10 subject of long contention that reg. guides are
11 advisory and are not regulations, but they were in
12 effect acting as if they were going to sort of try to
13 enforce it to the best they could. We wrote you a
14 letter saying that wasn't a good move. The reason for
15 not going to a rulemaking that they gave was that
16 rulemakings are very complicated, they take time, they
17 take energy, they don't always work the way you want
18 to. You get a lot of contention when you do them.

19 Our letter said to you that we thought
20 that it was the straightforward thing to do, that we
21 thought that the staff was trying to avoid a
22 rulemaking by enforcing a reg. guide and that was a
23 bad move for dealing with this technical development
24 which has happened over the last 30 years, in effect.

25 We now have a new document from the staff

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1 which says that indeed they now want to treat the
2 problem by doing it through a rulemaking which
3 satisfies our major concern, and they want to do it
4 as a three step process. There are a lot of
5 ambiguities in the process they described, but since
6 it hasn't been spelled out, we can't really comment
7 about them yet. We will. In particular, they
8 proposed to urge you to do the rulemaking in three
9 steps. In the first step, they're going to review
10 plants on a case by case basis. That doesn't convey
11 a great deal of information about just how they're
12 going to do it. But they recognize that there will
13 be awhile to get a rulemaking.

14 As a second step, they want to get a
15 rulemaking going on Part 100 which deals with the
16 exposure criteria and build into that an update of the
17 source term and leave Part 50, the design part, alone,
18 and then as a third step to deal with Part 50.
19 Speaking for myself and others can speak for
20 themselves, I'm comfortable with the direction that
21 they're pointing. We'll have plenty of time to talk
22 about how they're actually doing it as they begin to
23 do it.

24 So, I really, strangely enough, have no
25 complaints about this one at the moment.

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1 CHAIRMAN CARR: The Secretary is going to
2 note that.

3 DOCTOR LEWIS: Maybe I'm sick.

4 Others may have other comments.

5 MR. SIESS: I agree with Hal on this. I'm
6 not sure that they need to two steps. I think the
7 reason for going with the first change would be simply
8 a legal one rather than a technical one.

9 But what I think is very important, and
10 the staff points it out in their SECY, this is severe
11 accident rulemaking. It will take the issue of design
12 and review for severe accidents out of the range of
13 policy statements and put it into the rules. It's
14 needed badly and it will be a great help to the staff,
15 I think, and to a lot of other people.

16 The problem is going to be to adjust the
17 two things by what I call calibration, try to get the
18 same answer we've been getting by a different
19 mechanism. Everybody is fairly happy with the answer
20 we've been getting in terms of sites and in terms of
21 ECCS and so forth. But the way we've been getting it
22 has been an abomination. We put all the wrong numbers
23 in to get the right numbers out. This is fine until
24 you try to rationalize what you're doing and to do
25 something on a little different scale. Then it

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1 becomes a mess.

2 It's not going to be easy. I will be very
3 difficult to do.

4 MR. CATTON: I don't see how they're going
5 to be able to do it without dose calculations. It
6 seems to me you've got a source, a barrier, a
7 transport mechanism via the meteorology or geometry
8 of the site and then you've got some fencepost. How
9 you can do all that without considering the
10 meteorology, I don't know. I don't know how you can
11 do it because it is a transport problem.

12 MR. SIESS: I don't see -- you just take
13 an existing plant that's been designed that way and
14 put it at a site that's as good as any of the sites
15 we've had in the last 30 or 40 and you'll meet it
16 automatically. You meet the safety goal.

17 DOCTOR LEWIS: Well, I agree that it's
18 going to be very difficult, but I'm willing to wait
19 and look at what they do.

20 MR. SIESS: Well, it's going to be
21 difficult because they're going to have to decide on
22 all these things to do.

23 MR. CATTON: I agree. We can argue with
24 the staff about these things --

25 MR. CARROLL: Oh, we'll have a chance.

1 MR. SIESS: But there is the point that
2 until this does get resolved, the present evolutionary
3 plants are still doing dual kind of analyses. One
4 plant is doing Part 100 and then basing it on what
5 they think the real world is. Not only are they being
6 designed on that dual basis, but they're being
7 reviewed on that dual basis. Now, which comes first
8 now, the chicken or the egg, I don't know.

9 CHAIRMAN CARR: Any other comments?

10 Commissioner Remick?

11 COMMISSIONER REMICK: I don't have a
12 question, but I have a request of the Committee and
13 I'll give you a little bit of background.

14 When we received a briefing on this from
15 the staff, I began to think about the fact that if you
16 look at Part 100 we have such things as exclusion area
17 and low population zone and population center distance
18 and emergency planning. We have LPZ and safety goal
19 we have near the plant and in the vicinity of the
20 plant.

21 Remembering the theme that some group has
22 recommended on coherence and consistency, I thought,
23 one, is there any way when we redo these things
24 looking at siting to combine any of these, threw out
25 the question off the top of my head without any real

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1 thought, is there any -- or one of the pros and cons
2 of maybe considering combining EPZ with LPZ. The
3 staff basically came back, I think I could
4 characterize it, didn't think it was a very good idea
5 and it might not be. I really don't know.

6 But I would ask as you go through this
7 process to think of things like that that perhaps
8 these things which were developed at different times
9 for different purposes by different offices, by
10 different people and serve the Agency well, is there
11 any way that we can bring some coherency and
12 consistency between these?

13 The other one was on this question of
14 doses where staff is proposing to take the dose limits
15 of 25 rem to whole body and 300 rem thyroid and
16 putting them in Part 50 rather than in Part 100.
17 Those are deterministic type doses. In thinking once
18 again of coherency with the safety goal where we have
19 in there quantitative objectives which are health
20 objectives but can be related to dose, I raise the
21 question once again off the top of my head, is there
22 any benefit to having a risk based dose in Part 50
23 rather than deterministic or perhaps in addition?
24 Maybe you need a deterministic for the -- to bound the
25 maximum accident, to put a limit on that, but maybe

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1 you need a risk based to incorporate all the
2 accidents.

3 It was the initial reaction from the staff
4 that this was not a good idea and it might not be a
5 good idea. But I just throw out, as you think about
6 this, see what are the pros and cons. So, if you come
7 back and say, "They're both dumb ideas," I don't
8 object to that, but I would like somebody to give some
9 thought to it as you review it.

10 DOCTOR LEWIS: First, if I thought they
11 were dumb ideas, I wouldn't tell you here. But I
12 don't think they're dumb ideas. In fact, the way I
13 think a coherent -- I love to hear that word, a
14 coherent --

15 COMMISSIONER REMICK: I thought you would.

16 DOCTOR LEWIS: The way I think a coherent
17 philosophy of regulation to be put together is by
18 using risk based criteria to determine deterministic
19 rules. And in particular, in terms of the size of the
20 EPZ and the LPZ, I'm not favor of arbitrariness. I'm
21 in favor of using the best risk based analyses that
22 you can to come up with reasonable numbers and then
23 put into the rule that the diameter of something
24 should be 2.687 kilometers and forget about how you
25 got there because that's enforceable and

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1 understandable. Then your test of coherence is the
2 test of whether the deterministic things contradict
3 each other or not and that's a much easier test to
4 make.

5 So, I think that whether one should
6 combine the zones is another matter, but setting
7 specific numbers that are reasonably derived as
8 regulatory crutches I think makes a lot of sense.

9 CHAIRMAN CARR: Commissioner Curtiss?

10 Commissioner Rogers?

11 COMMISSIONER ROGERS: No, I don't have any
12 on this.

13 CHAIRMAN CARR: All right. Let's proceed
14 to the next one then.

15 MR. MICHELSON: The next agenda item is
16 the resolution of Generic Issue B-56. This is an item
17 that the Committee was asked to discuss with you
18 briefly because of a particular procedural concern
19 that they had.

20 Just to refresh your memory on the item
21 itself, the Commission has received SECY-90-340 in
22 which it was brought to your attention that the staff
23 had some disagreements with ACRS' recommendations on
24 this particular generic issue. The Committee is a
25 little concerned because the issue was brought to you

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1 originally as an information item in which it was our
2 understanding if you did not take action it was
3 agreement by silence.

4 We feel that if there is a disagreement
5 between the staff and the Committee and those
6 disagreements are brought to the attention of the
7 Commission, that the Commission should prepare some
8 kind of written reply to the disagreements so we know
9 where we stand on the particular item. That was the
10 main thing we wanted to bring to your attention, was
11 simply a desire on our part to see some kind of
12 written response on any item where there's a
13 disagreement between the staff and the Commission.
14 Pardon me, between the staff and ACRS.

15 COMMISSIONER REMICK: My only concern is
16 a disagreement is in the eyes of the beholder. There
17 are times when the ACRS says something and I think the
18 staff very sincerely feel that they addressed that and
19 therefore in their mind there's no issue. But when
20 it comes back to the Committee, you find, no, they
21 missed our point. I'm not sure -- how do we catch
22 that type of -- I guess you'll speak up.

23 MR. MICHELSON: We would speak up, yes.

24 MR. SIESS: Are you suggesting that the
25 staff doesn't understand what we say?

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1 COMMISSIONER REMICK: It's possible.

2 DOCTOR WILKINS: In this case, the staff
3 specifically identified this issue as a disagreement.
4 That was my understanding. They said, "We disagree
5 with the ACRS."

6 MR. KERR: Let me say, I don't think the
7 Commission should send us a written response. After
8 all, it's up to the Commission to decide what it wants
9 to do with the recommendations we make. It
10 occasionally would be helpful to us if there is a
11 disagreement and if the Commission can shed any light
12 on how it made a decision that might provide us with
13 additional guidance. But as far as thinking they
14 should do this, I don't.

15 MR. MICHELSON: Well, we didn't contend
16 that this be a letter back to the ACRS, but simply an
17 SRM written on the SECY paper indicating to the staff
18 what you --

19 CHAIRMAN CARR: I think your point is we
20 shouldn't let the disagreement stand on the record
21 without the Commission taking some kind of overt
22 action.

23 MR. MICHELSON: That's right.

24 CHAIRMAN CARR: I don't see any problem
25 with that.

1 COMMISSIONER REMICK: In this specific
2 case we are. It's changed the notation vote.

3 CHAIRMAN CARR: Either one, covert or
4 overt.

5 While we're on that, it seems to me like
6 the subject we just left, there was some disagreement
7 between what you stated and the gross over estimation
8 of the radioactive release in a typical accident
9 inside containment and the staff's view of that.
10 That's still on the record. We didn't address that.

11 DOCTOR LEWIS: Yes. Well, that has to do
12 with the definition of large or gross extreme. They
13 say the difference isn't very large. I say it is
14 large. But if you look further into their wording,
15 there's a place they say, "It isn't very large, but
16 it makes a major difference in the size of the
17 boundary." So, I think it's their turn to go back to
18 the drawing board.

19 CHAIRMAN CARR: I was looking to see if
20 it was really defined as a major accident beyond the
21 design basis or something.

22 DOCTOR LEWIS: Well, that's another
23 matter. For any boundary, there is --

24 CHAIRMAN CARR: Is that one you would
25 like -- the kind of item you'd like us to be on the

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1 record with or is that -- doesn't rise to that level
2 of importance? I don't know which ones they -- where
3 there's a disagreement that's sufficiently high enough
4 we should address it and when it isn't.

5 MR. MICHELSON: Well, when it's high
6 enough for the staff is required to tell you that they
7 have a disagreement with the ACRS. I think there is
8 an SRM that says the staff shall inform the Commission
9 of such disagreements. If the staff has informed the
10 Commission, then we think the Commission should reply.

11 COMMISSIONER REMICK: Let me go back
12 specifically to the topic. Am I correct in your
13 letter that basically your position is that the
14 licensee's commitment made under the station blackout
15 rule should be adequate for the diesel reliability,
16 that there is no need for some additional 50.54(f)
17 letter asking for that type of commitment or am I
18 misreading what you've said in the letter?

19 MR. MICHELSON: Bill, would you like to
20 respond on that one?

21 MR. KERR: Well, our information indicated
22 that there was no disagreement about the requirement
23 for reliability and that the record indicated that
24 this was being achieved in all but a small number of
25 plants. It was our feeling that if that were the case

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1 that there was no particular point in establishing a
2 rule to deal with a small number of plants. This is
3 my feeling. I don't know -- as you recognize, the
4 letters come out and they represent maybe shades of
5 viewpoints. That would be my feeling.

6 COMMISSIONER REMICK: But, of course,
7 there wasn't a rule. It was a 50.54(f) letter, right?

8 MR. KERR: Well, but this has the affect
9 of a rule.

10 COMMISSIONER REMICK: Well, okay. But
11 you're not speaking specifically on whether you think
12 the commitment made under the station blackout rule
13 would serve this purpose? I read that into your
14 letter, but I must admit it wasn't -- I wasn't
15 convinced that's what you were saying.

16 MR. CARROLL: Our letter wasn't totally
17 clear. I think we were focusing in that paragraph
18 on --

19 MR. KERR: Would somebody throw that man
20 out?

21 CHAIRMAN CARR: He didn't rehearse that.

22 DOCTOR LEWIS: He used the word "totally."
23 That's okay.

24 MR. CARROLL: I think we were focusing in
25 that paragraph on whether or not Section C(6)(2)

1 through C(6)(7), the very prescriptive maintenance
2 program, should be something that a licensee had to
3 commit to under 50.54(f). We were saying, "We don't
4 think that's a good idea."

5 But you could also read it to mean that
6 we didn't think people ought to have to commit to
7 meeting reliability goals. I think the staff's
8 explanation in the letter to our Chairman is -- at
9 least satisfies me that there is a reason for the
10 50.54(f) letter to deal with that particular piece of
11 it.

12 DOCTOR WILKINS: And they did remove the
13 descriptive material. They shifted it from the guide
14 to the appendix.

15 CHAIRMAN CARR: Anything else on this
16 subject? Oh, excuse me.

17 DOCTOR LEWIS: I just feel an obligation,
18 having been a puppy dog on the previous one, to make
19 a little extra trouble here. The question of whether
20 there are standing disagreements applies to both the
21 Committee and, forgive me, people who sometimes write
22 additional comments. On this particular letter, the
23 diesel generator, I made a comment which I believe to
24 be true, which is that the staff treatment of the
25 threshold values was mathematically incorrect. I

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1 believe that to be true. Since it is incorrect and
2 since it is not addressed in the staff's response to
3 the Committee, it remains an open sore for me. I
4 don't believe the Commission should allow things to
5 go through which are mathematically incorrect.

6 This is not a matter of difference of
7 opinion among peers, their elementary statistics
8 textbooks. It has to do with the question of whether
9 you can assure a certain level of reliability, which
10 is the objective of the rule, by looking at three
11 failures in 50 tries or something like that, which
12 gives you really very little information about the
13 underlying reliability. In fact, in freshman
14 statistics classes, people are taught that saying
15 three out of 50 doesn't tell you anything unless you
16 say in advance whether the experiment is to take 50
17 and see whether three failures occur or wait until you
18 have three failures and see how many tries it took to
19 get there. Those are entirely different statistical
20 problems which the staff doesn't distinguish.

21 Now, the fault goes back to NUMARC and
22 back to the staff and the genealogy is a little bit
23 uncertain, but I think it needs to be resolved. A
24 trivial way to resolve it which would preserve the
25 rule they wanted is to throw out the 95 percent or

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1 97.5 percent reliability because, in fact, they don't
2 have enough measurements to establish those and say
3 that if you have three failures in 50 tries or
4 whatever numbers they like, that's cause to take the
5 next step and say it's arbitrary. I have nothing
6 against arbitrariness, but I think putting the two
7 things together as if they were connected is simply
8 wrong and shouldn't continue. That's my personal
9 disagreement that's still standing.

10 MR. CARROLL: We built that box by putting
11 the 95 and 97.5 percent into the station blackout
12 rule.

13 COMMISSIONER REMICK: Let me try once
14 again because I'm not sure still what you're saying.
15 I'm referring in your August 14th letter, the next to
16 the last page or paragraph, and let me just read it.
17 "We believe that the commitments of the licensees to
18 monitor and maintain diesel generator reliability
19 above the chosen target levels of the industry
20 initiatives are sufficient to ensure acceptable diesel
21 generator reliability on the station blackout rule.
22 If plants fall below the target levels, these plants
23 should be identified and corrective actions should be
24 taken."

25 Now, I interpreted you to be saying that

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1 they've made a commitment and that should be
2 sufficient. Are you not saying that?

3 MR. KERR: Do you want to explain what you
4 meant or shall I try to explain what you meant?

5 DOCTOR LEWIS: Well, no, I thought he was
6 speaking to everyone else because I'm the additional
7 comment on this.

8 MR. KERR: I believe Hal's -- not Hal's
9 problem, but the problem to which he alludes is not
10 a problem with that paragraph, but is --

11 COMMISSIONER REMICK: No, it's my problem
12 with the paragraph, trying to understand -- I'm asking
13 what the letter means.

14 MR. CARROLL: I have no problem with the
15 paragraph as it's written.

16 COMMISSIONER REMICK: Thank you. Could
17 you explain it to me?

18 MR. CARROLL: Yes. It says that if one
19 uses these trigger points, that will establish an
20 appropriate reliability.

21 MR. SHEWMON: You're on the paragraph on
22 the left. This is a different question.

23 DOCTOR WILKINS: He has asked do you
24 believe that the licensees have made a commitment?

25 COMMISSIONER REMICK: Yes, under the

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1 station blackout rule.

2 DOCTOR WILKINS: Under the station
3 blackout rule and if that commitment is sufficient.

4 COMMISSIONER REMICK: Yes, that's right,
5 it's adequate under --

6 MR. CARROLL: Here is Jim Taylor's
7 response to that. "While, as you note, licensees have
8 a docketed commitment to the chosen target reliability
9 levels in compliance with the SBO, they have no
10 docketed commitment to monitor diesel generator
11 reliability nor to any other element of a reliability
12 program."

13 COMMISSIONER REMICK: But in your letter
14 they say that they will monitor. You say, "We believe
15 the commitments of the licensees to monitor and
16 maintain diesel generator reliability."

17 MR. CARROLL: Yes. They certainly have
18 to demonstrate in some fashion if they're asked it.

19 DOCTOR WILKINS: Does Taylor say they
20 don't have a commitment to monitor?

21 MR. CARROLL: That's correct.

22 CHAIRMAN CARR: That's right.

23 DOCTOR WILKINS: So now they've got the
24 issue sharpened up a little bit.

25 MR. CARROLL: And that's what we had

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1 overlooked, I think, in writing our letter.

2 CHAIRMAN CARR: Because that's my problem
3 of maintenance throughout. There is really no real
4 requirements out there that we've got, but that's a
5 different subject too.

6 COMMISSIONER CURTISS: Yes. Let me make
7 sure I understand the difference. A regulation
8 requires a certain reliability level and it's implicit
9 in that that there's an obligation to monitor to that,
10 that there's an implicit obligation to demonstrate
11 that you meet that reliability level. Now, maybe that
12 you don't have to meet that level because of the way
13 we've approached the 50.54(f) issue, either the first
14 time around or this time around.

15 But I gather what you're saying here, if
16 I understand, is that -- let's assume for the sake of
17 argument that there is a requirement to meet a certain
18 level of reliability and implicit in that is a
19 requirement that you are able to demonstrate that.

20 What you're saying, and I gather the difference that
21 you have with the staff is that you think that is
22 sufficient without all the bells and whistles of a
23 reliability program that tells you how you have to do
24 that. But what we're interested here is the result
25 and so long as the result provides an enforceable

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1 basis for taking action, how you achieve that with all
2 the details in the reg. guide --

3 MR. KERR: I think we need you the next
4 time we write a letter.

5 COMMISSIONER CURTISS: I'm asking, is that
6 the difference?

7 MR. CATTON: Well, the industry opposed
8 a process.

9 COMMISSIONER CURTISS: I understand that.

10 CHAIRMAN CARR: If you look at the Vogle
11 incident, for instance, it sharpens up the issue, as
12 you say, because they met all the requirements but
13 their diesels weren't reliable.

14 MR. KERR: Right. And they even had
15 consistent SALP 1 ratings in maintenance.

16 DOCTOR LEWIS: You see, the --

17 CHAIRMAN CARR: Let's say they didn't
18 work.

19 DOCTOR LEWIS: Well, after what you said,
20 which I agree with, the question is can you
21 demonstrate that level of reliability and my argument
22 is that statistically by looking at three or four
23 failures you cannot demonstrate that level of
24 reliability. And that has nothing to do with diesel
25 generators. That's just elementary statistics.

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1 But, by the same token, you can't
2 demonstrate unreliability by one or two failures. You
3 can just demonstrate the failures. I'm just making
4 a very simple mathematical point. And when you use
5 the term "demonstrate" and want -- if we were to go
6 to court on the word "demonstrate" and I were a
7 hostile witness, I would make trouble for you.

8 COMMISSIONER CURTISS: Well, I understand
9 your statistical argument.

10 CHAIRMAN CARR: But, you'd never be that
11 anyway.

12 DOCTOR LEWIS: No, I wouldn't.

13 COMMISSIONER CURTISS: The difference
14 between the staff position and the ACRS position, I
15 take it, and correct me if I'm wrong, is that the ACRS
16 view is that the requirement in the regulation, the
17 station blackout regulation, is sufficient in terms
18 of what we should expect of the licensees and the
19 prescriptive detail -- the statistical question aside
20 for a minute -- the prescriptive detail about how you
21 achieve that should be left to the licensee.

22 The staff's argument, if I understand
23 their argument, is that it -- we all need to have a
24 common set of terms and methodologies in order to
25 assure that we are measuring reliability the same way.

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1 And, perhaps beyond that we need to have some
2 additional prescriptive detail to address problems --
3 maybe Vogtle is a good example, but that kind of
4 situation if they -- the sort of problem that slips
5 between the crack, if there are such a thing.

6 Is that the difference in a nutshell?

7 MR. KERR: From my point of view, yes.

8 DOCTOR LEWIS: I'm going to make one more
9 try at my point, and I realize I'll bore you. It's
10 like the question, I give you a penny and I ask you
11 to demonstrate that it's an honest penny, that it will
12 come down heads half the time. You cannot do it with
13 ten tosses. You know, it's just a simple matter of
14 mathematics. You cannot do it with ten tosses.

15 COMMISSIONER ROGERS: But, I take it what
16 you're saying is you could substitute another just
17 prescription and say that no more than so many
18 failures out of so many tries and walk away from the
19 percentage question.

20 DOCTOR LEWIS: That's my way out of it.
21 That's a fairly simple way out of it.

22 COMMISSIONER ROGERS: The question is can
23 we do that. Are we stuck with it?

24 MR. KERR: And, by the way, the Vogtle
25 failure does not demonstrate that those generators

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1 were unreliable. I mean, they may have been
2 unreliable, but a single failure certainly doesn't
3 demonstrate that.

4 DOCTOR LEWIS: Well, that's right. Again,
5 using the penney example, if I got five heads in a
6 row, it doesn't prove that it's a dishonest penney
7 either. But, you'd get suspicious.

8 CHAIRMAN CARR: Anything else on this?

9 Let's move on.

10 MR. MICHELSON: The next item on our
11 agenda is the containment design criteria for future
12 reactors and I believe David Ward will give you an
13 update on where we're at on that program.

14 MR. WARD: The Committee undertook some
15 time ago an effort directed toward developing what we
16 hoped would evolve as new design criteria for
17 containments for future reactors. By future reactors,
18 we meant those the generation beyond the evolutionary
19 plants which are of course already designed. Whether
20 we meant the non-LWR reactors was always a little soft
21 in our plan. It sort of depends on what the rock we
22 come up with looks like. It may be possible that
23 these criteria we developed, at least at one level,
24 are general enough so they should indeed apply to all
25 types of reactors.

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1 I think I told you this before. We held
2 a series of information-gathering Subcommittee
3 meetings where we got 25 or 30 experts, quite a
4 spectrum of perspectives. Since those meetings, we've
5 also had the advantage of two other fairly important
6 inputs to the process. One is familiarity with the
7 approach that the Department of Energy is using in the
8 new production reactor design. There, their intent
9 is, as I understand it, to take into account the very
10 explicit consideration of severe accident conditions,
11 phenomena, scenarios in specifying the design for the
12 containment for the NPR.

13 In addition to that, quite recently, last
14 month there was an international meeting on
15 containment design and operation in Toronto, Canada,
16 sponsored by the Canadian Nuclear Society, ANS, and
17 the European Nuclear Society. A number of papers
18 there, although many of the papers dealt with the old
19 design basis accident for containment, the
20 traditional, there were a few papers which I think
21 show some beginning of convergence on this same idea,
22 the idea that severe accident consideration should be
23 explicitly considered and should be the basis for
24 design of containments.

25 I'm in a process now of preparing a

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1 proposal for the ACRS to consider, first at a
2 Subcommittee meeting in December and then at full
3 Committee meeting either in December, if we can move
4 that fast, or in January. Following that, I expect
5 that the Committee will issue a report to you, a
6 letter describing the proposal for how this
7 consideration of severe accidents and containment
8 design might be approached. I can very roughly
9 describe what's shaping up, but I caution you that it
10 hasn't been agreed to or even reviewed by many of the
11 other members.

12 But, in general, the approach that I'm
13 going to propose to the Committee would have an
14 additional rule, actually an addition to the general
15 design criteria for plants, which would include more
16 explicit consideration of what I call severe accident
17 issues. Right now, looking at the general design
18 criteria, the basis for containment design for LWRs
19 is a large break LOCA, the blow-down of coolant in a
20 large break LOCA.

21 What I'll be proposing is a more explicit
22 set of issues, phenomenas, and scenarios including
23 hydrogen, core concrete interaction, steam explosion,
24 perhaps direct containment heating, those sorts of
25 issues. The rule would state that those should be

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1 considered in the design and then there's be
2 development of a set of regulatory guides dealing with
3 each one of those which would present a satisfactory
4 way of dealing with each of those.

5 Now, I'm not -- let me correct myself.
6 I'm not intending that the ACRS will develop the
7 regulatory guides by any means, but the approach that
8 we'll be proposing will follow those lines.

9 CHAIRMAN CARR: Questions, Commissioner
10 Remick?

11 COMMISSIONER REMICK: A comment. I think
12 there's a considerable amount of interest. Just
13 within the last week in my office I was talking to
14 some people from Italy and they were very much
15 interested in that subject. I told them about the
16 effort that ACRS has underway and they showed a lot
17 of interest, so you might be getting some requests
18 from them for status.

19 CHAIRMAN CARR: Their approach was, if you
20 need a containment then your reactor is not safe
21 enough.

22 COMMISSIONER ROGERS: No, I don't think
23 so. I don't think so. Quite the opposite, I think.

24 CHAIRMAN CARR: That's what they quoted
25 to me as the European thinking about containments.

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1 COMMISSIONER ROGERS: Well, maybe they're
2 telling each of us something a little different. I
3 think they were saying that, if you have a
4 sufficiently strong containment, then you don't need
5 any EPZ.

6 COMMISSIONER REMICK: Right. That's how
7 I read it.

8 MR. SIESS: Don't need what?

9 COMMISSIONER ROGERS: An EPZ, no emergency
10 planning, nothing.

11 MR. SIESS: Strong isn't enough.

12 COMMISSIONER ROGERS: I'm just telling you
13 what their position is. That's what they're trying
14 to reach for.

15 MR. SIESS: Anything we talk about on
16 containment design criteria, what you must realize is
17 it cannot be separated from what we're talking about
18 on source term versus siting. Your staff is working
19 on some revisions to Appendix J, leak rate testing,
20 which somewhere used to be important. I don't know
21 whether it's still important. But, there are a number
22 of things going on that have to be integrated.

23 Now, we're going to try to consider these
24 relationships, but we can't integrate what your staff
25 is doing. I think somebody needs to keep in mind that

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1 these things are not separate. Talking about Appendix
2 8 of Part 100 revision, been talking about that for
3 20 years, ever since it was written practically. All
4 these things tie together and they take on a different
5 aspect when we're talking severe accidents and
6 thinking about safety goals.

7 I thought I knew how to do containment
8 criteria before we listened to 30 experts. I'm not
9 so sure now. And Dave may change his mind when he
10 hits another ten.

11 CHAIRMAN CARR: Commissioner Curtiss?

12 COMMISSIONER CURTISS: I just have a
13 couple of questions about the initiative.

14 Will this apply to both the evolutionary
15 and the passive reactors, as you currently envision
16 it?

17 MR. WARD: No, not to the evolutionary.

18 MR. SIESS: Future.

19 COMMISSIONER CURTISS: Future reactors,
20 passive and beyond?

21 MR. WARD: Passive, yes.

22 COMMISSIONER CURTISS: I guess the one
23 encouragement that I would offer is that as the review
24 process moves forward even on the passive reactors at
25 this point, that at some point, if this is something

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1 that you have under development, it seems to me it's
2 going to be a critical path item for review of the
3 reactors.

4 MR. WARD: Yes.

5 COMMISSIONER CURTISS: The EPRI
6 requirements document is under review now and vendors
7 are coming in with their individual vendor designs for
8 the passive reactors as well as the advanced non-LWRs,
9 and I guess I'm just wondering where the cards stack
10 up here and how you envision the timing of this,
11 particularly if it involves the development of a
12 severe accident rule or a new GDC squaring with what
13 we're doing on the individual vendor design reviews
14 in terms of timing.

15 MR. WARD: Well, most of these things --
16 I mean, many of these issues are being considered by
17 the developers of the passive reactor designs, but
18 they're being considered sort of on the oblique just
19 as the past designs. The system has been designed for
20 the artificial design basis accident and then
21 evaluated against some list of severe accident threats
22 or phenomena.

23 When we attempt to turn this around to a
24 more explicit process for design there may be some
25 surprises, but you're not going to have a whole page

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1 full of surprises because most of the issues aren't
2 new. These are simply the issues we've been
3 struggling with over the last five years or so.

4 COMMISSIONER CURTISS: Your point is that
5 the vendor designers are already considering these
6 issues for the passive designs and incorporating them
7 in their designs? So you'd expect no surprises, I
8 guess, from an initiative like this?

9 MR. SIESS: They don't have design
10 criteria that they can apply directly. They have
11 evaluation criteria that are becoming fairly clear
12 from severe accident, but the design is still sort of
13 let's do it like we've been doing it with some
14 exceptions. That is, if you look at the ABWR even,
15 which has a containment very much like a Mark III, but
16 the Mark III is designed for 15 pounds per square inch
17 pressure and the ABWR is designed for 45 because 5034
18 says it has to be --

19 MR. KERR: Excuse me. Isn't it Mark II?

20 MR. SIESS: No, Mark III, the one that's
21 got the --

22 MR. CATTON: It's close to a Mark III.

23 MR. KERR: Oh, okay.

24 MR. SIESS: Mark I and II are 60 psi
25 designs, but ice condensers came in with 15 psi

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1 designs. Mark III is coming at 15 psi. You won't see
2 that again, because 5034 takes care of that. Still,
3 nobody has criteria that they can set out and develop
4 a design for it. EPRI says, you know, make it the way
5 we've been doing it. Make it sturdy. Make it large.
6 And then, check it, evaluate it for these various
7 things.

8 COMMISSIONER CURTISS: Yes.

9 MR. SIESS: Which is not a bad way to do
10 it.

11 CHAIRMAN CARR: Well, is your thinking and
12 EPRI's design requirements document for passive in the
13 same general direction?

14 MR. WARD: I think largely. I can't
15 guarantee there won't be some disconnect, but it's not
16 going to be an entire package of disconnects.

17 COMMISSIONER CURTISS: Okay. I guess my
18 only point here is, if this initiative is intended to
19 influence the question of containment design for
20 passive reactors, that process is going on now and
21 there's some timeliness associated with this.

22 MR. SHEWMON: You and the Chairman also
23 talked about a requirements document for passive
24 reactors. Has EP brought one of those out or is this
25 the advanced reactors?

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1 MR. SIESS: Just got one in the mail.

2 MR. SHEWMON: On passive reactors?

3 MR. SIESS: Volume II, which is the
4 active, and Volume III, which is the passive. It's
5 12 notebooks about yea long.

6 CHAIRMAN CARR: We have general agreement
7 we weren't going to look at any passive designs until
8 we looked at the EPRI requirements documents.

9 MR. SHEWMON: Well, I haven't had benefit
10 of that, but there has been active discussion within
11 the Committee about whether or not you should force
12 a containment on a plant which was designed and got
13 some of its safety characteristics from free access
14 to circulating air.

15 MR. CATTON: That's not the passive,
16 though.

17 MR. SHEWMON: Well, that is the passive
18 plant, isn't it?

19 COMMISSIONER CURTISS: Is it the MHTGR
20 you're talking about?

21 MR. SHEWMON: Yes.

22 MR. WARD: That's the MHTGR, yes.

23 MR. SHEWMON: That's a passive plant.

24 MR. WARD: They're talking about passive
25 LWRs.

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1 MR. SIESS: That's all the EPRI, I think,
2 is addressing.

3 MR. KERR: That's all EPRI has addressed.

4 COMMISSIONER CURTISS: The passive
5 requirements document is the vehicle, as the Chairman
6 indicated, for establishing the approach on safety
7 issues for the passive LWRs. That's in now and it's
8 something that I think there's a schedule associated
9 with. My only point is that, if this initiative is
10 designed to have some influence over what we do in
11 that arena, I do think we need to move forward on it
12 promptly.

13 MR. KERR: We're aware of that.

14 MR. SIESS: I looked at that document a
15 couple of days ago before it came out here to see if
16 it had anything new or unusual on containment, and as
17 near as I can tell it says about the same thing on
18 containment as in the active document. I didn't get
19 a chance to compare it word for word, but there's
20 certainly nothing new in there. It said to design it
21 and then check it for these conditions.

22 CHAIRMAN CARR: Any other questions?

23 COMMISSIONER ROGERS: Well, just when do
24 you think you might have this work for us?

25 MR. WARD: In December or in January.

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1 CHAIRMAN CARR: Item 5?

2 MR. MICHELSON: Yes. Item 5 is the
3 systematic assessment of licensee performance program,
4 and Hal Lewis is taking care of it.

5 DOCTOR LEWIS: "Is taking care of it" may
6 be a bit of an exaggeration for that subject. This
7 is, as you know, a long and complex subject and it's
8 in a sense unfortunate that the SALP program has been
9 picked out of a large collection of coherence issues
10 that have to do with the Commission's self-consistency
11 in the application of these regulatory strictures to
12 the industry.

13 We have written you a number of letters,
14 some of them a little more blood pressure raising than
15 others, about the subject.

16 CHAIRMAN CARR: I thought you were going
17 to say a few more coherent than others.

18 DOCTOR LEWIS: Our letters are nothing if
19 not coherent, and some might emphasize the nothing.
20 But in any case, we have done that to you.

21 In particular on SALP, just to review the
22 history, we did recommend to you that because of a
23 number of problems with it -- one, the inconsistency
24 of the numerical ratings, another the question of
25 rising expectations, another the questions of local

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1 option, the other the use of the ratings as a weapon
2 against licensees, a whole batch of things like that
3 -- we recommended that you suspend the numerical
4 ratings for a while, while you put the house in order.
5 You decided not to do that. Well, first you told us
6 that you were going to put it into abeyance until you
7 made up your own minds, then you had trouble making
8 up your own minds. So, the numerical ratings are
9 still there.

10 We then wrote you another letter a couple
11 of months ago, I guess September, which said that
12 although the staff is making progress in reasonable
13 directions we still think that the issues we had
14 raised in our earlier letter ought to be addressed.
15 We have heard more from the staff. We heard about the
16 regulatory impact survey this morning and we also have
17 a document which responds -- which is Taylor to
18 Fraley, which responds specifically to some of the
19 complaints we had in our last letter.

20 I can, at this point, since we just got
21 the October letter from Taylor to Fraley, since our
22 last meeting on this subject and we just heard about
23 the regulatory impact survey this morning, we don't
24 have any communal position on the extent to which
25 these meet the problems of the September letter. So

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1 I'll give you my own views, very briefly, and then
2 open it up to a clear and articulate discussion of the
3 subject.

4 I think the staff is moving in the right
5 direction. I have no problem with their direction.
6 I think there are still very real questions of
7 coherence and consistency. Some of the things that
8 have been done, like for example taking out the rising
9 expectations, which was your doing, was clearly, in
10 my view, a right thing to do. The question of local
11 control, I think we have to see how the staff proposal
12 will work out in practice. I think they sort of
13 waffled on it by saying that where the regional
14 administrator uses the ratings in an unusual way, he
15 has to bring his unusual way through the system in the
16 end to you and we'll have to see how that works.

17 So, whereas I would have preferred to
18 eliminate the numerical ratings, I notice that the
19 staff, where we had said in our last letter, make a
20 clear statement of the purpose of SALP ratings, quotes
21 the manual chapter and the manual chapter says that
22 it's to help the licensee improve himself and to help
23 the Commission improve its own operations. But I do
24 notice that the licensee doesn't get to give numerical
25 ratings to the Commission. So, there's a little bit

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1 of an unbalance there.

2 I think it's moving. My own view is I
3 think there's a long way to go and that it really is
4 part of the coherence package and that perhaps we've
5 over emphasized SALP per se. But whether you'll get
6 there, I remain to see. That's my personal view on
7 this one. Again, it's remarkably benign.

8 I would open it up to others who I know
9 have views.

10 MR. CARROLL: I suppose one comment I
11 would make, and I generally agree with what Hal has
12 said, is that every so often something happens that
13 troubles me. One of the things that troubled me
14 greatly recently was to learn that Vogtle had been
15 rated a number one in a series of SALP reports going
16 back in the area of maintenance. I fail to see how
17 you can have a number one maintenance program and have
18 something like 70 failures of very vital sensors on
19 your diesel generator occur without the staff figuring
20 out something --

21 CHAIRMAN CARR: Random occurrence, right?

22 MR. CARROLL: Yes.

23 DOCTOR LEWIS: These are grades. I give
24 grades for a living.

25 CHAIRMAN CARR: No, I was talking about

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1 the failures.

2 MR. CARROLL: They were anything but
3 random. There was a good reason for them, if somebody
4 had taken the trouble to figure out what was going on.

5 CHAIRMAN CARR: Any other comments?

6 MR. KERR: I would simply add, I was
7 positively impressed about what the staff told us this
8 morning about their plans for making changes. It
9 seems to me it should improve things.

10 CHAIRMAN CARR: I think you're more up to
11 date than we are probably, then.

12 DOCTOR LEWIS: Well, we'll see what
13 happens, of course.

14 COMMISSIONER REMICK: Are you talking
15 about regulatory impact study?

16 MR. KERR: Yes.

17 DOCTOR LEWIS: We had a major conflict
18 about the meaning of the word "professionalism." That
19 will be solved with the aid of a good dictionary one
20 of these days. There are problems remaining, but I'm
21 not -- the derivative is okay.

22 CHAIRMAN CARR: Questions? Comments?

23 COMMISSIONER CURTISS: Just one question.
24 I guess I'd like to press you for a little bit more
25 detail on what the remaining problems are that you

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1 see. It's -- I've read very carefully the letters
2 that you've written over the months and years on the
3 coherence and in this particular area taken a hard
4 look at it, as I think the staff has, and made a real
5 effort to improve.

6 Are there issues that you see today
7 that -- beyond just anecdote -- that there is a
8 consistent pattern where you see problems that remain
9 of a significant nature that need to be addressed with
10 SALPs?

11 MR. KERR: I do not see what I would
12 consider to be an effective feedback process at this
13 point. One may develop as the process is implemented,
14 but it's not obvious to me that one exists that is
15 independent of existing --

16 COMMISSIONER CURTISS: Feedback on our end
17 or on the licensee's end?

18 CHAIRMAN CARR: Feedback from whom, yes.

19 MR. KERR: Feedback from the people with
20 whom the staff deals as to how --

21 COMMISSIONER CURTISS: You mean
22 communication between the licensees and the staff on
23 the SALP process?

24 MR. KERR: On whether what is put into
25 practice is more effective and more coherent than the

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1 existing one. I don't see a mechanism for --

2 CHAIRMAN CARR: This is not necessarily
3 on SALP --

4 MR. KERR: No, not necessarily on SALP,
5 the whole process.

6 MR. SIESS: How do you measure how good
7 a job you're doing? How many accidents, how many
8 people get killed, how many dollars, how many people?

9 CHAIRMAN CARR: Poorly. If you can give
10 me a measurement system, I'll be happy to take a look
11 at it.

12 DOCTOR LEWIS: Well, you know, anything
13 worth doing is worth doing poorly. That's how you
14 learn to do it well.

15 MR. WARD: It's worth doing at least
16 poorly.

17 DOCTOR LEWIS: But, you know, I support
18 this. I'm reading now the -- one of our comments in
19 our September letter was that -- in fact earlier --
20 was institute a workable set of checks and balances.
21 This is in that category, getting some feedback, and
22 the staff response written to Ray said -- I won't read
23 you the whole paragraph, but it says the SALP program
24 includes the opportunity for a licensee to provide
25 written comments on the SALP report which are included

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1 in the final version and that he can meet -- the
2 licensee can meet with the regional administrator from
3 time to time.

4 That isn't exactly an answer to the need
5 for a workable set of checks and balances. The
6 licensee has always been able to tell the regional
7 administrator what he thought of him, but it might not
8 have been a prudent thing to do.

9 So, checks and balances have to provide
10 a way of getting the effectiveness of the program back
11 to you while bypassing the participants somehow.
12 Whether it's done through a measure of regulatory
13 effectiveness, which is kind of another question but
14 an extremely important one, or how, I don't know. I
15 don't have a good real suggestion, but I do think it's
16 important.

17 DOCTOR WILKINS: This is related, if I may
18 say, to another phrase in our September letter. This
19 is part of, "We recommend that you," and then it goes
20 on, "the staff not use the SALP ratings as weapons to
21 enforce obedience to idiosyncratic policies that are
22 not yours. That's, again, something that I think,
23 from what we heard this morning, indicates some
24 attention to, but at least I will reserve judgment on
25 until we can see what happens.

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1 CHAIRMAN CARR: Well, I don't think you'd
2 get any disagreement from anybody on that.

3 COMMISSIONER REMICK: There is one --

4 COMMISSIONER ROGERS: I don't think that
5 that's so big a problem actually. I think that the
6 problem is less with the SALPs being used in that way
7 than it is perhaps some of the individual team
8 inspections. The idiosyncratic approach seems to come
9 more with those, at least that's what I hear visiting
10 plants and talking to people, that that's where they
11 sense someone getting very much out of line, away from
12 the rest of the team and pushing the hobby horse, much
13 more so than with the SALPs themselves.

14 MR. CARROLL: I think it's also true with
15 SALP to the extent you're into some specialized areas.

16 COMMISSIONER ROGERS: Right.

17 MR. CARROLL: Security, fire protection.
18 I think you'll find some idiosyncratic things
19 happening.

20 DOCTOR LEWIS: Well, that's why I began
21 the subject by saying it was a little bit unfortunate
22 that we were so concentrated on SALP because it's a
23 bigger thing.

24 CHAIRMAN CARR: And so far, the only means
25 I've had personally to measure that is when I go visit

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1 the sites. You can visit as much of that as they give
2 you, but if they don't give it to you, you can't work
3 with it.

4 COMMISSIONER REMICK: That's what I was
5 going to point out too. There is a feedback that as
6 a Committee member I did not appreciate and that is
7 there's a steady interface with CEOs and Vice
8 Presidents, paying courtesy calls or during plant
9 visits. When that opportunity for feedback to the
10 Commissioners exists, there aren't many times in my
11 experience so far that -- there have been a few --
12 that SALP is one of the major things that they raise.

13 So, there is that feedback and in every
14 commissioner's case it's ongoing constantly, several
15 times a week typically with different --

16 CHAIRMAN CARR: I've laid a challenge on
17 the table to the utilities, "Don't whine, tell me what
18 the problem is so I can fix it." And I haven't gotten
19 a whole -- I don't have a long file on that, you know.

20 MR. CARROLL: But you do understand their
21 reluctance to come back.

22 CHAIRMAN CARR: I understand it, but I
23 can't deal with it if they don't tell me.

24 DOCTOR LEWIS: I teach courses for a
25 living and I start every course with every new class

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1 by saying to them, "Let me know what you don't like
2 about what I'm doing and if you're afraid of me, leave
3 anonymous notes in my mailbox," and I never get
4 anonymous notes. I think it's because they think I
5 can analyze handwriting.

6 CHAIRMAN CARR: You'd never get any notes
7 at all.

8 DOCTOR LEWIS: Well, sometimes I get
9 notes, but never anonymous. They don't do that.

10 COMMISSIONER REMICK: Have you thought
11 about removing the camera you have above the --

12 DOCTOR LEWIS: Yes, but there's no film
13 in it.

14 CHAIRMAN CARR: Any other comments on this
15 subject?

16 COMMISSIONER ROGERS: Well, just that it
17 seemed to me that in reading over your letters the
18 emphasis was on feedback. We are trying to listen and
19 using whatever mechanisms -- and I think there are
20 quite a few -- for bringing concerns to us. It seems
21 to me that not only is it important that you have
22 feedback, that you do something about these. You get
23 the information, but if you don't do anything with the
24 information, then you might as well not have it. We
25 are trying to do something with it.

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1 CHAIRMAN CARR: It is working in the area
2 of regual exams, for instance. That feedback came,
3 we've taken some action, they know it and there's
4 still some we've got to take.

5 COMMISSIONER ROGERS: And there's still
6 some serious problems out there with that. But I
7 would say that it seems to me there is a serious
8 effort from the Commission level and I'm sure from the
9 regions as well to try to listen and see what can be
10 done to try to alleviate unnecessary problems and to
11 bring a level of consistency to the processes that we
12 use. I think there's serious effort to do something.

13 We heard last week from the industry and
14 we were treated to a repetition of a collection of
15 complaints that happened to be the same complaints
16 that one might write today or we heard recently
17 through the regulatory impact statement survey that
18 were made ten years ago. However, I don't think the
19 problems today are the same as the problem ten years
20 ago. I don't think the situation is the same as the
21 situation. So, it's the old question of the answers
22 are the same, but the questions have been changed.

23 MR. KERR: That's a different -- back when
24 I was in teaching, I used to always use the same exam,
25 but change the answers.

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1 MR. CATTON: How did that work?

2 MR. KERR: It's great. I didn't change
3 the answers, the answers just changed.

4 COMMISSIONER ROGERS: Okay. That's all
5 for me.

6 CHAIRMAN CARR: Any other comments or
7 questions?

8 I have one question that's kind of off of
9 the generating subject. That's with respect to NUREG-
10 1150. Does the ACRS intend to recommend publication
11 prior to deciding how the results should be used in
12 the regulatory arena?

13 MR. MICHELSON: We're still preparing that
14 letter, but I believe --

15 DOCTOR LEWIS: The answer is yes.

16 MR. MICHELSON: -- that will be the answer
17 when it comes.

18 CHAIRMAN CARR: Just go ahead and get it
19 out, huh?

20 MR. MICHELSON: We intend to get it out
21 this week.

22 CHAIRMAN CARR: Okay. Well, I want to
23 thank the ACRS members for a very informative
24 briefing. As always, we value highly your independent
25 views on matters before the Commission and encourage

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1 your continued support of the Commission with your
2 considerable technical expertise.

3 In the area of advanced reactors, the
4 Commission sees the role of the ACRS as providing a
5 continuation of the high quality technical review
6 evident in its analysis of module 1 of the staff's
7 draft safety evaluation report on the advanced boiling
8 water reactor, or the ABWR.

9 The Commission will look to the ACRS for
10 the same input on the Electric Power Research
11 Institute's requirements document for both the
12 evolutionary and the passive plant designs.

13 Also, the Commission has asked the ACRS
14 to review both the General Electric ABWR and the
15 Combustion Engineering System 80+ licensing basis
16 documents, paying particular attention to the issue
17 of whether the approach taken in the two documents is
18 consistent. This will be an area where the Commission
19 will depend heavily on the technical expertise and
20 advice of the Committee.

21 If at any time during the reviews of
22 advanced reactor designs the Commission believes a
23 policy question has been raised, I urge you to bring
24 the question to the attention of the Commission
25 promptly.

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1 Any of my fellow Commissioners have any
2 other closing remarks they'd like to make?

3 If not, thank you very much. We stand
4 adjourned.

5 (Whereupon, at 3:30 p.m., the above-
6 entitled matter was concluded.)

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CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events of a meeting
of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: PERIODIC MEETING WITH THE ADVISORY COMMITTEE
ON REACTOR SAFEGUARDS

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: NOVEMBER 8, 1990

were transcribed by me. I further certify that said transcription
is accurate and complete, to the best of my ability, and that the
transcript is a true and accurate record of the foregoing events.



Reporter's name: Peter Lynch

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WASHINGTON, D.C. 20005



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

October 30, 1990

MEMORANDUM FOR: Samuel J. Chilk, Secretary of
the Commission

FROM: *Raymond F. Fraley*
Raymond F. Fraley, Executive Director
ACRS

SUBJECT: ACRS MEETING WITH NRC COMMISSIONERS -
NOVEMBER 8, 1990, BACKGROUND INFORMATION

Attached for the information and use of the Commissioners is a package of background material for the topics to be discussed on November 8, 1990.

Members of the Committee will be prepared to provide a brief statement of Committee position on each item and any anticipated/planned future activities.

Attachments: As stated

cc: ACRS Members
J. Mitchell, OCM/KC
G. Marcus, OCM/KR
D. Trimble, OCM/JC
J. Guttmann, OCM/FR
J. Taylor, EDO
E. Beckjord, RES
T. Murley, NRR
E. Jordan, AEOD
M. Taylor, EDO

BACKGROUND ACRS LETTERS/REPORTS FOR THE ITEMS
TO BE DISCUSSED AT THE PERIODIC MEETING
WITH THE COMMISSIONERS
NOVEMBER 8, 1990

The following is the Commission's list of agenda items for the November 8, 1990 meeting between the ACRS and the NRC Commissioners in order of their priority, along with the ACRS issued Reports/Letters written for each of the items:

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Items to be Discussed:

1. Essentially Complete Design - Item 1, pp 1-21
(C. Michelson)
2. Decoupling Siting and Source Term - Item 2, pp 1-3
(H.W. Lewis)
3. Resolution of Generic Safety Issue B-56,
"Diesel Generator Reliability" - Item 3. pp 1-4
(C. Michelson)
4. Containment Design Criteria for
Future Plants - Item 4. pp 1-2
(D. Ward)
5. Systematic Assessment of Licensee Perf. --Item 5, pp 1-22
(H.W. Lewis)

ITEM 1

ESSENTIALLY COMPLETE DESIGN

Item 1

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
367TH ACRS MEETING WITH COMMISSIONERS
NOVEMBER 8, 1990
ESSENTIALLY COMPLETE DESIGN

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2. ACRS Report, Proposed NRC Standardization Policy Statement, issued August 12, 1986	3-6
3. ACRS Report, Draft NUREG-1225, "Implementation of NRC Policy on Nuclear Power Plant Standardization," issued October 15, 1986	7-8
4. ACRS Report, NRC Proposed Rule on Early Site Permits, Standard Design Certification, and Combined Licenses for Nuclear Power Reactors, issued June 7, 1988	9-10
5. ACRS Report, Final Rule on Standard- ization and Licensing Reform, 10 CFR Part 52, issued February 15, 1989	11-12
6. ACRS Report, Draft Final Rule on Standardization and Licensing Reform, 10 CFR Part 52, issued January 19, 1989	13-14
7. ACRS Report, Module 1 of the Draft Safety Evaluation Report for the Advanced Boiling Water Reactor Design, issued November 24, 1989	15-18
8. ACRS Report, Level of Detail Required for Certification Design Under Part 52, issued August 14, 1990	19-21

BACKGROUND

The ACRS has provided comments and recommendations on this subject in its several reports (attached) to the Commission of August 12, 1986, October 15, 1986, June 7, 1988, January 19, 1989, February 15, 1989, and November 24, 1989.

Meeting - 11/8/90
with Commissioners

- 2 -

During the ACRS Subcommittee meeting of Improved LWRs on August 8, 1990 and the 364th meeting of the ACRS (August 9-11, 1990), the Committee met with the staff and NUMARC representatives to discuss and review this issue in more detail. The ACRS issued its report to the Commission on August 14, 1990 (attached). The Committee in its report recommended that the level of detail submitted be that corresponding to the staff's Level 2, and that some form of the two-tier approach proposed by NUMARC is essential from a practical point of view. Determining what goes into each of the tiers will require some trade-off between standardization and practicality and can have some effect on safety.

The ACRS Improved LWRs Subcommittee is planning to meet with the staff and NUMARC representatives on October 31, 1990, to discuss the latest staff's proposal to resolve this issue. This matter will also be discussed at the November 8-10, 1990 ACRS full committee meeting.

Cognizant ACRS Member: C. Michelson
Cognizant Staff Member: M. El-Zeftawy



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

REVISED 8/19/86
Additional Comments, f

August 12, 1986

Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Zech:

SUBJECT: ACRS COMMENTS ON PROPOSED NRC STANDARDIZATION POLICY
STATEMENT

During its 316th meeting, August 7-9, 1986, the Advisory Committee on Reactor Safeguards reviewed the Commission draft of April 10, 1986 and the NRC Staff response of May 14, 1986 on the Proposed Standardization Policy Statement as requested by Chairman Palladino's memorandum of June 18, 1986. In this review, we had the benefit of briefings by the NRC Staff during the 315th ACRS meeting, July 10-12, 1986, as well as during the meetings of our Subcommittee on Improved Light-Water Reactor Designs on March 12, 1986 and August 5, 1986.

We agree that standardization of nuclear power plant designs is desirable and may lead to enhanced safety if properly implemented in accordance with other Commission policies, particularly those on safety goals and severe accidents. For this reason, we believe that the plans and directions for implementation that will be provided in a forthcoming Staff report (NUREG) are crucial. We expect to review this report when it becomes available.

As the result of our review, we offer the following detailed comments and recommendations:

1. We recommend that the title of this policy statement be changed to "Policy Statement on Certification for Nuclear Power Plant Standard Designs." We believe that the policy statement should focus on standardization of the design of nuclear power plants. We do not recommend including in the policy statement a comment on standardization of procurement, construction, installation and quality assurance practices, training and emergency operating procedures, or maintenance procedures. To require standardization of these items would be overly prescriptive, although certain elements of these practices and procedures will become standard as a beneficial result of the standardization of design.
2. It is our opinion that the first sentence of the Commission's draft policy statement dated April 10, 1986 best represents the Commission's policy on certification of nuclear power plant standard designs.

3. We do not recommend including a comment in the policy statement "that standardized nuclear power plants should be used to satisfy the ultimate licensing goal of certified designs constructed on preapproved sites." This is an overly restrictive statement of the purpose for standardized nuclear power plants.
4. We believe the policy statement should make clear that this statement supersedes the Commission's previous policy on standardization issued in 1978. This is necessary because the 1978 policy contains obsolete provisions and does not reflect present Commission regulations and policies.
5. Considering the above comments, we submit for your consideration the following revision of the heading and the first two paragraphs of a proposed policy statement:

POLICY STATEMENT ON CERTIFICATION FOR
NUCLEAR POWER PLANT STANDARD DESIGNS

The Nuclear Regulatory Commission believes that standardization of nuclear power plant designs is a very important initiative that has the potential for significantly enhancing the safety, reliability, and availability of nuclear plants. The focus of this policy is the reference system design certification. The goal of standardization should be an essentially complete plant design with respect to both scope and level of detail, which then can be referenced in individual license applications.

This policy statement supersedes the Commission's previous "Statement on Standardization of Nuclear Power Plants," published August 31, 1978. Details of the issues and topics that are important to the execution of this policy and other short-term licensing transition options are discussed in NUREG-XXXX, including the definition of scope and detail of an essentially complete plant design required for certification. Applications not referencing a certified design will be processed in accordance with existing Commission regulations and policies, as discussed in NUREG-XXXX.

6. We recommend including in the policy statement a reference to Commission policies on safety goals, severe accidents, and advanced reactors, as well as reference to other Commission policies pertinent to future nuclear plant designs and the manner in which the requirements of these policies in future designs should be defined in the accompanying NUREG.
7. Former Chairman Palladino's comments regarding the need for empirical information on safety features that differ from those in

August 12, 1986

existing plants and for prototypical tests of "entirely new designs" raise questions of considerable interest and importance. We are not prepared to comment on these matters at this time, but expect to consider them further and to discuss them with the NRC Staff during our consideration of the anticipated Staff NUREG.

8. It is our understanding that design certification rulemaking options will be discussed in the proposed companion NUREG. It is not clear whether that NUREG will be published for comment; therefore, it is not clear if or at what time the public will have an opportunity to provide comment on these options. We believe that the Commission would benefit from and should seek public comment on design certification rulemaking options.

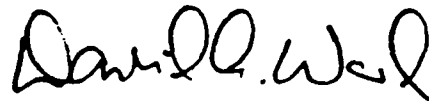
If informed comment is to be obtained, we think that the criteria and thresholds for standing and interest for participation in the legislative or adjudicatory rulemaking hearings should be made clear.

9. The proposed outline of the NUREG appears satisfactory. However, it is important that the definition of "essentially complete" design be thoroughly and clearly identified as to the complete scope and level of detail of information required for design certifications. It is also important that the scope and level of detail be equally identified for each of the other options.

With the above comments and recommendations taken into account, we believe that the policy statement should be issued for public comment.

Additional comments by ACRS members David Okrent and Glenn A. Reed are presented below.

Sincerely,



David A. Ward
Chairman

Additional Comments by ACRS Member David Okrent

I wish to indicate first that I am a strong supporter of standardization. In fact, I would take such steps as are legal to limit severely the number of certified standard reference designs to be approved by the NRC.

Second, I wish to support former NRC Chairman Palladino in his position that standardization should ideally encompass essentially complete design of the entire plant and that empirical information or prototypical testing of new features is important for certified reference plants.

Third, I believe that future U.S. plants should be considerably improved in safety over current U.S. plants and that this should not be left to the whims of the designer or the vagaries of PRA. I believe that the Commissioners should explicitly state that they will seek a higher level of safety and that specific safety features and performance goals are to be included in the design of certified standard reference plants. These safety features and goals would best be specified prior to adoption of a new standardization policy statement.

Additional Comments by ACRS Member Glenn A. Reed

In my opinion, the Policy Statement on Nuclear Power Plant Standardization should include statements beyond the standardization of an "essentially complete plant" in order that the several different plants that are likely to result become more standardized in key safety features and systems. There are elements of immaturity and differences in safety systems of the PWRs of the different vendors which should be trending toward sameness. I consider the policy, as now written, will not encourage, at a satisfactory pace, the standardization of these systems of the "essentially complete plant."

References:

1. Memorandum dated April 10, 1986 from Samuel J. Chilk, Secretary, to Victor Stello, Jr., Executive Director for Operations, Subject: Standardization Policy Statement
2. Memorandum dated May 14, 1986 from Victor Stello, Jr., Executive Director for Operations, to Commissioners, Subject: Standardization Policy Statement



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

October 15, 1986

Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Zech:

SUBJECT: ACRS COMMENTS ON DRAFT NUREG-1225, "IMPLEMENTATION OF NRC
POLICY ON NUCLEAR POWER PLANT STANDARDIZATION"

During its 318th meeting, October 9-11, 1986, the Advisory Committee on Reactor Safeguards discussed the referenced draft NUREG-1225, "Implementation of NRC Policy on Nuclear Power Plant Standardization." A subcommittee meeting on this matter was held in Washington, D. C. on October 8, 1986.

We are in general agreement with the draft NUREG-1225, but we have the following observations:

1. It is not clear that the proposed NUREG-1225 will be published for public comment. We believe that the Commission would benefit from and should seek public comment on the design certification rulemaking options. Also, if informed comment is to be obtained during the rulemaking process, we think that the criteria and threshold for standing and interest for participation in the legislative or adjudicatory rulemaking hearings should be made clear. We understand that the provisions for participation will be defined in the notice of rulemaking in the Federal Register for the specific rulemaking proceedings; this should be so stated in draft NUREG-1225.
2. We do not consider that the scope and level of detail of information required for design certifications are adequately defined in draft NUREG-1225. It should be made clear that, in addition to providing a level of design detail equivalent to that required by 10 CFR 50.34(b) for a final safety analysis report, an applicant for a final design approval (FDA) should be prepared to supply such other information as is customarily required by the NRC Staff to perform a final safety analysis report review.

Since an FDA for a final design must be issued before the design can be certified, the certification process ideally should require little additional design information if that supplied with the FDA is adequate. However, the scope of design presently described in Section 3.1.3, "Design Certification Concept," of draft NUREG-1225 is not adequate and needs to be expanded and better defined.

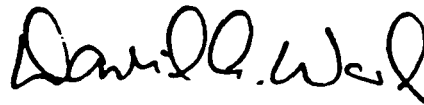
October 15, 1986

We believe that the expansion and clarification of information requirements for an "essentially complete design" should have input from the principal cognizant NRC Staff reviewers and various industry organizations experienced in such matters.

3. It should be made clear that portions of a design which has received design certification by the NRC are not thereby certified for other applications.

The ACRS would like to be kept informed regarding this matter.

Sincerely,



David A. Ward
Chairman

Reference:

Draft NUREG-1225, "Implementation of NRC Policy on Nuclear Power Plant Standardization," undated, Handout during 318th ACRS meeting, October 9-11, 1986



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

June 7, 1988

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: NRC PROPOSED RULE ON EARLY SITE PERMITS, STANDARD DESIGN
CERTIFICATION, AND COMBINED LICENSES FOR NUCLEAR POWER
REACTORS

During the 338th meeting of the Advisory Committee on Reactor Safeguards, June 2-4, 1988, we reviewed a proposed rule, 10 CFR Part 52, which would provide for issuance of early site permits, standard design certifications, and combined construction permits and conditional operating licenses for nuclear power reactors. We had the benefit of briefings by the NRC Staff during a subcommittee meeting on May 31, 1988 and during the full Committee meeting. We also had the benefit of the documents referenced. The ACRS provided comments on this subject in its letters of August 12, 1986 and October 15, 1986.

We have three concerns, as articulated below. In addition, we suggested changes to the requirements for ACRS review, which the NRC Staff agreed to, and which presumably will be made in the draft submitted to you.

We recommend that, in 10 CFR Part 52, Subpart B, the scope and level of detail of information required by the Staff for design certification be defined more fully by incorporating the information identified for this purpose in the NRC Policy Statement on Standardization of Nuclear Power Plants.

Although we encourage the development of a clear enunciation of Commission regulations for early site permits, standard design certifications, and combined licenses, we question whether all three should be addressed in the same Part of Title 10 of the CFR. The Commission's regulations concerning standardization of manufactured and duplicate plants and the Staff review thereof are contained in Appendices M, N, and O of Part 50. The portion of proposed Part 52 relating to standard design certification is an elaboration of Section 7 of Appendix O of Part 50. To make this elaboration a significant portion of a new Part of the regulations, which also includes two other complex matters, will add to the complexity and inscrutability of the Commission's regulations. Part 50 is already confusing because it is a multipurpose regulation that includes power reactors, nonpower reactors, and fuel cycle facilities. We

June 7, 1988

recommend against promulgating another multipurpose Part of the regulations.

The Staff agrees in principle with these views but indicates that it does not have the resources to develop the new regulations in a more orderly fashion and thus offers the proposed patchwork. We can think of no better time in the agency's existence for improving the scrutability of the regulations.

We see a need to distinguish between the amount of design detail required for the NRC Staff review of a request for certification and the design detail that is included in the certifying rule. It is highly desirable that nuclear power plant designs submitted for certification be essentially complete in both scope and detail. However, if the certifying rule includes the same amount of detail, rulemaking will be required in order to correct errors in the documentation or to make minor but desirable changes in the design. It is therefore essential that great care be taken in defining what is to be included in the design certification. In this respect, we believe that alternatives to certification by rulemaking have not been adequately explored.

These are the only major comments we have to offer at this time. We will continue our review and offer comments as appropriate as the process develops.

Sincerely,



W. Kerr
Chairman

References:

1. U.S. Nuclear Regulatory Commission, Proposed Rule, 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors," received May 24, 1988.
2. U.S. Nuclear Regulatory Commission, Policy Statement, 10 CFR Part 50, "Nuclear Power Plant Standardization," 52 FR 34884, dated September 15, 1987.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

February 15, 1989

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: FINAL RULE ON STANDARDIZATION AND LICENSING REFORM, 10 CFR
PART 52, "EARLY SITE PERMITS; STANDARD DESIGN CERTIFICATIONS;
AND COMBINED LICENSES FOR NUCLEAR POWER PLANTS"

During the 346th meeting of the Advisory Committee on Reactor Safeguards, February 9-11, 1989, we reviewed the draft final rule on Standardization and Licensing Reform, transmitted January 26, 1989, which would provide for early site permits, standard design certifications, and combined licenses for nuclear power plants. We had previously reviewed an incomplete draft final rule package on this subject during our 345th meeting on January 12-14, 1989. We also had the benefit of briefings by the NRC staff on the draft final rule during the 345th meeting and during a meeting of our Subcommittee on Improved LWRs on January 10, 1989, and on the draft final rule package during our 346th meeting. The ACRS has provided comments on this subject in reports of August 12, 1986, October 15, 1986, June 7, 1988, and January 19, 1989.

We offer the following comments and recommendations based on our review of the draft final rule and the Statement of Considerations.

Section 52.47 b(2)(i) of the draft final rule establishes the requirements for certification of a standard design which differs significantly from an "evolutionary" light water reactor design, or which utilizes simplified, inherent, passive, or other innovative means to accomplish its safety function. We have several concerns with the provisions of this section as written. We interpret this section to provide for the following:

- (1) Certification of a design may be granted without testing if the scope of the design is complete and the analysis of the performance and interdependence of the safety features is found acceptable. We recommend against providing for certification of a design solely on the basis of analysis. The staff indicates that our concerns can be handled by proper modification of the Statement of Considerations.
- (2) Certification may be granted for a design whose scope is less than complete if the testing of a prototype demonstrates that the noncertified portion of the plant cannot significantly affect safe

February 15, 1989

operation of the plant. Our problem with this provision is that unless the design of the noncertified portion of the plant is well defined and considered, the potential adverse effects on safe operation of the plant from the noncertified portion may not be identified by testing of the prototype. We recommend against providing certifications for less than complete scope for these designs.

Our letter of January 19, 1989 on the incomplete final rule package included a recommendation for requiring the submittal of procurement specifications and construction and installation specifications as an appropriate indication of the expected scope and level of information required for effective review of an "essentially complete" design. Requirements for design and procurement type specifications did appear in the Standardization Policy Statement of September 15, 1987, but were not included in the draft final rule. We believe they should be.

It is noteworthy that the requirements which we recommend, appear in the Electric Power Research Institute report, "Advanced Light Water Reactor Utility Requirements Document" (June 1986) and in the Atomic Industrial Forum (AIF) report, "Standardization of Nuclear Power Plants in the U.S." (December 16, 1986). The AIF document also states that, "the degree of design detail necessary for providing an 'essentially complete' design will generally be that detail which is suitable for obtaining specific equipment or construction bids."

Sincerely,



Forrest J. Remick
Chairman

References:

1. Draft Final Rule (undated) for The Commissioners from William C. Parler, General Counsel, Subject: Rulemaking on Early Site Permits, Design Certifications, and Combined Licenses (received January 26, 1989)
2. Incomplete draft final rule package (undated) 10 CFR Part 52, Early Site Permits; Standard Design Certification; and Combined Licenses for Nuclear Power Reactors (received January 3, 1987)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

January 19, 1989

The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: DRAFT FINAL RULE ON STANDARDIZATION AND LICENSING REFORM,
10 CFR PART 52, "EARLY SITE PERMITS; STANDARD DESIGN
CERTIFICATIONS; AND COMBINED LICENSES FOR NUCLEAR
POWER PLANTS"

During the 345th meeting of the Advisory Committee on Reactor Safeguards, January 12-14, 1989, we reviewed the Draft Final Rule on Standardization and Licensing Reform transmitted January 4, 1989, which would provide for early site permits, standard design certifications, and combined licenses for nuclear power plants. We had the benefit of briefings by the NRC staff during a meeting of our Subcommittee on Improved LWRs on January 10, 1989 and during the full Committee meeting. We also had the benefit of the document referenced. The ACRS provided comments on this subject in reports of August 12, 1986, October 15, 1986, and June 9, 1988.

Since we have not yet seen the final version of the Draft Final Rule, the public comments, or the Statement of Considerations, our comments below may be subject to revision or amplification after we have seen the final version of these documents.

We recommend that the various types of designs be named and defined more clearly than in the proposed rule. We suggest the following:

- . Improved LWR Designs - for LWR plant designs that contain improvements beyond those designs of LWR plants licensed for construction prior to the effective date of this rule.
- . Advanced LWR Designs - for LWR plant designs that differ significantly from improved LWR designs or use simplified inherent passive, or other innovative means to accomplish safety functions to an extent significantly greater than in improved LWR designs.
- . Advanced Non-LWR Designs - for advanced plant designs using other than light water as moderator or coolant.

The information required for design certification is identified in Section 52.47(a)(2). This section includes a requirement for the


January 19, 1989

submittal of information sufficiently detailed to permit the preparation of procurement specifications and construction and installation specifications. The staff's review of this material can be performed most efficiently and with greater understanding if this large body of information is available in final form, i.e., the procurement specifications and the construction and installation specifications. We recommend that the rule be expanded to require submittal of these documents.

The references in Part 52 to the responsibility of ACRS for review should be made consistent with the provisions of the Atomic Energy Act of 1954, as amended.

We will continue to follow and review the development of this rule along with the Statement of Considerations and advise you accordingly.

Sincerely,


Forrest J. Remick
Chairman

Reference

Memorandum dated January 4, 1989 from Steven Crockett, Office of the General Counsel, NRC, to Herman Alderman, ACRS, transmitting Draft Final Rule on Standardization and Licensing Reform



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

November 24, 1989

Mr. James M. Taylor
Acting Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Taylor:

SUBJECT: MODULE 1 OF THE DRAFT SAFETY EVALUATION REPORT FOR THE ADVANCED BOILING WATER REACTOR DESIGN

During the 355th meeting of the Advisory Committee on Reactor Safeguards, November 16-18, 1989, we met with representatives of the Office of Nuclear Reactor Regulation (NRR) and the General Electric Company (GE) to discuss Module 1 of the staff's Draft Safety Evaluation Report (DSER) for the Advanced Boiling Water Reactor (ABWR) design. This matter was also considered by our ABWR subcommittee during several meetings, the latest on October 31, 1989. We also had the benefit of the documents referenced.

The staff's DSER relates to the GE application for final design approval (FDA) and design certification of the ABWR design. The DSER is scheduled for completion in four modules. Module 1 is the subject of this letter and addresses Chapters 4, 5, 6, and 17 of the ABWR Standard Safety Analysis Report (SSAR) and corresponding chapters of the Standard Review Plan (SRP), NUREG-0800. Our review of these chapters of the SSAR has been completed through Amendment 7.

A number of the SSAR and DSER sections included in the Module 1 chapters are presently missing and will be issued as SSAR revisions and supplements to the DSER. Even within the included sections, there are a number of open, unresolved, and confirmatory issues and incomplete interface requirements or other information that will delay completion of our review until the revisions and supplements are issued. Comments on such missing or incomplete information will be included with our review of future modules.

Our comments should not be considered complete until we have prepared a report to the Commission concerning the final integrated DSER, which is presently scheduled for late 1990. For now, we are providing the following comments and recommendations concerning Module 1.

GENERAL

1. The staff's ABWR licensing review bases letter to GE (Reference 2) states, "The degree of design detail necessary for providing an essentially complete design is to be that detail that is suitable for obtaining specific equipment or construction bids and to demonstrate

ACRS *md*
Alderman/car
11/24/89

ACRS *AM*
Major
11/24/89

ACRS *Q*
Quittschreiber
11/24/89

ACRS *RF*
Fraley
11/24/89

ACRS *GR*
RFF FOR CHMN
11/24/89

AR-1
GE

conformance to the design safety limits and criteria." We believe that the level of design detail in Module 1 falls short of this requirement. For example, we find that while GE has committed to follow applicable codes, standards, and regulatory guides, they have developed internal specifications for materials used in the fabrication of pressure boundary components that have not been submitted for NRC review. We also find that a number of design details (such as those relating to design temperature and pressure and pipe size) are indicated on drawings in the SSAR as "to be established by others" or similar statements. Unless such information is included in the SSAR or other documents that are reviewed by the staff, it is clear that the level of design detail is inadequate. We recommend that the staff revisit the issue of what constitutes an "essentially complete" design. The staff should also consider the question of form and depth of reporting differences between the ABWR being designed for construction in Japan and the ABWR design being proposed for certification.

2. The SSAR chapters contain a number of sections for which there are no corresponding sections in the DSER or SRP, or the subjects of the DSER or SRP sections are different. Also, there are cases wherein the SRP contains sections that do not appear in the SSAR or DSER. We recommend that the DSER sections be referenced by number and title to the corresponding SSAR sections they evaluate. Differences, including the absence of any corresponding SRP sections, should be identified in the DSER.

CHAPTER 4 - REACTOR

3. The fine motion control rod drive system (FMCRRDS) materials list discussed in SSAR Section 4.5.1.1 shows Stellite guide rollers and roller pins. Section 5.2.3.2.2 states that cobalt base alloys used for pins and rollers in the FMCRRDS have been replaced with noncobalt alloys. The list of materials should be corrected.
4. We were told by GE that the design of the integral rod ejection support system for the FMCRRDS has been changed from that described in SSAR Section 4.6.1. The staff should determine that their evaluation in the DSER is based on the revised design and the SSAR should be corrected.

CHAPTER 5 - REACTOR COOLANT SYSTEM AND CONNECTED SYSTEMS

5. The SSAR states that the automatic depressurization system (ADS) utilizes safety relief valves (SRVs) each of which is equipped with an air accumulator and check valve arrangement designed to ensure two actuations following failure of the air supply. Although not stated in the SSAR, GE indicated that the accumulators are backed up by the nitrogen supply system. This backup arrangement needs to be described in the SSAR together with how check valve operability will be ensured.
- 110

6. The specifications given in the SSAR for the materials of the primary pressure boundary do not meet current "good practice," or the practice GE says they would require in the construction of an ABWR--they should. To clarify this issue, the SSAR should contain answers to the following questions: (1) will the steel in the core beltline be forged rings or welded plate?; (2) will upper limits on sulfur content of the rolled plate in the pressure vessel be those given in the ASME Code SA-533, Specifications for Pressure Vessel Materials (0.04%) or lower values consistent with good modern practice (under 0.015% with shape control)?--an adequate level is specified for forged segments (ASME Code SA-508, Class 3, Specification for Quenched and Tempered Vacuum-Treated Forgings) and is available as an option in SA-533 but not called out by GE; and (3) what will be the upper limit on delta ferrite for cast stainless steel components? The Code's allowed value of 25% should be halved to substantially remove concern about long-term aging.
7. SSAR Section 5.3.3 states that design for vessel annealing is not required because the predicted value of adjusted RT_{NDT} does not exceed 200° F. The DSER states that the integrity of the reactor vessel is ensured because the vessel may be annealed, if necessary. GE stated during our meeting that the vessel is not designed to be annealed. The DSER statement should be resolved with GE.
8. We believe that potential safety hazards (e.g., excessive internal pressure) associated with an uncleared electrical fault inside a reactor internal pump (RIP) should be analyzed and documented in the SSAR.
9. We were told by GE that motor restraint rods are provided to prevent ejection of an RIP. We believe that this important feature should be described in the SSAR and evaluated by the staff.
10. SSAR Section 5.4.6 states that the design basis for the Reactor Core Isolation Cooling (RCIC) system is only 30-minutes of operation during a loss-of-ac power event. We believe that a more complete discussion of the station blackout capability should be included in the SSAR. The DSER should include an evaluation of the 30-minute capability as an acceptable design basis.
11. The DSER contains no specific references to SSAR Sections 5.4.4-5, 5.4.9, and 5.4.12-14. These sections discuss feedwater piping, main steam line flow restrictors, isolation systems and piping, component supports, and valves. There are no comparably numbered sections in the SRP. It is not clear where the staff intends to report its evaluation of these important topics.

CHAPTER 6 - ENGINEERED SAFETY FEATURES

12. The design basis for the ECCS and the conclusions given about its performance do not include the ejection of an RIP (450 cm² break).

The rationale for excluding such an event as a design basis break should be discussed in the SSAR.

13. DSER Section 6.2.6 indicates that inflatable seals will be used for primary containment equipment and personnel air lock penetrations. We believe that an appropriate description of the seals and the air supply arrangement and reliability should appear in the SSAR. The discussion should include the capability of the seals to function under elevated pressure and temperature conditions for prolonged periods of time following a design basis accident.
14. There is a new section 6.5.5 (Pressure Suppression Pools as Fission Product Clean-Up Systems) in the SRP which does not appear in the SSAR or DSER. Why is this SRP section not being used for the ABWR?

CHAPTER 17 - QUALITY ASSURANCE

15. Chapter 17 of the SSAR is intended to describe how GE and its major technical associates (not mentioned by name in the SSAR but we assume to be Toshiba Corporation and Hitachi Limited) engage in the joint development and engineering of the ABWR design. The quality assurance programs used by the technical associates are not described or referenced in the SSAR. We believe they should be.

In conclusion, we believe that significant progress has been made by the staff in its review of the SSAR for the Advanced Boiling Water Reactor. A considerable amount of work remains to be completed before the FDA is issued as expected by the end of 1990. We will continue to review this work as the documentation becomes available.

Sincerely,



Forrest J. Remick
Chairman

References:

1. Letter dated August 17, 1989 from Charles L. Miller, Office of Nuclear Reactor Regulation, NRC, to Mr. Patrick W. Marriott, General Electric Company, enclosing Draft Safety Evaluation Report Related to the Final Design Approval and Design Certification of the Advanced Boiling Water Reactor, dated August 1989
2. Letter dated August 7, 1987 from Thomas E. Murley, Office of Nuclear Reactor Regulation, NRC, to Ricardo Artigas, General Electric Company, enclosing GE Advanced Boiling Water Reactor, Licensing Review Bases, dated August 1987
3. GE Nuclear Energy, Standard Safety Analysis Report, Advanced Boiling Water Reactor, Chapters 4, 5, 6, and 17



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

August 14, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: LEVEL OF DETAIL REQUIRED FOR DESIGN CERTIFICATION UNDER
PART 52

During the 364th meeting of the Advisory Committee on Reactor Safeguards, August 9-11, 1990, we reviewed the Commission Policy Issue Paper SECY-90-241 related to the level of detail required for design certification under 10 CFR Part 52. Our Subcommittee on Improved Light Water Reactors also reviewed this matter during a meeting on August 8, 1990. During these reviews, we had the benefit of discussions with representatives of the NRC staff and of NUMARC. We also had the benefit of the documents referenced.

Two important issues are addressed in SECY-90-241. The first deals with the level of detail to be included in an application for design certification under Part 52. The second deals with the level of detail to be included in the design certification rule itself. The first issue is of immediate importance and needs to be resolved before the NRC staff completes its review of the Standard Safety Analysis Report (SSAR) and other documents on which the application for design certification is to be based.

One might view the second issue as being less urgent, since it comes into play only after the application for design certification has been filed. At that point, one decides what portion of the information in the application is to be included in the design certification rule. However, we believe it is important for the staff to have an early awareness of the extent to which the information it is reviewing may become subject to revision during the design certification rulemaking. This would allow the staff to include appropriate wording in its Safety Evaluation Report (SER), identifying certain features for mandatory inclusion in the design certification rule. This would ensure that such features would not be changed in the future without the full protection of Part 52 design change requirements.

In SECY-90-241, the staff listed four options for the level of design detail that might be included in the application for certification and in the design certification rule. Unfortunately, they mixed the possible content of the application with the possible content of the rule. Only the Level 2 and Level 3 options appear to be open for serious consideration.

In the background statement for SECY-90-241, the staff points out that Part 52 is clear regarding the need for submittal of an "essentially complete design" when applying for design certification. The level of detail in a design certification application must be sufficient for the Commission to reach closure on all safety questions and establish assurances that future construction will be in conformance with the design. We believe the regulations are clear and proper concerning this required level of detail. The staff has indicated that both the Level 2 and Level 3 options will meet the requirements of Part 52.

From the viewpoint of what should be included in the design certification application, the Level 2 option stipulates that the depth of design detail submitted should be similar to that of a final safety analysis report for a recently licensed plant (minus site-specific and as-built information). In addition, the application is to contain information concerning features that ensure enhanced safety benefits from standardization. For the Level 3 option, the depth of design information submitted in the design certification application is less than that for Level 2 but still claimed to be sufficient for the staff to make its findings on all safety questions. We are not convinced that it is. We recommend that you adopt the Level 2 option because it ensures compliance with Part 52 requirements and the achievement of any benefits from that level of standardization.

Although we recommend that the level of detail submitted be that corresponding to the staff's Level 2, we do not believe that all of this information should be included in the design certification rule. We believe that some form of the two-tier approach proposed by NUMARC is essential from a practical point of view even though it may lead to some decrease in the degree of standardization.

Determining what goes into each of the tiers will require some trade-off between standardization and practicality and can have some effect on safety. We believe that the staff and the industry should be encouraged to develop criteria to define the division between the two tiers. As progress is made in this effort, we will review the proposed criteria and report on them to you if you wish.

August 14, 1990

Additional comments by ACRS Member Lawrence E. Minnick are presented below.

Sincerely,



Carlyle Michelson
Chairman

Additional Comments by ACRS Member Lawrence E. Minnick

Neither the written material referenced above, nor our discussions with the staff has revealed any justification in terms of enhanced safety for standardization of plant designs beyond those portions directly and significantly related to safety.

Since it is clear that standardization, per se, is not an unmixed blessing, I strongly recommend that the ultimate degree of standardization should not be pursued for its own sake, but rather should be limited to that degree clearly essential to the assurance of plant safety.

Obviously competition among suppliers, and innovation and improvement in general, are considerably hampered by standardization. Those considerations have been so fundamental to this country's technical supremacy that they should require no elucidation here, but perhaps it does bear pointing out that standardization of nuclear units is inherently limited in any event, for example, by differing site characteristics and inevitable variations in operating experience.

I feel that the "two-tier" approach proposed by NUMARC will also alleviate the burden of standardization. I endorse that approach, which by reliance on the well-demonstrated 10 CFR 50.59 requirements will limit changes to those having no significant effect on safety.

References:

1. SECY-90-241, Memorandum dated July 11, 1990 for the Commissioners from James M. Taylor, Executive Director for Operations, Subject: Level of Detail Required for Design Certification Under Part 52.
2. U.S. Nuclear Regulatory Commission, Rules and Regulations - 10 CFR Part 52, "Early Site Permits; And Combined Licenses for Nuclear Power Reactors," April 28, 1989

ITEM 2

DECOUPLING SITING AND SOURCE TERM

Item 2

Advisory Committee on Reactor Safeguards
367th ACRS Meeting with Commissioners
November 8, 1990
Decoupling Siting and Source Term

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Background:

The staff briefed the Committee on the source term update and decoupling siting from design at the May 1990 ACRS Meeting. Oral feedback was used from the May 1990 ACRS mmeeting in the preparation of a draft Commission Paper on the staff's study on source term update and decoupling siting and design, which was discussed with the Committee at the June 1990 ACRS meeting. As a result of the June meeting, the Committee prepared and sent a report to the Commission, dated June 13, 1990 (attached).

The staff has provided draft SECY-90-341, dated October 4, 1990, which provides an update of the information concerning this matter that was provided to the ACRS in June 1990. The staff has stated in SECY-90-341 that the ACRS has been briefed and has provided its comments regarding this matter.

Cognizant ACRS Member: H. Lewis
Cognizant ACRS Staff Member: G. Quittschreiber



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

June 13, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: DRAFT STUDY ON SOURCE TERM UPDATE AND DECOUPLING SITING
FROM DESIGN

During the 362nd meeting of the Advisory Committee on Reactor Safeguards, June 7-9, 1990, we reviewed the NRC staff's Draft Study on Source Term Update and Decoupling Siting from Design. This matter was also discussed during our 361st meeting, May 10-11, 1990. During this review, we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the document referenced.

At present, siting issues, including the definitions of the Exclusion Area (EA) and Low Population Zone (LPZ), are governed by 10 CFR Part 100, Reactor Site Criteria, which sets limits on the exposure of an exposed individual in the event of certain hypothetical accidents. The necessary calculations require assumptions about the amount of radioactivity released to the containment in those accidents, the so-called source term.

It is customary to use for the latter an old AEC report, Technical Information Document 14844, dated March 23, 1962. It has been recognized for about ten years that that report grossly overestimates radioactive releases in a typical accident, and misrepresents their forms. Consequently there has been in this period a leisurely effort to "update the source term."

The staff soon recognized that the effects due to possible reduction of the source term, and reduced probability of an accident, could combine with the requirements of 10 CFR Part 100 to make possible the licensing of plants with uncomfortably close boundaries, perhaps even in a metropolitan area. To avoid this, the staff proposed that the siting question be decoupled from the source term upgrade, so that the customary sizes of the EA and LPZ could be preserved, as encapsulated in Regulatory Guide 4.7, General Site Suitability Criteria for Nuclear Power Stations. This is a matter of preserving the answer, in the face of creeping safety improvements, by rephrasing the question.

June 13, 1990

In the end, the staff considered a number of options, including a revision of 10 CFR Part 100 through rulemaking, and concluded that they were all so difficult that one ought to proceed by first updating the source term to accommodate current technical understanding. Then the tentative proposed solution to the siting problem is to "encourage" conformance to Regulatory Guide 4.7, in effect substituting a regulatory guide for rulemaking.

We support (as we always have) the effort to adjust the source term to reflect current knowledge. Since it appeared at our meeting that the staff is not itself entirely clear about its position on siting, we cannot yet provide definitive advice on that aspect of the problem. Perhaps, since no one is now proposing other than remote siting of nuclear power plants in the United States, the question is moot.

Sincerely,



Carlyle Michelson
Chairman

Reference:

Draft Commission Paper from James M. Taylor, Executive Director for Operations, Subject: Staff Study on Source Term Update and Decoupling Siting from Design (Predecisional), transmitted by memorandum dated May 25, 1990 from Warren Minners, Office of Nuclear Regulatory Research, for Raymond F. Fraley, ACRS

ITEM 3

**RESOLUTION OF GENERIC SAFETY ISSUE B-56,
"DIESEL GENERATOR RELIABILITY"**

Item 3

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
367TH ACRS MEETING WITH COMMISSIONERS
NOVEMBER 8, 1990

Resolution of Generic Safety Issue
B-56, "Diesel Generator Reliability"

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BACKGROUND

The ACRS AC/DC Power Systems Reliability Subcommittee met with the staff and NUMARC representatives several times, the latest of which was on August 8, 1990, to discuss the resolution of generic safety issue B-56 "Diesel Generator Reliability."

During the 364th ACRS Meeting on August 9-11, 1990, the staff presented its proposed resolution to this issue. The ACRS issued its report to the Commission on August 14, 1990 (attached), indicating that the staff's proposed resolution includes unjustified imposition of maintenance requirements on the licensees in contravention of the Commission's decision to defer issuance of a maintenance rule pending assessment of licensee's maintenance programs.

On October 3, 1990, the staff has provided SECY-90-340 that informs the Commission of its intended resolution and the disagreement with the ACRS recommendations.

Cognizant ACRS Member: C. Michelson
Cognizant ACRS Staff Member: M. El-Zeftawy



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

August 14, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: PROPOSED RESOLUTION OF GENERIC SAFETY ISSUE B-56, "DIESEL GENERATOR RELIABILITY"

During the 364th meeting of the Advisory Committee on Reactor Safeguards, August 9-11, 1990, we reviewed the NRC staff's proposed resolution of Generic Safety Issue (GSI) B-56, "Diesel Generator Reliability." Our Subcommittee on AC/DC Power Systems Reliability also reviewed this matter during a meeting on August 8, 1990. During these reviews, we had the benefit of discussions with representatives of the NRC staff and of NUMARC. We also had the benefit of the documents referenced.

In our view, this proposed resolution includes unjustified imposition of maintenance requirements on the licensees, in contravention of the Commission's decision to defer issuance of a maintenance rule pending assessment of licensees' maintenance programs.

The proposed resolution of GSI B-56 involves two steps. First, Section C.6 of proposed R.G. 1.9, Rev. 3, contains an explicit example of a diesel generator reliability program, including maintenance, with detailed checkoff and corrective action lists. Second, the staff proposes to require adoption of R.G. 1.9, Rev. 3, by a generic letter pursuant to 10 CFR 50.54(f).

As background, GSI B-56 is related to the Station Blackout Rule (10 CFR 50.63). The staff issued R.G. 1.155, "Station Blackout," to provide guidance for compliance with this rule. R.G. 1.155 identified the need for a reliability program to achieve and maintain diesel generator minimum reliability levels of 0.95 or 0.975 per demand, depending on the blackout duration coping requirements calculated for a particular plant.

R.G. 1.9, Rev. 3, provides guidance for a reliability program by integrating into a single regulatory guide pertinent guidance now addressed in R.G. 1.9, Rev. 2, R.G. 1.108, Rev. 1, and Generic

August 14, 1990

Letter 84-15. In addition, R.G. 1.9, Rev. 3, endorses IEEE Standard 387-1984. This guide also describes a means for meeting the minimum diesel generator reliability goals contained in R.G. 1.155.

In developing the guidance contained in R.G. 1.9, Rev. 3, for the diesel generator reliability program, the staff has taken cognizance of related industry initiatives and programs, and for the most part is consistent with current industry practices. Both the staff and the industry seem to be in agreement concerning R.G. 1.9, Rev. 3, except for those parts of Section C.6 and accompanying figures and tables that prescribe in detail the requirements for a diesel generator reliability program.

NUMARC maintains that the licensees have committed to monitoring diesel generator reliability, and have docketed their commitments to maintain the chosen target reliability levels to comply with the Station Blackout Rule. NUMARC considers that these commitments together with their initiatives are sufficient to ensure acceptable diesel generator reliability.


Both the staff and NUMARC agree that diesel generator reliability has improved and the industry as a whole is maintaining reliability above the chosen target levels. NUMARC maintains that these efforts and results are adequate and that the prescriptive guidance contained in R.G. 1.9, Rev. 3, is unwarranted.

We believe that the commitments of the licensees to monitor and maintain diesel generator reliability above the chosen target levels and the industry initiatives are sufficient to ensure acceptable diesel generator reliability under the Station Blackout Rule. If plants fall below the target levels, these plants should be identified and corrective actions will be taken.

We recommend that the prescriptive guidance contained in R.G. 1.9, Rev. 3, Sections C.6-2 through C.6-7 be removed, along with the related figures and tables. In addition, the staff should not issue a 50.54(f) letter to impose adoption of R.G. 1.9, Rev. 3.

Additional comments by ACRS Member Harold W. Lewis are presented below.

Sincerely,



Carlyle Michelson
Chairman

Additional Comments by ACRS Member Harold W. Lewis

First, I don't see the problem this program is supposed to solve. Everyone seems to agree that diesel reliability is good and improving, and that each diesel failure should be analyzed for root cause, to reduce the likelihood of recurrence. The remaining issue is the relevance of the threshold values.

Clearly, failure experience is an indicator of the underlying reliability -- the question is how to use the data. I am surprised that such a trivial measure as a collection of arbitrary threshold values has been chosen. Once the failure data have been collected, it is no harder to make full use of the data, by calculating a set of confidence limits on the underlying reliability. Such a procedure makes optimal use of the data, and can be recalculated after each attempt to start, with the expenditure of a few microseconds of computer time. The trends and their significance can then be monitored. I see no excuse for throwing away data, once collected. Despite the staff assertions that this would be far more difficult, it would in fact be trivial.

References:

1. U.S. NRC Regulatory Guide 1.9, Rev. 3 (June 14, 1990), Working Draft, "Selection, Design, Qualification, Testing, and Reliability of Emergency Diesel Generator Units Used As Class 1E Onsite Electric Power Systems At Nuclear Power Plants."
2. U.S. NRC Regulatory Guide 1.9, Rev. 2 (December 1979), "Selection, Design, Qualification of Diesel-Generator Used as Standby (On-Site) Electric Power Systems at Nuclear Power Plants."
3. Nuclear Management and Resources Council, NUMARC 87-00, (Revision 1), "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout At Light Water Reactors," Appendix D, "EDG Reliability Program," May 2, 1990
4. IEEE Standard 387-1984, "IEEE Standard Criteria for Diesel-Generator Units Applied as Standby Power Supplies for Nuclear Power Generating Stations," June 1984.
5. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.155 (Task SI 501-4), "Station Blackout," August 1988.
6. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.108, Rev. 1, "Periodic Testing of Diesel Generators Used As On-Site Electric Power Systems At Nuclear Power Plants," August 1977.
7. Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," July 2, 1984.

ITEM 4

**CONTAINMENT DESIGN CRITERIA FOR
FUTURE PLANTS**

Item 4

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
367TH ACRS MEETING WITH COMMISSIONERS
CONTAINMENT DESIGN CRITERIA
NOVEMBER 8, 1990

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BACKGROUND

In a SRM dated July 28, 1988, Chairman Zech requested the ACRS to submit a paper on design criteria for containments based on present knowledge. He requested the ACRS to outline the issues and provide recommendations. During their meeting in March, 1989, the ACRS discussed a plan of action on this matter and provided comments in a memorandum dated March 15, 1989 (attached). This matter was also briefly discussed at the Commission Meetings with the ACRS on August 10, 1989 and January 11, 1990.

The ACRS Subcommittees on Containment Systems and Structural Engineering have held joint meetings on April 18, September 12, October 17 and December 13, 1989 and on April 4, 1990 to discuss containment design criteria for future plants. During these meetings, they have heard presentations by representatives of the nuclear industry (CE, EPRI, FAI, GA, GE, S&L and W), national laboratories (BNL, EG&G, ORNL and SNL) and five private consultants.

Cognizant ACRS Member: D. Ward/C. Siess
Cognizant ACRS Staff Member: D. Houston



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

March 15, 1989

MEMORANDUM FOR: Chairman Zech
FROM: Forrest J. Remick, Chairman, ACRS
SUBJECT: CONTAINMENT DESIGN CRITERIA

A handwritten signature in dark ink, appearing to read "F. J. Remick", is written over the "FROM:" line of the memorandum.

During the 347th meeting of the Advisory Committee on Reactor Safeguards, March 9-11, 1989, we discussed our plan of action to develop containment design criteria for nuclear power plants, based on current knowledge, in response to the referenced Staff Requirements Memorandum.

Containment performance in response to severe accidents is being considered by several groups within the NRC staff for existing nuclear power plants via the NRC Severe Accident Policy Statement as well as criteria for evolutionary light-water reactors. The Committee will concentrate its efforts on containment design criteria for future reactors, taking into account the work already being done by the staff and others.

An initial subcommittee meeting has been tentatively scheduled for April 18, 1989 to consider this matter.

Reference:

Staff Requirements Memorandum dated July 28, 1988 from Samuel J. Chilk, Secretary, for Raymond F. Fraley, ACRS, Subject: Staff Requirements - Periodic Briefing by the ACRS, Thursday, July 14, 1988

cc: Commissioner Roberts
Commissioner Carr
Commissioner Rogers
Commissioner Curtiss
OGC
EDO
GPA

ITEM 5

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Item 5

Advisory Committee on Reactor Safeguards
367th ACRS Meeting with Commissioners
November 8, 1990
Systematic Assessment of Licensee Performance

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BACKGROUND:

The Committee has sent several letters/reports to the Commission with regard to its concerns of the lack of coherence in the regulatory process and of the SALP. Copies of several of these letters/reports are attached.

The staff has provided SECY-90-347, dated October 9, 1990, which provides a discussion of the planned improvement actions resulting from the staff's Regulatory Impact Survey. Also, James Taylor has sent a Memorandum to the ACRS dated October 11, 1990 responding to the Committee's concerns with the SALP.

Cognizant ACRS Member: H. Lewis
Cognizant ACRS Staff Member: G. Quittschreiber



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

September 12, 1990

The Honorable Kenneth M. Carr
Chairman,
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: REEVALUATION OF THE SALP PROGRAM

During the 365th meeting of the Advisory Committee on Reactor Safeguards, September 6-7, 1990, we continued our deliberations on the SALP program. We were previously briefed during our 363rd meeting, July 12-13, 1990, by representatives of the staff concerning its reevaluation of the SALP program as described in SECY-90-189 dated May 25, 1990. We have also reviewed the staff requirements memorandum (SRM) dated August 10, 1990, related to SECY-90-189. In addition, we have reviewed the staff's Draft NUREG-1395, Industry Perceptions of the Impact of the U.S. Nuclear Regulatory Commission on Nuclear Plant Activities, dated March 1990, and the Survey of Staff Insights on Regulatory Impact (SECY-90-250) dated July 16, 1990. Finally, we discussed a letter dated September 4, 1990, that the Committee received from NUMARC on the subject of SALP and regulatory impact (copy attached).

In our letter to you dated December 21, 1989, which was based on a briefing from the NRC staff on the SALP program during our December 1989 meeting, we commented that this increasingly important element of the regulatory process was "out of control." We asked you to consider "... suspension of the program and issuance of no new SALP ratings until enough reform measures are instituted to lend credibility to the process." We recommended that you "... make a clear statement of the purpose of SALP ratings, insist that your staff implement that purpose and no other, insist that the staff not use the [SALP] ratings as weapons to enforce obedience to idiosyncratic policies that are not yours, greatly dilute the Regional autarchy in the process, and institute a workable set of checks and balances." (This latter point was further expanded in our letter of February 15, 1990, to you on the subject of Coherence in the Regulatory Process.) In your letter of February 2, 1990, you advised us that you planned no immediate action, as recommended by us, on the SALP program until the staff had completed its reevaluation.

On the basis of our review of the staff's reevaluation of the SALP program, as described in SECY-90-189 and as modified by the August 10, 1990 SRM, we have concluded that the recommended programmatic

September 12, 1990

changes are appropriate and generally consistent with the objectives that have been defined for the program. However, we do not believe that these changes go far enough. We had expected that SECY-90-189 would address the issues raised in our letter of December 21, 1989, and this is clearly not the case.

The staff is planning to issue a paper in September on those changes in the regulatory program that it believes are suggested by the recent regulatory impact surveys. That would provide an excellent vehicle for the incorporation of changes designed to respond to the recommendations on the SALP program that we made in our letter to you. We urge you to make sure they do so.

We plan to meet with the staff in order to evaluate its proposed regulatory reforms including reforms to the SALP program that may go beyond SECY-90-189. We believe that such changes are needed in the interest of improving the overall coherence of the agency's regulatory process. This view appears to be strongly supported by the regulatory impact surveys of both licensees and staff members.

Additional comments by ACRS member Carlyle Michelson are presented below.

Sincerely,



Carlyle Michelson
Chairman

Attachment:

Letter dated September 4, 1990 from Joe F. Colvin,
NUMARC, to Harold W. Lewis, ACRS, w/attachments

Additional Remarks by ACRS Member Carlyle Michelson

It is my view that the staff's reevaluation of the SALP program, as described in SECY-90-189 and as modified by the Commission SRM, adequately addresses the SALP program issue. Thus far, it is not clear that any other changes in the program are needed. I agree that the staff should be instructed to respond to our recommendations on the SALP program in its planned September 1990 SECY paper.



NUCLEAR MANAGEMENT AND RESOURCES COUNCIL

1776 Eye Street, N.W. • Suite 300 • Washington, DC 20006-2496
(202) 872-1280

Joe F. Colvin
Executive Vice President &
Chief Operating Officer

September 4, 1990

Dr. Harold W. Lewis
Chairman, Subcommittee on Regulatory Policies and Practices
Advisory Committee of Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Lewis:

In reviewing the agenda for the next ACRS full committee meetings of September 6-8, 1990, we became aware that the Systematic Assessment of Licensee Performance (SALP) changes recently proposed by the NRC staff would be the subject of an ACRS report to the Commissioners. The purpose of this letter is to make you aware of industry concerns in this area that we are discussing with the NRC commissioners and senior staff. Specifically, we are concerned that the SALP process is being decoupled from the overall issue of regulatory impact and that changes are being made that affect the overall regulatory process without the root causes of the problems described by both the industry and the staff having been properly identified.

The SALP process has a significant impact on licensee activities and is a major cause of the problems identified by the recent Regulatory Impact Survey. The NRC staff's assessment of industry feedback, as contained in draft NUREG-1395, "Industry Perceptions of the Impact of the U.S. Nuclear Regulatory Commission on Nuclear Power Plant Activities," identified problems in the SALP process as one of the two principle themes emerging from all licensees' comments. Specifically, the report concluded that "licensees acquiesce to NRC requests to avoid poor numerical Systematic Assessment of Licensee Performance (SALP) ratings and the consequent financial and public perception problems that result, even if the requests require the expenditure of significant licensee resources on matters of marginal safety significance;". Further, the recently released "Survey of The NRC Staff Insights On Regulatory Impact," SECY-90-250, confirmed the findings of draft NUREG-1395, stating that "...licensees are extremely sensitive to NRC activities and sometimes acquiesce to avoid confrontation that could create the perception that they are unresponsive. This makes licensees vulnerable to potential abuses of regulatory authority."

On May 14, 1990, we wrote to Chairman Carr (copy attached) commending the efforts of the NRC and staff on the draft NUREG-1395 and stressing the need to evaluate all the information available, determine the root cause, and develop a plan and schedule to make corrections to the process. Further, we

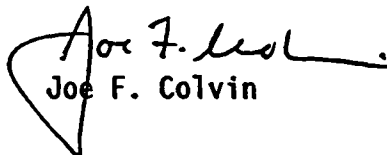
Dr. Harold W. Lewis
September 4, 1990
Page 2.

offered the industry's assistance to help achieve our mutual goal of improvements to the regulatory environment. Chairman Carr responded in a letter (copy attached) of June 21, 1990, indicating that the plan and schedule developed by the staff will be sent to the Commission, the ACRS, and be made publicly available, and that industry views on the plan and schedule would be welcome at that time.

In our view, plans and recommendations related to the issue of regulatory impact, including future changes to the SALP, should be subject to industry, as well as public, review and comment before action is taken by the Commission. In that manner the Commission will have the comments of all interested parties as input to their decision-making process.

We would be pleased to discuss this matter further with the ACRS.

Sincerely,


Joe F. Colvin

JFC:ben
Attachments

cc: Mr. Carlyle Michelson
Mr. Charles J. Wylie



NUCLEAR MANAGEMENT AND RESOURCES COUNCIL

1776 Eye Street, N.W. • Suite 300 • Washington, DC 20006-2496
(202) 872-1280

Byron Lee, Jr.
President & Chief
Executive Officer

May 14, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. - 20555

Dear Chairman Carr:

We commend the effort of the NRC and Staff to assess the impact of NRC activities on utilities through the Regulatory Impact Survey. This is an important step which can lead to an improved interface between the regulator and the regulated industry and, thus, towards a greater margin of safety.

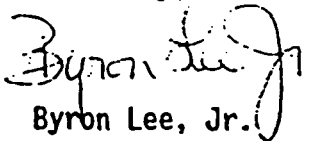
The survey addresses many of the concerns about the regulatory burden and uncertainty expressed by the industry over the past several years. We believe the draft survey report, "Industry Perceptions of the Impact of the U.S. Nuclear Regulatory Commission on Nuclear Power Plant Activities" (draft NUREG-1395), contains an excellent summary by the Staff of the candid comments provided by the personnel from various levels within the licensees that participated in the survey. We commend the Survey Team for an excellent job of listening and reporting the information received. The licensee input represents a sincere response to your challenge to U.S. utilities to give you specifics, a challenge you reinforced at the INPO Chief Executive Officer Conference last Fall.

We also believe the Staff's efforts to understand this information, both fact and perception, is vital to your efforts to improve the process. We are concerned with the statement in the Preface that, "In some cases, the perceptions and opinions given are at variance with the staff's understanding of the facts." We are not sure how to interpret this statement, but hasten to add the survey comments came from enough levels within each company and from virtually all companies to be more than perceptions. Also, they came from the people actually impacted. If real benefit is to be gained from this effort, the staff should apply the same principles they ask the licensees to apply: Evaluate all the information available, determine the root cause, and develop a plan with an implementation schedule to make corrections to the process consistent with your regulatory responsibilities.

The Honorable Kenneth M. Carr
May 14, 1990
Page 2

We are anxious to assist the Commission to interpret the information received. We plan to coordinate further industry activities on these matters in order to minimize the burden. Please contact me or Joe Colvin as to how we may be of further assistance.

Sincerely,


Byron Lee, Jr.

BL:exc

cc: Commissioner Thomas M. Roberts
Commissioner Kenneth C. Rogers
Commissioner James R. Curtiss
Commissioner Forrest J. Remick
Mr. James M. Taylor



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 21, 1990

CHAIRMAN

Mr. Byron Lee, Jr.
President & Chief Executive Officer
Nuclear Management and Resources Council
1776 Eye Street, N.W., Suite 300
Washington, D.C. 20006-2496

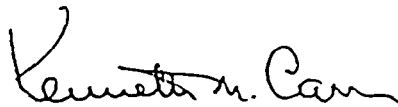
Dear Mr. Lee:

I am responding to your letter of May 14, 1990, concerning draft NUREG-1395, "Industry Perceptions of the Impact of the U.S. Nuclear Regulatory Commission on Nuclear Power Plant Activities." I agree that the Regulatory Impact Survey (RIS) is important to the staff's efforts to improve regulatory activities, and I appreciate your willingness to assist the NRC in interpreting the information collected to date. However, I believe that any additional comments and suggestions that NUMARC may want to contribute to this effort would be more useful to the Commission at a later point in time.

As you may know, we have more to do on the overall program to assess regulatory impact. The Regulatory Impact Survey includes two other activities to solicit information. One activity consists of a questionnaire to all nuclear utilities soliciting voluntary information concerning management time devoted to all inspections and audits. The other activity is an internal survey of NRC staff on its perceptions of the impact that NRC licensing and inspection activities have on nuclear plant operation. A comprehensive evaluation of licensees' comments by the NRC staff is ensured by the inclusion of these two activities in the RIS program.

Following completion of the surveys, senior NRC managers will evaluate carefully all of the information obtained and will then develop a plan and implementation schedule to make corrections to the regulatory process consistent with our regulatory responsibilities. The plan and schedule will be forwarded to the Commission, made available to the ACRS in their role as advisors to the Commission, and made publicly available. The Commission believes that your views would be most helpful if they are focused on the plan and schedule, and we would welcome any additional comments and suggestions that you may want to make at that time.

Sincerely,


Kenneth M. Carr

RECEIVED JUN 25 1990



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

February 15, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: COHERENCE IN THE REGULATORY PROCESS

In our reports to you of November 24, 1989 (which also lists our earlier reports) and December 21, 1989, we have discussed a variety of aspects of the coherence problem -- the problem of assuring that all elements of the NRC pull in the same direction in the regulation of nuclear power, a direction provided by the Commission itself. These reports have generally dealt with symptoms of incoherence -- the most recent was about the internal use of SALP ratings. Here we would like to take a more global view of the coherence problem, leading in the end to a recommendation for a next step.

It is almost as if the NRC were created to be incoherent. There are five Commissioners and five statutory Offices. There are many Branches and five Regional Offices, with a kind of matrix management tying it all together. Regulatory power is spread throughout, resulting in a melange of technical positions, regulatory guides, generic letters, policy statements, undocumented pressures, enforcement actions, etc. The mechanisms for providing incentive to the various elements of the staff to test their actions in the light of Commission objectives are inadequate. Indeed those objectives are not always easy to determine, for reasons that need no elaboration here. This is not to say that anyone is deliberately misbehaving, only that too many are free to proceed in the light of their own best judgment.

We have long argued that the best way to test the effectiveness of the regulatory process is to measure the results in terms of the Commission's Safety Goals, and we do not depart from that position here, but a performance measure is not a coherence measure. The latter has to do with efficiency, clarity, and ultimately, acceptability of the process.

February 15, 1990

In our November 24 report on this subject we emphasized that the coherence problem can be divided into many categories -- it is not a neat subject. The Commission itself can and should make its policy statements and other issuances as unambiguous as possible (we know that is not easy; we often fail ourselves), so as to minimize opportunities for misinterpretation. Also, as mentioned in that report, many of the examples lie within the province of the EDO, and he should be aware of his responsibility to keep the various offices working toward the same ends. Perhaps his own staff needs expansion. But the real tests of coherence lie in the NRC's interactions with the outside world, and we doubt that only internal modifications can solve these problems, although we believe improvements could be made. We are not prepared to recommend reorganization of the NRC, though that is one of the options available to you. Certainly, incentives for lateral communication would be helpful.

We do not believe coherence can be proclaimed from above. Not only is the effect of proclamations attenuated as they penetrate any organization, but high-level policies are necessarily imprecise. Not all ramifications or interpretations of a policy statement can be foreseen, and coherent policies have to be molded in use. It is the body of regulatory practice that is in question here, much of it in the form of corporate memory and lore, and the job at each level is to provide sufficient guidance and incentive to make it possible (and desirable) for the next level to function consistently with the global policies. Above all, the governing policy guidance must be simple, clear, and understandable to both regulator and regulatee.

How is coherence approached elsewhere? One necessary ingredient appears to be feedback, through which interpretations of policy are constantly tested against the policies themselves, not in every case but through a sampling process that, in the end, leads to a more coherent structure. The guiding law of the land is the Constitution, embodying our principles of government. The real law of the land, however, is the enormous body of case law generated by innumerable court decisions, each reviewable, and some in fact reviewed, by the next level of appellate court. Thus the regulatees, in this case the population, have a set of recourses that can bring any rule or ruling to a test of its coherence with the guiding principles. Further, and most important, those who do the testing are not those who make the rules, so there is at least the perception that there is a genuinely unbiased feedback process. The founders were careful to include this in the system. In addition, feedback loops need not be end-to-end; intermediate loops are also helpful.

February 15, 1990

There are many examples of this process in other areas. A taxpayer who feels mistreated by the Internal Revenue Service can appeal within the system, but can in the end go to the Tax Court, an entirely independent forum. A pilot denied his or her license by the Federal Aviation Administration has the right to appeal to the National Transportation Safety Board, an independent agency, whose ruling is final. In each of these there is some risk, but the constant feedback provided by external review helps to create a body of case law that is under continuous testing for coherence. This is not true in the nuclear business, where the only external review is in the courts, and their primary mission is not coherence in the regulatory process. The only appeal from a Regional decision (for example) is within the system, and we all learn early that it is unwise to complain about someone who has power over you, unless you're sure you'll win.

All engineers recognize that complex systems are better controlled by feedback than by blind input -- one measures the errors and corrects the input accordingly. The key is the ability to make objective measurements through a separate sensing system.

What appears to be needed in our case is a mechanism through which frequent testing of the body of "case law" against the guiding principles laid down by the Commission is made possible. To be credible and effective, that job cannot be assigned entirely to the Commission staff. The current situation is analogous to one in which there is a constitution (Commission policies), a body of law (letters, guides, enforcement actions, rules), but no courts.

In general, those with the most to gain by coherent regulation are the regulatees (and of course the rest of us, because safety will benefit), and they would be in a better position to seek coherence if they could do so without fear of retaliation. It is the fear of being taken to court that serves to constrain police forces -- the constraints in our case are entirely internal.

This kind of feedback solution has been used in many places. Governments and police forces have courts; factories have grievance committees; some agencies have ombudsmen for employee complaints, though these usually have no power. The NRC has nothing comparable.

We believe the ultimate solution to the coherence question must include the provision of an adequate feedback mechanism. To be sure, you have made any number of commendable requests to the regulated community to come forward with complaints, but less has come of it than might have been hoped. Even if more had happened, this would still have been symptomatic treatment of the problem,

February 15, 1990

and we believe that a mechanism in place is required. Some of us believe that, in the end, only an external Nuclear Safety Board can help, while others believe that great strides can be made within the NRC itself. However, just as we are not prepared to recommend reorganization of the NRC, we do not suggest what form the feedback mechanism should take.

We do recommend that possible means for achieving the objects stated above be explored, and doubt that it would be wise to simply ask the staff (or us) to do the job. We think it would be entirely appropriate, given the importance of the issues, to take a major initiative by asking some respected outside group to explore the subject, and to lay out the feedback options available to the country, even if they require legislation. Such a study group could be chartered by the NRC -- there are precedents -- and should include representation from the affected industry. The National Academy of Sciences has done such things, or it could be an entirely free-standing operation. The result should not be a specific recommendation, but a list of options and analyses, which could then be freely debated within the interested community. This is a complex subject, and we do not think it should be resolved by hip shot. We also do not think it should be neglected, since the effectiveness of the regulatory process is at issue.

Additional comments by ACRS Members Carlyle Michelson, Chester P. Siess, and Charles J. Wylie are presented below.

Sincerely,



Harold W. Lewis
Acting Chairman

Additional Comments by ACRS Members Carlyle Michelson, Chester P. Siess, and Charles J. Wylie

If there is a problem with coherence in the regulatory process, we do not believe that it has been identified and characterized in this report with sufficient clarity to support a recommendation that the NRC charge some outside group to explore it. We agree that there have been examples of inadequate integration of regulatory staff activities, sometimes serious, but it should not require an outside panel to tell management how to correct such deficiencies. If the ACRS believes that there is a coherence problem beyond the capability of the Commission to highlight and correct,

February 15, 1990

then it should clearly articulate the problem before suggesting that the ultimate solution must include provisions for an adequate feedback mechanism and asking some outside group to lay out the feedback options. There are other portions of this letter to which we would take exception; but unless the ACRS can define the problem that needs to be fixed, they may not be worthy of mention. It is our observation that the agency knows its responsibilities and has been successful in carrying out its mission.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

December 21, 1989

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: COHERENCE IN THE REGULATORY PROCESS

In our last report to you on this subject, dated November 24, 1989, we listed a number of problems, but deferred any recommendations until we had had a chance to speak to the EDO. This occurred so late in our December meeting that it was impossible to prepare a report on this important subject with the care that it deserves. We therefore beg your indulgence while we defer still another month.

Nonetheless, we have been briefed at this meeting on one of the increasingly important elements of the process--the SALP ratings and their use--and believe it appropriate to single out the subject for individual treatment. We know you are aware of some of the problems of external misuse of the ratings; we wish to address instead the internal purpose of the ratings themselves, from the viewpoint of coherence of the regulatory process.

The SALP ratings are extremely important to the licensee, for both economic and other reasons; it is therefore essential that the process through which they are determined be as objective and credible as it is possible to make it. We recognize that there is not available a set of fully objective performance indicators and that any rating system must therefore have an element of subjectivity. It is then doubly important that the procedures incorporate a set of credible checks and balances to minimize the effect of the personal predilections of the board members.

Instead we learned from this briefing that the process is almost entirely (we were told 80%) in the hands of the Regional Administrator, who not only appoints most of the board from among his own personnel, but is even free to reject an SALP rating he doesn't like, and reconstitute the board as he wishes. The rating therefore provides still another weapon for the Administrator to enforce his personal views, effectively free of restraint. There is no appeal procedure. Even with the best of Regional Administrators this strikes us as unwise--with the worst it could make a mockery of coherent regulation.

December 21, 1989

During our briefing, we were variously told that the purpose of an SALP rating is to advise the Regional Administrator (though he signs it), and then to help him advise the licensee. At the end it wasn't clear which. We were also told that a licensee must exhibit a steady improvement to keep his SALP rating constant, then that he needn't, and finally that he did. If true, that is not consistent regulation. Improvement toward what end? You may wish to read the transcript of our meeting.

We could continue, but the message is that your staff has created a process which is out of control. If indeed all the questions we asked have reasonable answers, they were not known to the responsible staff elements, even during a prepared briefing devoted to the subject.

On this isolated example of incoherence, we think you should make a clear statement of the purpose of SALP ratings, insist that your staff implement that purpose and no other, insist that the staff not use the ratings as weapons to enforce obedience to idiosyncratic policies that are not yours, greatly dilute the Regional autarchy in the process, and institute a workable set of checks and balances. Abuses of SALP abound, and they bring no credit to the regulatory process.

We also believe that this is a sufficiently important problem to justify consideration of suspension of the program and issuance of no new SALP ratings until enough reform measures are instituted to lend credibility to the process.

Sincerely,



Carlyle Michelson
Acting Chairman



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

November 24, 1989

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: COHERENCE IN THE REGULATORY PROCESS

During the 355th meeting of the Advisory Committee on Reactor Safeguards, November 16-18, 1989, we discussed the need for a strategy for achieving coherence in the regulatory process. Our Subcommittee on Regulatory Policies and Practices also met on August 9 and November 15, 1989 to discuss this matter. This is in response to a Staff Requirements Memorandum dated August 18, 1989 asking for "ACRS thoughts on how to best integrate the regulatory process."

As we have observed in a number of the referenced reports, the NRC seems to suffer increasingly from a lack of coherence in the formulation and implementation of its regulatory strategy. This is hardly a subject of which the Commission is unaware, and it is a problem that is perhaps unavoidable as the body of regulatory practice grows with time, and institutional memory fades correspondingly. Nonetheless, it poses problems for those who try both to understand the Commission's regulatory policies and to construe the staff's actions in the light of those policies. It seems to us axiomatic that regulation will be most effective in support of nuclear safety--our common objective--if it is coherent and defensible, and thereby understood and respected by those who are regulated.

The staff has, on occasion, been asked to describe its efforts to deal with these problems, and has responded (e.g., SECY 88-178, "Policy Statement Integration," June 9, 1989; and memorandum for Chairman Carr from J. M. Taylor, Acting Executive Director for Operations (EDO), "Integrated Approach on Regulatory Matters," October 18, 1989) by describing those programs in place to achieve "integration," which are, in effect, piling new programs on top of an assembly of unaffected and unintegrated parts. Not only can integration not be accomplished by ordinance, but there is a real and important distinction between integration and coherence--the latter is the real objective. Coherence means that all the parts pull in the same direction, not that they are put in the same box. It cannot be attained by

repackaging of existing programs; integration does not generate coherence.

As we have said, there are so many examples, and the problem is so well known, that it may seem like overkill to list examples, but it is useful to do so, if only to note that they differ in kind, so there is no one general sweeping solution.

There are some cases in which there is no problem of coordination among the various offices, but the problem is one of drawdown of the NRC and industry resources, with negative consequences that are clear but hard to identify. This happens when any office acts, however worthily, on its own. These are problems only the Commission can address.

There are cases, like access authorization and fitness for duty, in which individual offices proceed, again however worthily, with closely related initiatives that arrive at the end stage before they finally come together in the Committee to Review Generic Requirements (CRGR). Those problems properly belong to the EDO, but there is something incongruous in having his influence felt only near the end of the process. Indeed the CRGR was created to apply an end-game palliative to some of these same problems. Such coordination would be more effective earlier.

There is the problem of the Regional Administrators, who sometimes have practices that differ from each other, and from Headquarters. In the end, it is the Regional Administrators with whom a licensee has most contact, and who embody NRC in the field, and there are too many cases in which their dicta go well beyond the policies set by the Commission.

There are cases, like the initiatives on accident management and emergency operations, in which the Commission guidance is sufficiently unclear to permit separate tracks for different staff elements.

There are pervasive problems, like the applicability of the Safety Goal Policy and the Severe Accident Policy, in which the Commission seems to be playing a passive role, reacting to staff or ACRS initiatives. Again, neither the EDO nor we can help in such matters. We all can and do provide advice, but the Commission's safety philosophy ought to guide us.

The Commission has recognized these issues in the past and has promulgated a number of important policy statements to, as we see it, provide an underlying coherence to its policies. It has every reason to be proud of these efforts, but it remains necessary to find ways of

diffusing them into the fabric of a large and complex agency. The two principal policies that are relevant to this subject are the Safety Goal Policy and the Severe Accident Policy statements. The Safety Goal Policy lays out the basic objective of the agency, to regulate in such a way as to provide reasonable assurance that a certain quantitative level of safety is achieved in the use of nuclear power. Nothing can be more fundamental, and we believe (and have said before) that that policy should serve as a clear statement of your aims. The Severe Accident Policy should, if there is any ambiguity, be applied in such a way that it conforms to and supports the safety goals. Coherence in any of the NRC's activities should be sought through the litmus test of relevance to the safety goals.

That cannot be done by leaving every branch and every regulator to assess their actions by carrying out an analysis of the implications, to the point at which the ultimate effect on the health and safety of the public can be determined. These are complex assessments, replete with uncertainties, and it would be absurd for each member of the staff to measure their own activities in terms of the overall objectives of the agency. No large organization functions that way, nor can it. People need to do more narrowly prescribed jobs that nonetheless contribute to the strategy.

In our reports to the Commission, "ACRS Comments on An Implementation Plan for the Safety Goal Policy," dated May 13, 1987, and "Further ACRS Comments on Implementation of the Safety Goal Policy," dated February 16, 1989, we tried to face this problem by suggesting a hierarchical structure for safety goal implementation, in which each level of implementation becomes more precise and prescriptive than the one above it, and therefore easier to apply to real-life situations. However, we cautioned, it is important that one not, in making the statement of each succeeding level more precise, introduce a new level of conservatism that makes it, in effect, a new safety goal. The objective of our recommendation was to achieve coherence by mobilizing the so-called implementation in support of the policy, not as a substitute for it. (We also urged that the policy statement be construed as a policy, and warned against using it too narrowly on individual cases, but that is another subject.)

On top of all that, many of the issues of safety philosophy are not easily amenable to treatment under the Safety Goal Policy--fitness for duty, for example--and those will require guidance in another form.

All of the problems are complex and, as we have said, fall into different categories. Certainly some fall under the management responsibilities of the EDO and we have not yet been able to schedule a meeting with him. Since we hope to do so in the near future, and

since we deem his input to be of importance in some of these areas, we feel it would be premature to make any explicit recommendations to you at this time. After we have met with the Acting EDO, and explored his views, we will be in a better position to provide sound advice to you. What is clear to us from his memorandum to you, Integrated Approach on Regulatory Matters, dated October 18, 1989, is that we have not yet adequately communicated our concern to him. We hope to do so soon.

Sincerely,



Forrest J. Remick
Chairman

References:

1. ACRS report entitled, "ACRS Comments on An Implementation Plan for the Safety Goal Policy," dated May 13, 1987
2. ACRS report entitled, "ACRS Comments on the Integrated Safety Assessment Program," dated July 15, 1987
3. ACRS report entitled, "ACRS Comments on the Need for Greater Coherence Among New Regulatory Policies," dated March 15, 1988
4. ACRS report entitled, "Proposed Rule on Fitness for Duty Program -- ACRS Comments," dated April 12, 1988
5. ACRS report entitled, "Proposed Generic Letter on Individual Plant Examinations and the Proposed Integrated Safety Assessment Program II," dated May 10, 1988
6. ACRS report entitled, "Report on the Integration Plan for Closure of Severe Accident Issues (SECY-88-147), dated July 20, 1988
7. ACRS report entitled, "Mark I Containment Performance Improvement Program," dated January 19, 1989
8. ACRS report entitled, "Further ACRS Comments on Implementation of the Safety Goal Policy," dated February 16, 1989
9. ACRS report entitled, "Proposed Final Rulemaking Related to Maintenance of Nuclear Power Plants," dated April 11, 1989
10. ACRS report entitled, "Integrated Approach on Regulatory Matters," dated April 17, 1989
11. ACRS report entitled, "Proposed Resolution of Generic Issue 128, 'Electrical Power Reliability,'" dated June 14, 1989



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

November 20, 1989

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

You have recently indicated that you have an interest in receiving examples of NRC employees inventing or imposing new requirements that are not part of the legitimately constituted body of regulations.

We share your concern in this area and feel that the attached letter is such an example.

Sincerely,

A handwritten signature in dark ink, appearing to read "Forrest J. Remick", is written over the typed name.

Forrest J. Remick
Chairman

Attachment:
Letter (without enclosures) dated September 11, 1989 to W. F. Conway, Executive Vice President, Nuclear, Arizona Nuclear Power Project, from J. B. Martin, Regional Administrator, NRC, Region V, Subject: Report of Meeting with ANPP Management



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V

1450 MARIA LANE, SUITE 210
WALNUT CREEK, CALIFORNIA 94596

SEP 11 1989

Docket Nos. 50-528, 50-529 and 50-530

Arizona Nuclear Power Project
P. O. Box 52034
Phoenix, Arizona 85072-2034

Attention: W. F. Conway
Executive Vice President, Nuclear

Gentlemen:

SUBJECT: REPORT OF MEETING WITH ANPP MANAGEMENT

This refers to a meeting held with yourself, and members of your staff and myself, and other members of the NRC staff, at the Arizona Public Service Company Offices in Phoenix, Arizona on September 1, 1989. The subjects discussed are summarized in Meeting Report Nos. 50-528/89-42, 50-529/89-42, and 50-530/89-42, enclosed herewith.

During our meeting, I expressed to you my extreme concern regarding the failure of ANPP managers to devote any significant amount of time to the observation of activities in important areas of the plant. My frustration is heightened due to the fact that this issue has been previously raised at past management meetings with your staff. Furthermore, the relatively large number of ANPP managers who are new to Palo Verde would seem to require an increased effort on their part to get out in the plant and learn first hand about the facility and the staff. As I stated to you during the meeting, I consider the failure of the ANPP management team to spend time in the plant to be a major oversight in your efforts to implement positive changes at Palo Verde. I strongly recommend that you act in this area promptly and thoroughly.

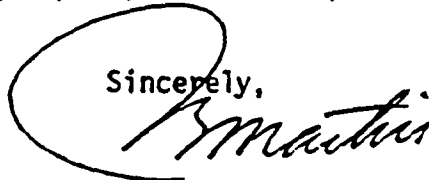
In discussing the Unit 2 Main Feedwater System overpressurization event, and the event wherein an operator at Unit 2 failed to properly flash the main generator field, we identified to you that your staff had not exhibited the appropriate instincts when problems arise. You should continue to reenforce to your staff the basic principles you stated at our June 5 meeting of stopping in the face of uncertainty and reacting conservatively when faced with questionable situations.

Regarding your efforts to review long standing concerns, your actions as outlined in our meeting appear appropriate. We again reiterate the need to perform this review thoroughly, particularly in light of the backlogs of various open issues.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning our minutes of the meeting, documented in the enclosed meeting report, we will be pleased to discuss them with you.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. B. Martin", enclosed within a large, hand-drawn oval.

J. B. Martin
Regional Administrator

Enclosures:

1. Report Nos. 50-528/89-42, 50-529/89-42, 50-530/89-42
2. ANPP Presentation Package

cc w/enclosures:

W. F. Quinn, ANPP
B. E. Ballard, SR., ANPP
T. D. Shriver, ANPP
C. N. Russo, ANPP
D. Canady, ANPP
A. C. Rogers, ANPP
L. Bernabei, GAP
J. R. Brown, ACC
A. C. Gehr, Esq., Snell & Wilmer