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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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TITLE SUBCOMMITTEE ON REGULATORY POLICY AND PROCEDURES

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
SUBCOMMITTEE ON REGULATORY POLICY AND PROCEDURES

- - -

Nuclear Regulatory Commission  
1717 H Street, N.W., Room 1167  
Washington, D.C.  
Tuesday, December 7, 1982

The Subcommittee met, pursuant to notice, at  
8:30 a.m.

PRESENT FOR THE ACPS:

- HAL LEWIS, CHAIRMAN
- MIKE BENDER, Member
- JERRY RAY, Member
- FORREST REMICK, Member

DESIGNATED FEDERAL EMPLOYEE:

MARVIN GASKE

ALSO PRESENT:

- JAMES TOURTELLOTTE
- PAULETTE P. TREMBLAY
- BARTON Z. COWAN
- DON EDWARDS
- HAROLD BELL
- BOB SZALAY
- PAT HIGGINS
- TOM TIPTON
- LINDA HODGE

P R O C E E D I N G S

1  
2 MR. LEWIS: The meeting will now come to  
3 order. This is a meeting of the Advisory Committee on  
4 Reactor Safeguards Subcommittee on Regulatory Policy and  
5 Procedures.

6 I am Hal Lewis, subcommittee chairman. The  
7 other members present today are Mike Bender, Jerry Ray,  
8 and Forrest Remick.

9 The purpose of the meeting will be for the  
10 subcommittee to be briefed by representatives of NRC and  
11 AIF regarding their views on regulatory reform and the  
12 Draft Report of the NRC Regulatory Reform Task Force,  
13 SECY-82-447, dated November 3, 1972. The subcommittee  
14 members will also discuss the regulatory reform among  
15 themselves. We will have presentations by individuals  
16 from the NRC and AIF this morning, and discussions  
17 concerning regulatory reform will be continued in the  
18 afternoon.

19 This meeting is being conducted in accordance  
20 with the provisions of the Federal Advisory Committee  
21 Act and the Government in the Sunshine Act.

22 Marvin Gaske is the Designated Federal  
23 Employee.

24 The rules for participation in today's meeting  
25 have been announced as part of the notice of this

1 meeting previously published in the Federal Register on  
2 October 19, 1982.

3           We will now proceed with a brief discussion  
4 among the ACRS members, followed by a presentation by  
5 Mr. Tourtellotte of NRC at 8:45 a.m.

6           (Whereupon, at 8:35 am., the subcommittee  
7 recessed, to reconvene in executive session.)

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1 (Whereupon, at 8:45 a.m., the subcommittee  
2 reconvened in open session.)

3 MR. LEWIS: We are on the record now.

4 Is Mr. Tourtellette present and willing to  
5 speak to us? Mr. Tourtelotte is chairman of the  
6 Nuclear Regulatory Reform Task Force for the NRC, and he  
7 will tell us what they have been doing, I hope.

8 MR. TOURTELLOTTE: I do not know exactly where  
9 you want to start, but perhaps the beginning would be a  
10 good place. Actually, it started a year ago on November  
11 17th. The task force was appointed by the chairman, and  
12 we were given certain instructions on what we were to  
13 try to accomplish. And we were also given a schedule,  
14 the schedule which has slipped somewhat, mostly because  
15 of the nature of the subject we undertook to change.

16 The chairman also sent out a request to the  
17 employees of the NRC for suggestions on how the overall  
18 process might be improved. We took those employees'  
19 suggestions and also suggestions that were made in the  
20 various reports, post-TMI reports, the Kemeny, the  
21 Rogovin report, and along with a review of the previous  
22 reports that had been made by the Commission through  
23 what has come to be known as the Ernst Report, which was  
24 done in the early '70s, and the Denton Report, which was  
25 done in 1977.

1           We took all of the suggestions that were made  
2 from all of the sources plus some that were developed  
3 from within the task force. And there were about 110  
4 suggestions. We realized, or I realized, that we had  
5 very limited resources, in that I was the only permanent  
6 full-time member of the task force. There were six  
7 other members of the task force whose time I had 20  
8 percent of. We simply could not address all of those  
9 matters in the limited time frame. So we selected what  
10 we thought were key areas.

11           The key areas were: legislation for effecting  
12 changes externally to the Commission and internally  
13 administrative changes along the lines of backfitting  
14 changes to the hearing process revision of the  
15 separation of functions and ex parte rules and  
16 ultimately the advising role of the Staff as a party.

17           As you may recall from earlier meetings we had  
18 on legislation in 1982, we came up with a proposed  
19 Nuclear Standardization Act of 1982. That act sort of  
20 grew out of a comprehensive package which was drafted  
21 initially to cover all of the various facets of  
22 regulatory reform, but it was decided in discussions  
23 among the task force and with the chairman that perhaps  
24 if we went with a standardization legislation approach  
25 that some of the more controversial aspects of the

1 comprehensive package could be left to a separate  
2 package and perhaps we would be able to see the  
3 standardization package through Congress more easily.

4           Consequently, we developed the standardization  
5 Act, put it out for public comment. Public comments  
6 were received, and it became clear that what we should  
7 have done was to have drafted a comprehensive package  
8 because although the general concept of standardization  
9 is not particularly controversial, how you implement  
10 standardization is.

11           Moreover there were considerable number of  
12 comments that indicated that there were other subjects  
13 that were very important to be covered and they were not  
14 covered in the standardization package.

15           So this fall, after reviewing those comments,  
16 we drafted another package, which is in the draft report  
17 of the Regulatory Reform Task Force, which is more  
18 comprehensive package. It includes standardization, but  
19 it also includes other items such as doing away with  
20 mandatory CP review, deleting the requirement for  
21 stating the earliest and latest dates of completion of  
22 the construction. It provides for one-step licensing,  
23 early site review, and approval of standardized designs,  
24 and a provision for the hybrid hearing process.

25           Now, these four areas -- there are four

1 sections, basically that we have here -- grew out of the  
2 meeting that I had with the Commission on October 7,  
3 1982.

4 I presented there a list of, as I recall, some  
5 ten items that I thought we might address in  
6 legislation, and the Commission by discussion with no  
7 formal vote-taking but with at least an indication of  
8 how they felt about it, reduced that number to the four  
9 we see here so that other items which we had in previous  
10 legislation and which might appear in, for instance, the  
11 Department of Energy legislation, such as backfitting,  
12 are not in this package.

13 That is the legislative end of that draft  
14 report of the task force. The administrative side --

15 MR. BENDER: Excuse me, Jim. Just a matter of  
16 getting it on the record. Would you state the four  
17 things that are now proposed in the law, the proposal  
18 which is now being formulated? I don't know whether it  
19 has been sent out or not, but I am not sure I know which  
20 four you said are left in.

21 MR. TOURTELLOTTE: The four are those I just  
22 mentioned a moment ago. And that is: the provisions  
23 for one-step licensing; and combined CP-OL, combined  
24 construction permit and operating license; provisions  
25 for early site review; provisions for standardization of



1 design and for a revision of section 189 of the Atomic  
2 Energy Act to provide for hybrid hearings.

3 MR. BENDER: All right. Thank you.

4 MR. TOURTELLOTTE: Each one of those sections  
5 has a number of things in it, and we could go into that  
6 if you want to. I was going to try to describe the  
7 overall reform package.

8 MR. BENDER: I was just trying to establish  
9 some order.

10 MR. REMICK: A question for clarification.  
11 When you mention the standardized design, as I read it,  
12 it speaks broader. You title it "approval designs." It  
13 is not necessarily standardized design, is it? It  
14 includes standardized, but basically it could be any  
15 design, any near-final design?

16 MR. TOURTELLOTTE: Yes, yes, it could be.  
17 Actually, the application could be made to a custom  
18 plant.

19 I made some revisions to the initial draft I  
20 made. The revisions refer to protection or utilization  
21 facilities rather than nuclear power plants, because  
22 production or utilization facilities has a specific  
23 meaning. It appears in the definition of the act and  
24 therefore has more specific meaning.

25 MR. LEWIS: I think it would be good as we get

1 the overall form of the package you have prepared, to go  
2 into some detail into what the provisions are because  
3 presumably in the end we will have to comment on the  
4 details.

5 MR. TOURTELLOTTE: The administrative portion  
6 of the package has four parts basically. One is the  
7 backfitting proposal. Second is substantial revision to  
8 the hearing process under 10 CFR Part 2. The third is a  
9 revision of the separation of functions ex parte rules.  
10 And fourth is adding new provision for revising the role  
11 of the Staff as a party on backfitting.

12 Initially, we had a backfitting proposal. The  
13 best way to state it is it contained a risk-based  
14 standard. There was considerable objection to that  
15 because it was believed by some that the risk-based  
16 standard in reference to overall plant safety might  
17 imply in some way that it was necessary to have a PRA  
18 capability or a safety goal in place before you could  
19 put that into effect.

20 I personally pointed out to those who would  
21 confront me with it that there are a number of plants  
22 out there today we have to say are operating at an  
23 acceptable level of risk and are operating at an  
24 acceptable level of safety at the time that  
25 determination was made there was no PRA capability,

1 there was no safety goal. One would have to conclude,  
2 therefore, neither a PRA or a safety goal are really  
3 required to determine an acceptable level of risk or an  
4 acceptable level of safety.

5           Nevertheless, I also believe because this was  
6 of such great concern it may be a self-fulfilling  
7 prophecy, and if there was a way to get where we want to  
8 get on backfitting without using a risk-based standard  
9 and without giving the implication that we need a safety  
10 goal, then we ought to do that.

11           So we set about redrafting, redrafting the  
12 backfitting rule in the latter part of August of this  
13 year.

14           MR. LEWIS: I am just a simple professor from  
15 the West Coast. Bt can there be anything but a  
16 risk-based standard for backfitting? Surely, no one  
17 objects to the idea that you must backfit if you have  
18 discovered a substantial risk and you should not if you  
19 haven't discovered a substantial risk. Surely, no one  
20 objects to that general comment. So the entire issue  
21 must be in the implementation, or am I wrong?

22           MR. TOURTELLOTTE: No, I think that is an  
23 accurate assessment. I think what we heard referenced,  
24 what we call the risk-based standard, was that in the  
25 implementation, the only way to implement it was with a

1 PRA or a safety goal. I reject that. I rejected that,  
2 and I still reject it.

3 But nevertheless, what we set out to do was  
4 perhaps spell it out a little better as to what we  
5 expected both in terms of what the definition of  
6 backfitting was, what the standard was, what the burden  
7 of proof was, and what the decision-making factors, the  
8 analysis that should be done in implementing the rule.

9 MR. LEWIS: So you are going to tell us how  
10 one can determine whether there is a substantial risk  
11 without calculating it.

12 MR. TOURTELLOTTE: I don't think so.

13 MR. LEWIS: Okay. Good. Good.

14 MR. TOURTELLOTTE: I am certainly not going to  
15 do that. If someone else tries to --

16 MR. BENDER: Well, there is an issue, and it  
17 seems to me it is the issue, concerned with risk  
18 measurement because that is the basis for judgment  
19 whether it is a numerical number or something else.  
20 There is probably the point that needs to be developed,  
21 and I guess you are going to tell us in the absence of  
22 some numerical value what the measurement basis is.

23 MR. LEWIS: I agree that that is the central  
24 issue. I was being a little witty when I say  
25 "calculated." Are you going to tell us what you decided?

1           MR. TOURTELLOTTE: We have come up with a rule  
2 which I think -- or a set of rules, really. There was  
3 some earlier concern expressed by the ACRS that why  
4 don't we just enforce the rule we have on the books,  
5 50.109? In keeping with that, we have also developed a  
6 policy statement which, in essence, says just that. It  
7 is a policy statement that says to the Staff, 50.109 is  
8 on the books, we think you should enforce it and we  
9 think you should enforce it in this way, roughly  
10 speaking, in the same manner as CRGR reviews, generic  
11 requirements.

12           MR. LEWIS: I may be the only one at the table  
13 who doesn't know what 50.109 says. Is there a  
14 one-sentence summary of it?

15           MR. TOURTELLOTTE: Well, 50.109 has a  
16 provision now that provides that backfitting will only  
17 be required where it provides substantial additional  
18 protection to the public health and safety.

19           MR. LEWIS: Okay. So "substantial" is the key  
20 word.

21           MR. TOURTELLOTTE: Yes. And through the  
22 years, as I understand it, the Staff has simply not  
23 understood what the rule means and they did not know how  
24 to enforce it and they did not enforce it. It has been  
25 on the books for 12 years and, to my mind, has not been

1 used at all. Although I am told by some that there have  
2 been one or two occasions where it has been used, they  
3 nevertheless can't recall any specific instance when it  
4 has.

5           What we tried to do was develop within the  
6 framework of 50.109, but in associated rules, a  
7 framework for being able to define what a backfit is, to  
8 have a standard for requiring a backfitting to establish  
9 a set of analytical tools which are not in any way  
10 totally dispositive. They are simply guidelines on how  
11 to begin analysis.

12           Another important feature is to include  
13 something which clearly demonstrates that the Staff has  
14 the responsibility of demonstrating that its backfit is  
15 necessary rather than have the licensee demonstrate the  
16 negative; that is, that it is not necessary.

17           Those are four essential elements we directed  
18 ourselves toward, and the definition and standard is in  
19 the new 50.109, and the procedural, for the most part,  
20 the procedural rules are in a new section 2.810.

21           Running through those without explanation at  
22 this time, there are six factors that we suggest might  
23 be considered: One is the potential reduction of the  
24 risk to the public of accidental off-site release of  
25 radioactive material;

1 Two, put into impact on radiological exposure  
2 of facility employees;

3 Three, installation and continuing costs  
4 associated with backfit, including the cost of facility  
5 down-time or the cost of construction delay;

6 Four, potential safety impact of changes in  
7 plant or operational complexity, including the effect on  
8 other proposed and existing requirements;

9 Five, the estimated resource burden on the NRC  
10 associated with the proposed backfit and the  
11 availability of such resources; and,

12 Six, the potential impact of differences in  
13 facility type, design, or age on the relevancy and  
14 practicability of the proposed backfit.

15 Another important factor is -- and probably  
16 the most controversial part of the rule changes --  
17 concerned the application of backfitting to rulemaking.

18 The Staff, it is my understanding, has lodged  
19 a complaint that this would make it too difficult for  
20 them because they believe it would require a  
21 plant-by-plant analysis for rulemaking. I keep assuring  
22 them it does not require a plant-by-plant analysis, and  
23 we try to state that in clear terms. But they are  
24 nevertheless concerned about that.

25 MR. BENDER: Before you go on --

1 MR. TOURTELLOTTE: I expect it will be one of  
2 the items that will be a major controversy.

3 MR. BENDER: Before you go on, there is the  
4 matter of practicability which varies from plant to  
5 plant, and there is the matter of cost, which also  
6 varies from plant to plant. Are you suggesting the  
7 decision to apply a rule can be determined after the  
8 rule is in place?

9 MR. TOURTELLOTTE: No, I think probably some  
10 analysis would be done before, but it would be done on a  
11 generic basis.

12 MR. BENDER: Doesn't that require looking at  
13 least at the best and the worst?

14 MR. TOURTELLOTTE: I would say that it  
15 requires something that is akin to a valid value  
16 impact analysis, which is what we are supposed to have  
17 been doing since 1975, but we also have not done that.  
18 You are asking --

19 MR. BENDER: That has to be plant-specific.  
20 You can't do it out of thin air, and you must have some  
21 reference cases to look at, don't you?

22 MR. TOURTELLOTTE: I think you would have to  
23 take into consideration perhaps the top and the bottom.  
24 That might be one of the things you do. I frankly am  
25 not really prepared to discuss how a value impact



1 assessment should be made. That was an area that I  
2 though was very important for us to look into in  
3 regulatory reform. The Staff had somebody else to do  
4 this. We did not do it.

5 MR. BENDER: Your point is an important one.  
6 The reason for pressing it is I, like you, haven't seen  
7 much in the way of value impact analysis that is very  
8 useful. And while I would really agree that if you  
9 could do it and do it generically, you wouldn't have to  
10 do it plant by plant.

11 It looks to me like if we are going to decide  
12 to put this into something that is formal in nature, we  
13 had better have something which shows we can do what is  
14 required. I don't see any initiative in that direction.

15 MR. TOURTELLOTTE: There is one provision in  
16 here, too, that tends to sort of take care of the  
17 problem of plant variabilities, and that is that a  
18 licensee who believes that this should not apply to them  
19 can make a direct application to the EDO and demonstrate  
20 why their plant should not be backfitted, which is, I  
21 think, a good way to handle that.

22 I don't know of any other way to handle it.  
23 Doing a specific plant-by-plant analysis, I think, would  
24 probably be impractical from a regulatory standpoint  
25 unless, of course, they wanted to devote those 114

1 people they say are no longer necessary to doing that.

2 MR. LEWIS: Since we have interrupted you, I  
3 am slightly troubled by another point. And that is that  
4 you had in your list of criteria, of course, costs. And  
5 as Mike said, that is a plant-by-plant thing.

6 But there is also buried in that criterion  
7 some judgment of what is a reasonable cost for a  
8 particular safety backfit. And that then suggests some  
9 judgment on the part of the Staff on the value of safety  
10 and, therefore, on the ancient question of how safe is  
11 safe enough and what is the value of a human life,  
12 things I hope we will not discuss around this table.

13 But it is certainly buried in cost as a  
14 criterion for backfitting is the suggestion that  
15 somewhere deep viscerally the Staff really knows what  
16 the value of a particular safety improvement is in terms  
17 of its impact on the public.

18 I don't quite know how one can implement a  
19 criterion which includes cost as a consideration without  
20 making explicitly or implicitly some judgment about this  
21 whole complex of issue we all talk about but don't  
22 address.

23 MR. TOURTELLOTTE: I think you are speaking  
24 about the merits of the ultimate judgment.

25 MR. LEWIS: Yes.

1           MR. TOURTELLOTTE: I will agree it is  
2 subjective. It is going to be subjective. What we have  
3 done here is simply provide procedures which will assure  
4 that the Staff goes through an analytical process in  
5 arriving at that ultimate judgment.

6           There is no way I know of you can develop a  
7 procedure that will make a judgment as subjective as how  
8 safe is safe enough or how safe does this plant have to  
9 be? I simply don't know right now of a system where you  
10 could force someone into that kind of mode. If you had  
11 that kind of a system, it would almost in my mind  
12 obviate the necessity of having any other procedures  
13 because you would know how to get to the ultimate  
14 answer. But I do agree that it is subjective, and those  
15 things are going to have to be considered as they have  
16 been considered in the past. That is, have they been  
17 considered in arriving at what an acceptable level of  
18 safety is?

19           What we are doing here is simply requiring  
20 that the Staff go through a rational process in arriving  
21 at that kind of a judgment, whereas, before, they have  
22 had no process. They have in many instances, in my  
23 judgment, been reactive rather than analytical.

24           MR. REMICK: Jim, before you leave section  
25 2.810, where you have the six factors that are part of

1 the analysis or make up the analysis, the first one,  
2 which says "Potential reduction of risk to the public in  
3 accidental off-site release of radioactive material," it  
4 seems to me that is still a risk-based backfitting  
5 criteria. Personally, I don't object to it, but it  
6 seems still to be risk-based. Maybe it is not a formal  
7 risk comparison, but still that is the number-one factor.

8 MR. TOURTELLOTTE: Yes. But as I see this,  
9 the way this is worded, it just does not carry the  
10 implication our previous wording had.

11 MR. REMICK: It's softer.

12 MR. TOURTELLOTTE: That a PRA was required.

13 MR. REMICK: Right.

14 MR. TOURTELLOTTE: I think as Dr. Lewis  
15 pointed out, there is no way to get around the fact that  
16 we are going to be dealing with risk.

17 MR. REMICK: I agree with that.

18 MR. TOURTELLOTTE: And in dealing with risk,  
19 we also have to cost it out, and that costing it out is  
20 not just dollars-and-cents cost. We have to somehow put  
21 a value on safety, and it may not be a value that you  
22 measure in dollars, but it's something that subjectively  
23 someone who has the technical expertise and background  
24 can say, this plant is safe enough, the risks are  
25 acceptable, it is as low as reasonably achievable.

1           And I emphasize the word "reasonably" because  
2 of the distinction which I think I have made before  
3 between "as low as reasonably achievable" and "as low as  
4 achievable." In the past we haven't always pursued this  
5 from the standpoint of "as low as reasonably  
6 achievable;" rather, we have pursued it from the  
7 standpoint of "as low as achievable."

8           MR. BENDER: The difference is mainly in the  
9 matter of practicability. When you get down to it, if  
10 you don't put practicability in there, it is just a  
11 matter of technological possibility.

12           We have a rule now in Part 100 which is used  
13 to interpret the potentials for radioactive materials  
14 release, exposure to the public. It is a highly  
15 prescriptive kind of thing. And all of the licenses  
16 conform to it when they are granted, all of the  
17 licensees conform to it when the licenses are granted.  
18 Would that be set aside in this analysis?

19           MR. TOURTELLOTTE: I don't believe so.

20           MR. BENDER: So if I wanted to come in and  
21 say, I meet the prescriptive requirements of Part 100,  
22 leave me alone, could that be challenged?

23           MR. TOURTELLOTTE: It could certainly be  
24 challenged.

25           MR. BENDER: I think you should think about

1 how it should be challenged, if it should be, because it  
2 seems to me there is a certain amount of conflict  
3 there. We grant the license on the basis of Part 100,  
4 which has a well-understood method of computation, and  
5 then we decide we won't conform to what was agreed to.  
6 I would want to go to the Supreme Court to get my  
7 answers, and I don't think you want to go to the Supreme  
8 Court to get your answers. We should think about what  
9 the differences are.

10 MR. TOURTELLOTTE: That is a good point.

11 MR. REMICK: As I understand it, the ALARA  
12 principle is the one that takes you away from staying  
13 with Part 100, isn't it, the fact that Part 100 has  
14 certain requirements but "as low as reasonably  
15 achievable" can cause you to go beyond those. There is  
16 a little inconsistency there, I think.

17 MR. TOURTELLOTTE: That could be.

18 MR. REMICK: It wouldn't be the first  
19 inconsistency, would it?

20 (Laughter.)

21 MR. RAY: Jim, in your statement a moment ago  
22 regarding the degree of analysis the Staff conducted in  
23 review of the arguments of the licensee as to whether or  
24 not they should be required to implement the prescribed  
25 backfit, it was reactive. Surely, that wasn't a

1 10-minute function. They must have reviewed arguments,  
2 presented by the licensee. In your investigation did  
3 you establish what criteria they did use to waive the  
4 argument of the licensee?

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1           MR. TOURTELLOTTE: Let me not get things too  
2 confused. First, I will not suggest every backfit we  
3 ever had was reactive or that every backfit we have ever  
4 had is bad, but I am saying that a good deal of what we  
5 have done in terms of backfit has been reactive and it  
6 has been the product of reactivity that is supported by  
7 economic leverage of the Staff over the licensee rather  
8 than by analysis.

9           They didn't have to explain to a licensee why  
10 they were doing what they were doing. They didn't have  
11 to have a rational basis. They would say, for example:  
12 You are down for reload if you want to start; of course,  
13 you don't have to do what we are asking you to do, you  
14 don't have to put a widget on the framistan, but if you  
15 don't put the widget on the framistan, it will take us a  
16 lot longer to process your application to start up again.

17           With that kind of economic leverage, the  
18 licensee would simply do it.

19           MR. RAY: You have been more polite than I  
20 would be. Let me give you my version of what I think  
21 you said. You said to me that the decision was  
22 arbitrary and that they had the licensee over the barrel  
23 and they were using that pressure to get them to agree  
24 with their arbitrary decisions.

25           MR. TOURTELLOTTE: Yes. As a matter of fact,



1 I can tell you after seven years experience as an  
2 attorney, one of the things that we had, one of the  
3 largest jobs we had was to provide the Staff with a  
4 rational basis for doing what they had already decided  
5 they were going to do, and in my view it is a post hoc  
6 rationalization of a decision. It doesn't necessarily  
7 make it any less arbitrary or capricious within the  
8 meaning of the Administrative Procedures Act.

9 I would hope that requiring some kind of  
10 analysis as a condition precedent to taking action would  
11 eliminate, or if not eliminate, it would at least reduce  
12 substantially the potential for arbitrary and capricious  
13 action on the part of the Staff. Those words are not  
14 well received by the Staff, as you might imagine, but I  
15 think they are accurate.

16 MR. LEWIS: Since we have you interrupted,  
17 there are two things that trouble me. I am a greater  
18 supporter of analysis rather than capricious -- even if  
19 it is not legally capricious, but factually capricious  
20 -- behavior. And indeed, much of the complaining about  
21 NRC that one hears in the outside world has to do with  
22 arbitrariness and all of the words we have been using in  
23 the past conversation.

24 To go to a rational procedure or an analytical  
25 procedure, whether or not you call it PRA and whether or

1 not it includes PRA, really does bring you up against  
2 these other things we agreed not to discuss, that is,  
3 some criteria about the value of safety. Not only has  
4 NRC not begun to address that question until recently in  
5 the discusssion of safety goals -- and as some know, I  
6 have some problem about the criteria used in the  
7 proposed safety goals. I really don't beleive, speaking  
8 personally, that NRC has the capability or the charter  
9 to make decisions on that side of the value impact  
10 balance.

11           So I am concerned that there can never appear  
12 out of NRC any set of criteria for when a backfit is  
13 necessary that are not going to be arbitrary and are not  
14 going to be justified simply by their acceptance in the  
15 political arena outside -- and I am not using  
16 "political" in the pejorative sense -- but in the  
17 political arena outside, that is to say, to make a  
18 pretense of assessing what is sometimes called the value  
19 of a human life is probably worse than just admitting  
20 that you don't have the capability or charter to do it.

21           So I would like to see that side arbitrary. I  
22 guess that is the main point.

23           The second point is that in some cases one  
24 wants to make decisions arbitrarily. I tend to think of  
25 aviation as an example. There is no question that when

1 an engine fell off a DC-10 in Chicago, it was right to  
2 ground the DC-10s. It was right without analysis to  
3 require everyone to inspect the engine mounts on ther  
4 DC-10s without analysis and to not let them fly until  
5 the cracks were found, and then to require everyone to,  
6 in fact, do their engine removal and replacement safely,  
7 without analysis.

8           There are times when analysis is really  
9 inappropriate for a backfitting decision, and I look in  
10 vain for the kind of flexibility that guarantees a good  
11 reputation for NRC and yet the ability to respond  
12 quickly in an emergency and deliberately and  
13 analytically where the emergency is not proximate, and  
14 in a way in which the judgment about whether there is a  
15 proximate danger or not has to be made subjectively on  
16 the basis of staff expertise. That is the way it is  
17 done in an ideal world, and I guess I am a little  
18 troubled I don't see it here.

19           MR. TOURTELLOTTE: In the backfit rule we do  
20 have a provision for emergency situations. Then it is  
21 not required, the ordinary analysis is not required.

22           MR. LEWIS: And the Staff can simply proclaim  
23 an emergency?

24           MR. TOURTELLOTTE: I think so. The Commission.

25           MR. LEWIS: The Commission can proclaim an

1 emergency. Okay.

2 MR. REMICK: The word is "unless the immediate  
3 action on items required by the amendment is needed to  
4 protect the public health and safety." So they don't  
5 have to do the analysis under those circumstances.

6 MR. RAY: Excuse me. Doesn't it also require  
7 that post-accident or post-decision analyses must be  
8 made?

9 MR. TOURTELLOTTE: Yes.

10 MR. RAY: It seemed to me there was something  
11 in one of those packages.

12 MR. LEWIS: It does require that?

13 MR. TOURTELLOTTE: (Nods affirmatively.)

14 MR. RAY: In other words, to make it stick.

15 MR. TOURTELLOTTE: I think what we want to do  
16 is we can make sure that even though we can take the  
17 action necessary, we make sure we look at it afterwards  
18 so that we don't get into a position of declaring an  
19 emergency for every situation and then never having to  
20 look back. I think it's a way of keeping everybody  
21 honest.

22 MR. LEWIS: Good.

23 MR. TOURTELLOTTE: I don't know how much you  
24 are interested in the changes to the hearing process,  
25 but there are approximately 25 changes, and in general

1 terms it is directed toward improving the discipline of  
2 both the participants to the proceeding and the  
3 licensing boards. In some instances we have removed the  
4 discretion of licensing boards to, in effect, force them  
5 to take action where before they have had flexibility,  
6 and it has been perceived that they did not use that  
7 flexibility with prudence.

8           An example of that is we have a provision that  
9 requires that all motions which are unopposed must be  
10 granted. In the past, licensing boards, for instance,  
11 might entertain a motion from a licensee or from the  
12 Staff and that motion is not answered by the other  
13 parties, and yet the board simply ignores the fact that  
14 it was not answered and denies the motion anyway.

15           On motions for summary disposition, this is  
16 particularly important because a motion for summary  
17 disposition supposedly takes the issue, lays out in  
18 writing all of the reasons why that is not an issue, and  
19 if it isn't answered by the other party, it is  
20 supposedly deemed as true. And yet, with such an  
21 analysis and such a statement which is deemed to be  
22 true, licensing boards have nonetheless taken the time  
23 and resources of all the parties to hear the issue. So  
24 that was one of the things that was important.

25           The big parts of this concern, first, the

1 creation of a screening licensing board, and the purpose  
2 of the screening licensing board is to take the  
3 information in with a panel of experts, evaluate the  
4 writings that are submitted, and determine whether there  
5 is a genuine issue of fact in dispute.

6           Some have suggested that there isn't any need  
7 for a separate screening licensing board, that the  
8 current licensing boards can do this and that having a  
9 screening licensing board might, in fact, lengthen the  
10 process rather than shorten the process. I see this as  
11 being a very controversial part of the whole package,  
12 but I also believe it is important to at least suggest  
13 it and see how it fares with the general public.

14           One thing about screening licensing boards,  
15 from my view, is that they don't have any psychological  
16 interest in seeing the proceeding being carried on, and  
17 it seems as though some licensing boards feel as though  
18 they must have a hearing if a hearing is requested,  
19 whether there is merit to the contentions or not. As an  
20 example, one proceeding where they had some 86  
21 contentions, the licensing board threw out all of the  
22 contentions but one, and probably one which didn't have  
23 any particular merit. And the only thing you can  
24 suppose from this is that the licensing boards felt like  
25 they really had to have a hearing, just as some

1 attorneys feel like if someone presents testimony, they  
2 have to cross-examine, when indeed they don't have to  
3 cross-examine.

4           So this is one of the reasons for providing  
5 that screening licensing board technique. Of course, it  
6 might prolong the proceeding if there are issues of fact  
7 in dispute. On the other hand, if the issues are sifted  
8 out at that point, there may not be any hearing. And in  
9 the totality of all of the hearings, it may  
10 substantially reduce rather than lengthen, although you  
11 can't say one way or the other.

12           MR. BENDER: Jim, I don't know I understand  
13 all of the implications of this, but just to clarify in  
14 my own mind, it seems to me that this process we are  
15 talking about where the hearings depend somewhat on  
16 whether the issues are contested or not might introduce  
17 a lot of inconsistency into the hearing process. If in  
18 one part of the country someone raises an issue and  
19 contests a license on the basis of that issue and it  
20 isn't challenged anywhere else, would the regulatory  
21 agency be accused of being too procedural and ignoring  
22 that issue in other places just because no one has  
23 raised it, especially if it turns out to be a very  
24 important matter in terms of the requirements on the  
25 licensee in respect to safety?

1           MR. TOURTELLOTTE: I think if there was an  
2 issue raised out there with some generic applicability,  
3 the Staff would probably pick up on it. However, I  
4 would say the screening board would also assist in this  
5 area because we have a single screening board and it  
6 would be screening all of the contentions, and therefore  
7 there would be a greater consistency in what it is we  
8 would ultimately litigate. That is a more tangible  
9 reason for having a screening licensing board than the  
10 other reason I gave.

11           MR. BENDER: I could conceive of an approach  
12 that would encourage more generic treatment of some of  
13 these issues that have been individually dealt with in  
14 the license hearings. Is that in this proposal?

15           MR. TOURTELLOTTE: Yes. I have a proposal in  
16 there that flags issues which come in in licensing  
17 proceedings that have a generic applicability. Once  
18 they are resolved by the licensing board, it is flagged  
19 and sent out for immediate rulemaking so as to eliminate  
20 it from future proceedings. This obviously has to have  
21 some generic capability. That is very significant, a  
22 very significant point.

23           There is one other area I think is very  
24 significant, and that is it requires that intervenors  
25 plead their evidence to demonstrate a need for the



1 hearing. In other words, they can no longer come in and  
2 say we believe the Staff has not adequately considered  
3 something. What they have to do is they have to say the  
4 Staff has or the licensee has failed to adequately  
5 consider something as demonstrated in his FSAR and cite  
6 it, and if he were to adequately consider it, this would  
7 be the consequences, which are unfavorable to safety,  
8 and we therefore should have a hearing on this. They  
9 have to be very specific and they have to plead evidence  
10 in order to demonstrate the need for a hearing.

11 MR. REMICK: To whom do they plead that, the  
12 screening licensing board?

13 MR. TOURTELLOTTE: Initially to the screening  
14 licensing board.

15 MR. REMICK: You mentioned there would be one  
16 screening licensing board, but I could see with the need  
17 for the oral argument or the pleadings, there will have  
18 to be more than three people. I would think that you  
19 are taking up basically what used to be prehearing  
20 conferences by the screening board, I would assume.

21 MR. TOURTELLOTTE: What we have is a screening  
22 licensing board, and they have the capability of  
23 appointing a special panel of experts, and the special  
24 panel of experts, as I see it, would not be for the  
25 whole case but would be for specific issues.

1           For instance, if you had a seismic issue, the  
2 screening licensing board could appoint a panel of, say,  
3 three experts to look into the allegations that are made  
4 and determine whether there is something here that is a  
5 genuine issue of fact in dispute or whether it is simply  
6 something that perhaps the intervenor does not  
7 adequately understand.

8           If they do not adequately understand it, then  
9 probably the screening licensing board can explain it  
10 away and say there is no genuine issue of fact in  
11 dispute here, what is being challenged is a fundamental  
12 rule of geophysics and we don't believe this is the  
13 proper forum for challenging that.

14           At the same time, there may be another issue  
15 that has to do with, say, structural engineering, and  
16 the screening licensing board could employ the services  
17 of, say, three structural engineers to examine what the  
18 allegations are, and if they are real, they could do  
19 that. So I see the screening licensing board as being a  
20 sort of a master governing board of numerous issues that  
21 appear in different proceedings, and they, for that  
22 matter, would not need to get deeply into the specific  
23 scientific facts but could rely upon the panel and the  
24 report submitted.

25           MR. REMICK: I think one of the strengths of

1 the screening licensing board is to get some consistency  
2 on the type of contentions admitted, but what concerns  
3 me is the fact they will be hearing these pleadings, and  
4 even if they have a panel of experts, they have to  
5 monitor closely what they are doing and they still have  
6 the ultimate decision. It is going to be more than  
7 three people for a screening licensing board. I don't  
8 think they could possibly handle all of that.

9           So you are going to have a subset of the  
10 licensing board panel as a screening board, which then  
11 somewhat defeats the point of consistency. Those people  
12 are going to be overworked because you are really saying  
13 that what is special prehearing conferences and  
14 prehearing conferences basically will be done by one  
15 board, the screening board. They are going to be very,  
16 very busy in different parts of the country, different  
17 plants and so forth. It will have to be more than three  
18 people.

19           MR. TOURTELLOTTE: If the Commission ever gets  
20 around to the point where another application is filed,  
21 I can see that problem arising, but in the current  
22 situation I don't see that as being a big problem.

23           MR. REMICK: I am not so sure about that.

24           MR. TOURTELLOTTE: One other point I would  
25 make. I don't necessarily think it is given that the

1 screening licensing board will have to become that  
2 involved in the detail of those issues.

3 MR. REMICK: To do a good job of deciding and  
4 withstanding appeal, they have got to do a good job.  
5 They will have to be considering facts now.

6 MR. TOURTELLOTTE: Yes and no.

7 MR. REMICK: They will have to write the  
8 decisio on those facts.

9 MR. TOURTELLOTTE: I understand that.

10 MR. REMICK: I don't differ with the approach.  
11 I am just saying it is a big job.

12 MR. TOURTELLOTTE: Right. I do believe that  
13 if the screening licensing board acted more as a  
14 manager, as a managing board than as a group of people  
15 who were conducting their business like line operators,  
16 that they could manage this. Three people could manage  
17 it just as three people can manage the Chase Manhattan  
18 Bank. They don't have to be tellers and they don't have  
19 to see what goes on in every loan department in order to  
20 make the judgments that have to be made to run the Chase  
21 Manhattan. And there is a difference of opinion about  
22 this, but I think that a criticism which is a valid  
23 criticism that is made sometimes of the boards  
24 themselves and sometimes of the Commission is that they  
25 engage in detail beyond that which is necessary to make

1 a well-reasoned decision.

2 MR. REMICK: I can agree with that. When will  
3 someone have a right to appeal the decision of the  
4 screening board on the contentions? Would that be at  
5 the end where the initial decision is rendered at the  
6 hearing?

7 MR. TOURTELLOTTE: It would follow the same  
8 general rules we have for interlocutory review now.  
9 There would be no change in that. If they only come in  
10 with one contention and the one contention is denied,  
11 they would have immediate appeal rights. If they come in  
12 with two contentions, one is denied and the other is  
13 not, then you have to wait until the ultimate  
14 disposition unless there are special circumstances.

15 MR. LEWIS: Could I just interrupt to ask a  
16 question? Not being a lawyer, I am, of course, very  
17 suspicious of the legal format for resolving technical  
18 safety disputes, and I say that to reveal my bias  
19 instantly before I ask the question. But you have  
20 referred several times to whether the effect of these  
21 changes will prolong or shorten the hearings, and  
22 obviously, that is a matter which is of great economic  
23 concern to many people.

24 But presumably the real function of the  
25 hearing is to assure the safety of the plant, and I

1 wonder whether the mass of suggestions you are going to  
2 make -- you have told us about a couple of them -- will  
3 be directed toward the length of the hearing process and  
4 the discipline of the hearing process or to the  
5 relevance of the hearing process to the safety of the  
6 plant.

7           There are those of us who have been worried  
8 about the fact that the hearing process cannot be  
9 intended as essentially the auditing of the Staff  
10 procedures because, after all, the hearing is only  
11 required if an intervenor requests a hearing. So it  
12 isn't for the closure question. I am concerned about  
13 this dual role, the role of allowing public input over a  
14 certain length of time which is arbitrarily decided as  
15 okay, and the role of assuring the safety of the plant,  
16 in which case a statement that all motions unopposed  
17 must be granted gives me the willies because I can  
18 imagine dumb motions which for one reason or another,  
19 lack of understanding, are not opposed by the other  
20 party. The idea that the truth emerges from contention  
21 between two parties is more natural to lawyers than it  
22 is to scientists. I have rambled.

23           MR. TOURTELLOTTE: Let me say that I agree  
24 with your first confession, I guess, if that is what  
25 you call it. I don't believe that the hearing process

1 is a good place to ultimately decide important  
2 scientific and technical issues, but I also believe the  
3 hearing process really is not there to fundamentally  
4 determine if the plant is at an acceptable level of  
5 safety. The NRC review process makes that determination.

6           The only reason you might have a hearing is if  
7 there is something about the application that  
8 demonstrates that the plant will not be safe. And from  
9 the standpoint of the Staff, if we take exception to  
10 something that is in the application, what usually  
11 happens is the licensee buckles under. If they don't,  
12 we go into a confrontational situation with them.

13           From an intervenor's standpoint, though, they  
14 may challenge the licensee because they don't believe  
15 the application reveals that it is going to be a safe  
16 plant. Under the current process with the Staff as a  
17 party to the proceeding, they may also challenge the  
18 Staff's analysis as being inadequate.

19           Now, what we have done here is not directed  
20 toward either making the NRC Staff review better or  
21 worse. It is really kind of irrelevant. What we have  
22 done is we are trying to establish a process that will  
23 improve the quality of the hearing process once it is  
24 decided a hearing has to be conducted.

25           MR. REMICK: And the role of the hearing is to

1 resolve factual disputes. You have two people saying  
2 opposite things about a factual question. Someone has  
3 to resolve it, and that is the purpose, other than the  
4 CP, which is mandatory. The CP hearing is currently  
5 mandatory, in which the licensing board does have some  
6 responsibility to review the Staff Process if it is not  
7 a contested type of thing. But otherwise, the role is  
8 to resolve factual disputes between people. That is the  
9 purpose.

10 MR. TOURTELLOTTE: Yes.

11 MR. REMICK: Better there than in the courts.

12 MR. TOURTELLOTTE: Yes. Even the licensing  
13 boards, according to the Rogovin report, state they  
14 don't believe the hearing process does anything to  
15 enhance public health and safety.

16 MR. REMICK: It may, however. I am sure it  
17 has. But that is not the intent.

18 MR. TOURTELLOTTE: It may. It is very  
19 difficult to put your finger on anything that came up in  
20 a hearing and said this really has advanced because of  
21 safety.

22 MR. REMICK: That is not a biased statement,  
23 is it?

24 [Laughter.]

25 MR. BENDER: I think what the report said is



1 there is no record of anything, and that doesn't  
2 necessarily mean that something didn't happen.

3 MR. TOURTELLOTTE: The same situation we are  
4 in with backfitting. No one kept records to make that  
5 point or weigh against that point.

6 MR. LEWIS: We have asked in other forums,  
7 other open hearings, we have asked people from both the  
8 hearing boards' panel and the appeal boards' panel to  
9 point to any case in which a plant has been made safer  
10 as a result of a hearing, and the answer was always,  
11 "There must be such cases but I can't think of one  
12 off-hand." But then, we have also asked NRC directors of  
13 research to explain where research has improved reactor  
14 safety and got the same answer.

15 MR. REMICK: That's right. And as I said  
16 facetiously at our first meeting, we could probably even  
17 think of ways in which ACRS has improved safety.

18 [Laughter.]

19 MR. LEWIS: Indeed.

20 How much time do you need, Jim?

21 MR. TOURTELLOTTE: As a matter of fact, I have  
22 no more time. I must meet with the Commission at 10:00,  
23 so I must go prepare for that. I am sorry I did not get  
24 through this. There are two other quick items. One is  
25 that we revised the separation of functions ex parte

1 rule, which would perhaps permit the Staff to have  
2 greater communication with the Commission, and that is  
3 very, very controversial.

4           The other point is that we came up with a  
5 rulemaking to revise the role of the Staff as a party,  
6 and it, in effect, removes them as a party unless they  
7 determine in their own discretion they want to be a  
8 party and they make that determination because of some  
9 disagreement they have with the licensee about an  
10 analysis or methodology for a conclusion they have  
11 reached.

12           Obviously, if the Staff were no longer a party  
13 to a proceeding, they could communicate with the  
14 Commission to any extent they saw fit and would not run  
15 afoul of the ex parte rule. We have sort of a legal  
16 enigma or -- "enigma" is not a good word. It is a  
17 contradiction. The Administrative Procedures Act in one  
18 section says that separation of functions rule does not  
19 apply to initial licensing cases, so that the Staff can  
20 communicate fully with the ultimate decision-making body.

21           The ex parte section of the Administrative  
22 Procedures Act says nothing about an exemption for  
23 initial licensing cases, so that the argument is made by  
24 the Office of General Counsel and by the executive legal  
25 director that, okay, you can use the exemption for

1 separation of functions, but once you do, that person  
2 becomes a part of the decision-making body and can no  
3 longer communicate with anyone outside the agency.

4           So what it would mean is anyone who knew  
5 anything about a given licensing case on the line level,  
6 once they had helped the Commission out by bringing them  
7 up to speed, they could no longer communicate with the  
8 licensee about how to process their license. I think it  
9 is absurd, but --

10           MR. LEWIS: I was about to agree with you  
11 before you said that because surely in the best of all  
12 possible worlds, which this is not quite, the  
13 decision-making people would have access to all possible  
14 information on which to base their decision, and there  
15 would be people of courage, discretion and wisdom who  
16 would then make the right decision, and the  
17 self-inflicted wounds which inhibit communication among  
18 knowledgeable people are simply detrimental to reactor  
19 safety, which is our objective.

20           MR. TOURTELLOTTE: Let me tell you, there are  
21 at least two kinds of lawyers, and there are probably  
22 more than that. There is one kind of lawyer who will  
23 spend his whole career telling you why you can't do  
24 things, and there is another set of lawyers who will  
25 tell you how you can. We seem to have been plagued in

1 this Commission with those who tell you why you can't do  
2 anything, so we don't do anything.

3 MR. LEWIS: I once had a dean at my university  
4 whom I loved who was a professor of criminology, and  
5 when I was chairman of my department and went to him  
6 with a problem, he would call to his administrative  
7 assistant to get the rule so we could together find the  
8 loopholes in it. He was a great dean. But I know there  
9 are at least those two kinds of lawyers.

10 Jerry, you opened your mouth a moment ago.

11 MR. RAY: I was only going to make a personal  
12 observation, and it will satisfy my ego if I do it  
13 rather than contribute to the purpose, but I would  
14 strongly suspect that the hearing process has been  
15 exploited or abused by intervenors as a means of  
16 implementing delays in projects. I read into what you  
17 are proposing here an attempt to minimize those  
18 possibilities.

19 MR. TOURTELLOTTE: Yes.

20 MR. RAY: And to really make the hearing  
21 process more constructive, perhaps, from the viewpoint  
22 of promoting safety.

23 MR. TOURTELLOTTE: Yes, I think it would do a  
24 couple of things. One is it would remove, or at least  
25 substantially reduce the possibility that anyone can use

1 the process to effect delay. And the other thing I  
2 think it would do is I think it would improve the  
3 quality of what it is we do litigate so that we would  
4 address ourselves to really important issues and not  
5 some issue that is either a fly-by-night issue or one  
6 that is simply a question.

7           You see, many times the contentions that have  
8 been filed are not assertions of fact, they are simply  
9 questions; and as you know, you can ask a question in  
10 perhaps 15 words and it may take 1500 pages to answer  
11 it, and in the 1500 pages you may not come to a  
12 satisfactory conclusion.

13           MR. REMICK: Don't you have to lay some of the  
14 blame at the Commission's feet and the appeal board  
15 because of a number of decisions where the management  
16 functions of telling the licensing board what was  
17 desired by the agency wasn't there?

18           MR. TOURTELLOTTE: Yes, certainly. And it is  
19 not easy, when you say lay it at the feet of the  
20 Commission, it is not easy to lay it at the feet of any  
21 Commission because it is a tradition that has grown up  
22 in the agency.

23           It started out as a poorly conceived idea of  
24 trying to inform the public through the use of the  
25 hearing process. When there was not a group of people

1 out there who were interested in simply stopping the  
2 process, that perhaps wasn't too bad a deal, although I  
3 think it is still a poorly conceived idea. The hearing  
4 process should not be used for that; it should be used  
5 to resolve disputes.

6 Let me add in closing, I don't for a moment  
7 suggest that we should have no hearings at all. I do  
8 believe that only those people who present responsible  
9 claims should be heard, and in the past there have been  
10 several who have not had responsible claims and we have  
11 had to commit a great deal of resources which might  
12 otherwise have been committed to resolving important  
13 safety issues to the hearing process.

14 MR. REMICK: I have just two quick questions  
15 for Jim.

16 MR. LEWIS: He has got to go.

17 MR. REMICK: The administrative package, is  
18 that devised on the presumption that the legislative  
19 package is not passed? That is the only way I could  
20 read it because when I read it, it must be written as  
21 changing the regulations without the legislative package  
22 in effect. If not, there is a major glitch. Do you  
23 understand my question?

24 MR. TOURTELLOTTE: Well --

25 MR. RAY: Are they independent? That is the

1 question.

2 MR. TOURTELLOTTE: They are independent of  
3 each other.

4 MR. BENDER: But you are saying they overlap.

5 MR. REMICK: No, I'm not saying they overlap.  
6 In other words, as I read the administrative package, it  
7 presumes a mandatory CP, and as I read the legislative,  
8 you propose to change that. So I have to assume that  
9 your administrative package is independent and you are  
10 presuming that would go ahead before the legislative  
11 package would be approved.

12 MR. TOURTELLOTTE: Yes. And if we come around  
13 to the point where the legislation gets through, I think  
14 then is the time. We can't anticipate what will come  
15 out, ultimately, of the compromise that might be reached  
16 in Congress. And indeed, we may not get any legislation  
17 at all. So we must proceed on the basis of what our  
18 statutes are right now for the administrative changes,  
19 try to get those into effect, and if legislation comes  
20 down the pike, we can accommodate it.

21 MR. REMICK: I have some constructive  
22 criticism. I think you have some glitches which are  
23 display writer glitches or something, and  
24 inconsistencies. Maybe your task force has them, but I  
25 would be happy to --

1 MR. TOURTELLOTTE: In the legislation?

2 MR. REMICK: Yes, in the draft bill. Such  
3 things as the confusion between presiding officer and  
4 hearing board. I think you are confusing the issue by  
5 using the words "standardization," "design review," and  
6 there are major glitches. Sections that should follow  
7 one another are out of order. It is obvious that --

8 MR. TOURTELLOTTE: I rewrote that whole thing,  
9 so let me get you an updated copy. I eliminated, for  
10 instance, all reference to the hearing boards and put  
11 the Commission in instead. There are some other changes  
12 that have been made. I am not sure we have circulated  
13 that fully, but I will get copies to the ACRS.

14 MR. LEWIS: Thanks a lot, Jim. We will  
15 obviously be talking some more.

16 Let's take ourselves a ten minute break, and  
17 that means reconvening at a lawyer's 10 o'clock.

18 [Recess.]

19 MR. LEWIS: Shall we reconvene and declare as  
20 an ACRS edict that it is now 10:00. We are willing to  
21 adjust the world.

22 We now have, according to my agenda, the AIF  
23 Lawyers Committee, and if you could identify yourselves,  
24 gentlemen, for the record, we are yours.

25 MR. COWAN: I am Bart Cowan, an attorney with



1 the Pittsburgh, Pennsylvania law firm of Eckert,  
2 Seamons, Chevin and Merllotte. I am Chairman of the AIF  
3 Lawyers Committee, and I am co-Chairman of a Joint  
4 Committee of the Atomic Industrial Forum, the Edison  
5 Electric Institute and the American Energy Council  
6 dealing with regulatory reform matters.

7           On my left is Don Edwards, who is not a  
8 lawyer; rather, he is Director of Operational Projects  
9 for the Yankee Atomic Power Company and Chairman of the  
10 AIF Subcommittee on Backfitting Requirements of the  
11 Forums Committee on Reactor Licensing and Safety. On my  
12 right is Harold Bell, who is the chief nuclear engineer  
13 of the Gaithersburg Division of the Bechtel Power  
14 Commission, and he is Chairman-designate of the AIF Cost  
15 Impact Subcommittee of the Committee on Reactor  
16 Licensing and Safety.

17           Also here with us and sitting immediately  
18 behind me is Bob Szalay, a Vice President of AIF; Pat  
19 Higgins, Reactor Licensing and Safety Projects Manager  
20 of the AIF; Tom Tipton, the Manager of Nuclear  
21 Regulation; and Linda Hodge, Staff counsel for AIF.

22           MR. LEWIS: We are outnumbered.

23           VOICE: That is the way we like it.

24           [Laughter.]

25           MR. COWAN: When the nuclear industry members

1 get together today and the subject is licensing and  
2 regulation, I think it is fair to say that we see a  
3 central theme running through the conversation: that is,  
4 the nuclear regulation process in terms of the hearing  
5 process is just not working properly, it is in  
6 considerable disarray, it is fraught with uncertainty,  
7 it lacks stability, sometimes it even appears to lack  
8 rationality.

9           Therefore, for some considerable period of  
10 time now, we have been urging a basic reform of the  
11 licensing process. Marcus Rowden, the former Chairman of  
12 the Commission, has called the process "a costly  
13 procedural labyrinth." I think that is a fair  
14 description. Sometimes it appears as though lawyers  
15 search for the perfect or almost perfect legal record.  
16 That becomes the paramount aspect of the licensing  
17 process, overriding the search for sound technological  
18 procedures.

19           I think it is viewed that way by the industry,  
20 including, I might say, the Lawyers Committee which I  
21 chair. The process has created delays, and we will talk  
22 a little bit about that later. Some of those delays are  
23 massive. But more important, it has reduced a lot of  
24 the aspects of the hearing process to an exercise in  
25 almost trivia in many areas.

1           The plants that are currently under  
2 construction and the plants that are currently operating  
3 are in some ways threatened by the current licensing  
4 process. There is a need, a real need for a reasonable  
5 assurance that when a plant has been built and  
6 investments have been made in the plant, that the plant  
7 be allowed to go on line and operate and continue to  
8 operate, and that the plant design and operation not be  
9 changed unless the backfits are justified by appropriate  
10 analysis or appropriate standards or unless there is  
11 some immediacy that requires a change in the operation  
12 from a public health and safety standpoint.

13           In addition, I think it is fair to say that in  
14 terms of future orders of plants in this country, that  
15 unless something is done to stabilize the regulatory  
16 process and bring it to some kind of more rational  
17 method, even if the need for power comes back and even  
18 if the financing problems we hear about are resolved or  
19 eased, it is doubtful if that need for power will be  
20 filled by nuclear in an unstable regulatory climate of  
21 the type we have today.

22           Having said that, let me turn then to what our  
23 views are with respect to licensing reform. There are  
24 essentially two paths to licensing reform. The first  
25 are those reforms that can be accomplished by the NRC

1 within the framework of their existing statutory  
2 regulations, and the second are those reforms that could  
3 best be accomplished, although maybe not necessarily  
4 have to be accomplished, by legislative change.

5           Within the ambit of the first area of  
6 regulatory reform, namely, administrative change, there  
7 are two major areas, which Jim Tourtellotte talked with  
8 you about earlier today: first, the area of backfitting,  
9 and second, the area of reform of the hearing process.  
10 I might say that we think that the majority, perhaps as  
11 much as 90 percent of all of the needed regulatory  
12 change, could come about by Commission action without  
13 any legislative action, and that action is in the area  
14 of backfitting and in the area of reform of the hearing  
15 process itself.

16           Let me first talk about backfitting for a  
17 moment. From the standpoint of the operating utilities  
18 and from the standpoint of the utilities who have plants  
19 currently under construction, backfitting is clearly the  
20 single most important issue in licensing reform. The  
21 past seven months have seen the President or the  
22 Chairman of the Atomic Industrial Forum writing to  
23 Chairman Palladino on three different occasions urging  
24 that backfitting reform proposals be singled out for  
25 immediate attention, ahead of all other licensing reform

1 actions. That puts some perspective on how important we  
2 think the backfitting issue is in the overall panoply of  
3 reform.

4           The instructions that the Policy Committee of  
5 the Forum gave to me as Chairman of the Lawyers  
6 Committee has been to put backfitting first and  
7 foremost. There clearly is a perception, we think based  
8 upon reality, that the instability in the regulatory  
9 process and some of the resulting cost escalations are  
10 being driven by the ratchet-like, sometimes,  
11 uncontrolled backfitting process, and that even with the  
12 improvements by the Committee to Review Generic  
13 Requirements, the CRGR, the process needs further doses  
14 of discipline in order to get to where it should be.

15           We agree with Mr. Tourtellotte and his  
16 Regulatory Reform Task Force that there are four  
17 elements involved, or should be involved in any proper  
18 backfitting rule, although we do not agree with all  
19 aspects of the way the Regulatory Reform Task Force  
20 carries out those elements.

21           The four elements we agree on are, first,  
22 there needs to be a standard established in the rule  
23 which is to be applied in order to establish a  
24 backfitting requirement. The second element that we  
25 think is necessary is to have a definition of

1 backfitting. Third, we think there needs to be  
2 provision in the rule for the type of analysis to be  
3 required in order to impose the backfit. And finally,  
4 we think the rule should spell out where the burden is  
5 to be placed with respect to the imposition of a backfit.

6 MR. BENDER: Excuse me. By the term "burden,"  
7 are you talking about the cost?

8 MR. COWAN: I am talking not about the cost  
9 but who has the burden of going forward and saying that  
10 a backfit should be imposed. Should the burden be on  
11 the Staff?

12 MR. BENDER: Burden of proof?

13 MR. COWAN: Burden of proof, if you will, but  
14 not in the technical legal sense of burden of proof.  
15 Should the Staff have that burden if they believe a  
16 backfit is appropriate, or should the Staff suggest a  
17 backfit and then the industry have the burden or the  
18 utility have the burden of establishing why the backfit  
19 should not be imposed; a negative burden, if you will?

20 The Joint Committee of the Forum an EEI and  
21 ANEC that I spoke about earlier was formed earlier this  
22 year to work on this overall licensing reform, including  
23 backfit. Based upon the work of that committee and the  
24 coordination of that committee with another industry  
25 group known by the acronym "NUBARG," which stands for

1 Nuclear Utility Backfitting and Regulatory Group, we  
2 have reached a unified position, which I believe can be  
3 fairly characterized as an industry position, with  
4 respect to the backfitting rule.

5           So let me, if I may, take a moment to briefly  
6 outline what our view is on each of those four  
7 elements. With respect to the standard for backfitting,  
8 we believe that backfitting should be required only  
9 where there will be a substantial enhancement of the  
10 public health and safety as a result of improvement in  
11 overall plant safety, and then only where the benefits  
12 of a proposed backfitting outweigh the costs. It is a  
13 twin test.

14           With respect to the definition of backfitting,  
15 we believe that backfitting should be an  
16 all-encompassing concept which not only includes  
17 modifications to structures and components for a plant  
18 but also changes to the programs, or procedures, if you  
19 will, pursuant to which a facility should be constructed  
20 or operated and changes proposed to the organizations  
21 which are required to construct or operate the facility.

22           In addition, we think that although not all  
23 elements of the analysis would apply to it, there needs  
24 to be in a backfitting rule some recognition that  
25 requirements for significant analysis and engineering

1 work should not be imposed unless they can be justified,  
2 certainly unless they are appropriately reviewed.

3 MR. REMICK: Could I interrupt you for a  
4 moment?

5 MR. COWAN: Sure.

6 MR. REMICK: Is that consistent, what you are  
7 outlining here, with the letter received July 27 by the  
8 Chairman from AIF on a backfit rule draft, or is this  
9 modified?

10 MR. COWAN: This is modified. Our thinking  
11 has evolved from the time in July when that letter went  
12 out. Then, for example, we had not yet reached a common  
13 position with the NUBARG rule and, indeed, had not  
14 reached an entirely common position within our own  
15 group. With respect to what should be required in order  
16 to impose a backfit, we think that there is a need to  
17 have some type of modification analysis or a backfit  
18 analysis. Our criteria would be slightly different than  
19 those in the proposed rule outlined by Jim Tourtellotte  
20 today, but essentially, they cover many of the same  
21 points. We would add a few points and change a little  
22 bit of the terminology on the points he has.

23 MR. BENDER: By modification analysis, do you  
24 mean some kind of a physical interpretation of what  
25 would be required?



1 MR. COWAN: Some kind of an assessment in  
2 writing of a number of factors that we would spell out  
3 in the rule as the task force spells out in their rule  
4 that would have to be looked at on some kind of a  
5 systematic basis in order to have a backfit imposed.

6 And finally, with respect to the burden, we  
7 think the burden for a backfit should be on the  
8 Commission to demonstrate that the backfit is required  
9 before the backfit could be imposed.

10 MR. REMICK: Have you considered the  
11 conversion between the cost and the benefit, how you  
12 make that judgment? I assume you have a factor in  
13 there. You look at the cost and you look at the benefits  
14 from the safety improvement. Have you made any kind of  
15 a judgment on how you make the conversion from what is  
16 the benefit and what is the cost, how you make that  
17 conversion? I am thinking of something equivalent to  
18 dollars per man rem, something like that.

19 MR. COWAN: We have looked at it in general  
20 terms. We do not think it necessarily should go to  
21 dollars per man rem as a method. We are more interested  
22 in making sure that some type of analysis is done than  
23 we are in exactly how that analysis eventually is  
24 spelled out in the burden test. Generally speaking, we  
25 think that backfitting, whether to impose a backfit or

1 not, eventually comes down to a judgmental factor. It  
2 would be easy but it is not possible to plug in numbers  
3 and come up with numbers on each side of the equation.

4 MR. REMICK: But you would like to see the  
5 costs identified and the benefits so someone can then  
6 make a subjective judgment.

7 MR. COWAN: That is right.

8 MR. REMICK: But no direct conversion.

9 MR. COWAN: Not on a direct basis. To the  
10 extent possible, yes, we would like to see numbers  
11 factored in, but we recognize that is not a possibility.

12 MR. REMICK: So it is a NEPA balancing type  
13 approach.

14 MR. COWAN: It is akin to a NEPA balancing  
15 approach, and one of the questions that has been raised  
16 is what authority is there in the Atomic Energy Act to  
17 go to a NEPA balancing approach methodology when safety  
18 is concerned.

19 MR. BENDER: Do you anticipate offering some  
20 exemplary methods or are you, like some of your kin  
21 professionals, going to leave it in very general terms  
22 and figure it out later after the rule or law has been  
23 put in place?

24 MR. COWAN: We do not anticipate that either  
25 the rule or the comments associated with the rule the

1 Commission would put into place would have an exemplary  
2 method. I don't think we have considered whether in the  
3 comments the industry might make on a backfitting rule,  
4 whether we would give some examples of how it might  
5 apply to a specific situation.

6           You are correct, normally we do not do that.

7           MR. BENDER: It seems like the arm wavers are  
8 waiting at the arm wavers.

9           MR. LEWIS: With all three arms?

10          MR. BENDER: All six.

11          MR. COWAN: We have taken a look in terms of  
12 the analysis we would like to see and how that analysis  
13 would have been applicable to certain specific backfits  
14 that have been imposed in the past, how each factor  
15 would have been discussed with respect to each factor,  
16 and that was part of a discussion we had at at least one  
17 of our meetings, to make sure that some of this wasn't  
18 pure arm waving. But where judgment comes in, arm  
19 waving is perhaps another name for applying judgment on  
20 some of these factors.

21          MR. LEWIS: Jerry, you had something.

22          MR. RAY: Yes. On the question Dr. Remick  
23 raised, some means of measuring benefits and costs, have  
24 you completed your considerations in this area or are  
25 you continuing your studies?

1           MR. COWAN: We are still looking at this  
2 because as the Regulatory Reform Task Force comes out  
3 with a new proposal about three weeks ago and as it is  
4 being commented on by the Staff, we are trying to make  
5 sure that (a) we understand what they are doing, and (b)  
6 that we consider what we are proposing in light of what  
7 they are doing. So this is an ongoing process of  
8 consideration. We did not freeze the thing back in July  
9 or at any other given time and say, okay, this is our  
10 position and we are not going to move from it, as we are  
11 trying to on many of these areas keep the flow of  
12 information and thoughts open. Indeed, we hope to do  
13 that all of the way to the time there is a final rule on  
14 backfitting adopted.

15           MR. RAY: I am a little reluctant to make you  
16 backtrack, but I missed the point completely and I would  
17 like to make sure I understand. Back under the  
18 definition of backfitting, you pointed out that  
19 backfitting should include both hardware and  
20 organizational or procedural changes, and you mentioned  
21 something about engineering analysis and I missed  
22 completely the purpose or the scope of what you said.

23           MR. COWAN: Yes, we think that one element of  
24 a backfit rule, although not necessarily an element as  
25 to which this modification analysis or backfit analysis

1 would be applied, has to be that before major  
2 engineering analysis is required, before major  
3 engineering effort is undertaken, there is --

4 MR. RAY: Excuse me. In a design sense?

5 MR. COWAN: In a design sense beyond the time  
6 when the construction permit has been granted; yes, in  
7 the design sense is undertaken. When the Commission  
8 comes down and says, for example, we would like you to  
9 take a look at a particular new idea and analyze what  
10 that will mean for the plant, if that analysis involves  
11 a significant effort, a significant diversion of  
12 manpower and resources, there needs to be recognition in  
13 the backfitting rule of some type of requirement, that  
14 that be thought of in those terms, and we would have a  
15 provision for that type of look, of hard look before  
16 significant engineering analysis would be required.

17 MR. RAY: Are you anticipating a situation  
18 here where the Staff might come to you as a licensee and  
19 say, look, we would like to know if this would improve  
20 you plant; make an engineering analysis of the  
21 possibility? Is that what you are saying?

22 MR. COWAN: That would be one example of it,  
23 but it is beyond that.

24 MR. RAY: This is akin to justifying a  
25 backfit. It seems to me you are being inconsistent

1 there. You have already indicated that the  
2 justification should be the Staff's burden.

3 MR. COWAN: I don't think it is inconsistent.  
4 What we are saying is that if the Staff comes to us and  
5 says we are thinking of this backfit and we would like  
6 to know what it will mean to your plant to do this type  
7 of backfit, before the Staff can require the utility to  
8 expend a lot of effort and time on that analysis, it has  
9 to go through a procedure to determine whether that  
10 analysis is truly justified. And if it cannot meet that  
11 procedural test, the utility should not be required to  
12 spend that kind of time and effort on it.

13 MR. RAY: I am having trouble with your  
14 concepts.

15 MR. COWAN: Let me ask Don Edwards, who has  
16 perhaps a specific example of the type of thing.

17 MR. RAY: That would help.

18 MR. COWAN: I find it easier in the  
19 discussions we have had in our committee to talk in  
20 terms of specific examples rather than the generality.

21 Don.

22 MR. EDWARDS: The Staff is considering a rule  
23 on hydrogen control. As an interim measure, they want  
24 to have all licensees evaluate the survivability of  
25 their equipment to hydrogen burn in containment, but all

1 of the information has not been collected yet as to what  
2 that hydrogen burn really might be. Is it a quick  
3 flash, is it long-term energy deposition on to the  
4 equipment?

5           Before the Staff could come out and say, we  
6 would like everybody to do this analysis now just in  
7 case, that requires a conscious management decision that  
8 yes, we need that information and we need it now and it  
9 is justified to go get it. I think that is the kind of  
10 control asked for here.

11           There is no requirement that the Staff write  
12 this gigantic justification for asking for information,  
13 but it needs a constant management review.

14           MR. BENDER: You are thinking more of  
15 establishing some order to the analysis, to decide what  
16 you need to do, do some more, and eventually to get to  
17 the ultimate task.

18           MR. RAY: It is more than that. It is also  
19 establishing a need for the information.

20           MR. EDWARDS: Establishing the need is the  
21 first thing we are trying to get for --

22           MR. REMICK: Am I correct -- oh, excuse me,  
23 Jerry, I am sorry.

24           MR. RAY: You are putting under the label  
25 "backfit" really engineering queries addressed to this

1 licensee by the Staff.

2 MR. COWAN: Under the broad umbrella of  
3 backfitting.

4 MR. RAY: Yes.

5 MR. COWAN: We would include a revised  
6 provision. Actually it would be a revision.

7 MR. RAY: Let me put it another way. My  
8 interpretation is you are requiring that the Staff  
9 justify its engineering questions in the same sense that  
10 there is a need to require justification of backfits.

11 MR. COWAN: Not in the same sense. We would  
12 require the Staff justify its engineering questions in  
13 our particular draft proposal to the executive director  
14 of operations or his designate; that before the Staff  
15 could require significant tests or significant  
16 engineering analyses, the Staff would have to run that  
17 matter by the executive director of operations or his  
18 designate to get an approval from the EDO; and that the  
19 test the EDO would apply would be to determine whether  
20 what the Staff is asking for is of such safety  
21 significance, and what other things are going on in mind  
22 vis-a-vis the licensees, that resources should be  
23 reallocated to the preparation of that particular report  
24 or analysis. It is not the same type of review we  
25 envisioned for the imposition of a hardware backfit.



1           MR. RAY: But it is a justification and a  
2 requirement, and that is new. And it seems to me it  
3 does not belong under the general categorization of  
4 backfit. I think it is a justifie requirement and  
5 perhaps that has been an abuse by the Staff in the past,  
6 but I think from a policy viewpoint my response is  
7 negative to the extent that it should be included under  
8 backfitting in these changes.

9           MR. COWAN: It may well be it is a regulatory  
10 reform that we have chosen to lump under backfitting  
11 that analytically doesn't quite fit under backfitting.  
12 It certainly does not have the other attributes that we  
13 have in backfitting.

14          MR. RAY: Thank you. I certainly didn't have  
15 this concept in your earlier remarks. It missed me  
16 completely what your purpose was.

17          MR. BENDER: This is more a matter of  
18 administrative control you are suggesting.

19          MR. RAY: Yes, and independently what happens  
20 to this from any reform, from the viewpoint of the  
21 treatment of the package it seems to me that is a  
22 justifiable isolated individual commentary and request  
23 that should be processed.

24          MR. COWAN: That is correct. It is an  
25 administrative management tool for controlling the

1 process. The reason we put it under backfitting is  
2 because, at least most of us thought that analytically  
3 it was a request for the industry to do something that  
4 would involve expenditures of time and money of a  
5 significant amount and that was what the overall  
6 backfitting was getting to.

7 MR. BENDER: I can recall this long harangue  
8 over asymmetric loads which involved a lot of very  
9 expensive analysis to prove that something was really a  
10 negligible concern and maybe some judgment could have  
11 reduced that effort.

12 MR. COWAN: What we are saying is in that  
13 particular situation or situations like that, we would  
14 like to have a management level review by the executive  
15 director for operations or his designate against the  
16 standard of what is the safety significance of that and  
17 what else is going on and the diversion of resources  
18 involved.

19 MR. REMICK: Am I correct that the draft  
20 proposed rule accomplishes that?

21 MR. COWAN: The draft proposed rule that we  
22 submitted to Jim Tourtellotte.

23 MR. REMICK: No, the Tourtellotte proposal.

24 MR. COWAN: The Tourtellotte rule has a  
25 similar provision in it, yes.

1           MR. REMICK: I think it seems to address  
2 this. It is a modification of 5054.

3           MR. COWAN: This is a modification of 5054(f)  
4 rather than 50.109.

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1           We are going to address specifically in a few  
2 moments the backfitting problem from the perspective of  
3 the plants that are operating, and Mr. Edwards is going  
4 to do that; and also the backfitting problems from the  
5 perspective of the plants under design and construction,  
6 and Harold Bell is going to do that.

7           I think it is fair to say that we look upon  
8 backfitting and reform of that rule as the litmus test  
9 for regulatory reform because of the importance that has  
10 been put on the backfitting rule by the various elements  
11 of the industry and because the backfitting rule we see  
12 as needed to further impose some discipline on the  
13 process.

14           Unless backfitting is reformed, we doubt there  
15 can be much meaningful other reform of the hearing  
16 process. And whatever reform there is of the hearing  
17 process would become of a secondary nature.

18           MR. LEWIS: Your premise is -- let me  
19 understand it -- once the plant is licensed and has  
20 therefore been judged not to pose an undue risk to the  
21 public health and safety, that that judgment should  
22 prevail in the absence of a reasonably constrained  
23 procedure for upsetting that judgment; and the  
24 reasonably constrained procedure includes both  
25 administrative controls, a requirement of Staff

1 analysis, you place the burden upon the Staff and that  
2 sort of thing before a backfit is required.

3           Now, presumably, that is regarded as the  
4 primary issue by the industry because the industry has a  
5 jaundiced view of the backfitting requirements that have  
6 been imposed recently by the Staff. If the Staff were  
7 behaving in the way you felt substantially, whatever  
8 that means, augmented the public health and safety at  
9 reasonable cost, whatever that means, you wouldn't be in  
10 here saying those things.

11           Has anyone -- the biggest package recently has  
12 been the TMI Action Plan, including both hardware  
13 backfits, and it included requirements for analysis that  
14 had not been laid down before. Has anybody -- I know  
15 you have commented in detail, AIF has commented in  
16 detail on the action plan. Do you have a snap judgment  
17 of what fraction of the 150-odd, or whatever the number  
18 really is, items in the action plan you would judge as  
19 meeting a reasonable criterion?

20           MR. COWAN: Let me refer that to Bob because I  
21 do not personally have a staff judgment on that. I  
22 don't know that we ever looked at it from quite that  
23 standpoint.

24           MR. SZALAY: We have not evaluated that, Dr.  
25 Lewis, but our position has been from the beginning as

1 the action plan evolved that some of the best results  
2 and information came out very early in looking at the  
3 TMI accident, particularly in the Short Term Lessons  
4 Learned. Subsequent to that, these were added with many  
5 other items and those were eventually culled down to a  
6 smaller subset.

7 But we have not evaluated the total value of  
8 the thing. But we feel overall what has been  
9 implemented to learn the lessons of TMI have improved  
10 overall safety, particularly in the operational sense.  
11 And that is about where we are now.

12 MR. LEWIS: Peace.

13 MR. BENDER: Can I try a different tack on a  
14 similar point?

15 MR. LEWIS: Sure.

16 MR. BENDER: I think the regulatory staff --  
17 Jim Tourtellotte, in particular -- decided not to debate  
18 the matter of the TMI Action Plan because it was  
19 dictated by the Commissioners as such. But you left  
20 open the matter of the fact that there were a lot of  
21 backfits not in the record that were imposed.

22 I had some difficulty finding out explicit  
23 examples that came in this category, and I think it  
24 would help the argument one way or the other if the  
25 industry could point to some real backfit examples that

1 were imposed at low staff levels, if that is the way you  
2 want to look at it, or a level which did not involve a  
3 kind of administrative control which now you are  
4 suggesting would be a very desirable thing.

5 I think giving illustrations would make it  
6 easier for the Commissioners to understand what is being  
7 required if the rule is reinterpreted. I don't see the  
8 need for a new rule. We have always said that, but the  
9 interpretation of it could be such that there could be  
10 more discipline, if that's the term you want to use. I  
11 think some kind of illustration would be helpful to us.

12 MR. COWAN: Perhaps it would be best then,  
13 before I turn to the hearing process reform, which is a  
14 different subject, if we did have John Edwards talk  
15 about that. I think he does have at least some  
16 examples, and I will let Harold Bell talk about  
17 backfitting.

18 MR. LEWIS: You said earlier that there are  
19 three that came up, if I heard you correctly, that there  
20 were three good examples that came up in your  
21 discussion. Did I misunderstand that?

22 MR. COWAN: I don't think I used the number 3,  
23 but I think I said there was a number of examples.

24 MR. LEWIS: And I interpreted that as 3.  
25 There you are, I try to be quantitative in the absence

1 of data.

2 (Laughter.)

3 MR. COWAN: Don, why don't you proceed, and  
4 then we can come back to the hearing process. It might  
5 be a more logical way to proceed.

6 MR. EDWARDS: Let me start backwards, if you  
7 please, and let me try to respond a little bit to your  
8 question. I have a couple of examples, and I had some  
9 things I wanted to say. And to keep from getting too  
10 far out of line, I will incorporate those.

11 I think if we get down the road of looking at  
12 this example and looking at that example and that other  
13 example, we miss one of the key points here, in that you  
14 asked, Dr. Lewis, about this whole set of 50 or  
15 100-and-some-odd changes or whatever. That is the key  
16 to the problem here. Coming in with this bunch of  
17 changes and trying to accommodate those in a system that  
18 already is fairly loaded in dealing with the kinds of  
19 activities that are necessary just to keep a plant  
20 running.

21 MR. LEWIS: We will guarantee not to miss that  
22 point.

23 MR. EDWARDS: Okay.

24 (Laughter.)

25 MR. EDWARDS: Excuse me. I didn't mean to be



1 overly enthusiastic.

2 (Laughter.)

3 MR. LEWIS: You have my personal guarantee.

4 MR. EDWARDS: I have been asked to give a  
5 general perspective from the operating plant view of the  
6 backfitting problem, and I think you could characterize  
7 it pretty much as what I earlier implied. You have a  
8 finite set of resources and you are trying to judge how  
9 best to allocate those to satisfy all of the activities  
10 that need to be accomplished.

11 First of all, how do you select which  
12 activities there are that need to be accomplished so  
13 that you establish a reasonable work load for the  
14 people? Can they continue to function in the best  
15 manner they can and still get meaningful results? And I  
16 think that is what everybody is after when you get down  
17 to the final analysis.

18 But in the past we have gotten to the point  
19 where the regulatory demand, either the latest or the  
20 loudest seems to be the one that gets on the list. And  
21 quite often it is accompanied by a schedule that doesn't  
22 allow the same group of people who have the intimate  
23 knowledge of the facility and how a regulatory  
24 requirement would be incorporated into that facility in  
25 an optimal way to really sit down and look at that

1 requirement and decide with their experience how best to  
2 accomplish that.

3           Instead, it is a matter of how are we going to  
4 get this done now? And that has a disruptive influence  
5 on the whole process of trying to just manage the  
6 facilities. When you start heaping requirements on  
7 conventional maintenance activities, you build the job  
8 of the people who are trying to keep this process under  
9 control sometimes out of proportion to what you are  
10 getting.

11           For example, there are plants in past years  
12 that have had more craft labor and workers on site  
13 modifying the plant than were employed originally to  
14 build it. And at that point you start to say, gee,  
15 maybe there is something that is not quite right here.  
16 And I think the current process of backfitting in the  
17 general sense is to blame because one of the approaches  
18 the Staff has is uniformly applying these requirements.  
19 This list of 50 or 100 or however many ways everybody  
20 does it.

21           Well, maybe everyone shouldn't do it. Maybe  
22 there are some very important ones on the list, but the  
23 set for any particular plant will be different from any  
24 other plant, and maybe the sequence in which they get  
25 accomplished integrated with other activities that are

1 very important.

2           Just for example, equipment replacement:  
3 things begin to wear out, you have to change them; Maybe  
4 you had get a better one this time or a little different  
5 one. We have got to integrate that into the plant  
6 operation. And in doing that, it takes quite a bit of  
7 thought, and you can't go out and hire that thinking,  
8 because it requires an intimate knowledge of the  
9 facility. And there is no way around it.

10           You have to have that knowledge and the  
11 engineering support organization. Yes, you can hire  
12 people to go out and crunch the numbers, but someone  
13 must understand what he is doing to the system. You  
14 have to have it at the maintenance and installation  
15 engineering on site. You have to have it in the  
16 operators.

17           And my earlier point is, as you change things,  
18 the plant changes, and people have to be in a position  
19 to accommodate that change. And it's not just change,  
20 it's rate of change of change that can get them to a  
21 position where they are not really sure about how the  
22 plant operates. Or, I don't say they do that, I am  
23 saying there is a potential there. And that is what I  
24 am trying to address, the potential that doesn't need to  
25 be there.

1           MR. RAY: There is the imposition of the  
2 burden of at least retraining.

3           MR. EDWARDS: Absolutely. No question. A  
4 little later I want to talk about the whole sequence of  
5 installing a change and what that involves. And  
6 retraining is key here.

7           We just had a plant come back out of an  
8 outage, and the retraining manual was an inch and a half  
9 thick, changes we had made on the plant. That is not  
10 procedures; that is system descriptions and diagrams,  
11 piping, wiring, logic, and so forth.

12           The operators have to learn that. They are  
13 also the same guys who have to write the procedures.  
14 They are also the same guys who are taking equipment in  
15 and out of service, lining it up, handling the plant,  
16 some of them working on the refueling floor. They are  
17 going through all of these other activities. And still  
18 you are right, they have to be trained.

19           There is, I guess, a theoretical optimum of  
20 how much someone can learn at every step. But I think  
21 the present process is pressing past that.

22           And at the risk of being redundant, I would  
23 just like to list the characteristics of an improved  
24 process that the operating plants see as necessary, and  
25 I think some have been mentioned before. I will go

1 through them quickly.

2           One was the burden of proof on the Staff. I  
3 think we have a legitimate right to be presented with,  
4 here is something we want you to do now, and here is why  
5 we think it is important. That ought to be done in some  
6 systematic way with some standard kinds of ways of  
7 looking at a proposal so that we can all agree that  
8 these are considerations that have to be made, what the  
9 improvement really is, if it is risk reduction or if it  
10 is plant simplification or if it is improved reliability  
11 of performance of certain kinds of equipment that ought  
12 to be known.

13           What are the impacts and what are the costs?  
14 Exposure of people to do the work, to make the  
15 installation. Financial impacts, direct and indirect.  
16 What other requirements are out there that we have asked  
17 you to do that this conflicts with? And the classic  
18 conflict I think is fire protection, security, and  
19 equipment qualification where there has got to be some  
20 sense of balance. And I think the burden falls on the  
21 regulator to make that balance, not after we get into  
22 all of these requirements falling down on the operating  
23 plants to have to come back and say how do I qualify  
24 this for that area now that I have closed it all up with  
25 dampers and everything else, so that it is a different

1 environment than I started with? Or my operator needs  
2 to get in there but it's locked now because it is a very  
3 vital area.

4           Those kinds of concerns, I think, were never  
5 made before all of these requirements got out, and I  
6 think that's an obligation.

7           MR. LEWIS: Can I ask a legal question? Do  
8 you have in mind a recursive process? That is to say,  
9 obviously you agree you want to place the burden of  
10 proof on the Staff or the burden of demonstration of the  
11 validity of the backfit requirement.

12           I can imagine a situation in which the Staff  
13 does an analysis to justify their position on a backfit,  
14 but heaven forbid makes a mistake in calculation or  
15 data. Do you have in mind a recursive process in which  
16 that will be fixed by mutual interaction, or do you have  
17 in mind what I will nastily call a legalistic procedure  
18 in which this fatal flaw invalidates a backfitting  
19 requirement?

20           MR. EDWARDS: No. That was my third point.  
21 There has to be a management control or appeal built in,  
22 so the information they have about a decision on the  
23 plant can be brought to the Staff and say, look, this  
24 doesn't apply to me and here is why.

25           And if they can't come in and explain why

1 something should apply in a reasonable way, I don't  
2 think they have a defensible case. And I am not looking  
3 at it from the legal sense; I am looking at it that in  
4 the process that is one of the steps gone through, hey,  
5 you go out there, you really feel that you are being  
6 unduly put upon.

7 MR. LEWIS: Don't misunderstand me. I am just  
8 caught in the toils of a legal morasse.

9 MR. COWAN: Let me interrupt you on that. We  
10 don't envision that if the Staff makes a decision to go  
11 forward on backfitting there would be some kind of legal  
12 appeal process that we would go forward on that, in the  
13 sense I think I understand your question.

14 MR. LEWIS: Thank you.

15 MR. BENDER: You are looking to engineering  
16 reasons as opposed to legal reasons, technical  
17 engineering reasoning?

18 MR. EDWARDS: Yes, sir.

19 MR. COWAN: Insofar as the change, however,  
20 would involve an amendment to a license, the present law  
21 requires the opportunity to the utility for a hearing.  
22 So I suppose the utility could avail itself of that  
23 opportunity for hearing. But we are not envisioning  
24 that as part of the backfit reform. That situation  
25 would not change.

1 MR. LEWIS: Thank you.

2 MR. REMICK: The three examples you select --  
3 fire protection, safeguards, equipment qualification --  
4 do you have any feeling if those were Staff-initiated or  
5 Commission-initiated? I think you used those examples  
6 where analysis was not necessarily done.

7 MR. EDWARDS: I said the conflict between them  
8 was not really gone through. I guess it was some of  
9 each. I don't know. It's interesting in fire  
10 protection that a branch technical position was written  
11 that established positions on a number of topics and  
12 established dates, and plants went out and complied, and  
13 then a rule came out and invalidated all of the work  
14 that had been done.

15 The classic example is the oil collection  
16 system for main coolant pumps in lieu of a fixed foam  
17 suppression system which a number of people suggested.

18 MR. REMICK: I could be completely wrong. My  
19 understanding might be incorrect, but when the rule came  
20 out, the Commission made major changes over what the  
21 Staff had proposed and therefore licensees were caught  
22 going ahead with what they thought was going to be the  
23 requirement; and it was changed.

24 MR. EDWARDS: It was more than kind of going  
25 ahead with what you thought was the requirement. There



1 was a great deal of impetus from the Staff to get on  
2 with getting some work done. And let me step back a  
3 minute. You know, right after the Browns Ferry fire, I  
4 know that my company had somebody down there for a week  
5 and we formed a task force and we went at it pretty  
6 vigorously on our plants because here was something we  
7 really hadn't thought through.

8           And it is important and operating utilities  
9 are not saying, well, forevermore I am safe. It is more  
10 a case of I think we would like to play in the game,  
11 too, and you have to slow it down a little bit so we can  
12 play because we can't respond.

13           In a minute I will talk about the cycle we  
14 have to deal with and the time frames which people may  
15 not always accommodate in their thinking about how they  
16 are going to change something.

17           MR. BENDER: I hate to interrupt your  
18 discussion, but it does seem important to remember that  
19 the Browns Ferry fire occurred ,when, something like 10  
20 years ago.

21           MR. LEWIS: '74, wasn't it?

22           MR. COWAN: 1975, I believe.

23           MR. BENDER: And it as only last year that the  
24 Regulatory Commission got to the point of imposing a  
25 rule. And so there is a question of how fast one really

1 gets around to making a judgment. Maybe 8 years or  
2 whatever it is is a short time to some. Those people  
3 who are concerned with the regulatory process say,  
4 that's a pretty extensive period of debate. How do you  
5 respond to that kind of criticism, which I think goes to  
6 the heart of the issue?

7           MR. EDWARDS: I think some of the substance of  
8 the rule is a little bit style, and the rule was finally  
9 compiled from the list of differences that individual  
10 plants had on a topic and a compilation of all of those  
11 where the rules with the Staff saying, all right, now  
12 you have to do every one of these regardless of  
13 differences you claim about your plant, you have to do  
14 all of these.

15           We have decided we have to do it, and  
16 therefore we are going to do it. I think a lot of the  
17 substantive changes for fire protection were made much  
18 earlier than that.

19           MR. BENDER: It is interesting, in some cases  
20 licensees had agreed very early in life to accept some  
21 of the requirements that were still being debated last  
22 year when the rule went forward. And that seemed a  
23 little paradoxical to me even though I am very  
24 sympathetic to the view you have taken.

25           MR. EDWARDS: Well, if you agree you should do

1 something and what the Staff and you have worked out  
2 seems reasonable, then you ought to go ahead and do it.  
3 And I think the complaint I have in the letters people  
4 have filed really is, hey, after you have done this, now  
5 you have changed the requirement, and we don't think  
6 that is fair.

7 MR. BENDER: But there are two kinds of  
8 things. One is the agreed-upon fixes that were then  
9 changed. I think that is legitimate complaint. And  
10 then there is the one where the agreement on the fix  
11 just went on and on and on, and there never was any  
12 concurrence. And I think that is a different kind of  
13 position. And it is the latter one that I think I still  
14 am a little bothered by. People have thought it was  
15 more convenient to argue a long time than to establish  
16 some agreed-upon process.

17 MR. EDWARDS: I am searching in my mind to  
18 pick out a specific of one of those things, and I  
19 cannot. But in general, I think the basis people were  
20 arguing was, this particular item on my particular plant  
21 wasn't as important as you say it is, and I disagree.

22 MR. BENDER: I will pick a silly one. There  
23 was an argument over what the test pressure should be  
24 for the fire hoses. That is just plain arbitrariness.  
25 But it was one that turned out to be a big argument for

1 a long time. And somehow or another, I have wondered is  
2 there any reason on the recipient's side concerning what  
3 is important and what is not important on a rule? How  
4 are you going to get to this?

5 MR. EDWARDS: I am using a lot of time here,  
6 and I want to cover some other things.

7 MR. BENDER: I will back off then.

8 MR. EDWARDS: Perhaps the test pressure for a  
9 fire hose shouldn't be a rule.

10 MR. BENDER: That's one way to look at it. Go  
11 ahead.

12 MR. EDWARDS: All right.

13 MR. COWAN: Let me add a comment. I think the  
14 problem there is a question of how the process is  
15 managed, and no set of words. This backfitting rule or  
16 any other backfitting rule will substitute for good  
17 solid management of the process.

18 MR. LEWIS: That's right.

19 MR. BENDER: I am sorry, I will quit.

20 MR. RAY: I think this is a commentary that  
21 can apply to the whole operation of regulatory  
22 procedures.

23 MR. COWAN: I quite agree.

24 MR. EDWARDS: I don't feel I have answered  
25 you, but I want to go ahead and talk about a few other

1 things.

2 MR. BENDER: Yes, go ahead.

3 MR. EDWARDS: There were a couple of other  
4 elements we felt needed to be incorporated. First of  
5 all, all sources of backfitting have to go through the  
6 process, not just some. So rulemaking and orders and  
7 all of the interpretive kinds of requirements that come  
8 out in letters, bulletins, reg guides, BTPs and standard  
9 review plans and unreviewed safety issues and those kind  
10 of things, NUREGs, all should receive similar treatment.

11 And finally, as we said before, the net  
12 results should be some clear documentation that presents  
13 a defensible conclusion, hopefully in some kind of value  
14 impact or cost benefit space that people can come to  
15 grips with.

16 I think it can be done. It probably is  
17 imperfect, but I would offer the utility group proposal  
18 on ATWS as a kind of model that incorporated the tools  
19 that were available, the knowledge of the expenses of  
20 the modifications by reactor type and some attempt at a  
21 gross estimate at the risk reduction as a consequence of  
22 the modification.

23 It did provide a basis for not only task force  
24 analysis by the NRC Staff. But an independent  
25 consultant came in and evaluated the report and

1 concluded that the proposal was, for the most part, far  
2 more cost-effective than what had been proposed by the  
3 Staff. It ranged from 30 times down to 1.5 times  
4 depending upon the reactor type. There was a draw on  
5 B&P changes.

6 So I think there is a possibility of going in  
7 that direction. And I sensed some questions before, how  
8 do you do this in a generic sense. And I would offer  
9 that may be a start.

10 MR. BENDER: Again, it goes to the level of  
11 effort needed.

12 MR. EDWARDS: Yes, sir.

13 MR. BENDER: ATWS, like the fire protection  
14 rule, has a much longer history.

15 MR. EDWARDS: Yes.

16 (Laughter.)

17 MR. EDWARDS: But when you are getting down  
18 and talking between \$2 million and \$8 million a copy for  
19 modifications to a plant and you are off by 1.5 to 30  
20 times, I think it warrants the attention.

21 MR. BENDER: Oh, I agree. But it is a matter  
22 of how fast one gets to the matter of the hard  
23 analysis. Most of the work that has been done that is  
24 usable has been done in the last 2 or 3 years.

25 MR. EDWARDS: That's right.

1 MR. BENDER: And prior to that time it was  
2 more a matter of, well, there still is some judgment as  
3 to how important it is as a safety issue. And I think  
4 we are going to have to look at the whole thing, not the  
5 last increment. But when you get the decision, how much  
6 effort you are going to apply to reach a decision and  
7 who is going to make the judgment. I think the  
8 Regulatory Commission will always make the judgment.

9 But who provides the evidence is the thing we  
10 are debating here, and how to decide where to impose  
11 that requirement I think has to be thought through. And  
12 I am still unclear that I know your logic, based upon  
13 the illust ration you have provided me because ATWS  
14 really I think the industry just refused to examine  
15 until it finally got to the point where the Commission  
16 was going to impose its own.

17 MR. EDWARDS: I offered it as an example of a  
18 generic kind of cost benefit. And one of the hazards of  
19 going into examples is everyone usually has a lot of  
20 opinions about the example. That was another reason I  
21 didn't want to get into too much detail.

22 Let me jump ahead. I am not satisfying you.  
23 I am sorry, but I am going to use up everybody's time  
24 here.

25 MR. BENDER: Jus' to emphasize a point I would

1 like you to remember, timeliness is the important issue.

2 MR. EDWARDS: Yes.

3 MR. BENDER: It was the issue in the fire  
4 protection rule, and it is the issue in ATWS. Unless  
5 you can find some way to address the matter of how fast  
6 to do the work and to what level of effort you have to  
7 apply, then we won't sort it out at all.

8 MR. EDWARDS: There will always be  
9 disagreements. And I think what I am trying to say is  
10 that I think we can come down to the bases of our  
11 positions a lot faster if there is a process there that  
12 governs in some systematic way and everyone understands  
13 how it works.

14 Let me just say that the existing 50.109 does  
15 not measure up very well with the set of characteristics  
16 I outlined, and the Regulatory Reform Task Force  
17 proposal seems to measure up pretty well. It does  
18 establish a standard for review, and I would think that  
19 the ACRS would be very interested in having that  
20 accomplished.

21 MR. REMICK: Do I interpret that to mean that,  
22 therefore, AIF's position is that they think a change to  
23 50.109 is needed but only just a policy statement?

24 MR. EDWARDS: No. A policy statement won't do  
25 it.



1           MR. COWAN: We don't think a policy statement  
2 will suffice. What the policy statement says basically  
3 is enforce the present rule. We think that the history  
4 has shown that that just does not work and that there is  
5 a need to spell out further what analysis ought to be  
6 made and who has the burden on that analysis and what  
7 the scope of the rule is in terms of backfitting in  
8 order to have the rule.

9           So we favor a change in 50.109 and not merely  
10 a policy statement.

11          MR. REMICK: And you don't propose legislative  
12 change to accomplish that?

13          MR. COWAN: We think the Commission has ample  
14 authority to undertake administrative changes.

15          MR. LEWIS: Bob Szalay is bursting to say  
16 something.

17          MR. SZALAY: One thing in terms of your  
18 schedule. We had hoped to go through the process of how  
19 changes affect operating plants, and we also have a  
20 presentation on plants under construction. And I hope  
21 that we can get to those. And as a matter of fact, that  
22 is the reason why from the beginning we stayed away from  
23 the examples, because of the effect of not being able to  
24 really concentrate on what we see as the most  
25 significant problem, which is the collective impact on

1 both the system of operation and the system of  
2 construction to try and get the process under control  
3 better in that respect.

4           MR. LEWIS: We have roughly till noon, so you  
5 do your own traffic management, okay, instead of my  
6 having to do it.

7           MR. BENDER: If we stop asking questions, that  
8 will be all right, but then we might not understand what  
9 you are saying. We have to have some compromise.

10           MR. EDWARDS: Let me just make two general  
11 points about the process of managing and implementing  
12 changes at operating facilities.

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1           The first is the implementation cycle is about  
2 14 to 16 months for the plant, and it turns on the  
3 availability of equipment in a lot of cases. The  
4 nuclear business uses a lot of special equipment. So  
5 the current tendency in the United States for  
6 manufacturers not to keep very much on the shelf is  
7 exacerbated even further by not wanting to keep this  
8 special low volume type equipment on the shelf. And  
9 what the utility is usually faced with is the need to  
10 write a set of specifications, get out to the vendors  
11 and see how they can adapt what they have in their  
12 catalogues and build it for you and get back to you.  
13 And we are talking all kinds of equipment as time goes  
14 on and on.

15           Just recently we had a plant go through an  
16 outage. We had planned in the September-October 1981  
17 time frame to put in some isolation valves, six  
18 air-operated isolation valves. We went out for bids and  
19 we said we wanted them in the October-November time  
20 frame of this year, and we couldn't get a bid from the  
21 United States. We finally found a vendor qualified in  
22 Canada and did get the equipment in November, and it  
23 constituted a critical path when we finally ended up.

24           The whole point is, one, the cycle is long.  
25 The second point is the cycle is fairly complicated, and

1 it turns, again, on these people I mentioned  
2 beforehand. We start right after an outage identifying  
3 the work that is going to be done for the next outage  
4 and planning how that will be accomplished and what  
5 might be able to be done in the interim, but task  
6 identification, the scope and the concept of interaction  
7 between engineering and operations to get a feasibility  
8 reading out of the operational people, getting a sound  
9 concept, scoping it out in terms of cost and going  
10 through the administrative change of just financing and  
11 funding this activity has to be done so we can then go  
12 out and start long-term procurement.

13           Subsequent to that, detailed design and the  
14 review of that design, and that is a very intricate  
15 process, the engineering expertise on-site with the  
16 operators, the maintenance people, trying to get a  
17 wholistic view of how we are going to implement this  
18 change on the site. The review and approval process is  
19 fairly lengthy. It involves not only people who have  
20 been working on it but their managements and the  
21 operating-engineering chain and the various review  
22 committees that are involved.

23           Then that leads to a release of a design  
24 change, general procurement of not so long leadtime  
25 equipment, materials. Hopefully, someone has thought

1 about spare parts at this point. That is a requirement  
2 of the design change. Then craft labor procurement,  
3 contracting with labor. Special training labor may be  
4 needed to do this particular job. The writing of  
5 installation and test procedures, and verification with  
6 the designer that the testing is going to validate what  
7 he had designed.

8           The conduct of the installation and the test  
9 with appropriate verification along the way.  
10 Development of operating procedures, surveillance  
11 procedures. Post-implementation review of the  
12 installation. Development of your training program.  
13 And again, taking these people out of the work they are  
14 doing during the outage and getting them into this  
15 classroom to train them, making sure the maintenance  
16 procedures have been revised and the surveillance  
17 programs are updated and spare parts and tooling are  
18 updated. Finally, drawing updates and the closeout of  
19 documentation so that the as-built plant is represented  
20 on paper because there is where your engineering work  
21 starts again, on what has been transferred to paper.

22           So this whole process is a very involved one,  
23 and it has been proceduralized as far as we can. I  
24 think I speak in general, and we try to get as competent  
25 people in all the key functions as possible. But what

1 happens if you come in and say we would like you to add  
2 this item or is this other thing? Well, the same people  
3 now have to go back and hopefully they will have an  
4 opportunity to evaluate how this requirement might  
5 impact overall, but if you tie a date to it, all they  
6 can do is figure out how to jam this in with everything  
7 else.

8 MR. BENDER: Let me offer a couple of  
9 observations.

10 MR. EDWARDS: Yes, sir.

11 MR. BENDER: No one could expect the utility  
12 industry to be prepared for the kind of massive  
13 requirements that came out of TMI. I think it is  
14 legitimate to say that the rate of accomplishment in  
15 that case needed time, and people were optimistic as to  
16 how long it would take.

17 At the same time, I think no utility can  
18 afford to operate on the basis that it only starts its  
19 planning process when the regulatory organization comes  
20 in with a new requirement. It has to set up some  
21 provision for continuing operational contingencies,  
22 including regulatory questions, and it would seem to me  
23 that if you are going to make the argument you are  
24 making, you need to show there is some kind of  
25 continuing capability that exists, some incremental

1 skill within the organizations and it is fairly uniform  
2 throughout them that can be used as a basis for the  
3 regulatory staff being able to make a judgment as to how  
4 long it would take to get things accomplished, because  
5 at the moment the situation is always that when a new  
6 requirement comes up, everyone says we don't have any  
7 people on the payroll to work on that. They were  
8 working on something previously and it suggests that  
9 maybe the capability is marginal.

10           Somehow or another, I think you need to --

11           MR. EDWARDS: Go hire more people?

12           MR. BENDER: Well, you need to have enough  
13 people to deal with contingencies that will always  
14 arise. I don't know how large that complement ought to  
15 be, but there have to be some people there, and the way  
16 it is being dealt with right now is you rush in, you  
17 hire an architect engineer who doesn't know the plant,  
18 and then you complain about the fact that it takes him a  
19 long learning period to get there.

20           I don't see that the organizations themselves  
21 are making enough allowance for the fact that these  
22 contingencies will always arise, so that someone can  
23 afford to say, well, even if there is a new problem,  
24 given a certain amount of time, we will sort it out.  
25 And there is some allowance for the peaks that

1 inevitably show up even in non-emergency circumstances.

2 Is there a response to that?

3 MR. EDWARDS: One, I think we have always  
4 demonstrated that somehow we have managed to get it  
5 done. My point is it has been at the expense of wear  
6 and tear on some pretty crucial people, and I don't  
7 think it is necessary. There is an attempt, a  
8 conceptual attempt, at least, to try to deal with a  
9 longer term planning environment called a living  
10 schedule. There is some initial attempts along that  
11 line. I think that will go a long way.

12 There is continually a reassessment of  
13 priorities of tasks, so you have some flexibility in  
14 adjusting assignments. But what that means is you drop  
15 out. You don't just keep adding them in. And there is  
16 going to have to be a recognition that at some point it  
17 is too late to make that change unless it is really very  
18 important. Again, a more reasoned process. You can't  
19 jus hire more people.

20 There is a rate at which you can accommodate,  
21 I believe, and I think it is our corporate philosophy  
22 there is a rate at which you can accommodate new people  
23 and bring them up to your expectations in terms of your  
24 standards of performance and knowledge about your  
25 facility. You cannot always farm out the work. We must



1 to that some, and there is a constant effort to balance.

2 That pretty well concludes my formal remarks.

3 MR. LEWIS: Thank you very much. Do you want  
4 now to press on to plants under construction?

5 MR. COWAN: Harold, do you want to go forward?

6 MR. BELL: Sure.

7 MR. LEWIS: How many plants does Bechtel have  
8 under construction at this point?

9 MR. BELL: (Sighing)

10 (Laughter.)

11 MR. LEWIS: Never mind. I am sorry I asked.

12 MR. BELL: I am trying to understand how to  
13 calculate Diablo Canyon and TMI.

14 [Laughter.]

15 MR. LEWIS: Diablo Canyon is closest to my  
16 home, so count it.

17 MR. BELL: I would like to spend a few minutes  
18 working through the flow of activity through an  
19 engineering and construction schedule for a typical  
20 plant under construction, then to impose a backfit on  
21 that schedule and to discuss how the backfit would  
22 affect that.

23 MR. LEWIS: That would be useful.

24 MR. BELL: I have some handouts you can use to  
25 follow the discussion. I will lay one here and point as

1 I talk. The schedule that I show here demonstrates how  
2 the various activities relate to each other and to a  
3 time scale which runs from, as I show it, minus 2-1/2  
4 years before construction permit to about 8-1/2 years  
5 after construction permit out to the operating license  
6 stage.

7           The major activities are shown on the  
8 left-hand side. For each activity, there are two or  
9 more line activities on the chart. The top line is  
10 associated with engineering and procurement activities,  
11 and the second four lines are associated with activities  
12 in the field. The cumulative percent complete for  
13 engineering and construction is shown just below the  
14 chart. Basically, the engineering effort can be divided  
15 into three phases, as I have shown across, I guess, the  
16 middle of the chart. There is nothing magic about the  
17 demarcation from one phase to another. They will blend  
18 and merge, but basically they occur as I have shown them  
19 here.

20           The first phase is a design and procurement  
21 phase, and during this phase, the design basis for the  
22 plant design is set. The plant design is developed and  
23 equipment is developed through purchase specification  
24 and purchase orders. Some of the activities that go on  
25 during this phase include preparation of site layout.

1 Detailed system designs are developed, piping layouts  
2 are started, and the majority of the specs have been  
3 completed, reviewed and issued for bid by the CP stage.

4 Now, issuing specs at this point requires that  
5 we have established by then the design basis for the  
6 systems, the systems detailed design, the PNIDs and the  
7 operating characteristics of the systems and the major  
8 components.

9 The second phase is called design and  
10 implementation phase and evaluation phase, and during  
11 this phase we are getting out of the design development  
12 stage and starting to evaluate the designs as a whole,  
13 if you will, instead of as a sum of their parts. During  
14 this phase, we are accomplishing evaluations to make  
15 sure we have properly handled the interface requirements  
16 between systems and between the different entities  
17 involved in the plant design, that we have supported the  
18 commitments made in the PSAR and that we are doing  
19 evaluations that will support development of the FSAR.

20 The activities that are high profile during  
21 this period include we are having a lot of interaction  
22 with vendors through vendor drawing review. We are  
23 starting our hazards analysis, which includes things  
24 like two over one, hydrogen line break, flooding,  
25 missiles, seismic evaluations, equipment qualifications,

1 those things that involve evaluating systems effects  
2 upon other systems and the total plant design as a whole.

3           Construction progress. By the middle of the  
4 period, construction progress in the field has pretty  
5 much set the major structural details. The foundation  
6 load capabilities are set and the seismic response  
7 spectra is set by virtue of having poured the  
8 foundations and exterior walls. During the latter parts  
9 of this phase, we fed back the modifications resulting  
10 from the hazards analysis into the plant design and  
11 evaluation, started cable tray routing and the  
12 completion of pouring for interior walls and floors,  
13 along with the installation of equipment has pretty well  
14 set the separation, the fire, the radiation and the  
15 security zones and zone characteristics, and Engineering  
16 is starting to spend a significant portion of its time  
17 in support of activities in the field as opposed to  
18 activities within its own home office.

19           The third phase, which extends out to  
20 operating license, is called field support, as-built  
21 verification. During this phase, the initial design and  
22 evaluation aspects are pretty well complete and most of  
23 the engineering activities revolve around field work,  
24 field activities. We are resolving interferences that  
25 come out of field work and any other field problems that

1 crop up. We are factoring field-initiated changes back  
2 into the design and the design evaluation, and we are  
3 verifying as-built configurations.

4           Activities include, during the first part,  
5 construction is shifting from the bulk installation of  
6 components such as piping and valves into systems  
7 completion mode. Construction openings are being  
8 closed. We are starting to turn over some lead systems  
9 to startup for testing. By year 6 or 7, the main switch  
10 gear has been energized, and the documents that reflect  
11 as-builts have been updated to reflect the as-built  
12 conditions in the field. And by the 8 to 8-1/2 year  
13 points, startup testing has been completed on those  
14 systems required for fuel load and the permanent plant  
15 staff is preparing for fuel load and low power testing.

16           That is generally the flow of information.  
17 What I would like to do now is define a hypothetical  
18 backfit and discuss some of the ways a backfit would fit  
19 into the schedule. The hypothetical backfit I have  
20 defined is one that is, say, an external cleanup loop to  
21 expedite cleanup of the coolant system after an incident  
22 involving fuel damage, for example. This would be a  
23 fairly simple system schematically. It would involve a  
24 pump to circulate the fluid, a filter to remove  
25 particulates, a demineralizer for ion exchange, and a

1 heat exchanger to drop the fuel temperature prior to  
2 entering the demineralizer.

3           The fuel load would be small, the components  
4 would be small, and we could fit the systems components  
5 into a floor area roughly 50 to 75 square feet, and all  
6 those spaces always at a premium this late in the game.  
7 Finding a place to put these components wouldn't be a  
8 big problem associated with implementing the backfit.

9           Looking at the points on the schedule that  
10 would be impacted by working on the backfit, I would  
11 like to circle those points on the schedule as I discuss  
12 them. From an installation aspect in the field,  
13 virtually all the lines on the construction side would  
14 be affected. We would have equipment delivery and  
15 installation for mechanical, for piping and valves, for  
16 instrumentation, and electrical; and for construction,  
17 we wouldn't be involving excavation, rebar  
18 installation or any exterior walls, but we would be  
19 modifying interior walls and floors to provide  
20 foundations for the equipment, floor drills, imbeds for  
21 pipe hangers and that sort of thing.

22           If I could start with the disciplines and work  
23 backwards through the need for information back to the  
24 procurement cycle, I would like to do it that way.  
25 Civil activities would involve adding foundation

1 anchorages and imbeds in the wall for the pipe supports,  
2 whip restraints, hanger supports, et cetera, and also  
3 core drilling through walls and floors to provide  
4 routing space for the pipe and conduit, and that would  
5 affect the civil activities back in the year minus one  
6 and zero.

7           It would also be evaluating the effects of the  
8 core drills and restraints on the walls and floors from  
9 a structural capability standpoint, which would affect  
10 them at about year plus one, and they would be  
11 evaluating the effects of the pressurization resulting  
12 from pipe break from this system on the walls, floors  
13 and doors which would impact them at about year plus  
14 three. And in order to perform these evaluations, they  
15 would need input from the systems people and the  
16 physical design disciplines, such as piping and cable  
17 tray routing. Piping then would need to perform a  
18 stress analysis to identify break locations in the new  
19 line, which would impact it at about year minus one.

20           They would also need to reevaluate the  
21 stresses in the system that this system ties into  
22 because tying in a new system and rearranging stress  
23 intensities and stress distributions in the old system  
24 could very well change break locations in that system.  
25 They would also need to perform restraint design and

1 procurement activities, which would occur at about plus  
2 one on their design cycle.

3           The systems people would be analyzing hazards  
4 effects. Some of the things impacted would be hydrogen  
5 line breaks, whip restraints, equipment qualifications,  
6 two over one. Some of the circuits that supply the new  
7 containment isolation valves would be factored into  
8 Appendix R, Separation. Those types of evaluation. So  
9 that would impact the systems people at about year plus  
10 one. It would also be adding systems to deck these  
11 failures, such as pressure sensors or flooding sensors,  
12 which would impact them at about year minus one.

13           They would be performing shielding evaluations  
14 to evaluate the impact of the new lines on the access  
15 that operators have to the plant after an accident and  
16 how well they are able to move around in the areas that  
17 are now high radiation areas because of the new lines  
18 that have been added. That would occur in about year  
19 zero. They would also be evaluating the heat load  
20 effects on the heating, ventilation and air conditioning  
21 systems, cooling water systems and power distribution  
22 systems. They would typically have to add a sump and a  
23 sump pump in the rooms with this system to handle the  
24 fluid that would leak after a critical crack or pipe  
25 break because the normal floor drains that would be



1 routed to a clean floor drain system wouldn't be  
2 appropriate for handling the radioactive fluid circling  
3 outside containment. That would tie us back in to year  
4 minus one.

5 Cable tray routing, instrumentation logic  
6 design and routing would also affect us at about the  
7 year one-half. There would be additions to the main  
8 control board to handle the containment isolation valves  
9 involved. There would also be tie-ins to the plant  
10 computer in order to get the information needed for the  
11 systems people to perform these types of evaluations.  
12 We would need component data which goes into the  
13 procurement cycle. Data we would need would be things  
14 like weights, dimensions, power requirements, control  
15 logic, operating characteristics, et cetera.

16 What I have done is tabulate the lead times  
17 for the major components in the system, which, in  
18 addition to the pump heat exchange filter and  
19 demineralizer I discussed earlier, would include things  
20 like the sump and sump pump air handling unit for added  
21 HVAC and the containment isolation valves. The lead  
22 times range from a maximum of 84 weeks to a minimum of  
23 40 weeks, and normally the vendor information that we  
24 would need to perform the design evaluation is available  
25 at about the 25 percent point in the procurement cycle,

1 so that says for the long lead item we would get the  
2 vendor information at about week 21, and for the short  
3 lead item, at about week 10.

4 We would also need some bulk material such as  
5 the piping and pipe support material and cable and  
6 instrumentation power cable, relay panels, and the lead  
7 time for those components range from a high of 77 weeks  
8 to a low of about 38.

9 In addition to the discipline-oriented effects  
10 on the schedule, there would be some peripheral effects  
11 on other systems and considerations. One would be a  
12 revision to the plant cooling water systems to  
13 accommodate the heat loads. Another would be adding  
14 power supplies, both safety and nonsafety, for the  
15 nonsafety components, such as the pump for the safety  
16 components, such as containment isolation valves.

17 We would be revising the in-service inspection  
18 program to include these components and also to make  
19 sure that routing these components would not preclude  
20 access to in-service inspection wells and valves we  
21 already had in the program. We would be revising plant  
22 training manuals, startup test procedures for both the  
23 new and the systems the system ties into, and we would  
24 be revising tech specs, which are activities that occur  
25 toward the end of the cycle.

1           We would be adding a system to pump the  
2 radioactive resins from the demineralizer back to a  
3 dewatering and drumming station and also adding a system  
4 to load fresh resins into the demineralizer. We would  
5 also have to add a system or at least lay out a pathway  
6 to get a filter shield to the filter in order to allow  
7 us to shield the depleted filter when we remove it and  
8 take it to the drumming station, and we would have to  
9 resolve the licensing issues probably fairly early in  
10 the effort.

11           And what that shows when you look at it is  
12 that we have really gone back and hit the design process  
13 pretty much in a smeared concept from front to end, and  
14 instead of being able to -- well, your point is well  
15 taken about we need to factor in capability to  
16 accommodate these. We try to anticipate these and lay  
17 out procedures to handle them as best we can, but I  
18 think your comment pertaining to the deluge of backfit  
19 requirements, if you will, after TMI is also well  
20 taken. That is the thing that highlighted the problems  
21 that occurred when we swamped the capabilities we do  
22 have.

23           This backfit shows several points on the  
24 graph. If we tried to at the same time consider several  
25 other backfits that might be going on at the same time,

1 we get some synergistic effects starting to emerge in  
2 which we may be treating the design of a support system  
3 like the diesel generator, power supply system or  
4 cooling water systems at this point in the cycle for one  
5 backfit, this point in the cycle for another backfit,  
6 and back here for another backfit. And in things like  
7 hazards analysis, we are trying to evaluate the effects  
8 of a pipe break on a system which itself may be being  
9 tweaked in several places with backfits. And what we  
10 end up doing is losing the ability to adequately  
11 evaluate the effects of these multitudinous changes at  
12 the same time on the plant design as a whole.

13 MR. BENDER: You point out something which I  
14 think anyone who has been through an engineering process  
15 understands quite well, that the pervasiveness of change  
16 affects everything right along the line. It doesn't  
17 just affect something at the end. One of the things  
18 that has been pressed for very hard in the  
19 standardization concept is that it will reduce the  
20 number of times you have to interject things.

21 I know your organization well enough to know  
22 you are not the leading proponent of standardization.  
23 What is your present view of this tying in of  
24 standardization to the one-stop licensing concept?

25 MR. BELL: I think it would have a lot of

1 benefits. That has been borne out by observing some of  
2 the reactor programs in France, for example, and Japan.  
3 While you are right, from a corporate standpoint we  
4 don't plow a lot of money into standardization because  
5 we don't see a market for it in the timeframe that would  
6 make present standard design still viable. I have  
7 looked at the programs in France, for example, where  
8 they are typically able to get a reactor on line in 6 to  
9 6-1/2 years, and the way they do it is take a site,  
10 decide they are going to put four reactors there, and,  
11 by golly, they cookie cutter them out right down the  
12 line. They don't have any intervention, they don't have  
13 any changes to design from the time they are committed  
14 on paper, and they are able to live with that concept.

15 MR. LEWIS: They get rocket attacks  
16 occasionally.

17 MR. BELL: That's right.

18 MR. EDWARDS: What is a rocket attack?

19 MR. BELL: Let's see, that's your 2-1/2.

20 [Laughter.]

21 But I do agree standardization will help a  
22 lot. It will provide -- one thing it will do, very  
23 obviously, is provide feedback to plants earlier in the  
24 system of the exact impact of changes coming down the  
25 line.

1           MR. BENDER: Some of the higher level people  
2 in the Nuclear Regulatory Commission suggest that the  
3 standardization effort ought to be led by the nuclear  
4 steam supply vendors. Do you share that? Is that a  
5 view of the AIF?

6           MR. COWAN: I don't know if the AIF has a  
7 unified view on that since we represent a lot of  
8 different views.

9           MR. BENDER: Given that you don't have a view,  
10 how would you go about getting one?

11          MR. SZALAY: We are in favor. We have  
12 submitted --

13          MR. LEWIS: Go ahead. Bob.

14          MR. SZALAY: We have submitted comments on the  
15 NRC Task Force proposal on legislation, and I don't have  
16 a copy with me, but it pretty much states AIF's position  
17 and EEI and ANEC's position, basically an industry  
18 position. There are several things we are looking for.  
19 One is stage licensing, the ability to have standard  
20 designs but not just whole plant designs but standard  
21 designs that can be submitted by both the vendor and an  
22 AE.

23                 So I would say our position right now is to  
24 have flexibility in the use of standardization. And  
25 whether it is led by a vendor, an AE or a utility, the

1 system should accommodate this.

2 MR. BENDER: How is that different from what  
3 exists now?

4 MR. SZALAY: What exists now, we do not have  
5 the capability or at least the confidence that we have  
6 the capability to go through a process in one stage such  
7 that, having committed all of the resources to get to  
8 the final design, we have confidence that that final  
9 design, with all the investment going into it, will be  
10 able to be built in a way that gives us the benefit of  
11 that investment. And we need some assurance in terms of  
12 the ability that the NRC can follow through with this  
13 final design so we can build it as designed and build it  
14 in seven or eight years instead of 10, 12 or 14.

15 MR. BENDER: There is a view I have heard  
16 expressed that the level of detail that some people  
17 would like to have in order to accept this one-stop  
18 basis is a great deal more extensive than some people  
19 believe is practical. What is the right answer? Can  
20 you get enough detail?

21 MR. SZALAY: We have a specific subcommittee  
22 on standardization that is right now working on  
23 developing a proposal for a format and content guide  
24 that should go into such an approval process. Very  
25 briefly, the level of detail does fall somewhere between

1 what is needed in a PSAR and what is needed in an FSAR,  
2 and depending upon the system and depending upon whether  
3 it is a vendor and AE system, that level of detail  
4 moderates.

5           The percentage of design completion that we  
6 hear is in the vicinity of 50 to 60 percent design  
7 completion. I think a very important part that you  
8 should get out of the chart, though, as you look at it,  
9 even though this chart, by the way, represents a plant  
10 that was started in the '72-73 time frame going forward  
11 right now, the percentage in design completion there is  
12 about 35 percent design complete. People are saying for  
13 a one-stage process we would like to get in the 50 and  
14 60 percent vicinity, but percentage of design is very  
15 misleading in terms of its interpretation.

16           If you will notice, basically all of the  
17 specification and all of the bases and all of the design  
18 criteria are established or the groundrules for the  
19 design are established by the point in time where you  
20 get your construction permit, and in this particular  
21 case some of them even overlap into the first year or  
22 two of construction but with a greater percentage design  
23 complete.

24           I think we will be in a position to supply  
25 enough information to establish all of the groundrules



1 so we can go forward and build these plants with  
2 confidence if they are going to be built as we say they  
3 are going to be built. We think it is doable.

4 MR. COWAN: The Nuclear Standardization Act of  
5 1982 as originally proposed by the Regulatory Reform  
6 Task Force talked in its section-by-section analysis of  
7 a requirement for an essentially complete final design  
8 in order to have the benefits of standardization and  
9 one-stop licensing and so forth. We took the position  
10 in our comments to the Commission when they were invited  
11 that the standard which calls for an essentially  
12 complete final design was more than either was necessary  
13 or, indeed, practical in terms of going forward with  
14 standardization, and if that was the test, we didn't see  
15 how the purposes of the proposed act if it were passed  
16 into law would ever be carried out.

17 MR. BENDER: Is this definition you are trying  
18 to get of what should be available involving a dialogue  
19 with the regulatory organizations?

20 MR. SZALAY: We have some preliminary  
21 contact. Pat?

22 MR. HIGGINS: I think we can answer that. We  
23 have not had any kind of extensive dialogue with them  
24 yet but we intend to do that. Our schedule called for  
25 the development of this level of detail sometime within

1 the next few months, and we intend to issue --

2 MR. BENDER: Do you think it would be wise to  
3 have that dialogue before Congress had to act on  
4 incorporating something into this one-stop licensing?

5 MR. SZALAY: The Congress shouldn't be  
6 involved in the level of detail that goes into an  
7 application, certainly, and I don't think you are  
8 proposing that.

9 MR. BENDER: No, but I am suggesting knowing  
10 you have an agreement with the Staff might be of some  
11 value.

12 MR. COWAN: We have had some dialogue with the  
13 Staff in terms of not precisely what the level of detail  
14 ought to be but in terms of it should not be what is  
15 required in an FSAR, for example, or anything close to  
16 what is required in an FSAR. We have had that dialogue  
17 both at the technical level and the legal level.

18 MR. BENDER: Let me throw one more in. I  
19 think the approach you are using is one I would use and  
20 I certainly would favor it, but there is a viewpoint  
21 that says there is too much emphasis on one-stop  
22 licensing as being all right because that fixes the  
23 design and there is not enough emphasis on the  
24 capabilities of the operating organization, which is the  
25 thing being focused on when the operating license is

1 granted.

2 I haven't heard very much in the dialogue here  
3 this morning, either from the regulatory staff or you  
4 people, as to what commitments the operating  
5 organization makes at the time it is granted a one-stop  
6 license and how you perceive that part of it should be  
7 addressed. I think really somewhere along the way that  
8 should be presented. In fact, I have never been  
9 uncomfortable with the design but I have been somewhat  
10 surprised of late at how ill prepared some of the  
11 operating organizations are to absorb their  
12 responsibilities when the time came to press the  
13 buttons. I think the public is becoming aware of this  
14 and I think you ought to have some position on it.

15 MR. HIGGINS: I suspect all of that will be  
16 covered during our discussions with the Staff as we work  
17 out this level of detail, and this, as I said, will take  
18 place within the next few months. So I am sure it will  
19 occur before Congress takes any action on any  
20 legislation.

21 MR. COWAN: If I understand our time frames,  
22 we have about 20 minutes left, and perhaps it would be  
23 appropriate to go away from backfitting -- I am sure we  
24 could spend considerable more time in the backfitting  
25 area -- and turn to the other aspects.

1           MR. LEWIS: Well, you should do your own  
2 traffic management.

3           MR. COWAN: All right. The other aspect of  
4 administrative licensing reform is the hearing process.  
5 We think that the hearing process has failed to function  
6 properly and has been failing to function properly for  
7 quite some time. Last year in November Marcus Rowden  
8 wrote a paper published by the AIF entitled "Achieving a  
9 More Effective Licensing Process: Basic Reform Within  
10 Existing Law," in which he suggested some of the  
11 consequences of the failure of the hearing process.

12           He suggested in there, and we agree, that some  
13 of the consequences have been unnecessary delays, some  
14 direct costs and some hidden costs, such as diversion of  
15 technical resources of the Commission and of the  
16 applicants from other needed safety activities, and that  
17 there has been a preoccupation with procedure. One of  
18 the things that needs to be done, we think, with the  
19 hearing process is to delegalize it, to have less  
20 legality in the hearing process. I don't mean less due  
21 process by that. I am not suggesting less due process  
22 but less a formalistic lawyers approach to the problems.

23           In addition, one of the consequences has been  
24 to place the regulatory staff in an advocate's position,  
25 and we think that has undermined public confidence in

1 the objectivity of the agency as a whole and it has  
2 isolated the Commissioners from the technical staff,  
3 which, after all, is the main repository of safety  
4 knowledge in the Commission.

5           Hearing reform for us falls within six major  
6 areas that we think are important, but before I go  
7 through those areas, let me say something very briefly  
8 about the philosophy we see behind the hearing process.  
9 There are three or four fundamental premises involved in  
10 that philosophy. First of all, we think licensing  
11 hearings should have as their sole legitimate function  
12 the resolution of disputes put into issue by the  
13 parties. We think that is the only function legitimate  
14 for the hearing process. We think it is improper to  
15 view the process as another layer of technical review.  
16 We think it is misleading to review it as another layer  
17 of technical review. We even call it a cruel hoax to  
18 call it a layer of technical review.

19           There are other mechanisms available to  
20 consider questions that might linger in the minds of the  
21 hearing board or the appeal board, but the hearing  
22 process itself we think should be limited to resolving  
23 issues properly placed in dispute.

24           Secondly, we think that with respect to the  
25 resolution of those disputes, the purpose of the hearing

1 should be to decide the disputes in an expeditious  
2 manner, with the goal of enhancing the safety of the  
3 nuclear plant, as opposed, perhaps, to the goal of  
4 creating a perfect record, for example.

5           Third, we think the time has come to recognize  
6 in the hearing process that it is the Commission that  
7 represents the public interest and not the participants  
8 in the hearing process, neither the intervenors, who are  
9 sometimes called "public interest groups," or the  
10 applicants.

11           And fourth, as I mentioned earlier, we think  
12 to the maximum extent possible the licensing process  
13 should be made less legalistic within the confines of the  
14 requirements of the statute and the requirements of due  
15 process.

16           Now, with those sort of philosophical points  
17 in mind, we have looked at and reviewed six areas for  
18 revision of the hearing process. Let me tick those off  
19 and then I will come back to them. First, the hearing  
20 format; second, the role of the Staff in the hearing  
21 process; third, the threshold for contention  
22 admissibility in the hearing process, how contentions  
23 get in; fourth, the so-called sua sponte rule; fifth,  
24 what the lawyers would refer to as the application of  
25 res judicata to the process; and sixth, reform in the

1 area of the ex parte rule and separation of functions.

2           Some of these overlap, of course, but those  
3 are the six areas we have looked at in terms of revising  
4 the hearing process. There are a number of other points  
5 we would revise in the process, but they more or less go  
6 along with these or constitute technical changes to the  
7 process.

8           Let me start out with the hearing format. We  
9 do not have and I cannot represent we have unanimity  
10 even among the lawyers with respect to how the hearing  
11 format should be changed, but I think it is fair to say  
12 that the majority of us feel that adjudicatory hearings  
13 are not the best methods of arriving at sound technical  
14 decisions; that certainly full adjudicatory hearings all  
15 of the way through the process are not the best method  
16 of arriving at sound technical decisions.

17           Accordingly, at least the majority of our  
18 committee now supports the concept of a hybrid hearing  
19 format, which is similar to but not exactly the same  
20 format that is suggested by the Regulatory Reform Task  
21 Force. Such a format, we think, would combine elements  
22 of a legislative hearing with an opportunity for  
23 adjudicatory hearings.

24           As we view it, the format could be adopted  
25 such that in the initial stages, any person would be

1 entitled to submit in writing to a hearing board any  
2 information or any challenge it had with respect to the  
3 license application and perhaps would be permitted to  
4 make oral statements to the board. We would not view  
5 any cross-examination as being allowed at this first  
6 stage, but the licensing board would be able to question  
7 any person who made such a written submission.

8           There could be some other procedural add-ons,  
9 perhaps. There should be, for example, authority to  
10 allow people to suggest to the licensing board what  
11 questions they would like to see the board ask. If  
12 someone participates in the legislative phase of the  
13 hearing, as we view it, an opportunity would then be  
14 allowed for that person to request adjudication if there  
15 is a genuine and substantial issue of fact, and we would  
16 have the procedures contain a provision for a high  
17 threshold in order to obtain adjudication, including the  
18 demonstration that the resolution of those outstanding  
19 issues would be substantially assisted by adjudication.

20           MR. BENDER: Excuse me. Just as a matter of  
21 clarification, the hearings now cover both safety and  
22 the broader NEPA requirements.

23           MR. COWAN: That's right.

24           MR. BENDER: Are you thinking of these kind of  
25 requirements for both?



1           MR. COWAN: We are thinking of these kind of  
2 requirements for both.

3           Under the law, the procedures that an agency  
4 puts into place for its own organic statutory  
5 implementation are the procedures it is to adopt for  
6 NEPA, so if these are appropriate to safety, they would  
7 be fully applicable in the environmental sphere. We  
8 have not resolved but there has been some suggestion  
9 that decisions on whether to permit adjudication and  
10 what those issues are ought to be handled either by the  
11 Commission itself or by a single board. In other words,  
12 we think and I think, our entire committee thinks that  
13 the complex technical issues might first be better  
14 analyzed in a non-adjudicatory context with limited  
15 adjudicatory rights, and we have looked at what is done  
16 in other countries and we find, at least in the western  
17 world, with the limited exception of some procedures in  
18 Germany, we are the only country in the world where  
19 adjudicatory procedures are used to decide whether or  
20 not to license nuclear plants. We perceive that we  
21 don't have all the wisdom in the world, and we think  
22 that a process involving a non-adjudicatory component  
23 where we think most of the issues would be handled would  
24 make more sense.

25           Let me turn next to the Staff's role in the

1 hearing process. We are in favor of substantially  
2 altering the Staff's role in the hearing process. We  
3 are in favor of removing the Staff entirely as a party  
4 to all NRC regulatory proceedings for the granting,  
5 amending or taking of actions other than suspension or  
6 revocation actions with respect to any license or  
7 construction permit or application to transfer a license.

8 MR. BENDER: Does that mean no Staff testimony  
9 at hearings?

10 MR. COWAN: It does not. It means the Staff is  
11 not a party to the proceeding. We would redefine the  
12 role of the Staff in connection with the hearing process  
13 to provide for input from the Staff as appropriate in  
14 order to make sure that there is an adequate hearing  
15 record or to assist the licensing boards in connection  
16 with their consideration of matters. But the Staff would  
17 provide testimony, as we view it, only in two  
18 circumstances: one, where it believed that it was  
19 necessary to provide testimony to take a position on  
20 something that was being presented by the applicant or  
21 by an intervenor and it was concerned about the way the  
22 record might develop.

23 We would not want the Staff to feel that an  
24 applicant and intervenor could get together, decide on  
25 trade-offs of how certain things should be handled, and

1 present that to a licensing board without the Staff  
2 having the opportunity to come in and provide  
3 testimony. So on its own initiative in selected cases  
4 it could provide testimony. In addition, if the  
5 licensing board so requested, we think there ought to be  
6 an opportunity for the Staff provide testimony through  
7 the licensing board's request if the licensing board  
8 believed there would be a useful function served by such  
9 testimony, and again, we would envision that not to be  
10 used very often.

11 In the area of NEPA, there would be some need  
12 for the Staff to provide testimony at least with respect  
13 to the Staff's environmental impact statement. That  
14 would be an area we would have to have in order to  
15 comply with the requirements that it is the agency's  
16 environmental assessments that are important and not the  
17 assessments of the applicant.

18 MR. LEWIS: For the safety issues, you were  
19 thinking more in a friend of the court role than as a  
20 party.

21 MR. COWAN: Precisely. The Staff would be, if  
22 you will, a source that the licensing boards could call  
23 upon if they felt that that was appropriate, and some of  
24 the suggestions have gone so far as to suggest the  
25 interplay of how that resource would be triggered, how

1 use of that resource would be triggered.

2 MR. REMICK: Couldn't both of those lead to  
3 delay, whether the licensing board requested it or the  
4 Staff thought it necessary, because you might not know  
5 that until you had the testimony of intervenors and  
6 applicants, and at that point either the licensing board  
7 or the Staff feels, gee, we have got to get something  
8 more into the record. That means the Staff has to go  
9 back and prepare that. And I assume it would give the  
10 parties an opportunity to rebut that.

11 MR. COWAN: There is a potential for delay in  
12 that regard, but our experience has been frequently the  
13 thing that is the pacing item on getting into the  
14 hearings themselves is the unavailability of Staff  
15 documents or Staff positions.

16 MR. REMICK: In recent years that is true.

17 MR. COWAN: And we don't see that this would  
18 lead to any substantial additional delays over that. In  
19 addition, as we would envision it, the Staff would be  
20 monitoring what is going on in the hearings. It  
21 wouldn't, because it is not a party in the hearing  
22 process, stay away until someone picked up the phone and  
23 said, say, we want you to come down here. They would be  
24 monitoring the situation.

25 MR. REMICK: Well, it wouldn't be the case --

1 well, they might know ahead if they differed with the  
2 applicant from the start. They would know that they  
3 probably should. But in the case where someone comes in  
4 and the applicant gives, let's say, incorrect evidence  
5 and the licensing board does or does not know it is  
6 incorrect, the Staff might feel at that point we better  
7 correct the record, the licensing board may make the  
8 wrong decision. It seems to me at that point it could  
9 lead to delay.

10 MR. COWAN: That's right, there is a potential  
11 for delay, but we have looked at that against the  
12 current potential and we come up with the view that that  
13 is not a sufficiently strong reason to maintain the  
14 Staff as a party because we see some real advantages if  
15 the Staff is not a party in the proceeding.

16 Dr. Bender?

17 MR. BENDER: How do you perceive the SER being  
18 used in this arrangement? The Staff writes an SER which  
19 represents its collective view of the acceptability of a  
20 plant. Would that just be a piece of evidence laid out  
21 for the hearing board?

22 MR. COWAN: As we see it, that would be a  
23 document automatically placed before the hearing board  
24 under certain modifications of the rules that that would  
25 be required, and that would just be another piece of

1 evidence there. It should be up to the applicant,  
2 especially in the safety area, to carry the burden that  
3 the plant is in fact safely designed or will operate  
4 safely if it is constructed the way it is supposed to  
5 be. So the applicant's burden, as indeed it is now, is  
6 to carry the safety showing.

7 MR. BENDER: Let me just get the point clear  
8 in my mind. If the intervenor chose to challenge the  
9 statements in the SER, who defends the SER? Does the  
10 applicant defend it or does the Staff come in and  
11 reinforce its judgments?

12 MR. COWAN: It could be either but it would  
13 not be necessary for the Staff to come in and defend the  
14 statements. What should be at issue in the proceeding  
15 should be the technical underlying issue, not the  
16 adequacy of the Staff review as reflected in the SER.

17 MR. BENDER: Well, Staff judgments are usually  
18 involved.

19 MR. COWAN: Or not the adequacy of the Staff  
20 judgment. If the applicant, as in many cases that I am  
21 familiar with, can, he should come forward and present  
22 the technical basis as to why his position is correct,  
23 which presumably would encompass why the Staff has  
24 reached the right determination in the SER.

25 MR. BENDER: That is an interesting approach.

1 So many times I have heard licensee applicants say we  
2 are doing it that way because that is the Staff  
3 requirement. You are going to have to defend the Staff  
4 requirements if you take that position.

5 MR. COWAN: It is true that licensee  
6 applicants say that, but when it comes down to the  
7 actual hearings, and I have been involved in 25 or 30 of  
8 them, when it comes down to the actual hearings, what  
9 you find in most cases is the applicant is defending the  
10 Staff position.

11 MR. BENDER: As long as you think you can do  
12 it, I won't quibble about it.

13 MR. COWAN: It may not be in all cases. There  
14 may be some cases where it cannot and it would require  
15 Staff input. But we think overall the perception of the  
16 Staff as a proponent of the license and as lacking  
17 objectivity would be eliminated or substantially removed  
18 if the Staff were not a party. In addition, we think  
19 removing the Staff as a party of the proceeding would  
20 stop the present situation where there seems to be a  
21 lack of free flow of information from the Staff up to  
22 the Commission because of various rules in place.

23 And the Staff, as a party to the proceeding,  
24 has made it very difficult for the Commission to  
25 exercise appropriate oversight coming down on the Staff

1 and to provide appropriate direction for regulatory  
2 staff activities, because if the matter is within the  
3 ambit of hearings on a particular plant, it is difficult  
4 for the Commission as the decisionmaker to tell the  
5 Staff as a party to the proceeding how it wants the  
6 overall process to go forward.

7           So we see a lot of advantages, not only in the  
8 perception area, the Staff having a different role in  
9 the hearing. For all of those reasons, plus the fact  
10 that we think with the Staff out of the hearing as a  
11 party there will be a lessening of the drain of Staff  
12 resources that now flows toward the hearing process, for  
13 all of those reasons, we think the Staff role should be  
14 redefined in the hearing process.

15           I guess I have just about run out of time.

16           MR. LEWIS: Our agenda says that we run until  
17 12:15 with discussion. I will rule that we have just  
18 had part of our discussion and therefore you are  
19 entitled to finish or list those six.

20           MR. COWAN: Let me just touch on the others,  
21 then. With respect to contention threshold, we think  
22 there is a great need for the Commission to establish  
23 and enforce, and I emphasize the word "enforce," a high  
24 and consistent threshold for admissibility of  
25 contentions. When you study what happens in



1 admissibility of contentions, you find that contentions  
2 admitted by one hearing board in one state are not  
3 admitted by another hearing board in connection with  
4 another licensing hearing.

5           We think contentions should only be admitted  
6 if there is some kind of what lawyers would call prima  
7 facie, an evidentiary showing of a legitimate dispute,  
8 and we agree with the Regulatory Reform Task Force that  
9 there should be substantial and specific facts  
10 supporting a contention. It should be required as part  
11 of the contention process.

12           We have not yet come out with a view as to  
13 whether there ought to be a separate licensing board to  
14 review and admit the contentions. We are still studying  
15 that particular question as to whether that is good or  
16 not, but we do think something needs to be done about  
17 contentions.

18           Let me turn to res judicata for a moment. One  
19 of the problems in the licensing arena is that we  
20 litigate the same issues over and over and over again.  
21 Back 10 or 12 years ago the efficacy of hydrogen  
22 thiosulfate to remove radioactive iodine in the event of  
23 an accident had to be the subject of contention in at  
24 least four or five hearings, and in every hearing, it  
25 involved the Staff bringing half a dozen witnesses, the

1 applicant bringing three or four witnesses and placing  
2 the same evidence time after time to reach the same  
3 conclusion.

4 More recently that same thing has occurred in  
5 connection with what to do about hydrogen buildup inside  
6 containment and in numerous other areas. We don't think  
7 it ought to be necessary for the NRC in hearing after  
8 hearing to go through the same issues, so we would put  
9 into effect if we could a regulation which said that  
10 issues that are involved in a Commission proceeding and  
11 issues involved in an earlier stage of the same plant's  
12 licensing cannot be raised again anywhere unless there  
13 is significant new information that comes about that  
14 substantially would affect the earlier conclusion, and  
15 we don't think it is necessary to go to the extent that  
16 the Regulatory Reform Task Force has suggested of having  
17 a rulemaking following a generic consideration by a  
18 hearing board with respect to the outcome of that  
19 generic consideration. We think that within the  
20 framework of present law, it is possible to apply the  
21 Commission's expertise such that the Commission could  
22 say that we will not rehear matters time after time  
23 without significant new information coming up

24 With respect to sua sponte, sua sponte  
25 involves issues raised by the licensing boards without

1 being raised by any party to the proceeding. Our  
2 position is simple. We would strip the licensing boards  
3 of their sua sponte authority. We think if a licensing  
4 board has a matter that it feels ought to be explored in  
5 the safety area that has not been raised by a party as a  
6 contention, that it by no means should be blocked from  
7 saying that it has concern over that safety problem.

8           The question is: what do you do having raised  
9 the concern? We would have that matter referred back to  
10 the Staff by the licensing boards, probably through a  
11 mechanism, perhaps through the EDO for Staff  
12 consideration and review. But if the sole function of  
13 the hearing is to resolve disputes that arise, they  
14 should not be disputes the licensing board has. It  
15 should be where the Staff or applicant has presented  
16 their position.

17           Finally, with respect to ex parte  
18 considerations, at the present time the NRC's ex parte  
19 rules, as you know, effectively prohibit communication  
20 between the Commission and many knowledgeable members of  
21 the Staff. We think there is general recognition that  
22 the NRC has gone way beyond the requirements of the law  
23 in connection with the ex parte rules and in connection  
24 with the companion idea of separation of functions, and  
25 we would urge the Commission in any licensing reform, to

1 the maximum extent possible, revise the ex parte rules  
2 to stop the isolation of its staff from the decision  
3 makers.

4 In an area as complex as nuclear technology,  
5 most of us think it is absurd that the decision makers  
6 are effectively isolated from a major repository of  
7 their own organization's safety expertise. That is not  
8 the way to run a rational nuclear licensing process.

9 Finally, let me just briefly mention the area  
10 of legislative reform. Legislation, we think, is  
11 desirable. In fact, maybe it is needed to provide a  
12 combined construction permit operating license, one-step  
13 license. It would also be desirable -- here it may not  
14 be needed -- in order to further standardization and the  
15 concepts of early site approval and plant design  
16 approval. The Commission probably has pretty broad  
17 authority in those areas, but it could well be  
18 reinforced with legislation.

19 And finally, we think it would be appropriate  
20 to include in the legislation provisions for a  
21 remolding, remaking the hearing process. So in essence,  
22 in each of the areas that the Regulatory Reform Task  
23 Force has presented for legislation, we think those are  
24 appropriate areas for legislation. We have some  
25 concerns and are still looking at some of the language,

1 some of the specific language in the proposed  
2 legislation. We think there is a major drawback in the  
3 present Regulatory Reform Task Force proposal, and that  
4 is it lacks a provision to stabilize site approvals and  
5 design approvals once they are granted, or to stabilize,  
6 if you will, the CPOL and protect the licensees from  
7 inappropriate backfitting.

8           We don't think legislation has to spell out  
9 all of the elements of a backfitting rule or all of the  
10 various things that go into it. That would best be left  
11 to the Commission's judgment. But we do think there is  
12 a need for a specific provision that says once one has  
13 received a site approval, for example, that site  
14 approval, absent some meeting of an appropriate  
15 standard, is good for a period of time and will not be  
16 changed. We do not see that stabilization provision in  
17 the Regulatory Reform Task Force's current proposals.

18           I think that pretty well sums up our  
19 presentation.

20           MR. LEWIS: Can I ask one question in the  
21 context of your proposals for reforming the hearing  
22 process? As I understand the underlying philosophy,  
23 with which I have a great deal of sympathy, it is to  
24 regard the Commission, its staff and the hearing boards  
25 as an entity devoted to the judgment about the ultimate

1 safety of a plant which is required for the license and  
2 to regard the applicant and intervenors as the  
3 contenders in arguing the licensability of the plant  
4 before this entity which is composed of these three  
5 parties, and in that context you want to remove the  
6 staff from the hearings as a party because, after all,  
7 they are part of the Commission's resource.

8           And you heard me say earlier that in the best  
9 of all worlds, the people who make the decision, which  
10 is the commissioners, ought to have the benefit of all  
11 possible inputs. As I understand it, there is also the  
12 underlying issue of sua sponte, separation of powers, ex  
13 parte, removal of the staff as a party, and so on. I, of  
14 course, do agree that the Commission should have the  
15 benefit of everything.

16           When this is raised, people point to the  
17 Administrative Procedures Act, and there is a little bit  
18 of ambiguity about how far the Commission can go in  
19 revising these ex parte rules, and I also agree that  
20 where there are legal constraints, the Commission in its  
21 own rules should hew as closely as it can to the edge of  
22 the law in trying to improve its ability to do this.

23           Where there is an ambiguity, would you  
24 recommend legislative reforms to remove the ambiguity to  
25 make it possible for the Commission without inhibition

1 by its own lawyers to set rules in which it can  
2 communicate as well as possible with the technical  
3 resources it has available to it?

4 MR. COWAN: Well, in the best of all possible  
5 worlds, the legislative reform would be the way to go in  
6 order to cure that problem. However, as a realistic  
7 matter, we are talking about legislative reform not of  
8 the Atomic Energy Act, in that case, but of the  
9 Administrative Procedures Act, and that does not appear,  
10 at least to me personally, an achievable goal in the  
11 near term. So I would not think we should be pushing  
12 legislation to amend the Administrative Procedures Act  
13 because it has many other ramifications and brings in  
14 many other agencies of the government.

15 MR. LEWIS: I understand that. I am asking a  
16 legal question on which I have no expertise. I thought  
17 it was possible in amending the Atomic Energy Act to  
18 provide some relief from the requirements of the  
19 Administrative Procedures Act without trying to amend  
20 the Administrative Procedures Act, which I agree is a  
21 completely different subject.

22 MR. COWAN: You could use the organic statute  
23 of the agency, the Atomic Energy Act, and have some  
24 procedures written in there that in effect give it an  
25 exemption from or modify the requirements of the

1 Administrative Procedures Act.

2 MR. LEWIS: That is what I was addressing.

3 MR. COWAN: It is possible to do that. We are  
4 not suggesting that needs to be done. We think the  
5 major area of concern in the ex parte area, for example,  
6 is that if the Staff can freely communicate with the  
7 Commission, then how free is it to communicate with the  
8 licensed applicants or other contesting parties in the  
9 hearing process. We have looked at that and we think  
10 mechanisms can be devised to enable the Staff to get  
11 information on a fairly free flow base from the  
12 applicants and, indeed, from intervenors or other  
13 contesting parties without running afoul of the  
14 Administrative Procedures Act.

15 MR. LEWIS: So your legal judgment is these  
16 are largely self-inflicted wounds at the NRC?

17 MR. COWAN: To a large extent, certainly under  
18 the present regulations they are.

19 MR. LEWIS: Thank you.

20 MR. BENDER: Let me ask about a potential way  
21 of dealing with one-stop licensing. If the regulatory  
22 law were to include in the one-stop licensing  
23 requirement a requirement as it does at the operating  
24 stage that the ACRS report on the status of operability  
25 of the plant, how would you view a requirement like that?



1 MR. COWAN: Let me make sure I understand the  
2 question. As the trigger mechanism for permitting the  
3 plant to go on line?

4 MR. BENDER: Yes.

5 [Pause.]

6 If not, do you have some other trigger  
7 mechanism that might be used?

8 MR. COWAN: The trigger mechanism that the  
9 Regulatory Reform Task Force has in the latest proposal  
10 is a finding by the regulatory staff or by the  
11 Commission based upon inspection and testing that the  
12 plant has been constructed in accordance with the  
13 combined CPOL. We would have a different trigger  
14 mechanism. We have suggested a trigger mechanism of a  
15 certification by the utility to that effect and, in  
16 effect, power by the Commission, which it always has, to  
17 say no, you cannot put the plant on line. But in the  
18 absence of that stop order, a certification, with  
19 publication of that certification and the passage of  
20 time, would result in the utility being able to turn a  
21 plant on and go to testing.

22 MR. BENDER: So you would suggest essentially  
23 a good faith statement that you had complied with the  
24 requirement.

25 MR. COWAN: It would be more than a good faith

1 statement. As we envision it, the Commission ought to  
2 be relying on initial licensing, at least, on the  
3 inspection and testing procedures of the Administrative  
4 Procedures Act, and throughout the entire process of  
5 construction, it will have both inspection and testing  
6 and very watchful eyes on what is happening.

7           So it is in a position to know whether or not  
8 the license has been complied with. In addition to  
9 that, the utility building the plant, along with its  
10 contractors, is in that same position, and we view a  
11 certification by the utility as being more than just a  
12 good faith statement. It has to be based upon a good  
13 hard look.

14           MR. BENDER: A good hard look could be just  
15 people literally looking or it could be some kind of  
16 evidentiary report that says here is what we have found,  
17 on the basis of that we think the operation should go  
18 ahead, or it could be somebody just looking to see what  
19 the facts were as presented by the people looking at the  
20 plants. I am looking somewhat at the objectivity of  
21 people who have their noses to the grindstone for  
22 n years and whether they have the kind of perspective  
23 that is needed at the time when the hard decision has to  
24 be made.

25           MR. COWAN: Certainly from an objectivity

1 standpoint I would concede that the Commission staff  
2 would be "more objective" than any utility that wants to  
3 go forward with the licensing, with the operation of the  
4 plant, although even there, Commission staff members may  
5 or may not on an individual basis be more objective. I  
6 just don't know, and I guess I am begging the question,  
7 how it would work to have the issue of operation of the  
8 plant turn on a certification, if you will, or an  
9 approval by the ACRS.

10 MR. BENDER: It has never been proposed.

11 MR. COWAN: I haven't heard it proposed before.

12 MR. BENDER: I was trying to find out what  
13 views have been given toward the trigger mechanism, so I  
14 postulated one to see what would happen.

15 MR. COWAN: The two views are the ones I have  
16 just mentioned, the one in the Regulatory Reform Task  
17 Force proposal of a finding by the Commission that the  
18 plant has been properly constructed.

19 MR. BENDER: They do have that common problem,  
20 objectivity. The people who have been close to it for a  
21 long time tend to become supportive of each other  
22 unless, as has happened in a couple of cases, they  
23 become enemies, but mostly it is a friendly relationship.

24 MR. COWAN: In terms of licensing reform,  
25 though, the question is whether there should be a

1 hearing opportunity afforded at that stage, and we think  
2 that there should not be, that the hearing should come a  
3 lot earlier at the time when the decision was made to  
4 grant a CPOL.

5 MR. BENDER: I guess my own view is we need  
6 some kind of judgment basis and we need to think about  
7 what the basis is.

8 MR. REMICK: Who would sign the certification,  
9 the CEO?

10 MR. COWAN: Certainly a responsible official  
11 of the organization, similar to the way Part 21 requires  
12 a responsible officer of the company.

13 MR. REMICK: I would think that would be  
14 better than the vice president for engineering or  
15 someone who might have had responsibility.

16 MR. COWAN: We haven't gotten detailed enough  
17 to say it should be the CEO as opposed to the president  
18 of a particular division.

19 MR. REMICK: I have some questions on things  
20 you haven't mentioned in the Regulatory Reform Task  
21 Force proposal. Do you have any views on the change of  
22 appeal board function and on immediate effectiveness?  
23 Does AIF have any views on any of those topics?

24 MR. COWAN: Yes. On immediate effectiveness  
25 we think the rule as it was before the Commission

1 tinkered with it several years ago worked properly, and  
2 we would reinstitute.

3 MR. REMICK: That doesn't surprise me.

4 MR. COWAN: I'm sure it comes as no surprise  
5 at all.

6 With respect to the role of the appeal board,  
7 we are schizophrenic. There are some among our  
8 committee who would downgrade or abolish the appeal  
9 board and who think that the appeal board function ought  
10 to be served by the Commissioners themselves. There are  
11 others, and I dare say a majority, who believe the  
12 appeal board serves a very useful function of bringing  
13 some consistency to the hearing process and would leave  
14 the appeal board in place. I think that is now the  
15 majority view, that the appeal board's function over the  
16 years has proven itself to be very valuable and there is  
17 a need for a body such as the appeal board to sit  
18 between the Commission and the hearing boards.

19 MR. REMICK: As another level?

20 MR. COWAN: As another level.

21 MR. REMICK: As another level.

22 MR. COWAN: However, I caution you to say it  
23 is fairly close within our committee as to whether the  
24 appeal board should or should not remain as another  
25 level. This time it is very close. There is also a view

1 that the appeal board's sua sponte review authority  
2 should be considerably cut back.

3 MR. REMICK: Just keep it as an appeal board;  
4 is that what you are saying?

5 MR. COWAN: Keep it as an appeal board with  
6 perhaps some additional sua sponte authority under  
7 certain standards, but at the present time the appeal  
8 board can go in and look at the entire record to see if  
9 it sees any error anyplace in the procedure that is of  
10 significance to it, and frequently it renders decisions  
11 based on things that were not only not presented by any  
12 of the parties but not even really thought about by any  
13 of the parties as having been a significant issue, in at  
14 least one or two cases, on issues that had been resolved  
15 by the parties through a stipulation to the licensing  
16 board, contrary to the way the appeal board ultimately  
17 came out.

18 MR. REMICK: The question of threshold.  
19 Hasn't that been affected by an appeal board decision so  
20 essentially there is no threshold?

21 MR. COWAN: It has, and we think those sorts  
22 of policy things ought to be with the Commission as  
23 opposed to the appeal board insofar as the appeal board  
24 is handling those types of things sua sponte, but there  
25 might be some use, and we really haven't resolved it in

1 our mind, which is why I am being a little uncertain  
2 here. There might be some useful role for the appeal  
3 board. There is some useful role beyond merely acting  
4 as a technical appellate body in the way the Federal  
5 appeals courts do, for example.

6 MR. REMICK: Doesn't it worry AIF that you  
7 have this multiplicity of reviews, that after the appeal  
8 board comes the Commission, which means the Commission  
9 has to be staffed to do that, so it has to have several  
10 offices so you have all these independent levels.

11 MR. COWAN: Yes, it does, but at the same  
12 time, we note that in every case where the appeal board  
13 has been a part of the review process, the courts have  
14 sustained the actions of the Commission, ultimately  
15 sustained the actions of the Commission, and that same  
16 statement cannot be made in cases where the appeal board  
17 was not part of the review process. That is, to say it  
18 another way, there is something to the claim that the  
19 appeal board is serving a useful function in making sure  
20 that some of the licensing decisions aren't being  
21 reversed in the courts.

22 MR. REMICK: But couldn't they do that as  
23 proposed by the Regulatory Reform Task Force? Couldn't  
24 they still potentially do that?

25 MR. COWAN: I think they could if we could get

1 the same caliber of individual on the appeal board under  
2 the proposal as you now have with the appeal board  
3 sitting as an intermediate appellate body.

4 MR. REMICK: So you view it legally as being  
5 pretty good, pretty settled.

6 MR. COWAN: I personally think the members of  
7 the appeal board are very good, yes.

8 MR. LEWIS: One of the virtues of the appeal  
9 board you mentioned earlier was enforcing consistency on  
10 the system. If one were to go for your res judicata  
11 modification, wouldn't that supplant that function and  
12 wouldn't that also then, as a body of precedence builds  
13 up, just as in the case of ordinary law, tend to enforce  
14 the decisions of the ordinary licensing boards in the  
15 court structure?

16 MR. COWAN: It would insofar as the  
17 substantive determinations are concerned, but there is  
18 also a need for consistency in terms of the procedural  
19 aspects.

20 MR. LEWIS: All right, I understand.

21 MR. COWAN: And the appeal board would still  
22 have that consistency function.

23 MR. LEWIS: I understand.

24 Are there any more questions, gentlemen?

25 [No response.]



1           MR. LEWIS: Well, we are not entirely behind  
2 schedule.

3           We are very grateful for your inputs. It has  
4 been extremely helpful. It has been a good morning.

5           Let us then -- as one of the few authorities  
6 left to the chairman of any committee -- take a lunch  
7 break and let's reconvene at 1:30.

8           [Whereupon, at 12:20 p.m. the reported portion  
9 of the meeting was concluded.]

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

\_\_\_\_\_

in the matter of: ACRS/Subcommittee on Regulatory Policy and Procedures

Date of Proceeding: December 7, 1982

Docket Number: \_\_\_\_\_

Place of Proceeding: Washington, D. C.

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

Sharon Filipour

Official Reporter (Typed)

*Sharon Filipour*

Official Reporter (Signature)



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

WASHINGTON, D. C. 20555

November 22, 1982

Dr. Harold W. Lewis  
Chairman, ACRS Subcommittee  
on Regulatory Policy and Procedures  
Department of Physics  
University of California  
Santa Barbara, CA 93106

RECEIVED  
ADVISORY COMMITTEE ON  
REACTOR SAFEGUARDS, U.S.N.R.C.

NOV 26 1982

AM  
7,8,9,10,11,12,1,2,3,4,5,6 PM

Dear Hal:

The following are some thoughts about NRC-related regulation that might be factored into our deliberations:

1. Proposed Legislation

- (a) How can the necessary level of detail be established for a combined CP/OL license?
- (b) When the license is granted at the time of construction, what type of subsequent reporting and control is necessary to assure that the conditions of the license are satisfied at the time of operation?
- (c) Should there be provision for reopening the licensability question if anticipated actions by the licensee fail to occur or if new technological matters impact the basis for licensing? Who monitors and how?
- (d) If compliance with the safety goal is a basis for licensing what analysis is needed to show compliance? Can it be done generically? If a PRA is needed, who does it and who validates? Should there be safety goal-related standards?
- (e) For early site approval, is it necessary to develop extensive site information that relates to the anticipated plant design, e.g., foundation conditions, groundwater control, cooling sources, emergency response, emergency power, etc.? Do we need to know seismological and weather information? What does such an effort cost? Who pays?
- (f) Can "backfit" be defined? If so, does it include requirements for analysis, tech. spec. changes, minor plant modifications, new operational controls, changes in organizational functions and capability, quality improvements, periodic inspection and test frequency, etc.? Should there be an economic measurement of "backfit" as well as a safety significance measurement? What about ALARA-related safety provisions? Are they "backfittable"?

## 2. Additional Legislative Considerations

- (a) Should a statutory definition of standardization be established? Should NSSS vendors be relied upon to establish "standardized designs"? Should the utility owner be held accountable for "standardization"? If not, what is the legal accountability of the NSSS/AE organization? Consider the relation of Met Ed/GPU versus S&W with respect to public responsibility.
- (b) To what extent can the officials of a corporate enterprise be held accountable for public safety? Does specifying potential culpability help?
- (c) Should time and financial factors be a consideration in licensing actions in terms of what the licensee is able to accomplish for conformance with the license, e.g., a schedule for defining and establishing organizational responsibilities prior to and subsequent to issuance of the CP/OL documents? How, if at all, should the license deal with financial constraints on the licensee arising from government-imposed rate structures? (Consider the circumstances of Grand Gulf where the utility has several partners and each must negotiate for cost recovery through its government-fixed energy charge rates.)
- (d) To what extent should prior experience and capability influence the licensing requirements?
- (e) Should there be some encouragement of initiatives for enhancing safety and reliability? If so, how?
- (f) How should the capabilities of the NRC as the licensing administrator be established and qualified? How much should be controlled through legal processes and how much through technological expertise?
- (g) How should rules be formulated? Prescriptively, as in regulatory guides? Performance related, as in 10 CRF 50 design criteria? How is the need for a rule determined?
- (h) What is the best way to have public participation in licensing, rulemaking, and safety problem assessment?
- (i) What should be the function of Hearing Boards and Licensing Appeals Boards? How should the Boards be selected?
- (j) How much of the licensing issues should be handled by administrative law processes and how much through the constitutionally established legal systems of the states and the nation?

## 3. NRC Organizational Responsibility

- (a) What are the real advantages and disadvantages of commission versus line-administration type of regulatory management?

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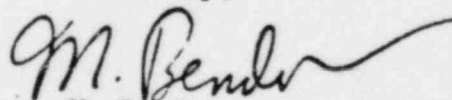
- (b) How should regulatory responsibility be fixed below the Commission/Administrator level? Should the Chairman or the Commissioners have discretionary power to delegate?
- (c) What are the public safety considerations related to regionalization?
- (d) How are interactive relations between state and federal regulation defined? Should they be clarified by legislation?
- (e) How are regulatory personnel qualified for their roles of responsibility?
- (f) Where are legal versus technological duties defined, i.e., what is the legal staff role and what is the technical staff role?
- (g) How should the requirements of NEPA be treated?

Since all the interested parties have different concepts of what legislative changes are needed for nuclear safety regulation purposes, it will be very difficult to prepare anything that really has an impact on the congressional legislation. More than likely, nothing except a simple sanctioning of "one stop" licensing can be included in the federal legislation and even that will be contingent on assuring that the NRC doesn't lose control over public safety requirements by this action. The situation at Zimmer and Diablo Canyon are illustrative of the real issue. Where would withdrawal of the license be challenged? at NRC hearings or in the Federal Courts?

I am more concerned about the NRC's lower-level activities than the Commissioners' management. There is a lot of merit in the checks and balances provided by the Commission form of licensing control. The administrative problem is a different animal that requires line authority, but that has already been established by prior changes in the law. Only the scruples of the Administrator control the degree to which he must consult with his fellow Commissioners on administrative matters--unless his legal advisors have frightened him into avoiding disagreements. Even if we could see some need to argue about organizational improvements, the Congress clearly had that issue laid before it previously and chose the present arrangement.

The main thing we can do for the Commission is to point them toward a more substantive examination of legislative improvements. The ACRS review which I organized several years ago is still applicable to our current situation and could be re-examined for content. Among the things we might want to consider is whether or not the ACRS still serves a useful purpose and why.

Sincerely,



M. Bender

MB:cw

cc: R. F. Fraley for ACRS distribution

GROUPS PARTICIPATING IN NRC NUCLEAR REFORM LEGISLATION PROPOSAL

Senior Advisory Group:

Leonard Bickwit	- General Counsel
John Zerbe	- Director of the Office of Policy Evaluation
Alan S. Rosenthal	- Chairman, Atomic Safety & Licensing Appeal Board
William J. Dircks	- Executive Director for Operations
James R. Tourtellotte	- Chairman, Reg. Reform Task Force

Ad Hoc Committee for Review of Nuclear Reactor Licensing Reform Proposals:

Gerald Charnoff	- Chairman
George L. Edgar	
Stephen Long	
Robert E. Redmond	
Anthony Roisman	
David Stevens	

Regulatory Reform Task Force Members

James R. Tourtellotte	- Chairman
Peter G. Crane, OGC	
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Seymour Wenner, ASLBP	
Patricia Woolley, ADM	

## RECOMMENDATIONS ON LICENSING AND REGULATION OF NUCLEAR POWER PLANTS

### A. The Rogovin Report on TMI - Jan 1980 (Attachment 1)

The recommendations cited by this Special Inquiry's Group on the TMI accident that in retrospect reflect the issues addressed in the recent licensing reform and backfitting rulemaking are:

1. Abolishing the two-step licensing process as it now stands and replacing it with a system that provides incentives for more design and site-related safety and environmental issues to be resolved before initiation of construction.
2. Establishing incentives to reduce variety in the design of important systems.
3. Developing applicable regulatory criteria on backfitting of new regulatory requirements, enforcement actions, licensing operation, and continued operation of plants with major open safety issues.

Other recommendations of this Group included:

1. Establishing a Nuclear Reactor Safety Board outside the line functions for licensing and regulation.
2. Developing a statement of regulatory objectives to include risk assessment.
3. Licensing important participants in nuclear plant design and construction.
4. Designating an organization having rulemaking as its primary responsibility.
5. Transferring the following responsibilities from the NRC to the Executive Branch:
  - . Prelicensing antitrust review as stated in the Atomic Energy Act of 1954, as amended.
  - . Those cited in the Nuclear Nonproliferation Act of 1977.
6. Establishing the U. S. Government as the decisionmaker on choices of generating electricity.

### B. The Kemeny Report on TMI - October 1979 (Attachment 2).

The present licensing reform and backfitting rulemaking modifications basically do not reflect the recommendations of the Kemeny Commission. However, this Commission advocated that the ACRS not be required to review each license application. Those recommendations included such items as:

1. Reorganizing the NRC.

2. Describing the proposed responsibilities of this new organization, especially with respect to its role in safety matters.
  3. Describing the agency's responsibilities concerning resolution of safety issues through rulemaking.
  4. Defining modifications to licensing procedures (two-step).
  5. Modifying the agency's inspection and enforcement activities.
- C. The Nuclear Safety Oversight Committee's Recommendation to the President - July 1981 (Attachment 3).

The Committee's recommendations concerning modifications to the NRC's regulatory process touched on some of the issues included in the proposed regulatory reform. Their recommendations were:

1. Separating the NRC's Safety review from non-safety related considerations such as NEPA issues, economic issues, and alternative energy sources.
2. Restructuring the licensing process to move in the direction of one-step licensing.
  - . Resolving safety issues at the CP stage.
  - . Limiting the OL hearing to an audit of compliance with the terms and conditions of the CP and to address substructural new safety issues that have arisen since the CP.
3. Eliminating mandatory ACRS review of all license applications.

Paulette Tremblay



## ROGOVIN REPORT ON TMI

### d. Findings and Recommendations

#### Findings

- The Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended, authorize the NRC to act with almost unlimited discretion in making substantive public health and safety, and common defense and security judgments, provided that the minimum prescribed procedures, essentially legal, are observed.
- There is a lack of policy direction and guidance from the NRC to the staff. The system does not have well defined regulatory objectives, and no "Acceptable Risk" goal has been established as policy.
- There is no regulatory yardstick either to measure existing risk, to evaluate the effectiveness of regulatory actions in decreasing risks to an acceptable level, or to assure that an acceptable risk level is maintained.
- For more than two decades, the NRC and its predecessor have licensed nuclear powerplants almost exclusively on the basis of engineering judgment.
- There is no yardstick, other than the safety record of operating plants, by which anyone can rationally evaluate either the quality or the consistency of these highly personalized judgments, or the degree of assurance of safety they provide.
- Although the NRC has broad rulemaking authority, its regulations are in many respects outdated and inadequate, as noted by its appeal board and others.
- Responsibility for substantive safety matters is fragmented within the NRC among five major offices, and is further diffused at and below the

division level within these offices, particularly in the Office of Nuclear Reactor Regulation.

- There is no unified and positive leadership or management of the internal operation of the NRC.
- The NRC does not operate as a team working together to identify and resolve difficult issues. Instead, there is an excessive and detrimental amount of parochialism.
- The NRC and its staff have almost unlimited discretion in making safety judgments provided certain ASLB findings are made. These findings can be made almost ritualistically on the basis of poorly articulated engineering judgment.
- The system focuses almost entirely on nuclear systems and equipment, and practically ignores operational areas (e.g., qualifications of utilities, procedures, systematic evaluation of operational information, human engineering, etc.). The focus on design and equipment is evident in the composition and qualifications of the regulatory staff, which is not operations oriented or experienced.
- Important participants in safety decisions (reactor system vendors and architect-engineers) are almost completely isolated from the regulatory system, except for quality assurance and deficiency purposes, although they are affected by, and may react to, the requirements the system imposes on licenses.
- The system does not assure that significant safety issues are identified through risk assessment methods and techniques. For example, the Standard Review Plan is not based on risk assessment methods, there is little focus on things such as systems interactions, safety/nonsafety grade, single failure criterion, design basis accident bounds, etc.
- The system provides no incentives to enhance safety; instead it results in acceptance of what may be the "lowest common denominator," compliance with NRC requirements.
- The system does not deal adequately with the disincentives to safety such as who will bear the economic burden if safety improvements are recommended and adopted.
- The system does not encourage and is not receptive to the ideas and suggestions of others.
- The licensing system now permits, and indeed encourages the commencement of a massive construction effort on the basis of preliminary design information (e.g., the two step licensing process, limited work authorization, and the immediate effectiveness rule). It also provides disincentives to desired regulatory goals, such as the move in the direction of standardization.
- After licensing, no regulatory criteria exist that can be applied to explain on a rational basis things such as the imposition of new regulatory requirements, enforcement actions, and postlicensing actions such as "administrative solutions" to a design flaw. This entire area is one where actions appear to be based almost completely on the judgment of senior staff officials.
- NEPA and its judicial interpretations have placed significant responsibilities on the NRC in areas other than reactor safety.
- The Congress, in the Atomic Energy Act of 1954, as amended, has placed precensuring antitrust review responsibilities on the NRC, which have little or no relation to the Commission's primary radiological health and safety mission in the nuclear field.
- The Congress in the Nuclear Nonproliferation Act of 1977, has placed substantial international relations responsibilities on the NRC. These responsibilities have little or no relation to the NRC's primary reason for being and, it would appear, are inappropriate for an agency outside of the Executive Branch.
- In the absence of national policies on societal risks from available means of generating electricity and the fuel choices which should be made, these issues are being debated by interested members of the public in the licensing of individual nuclear powerplants.

#### Recommendations

- A Nuclear Reactor Safety Board should be established outside the line functions for licensing and regulation that would, among other things, exercise independent oversight of the effectiveness of the system. Another component of this oversight organization should be an Office of Public Counsel. Core of the internal oversight team: ACRS (independent and advisory); Reactor Safety Board; and Office of Public Counsel.
- A statement of regulatory objectives should be developed including policy on risk objectives and methods, to better use risk assessment techniques either qualitatively or quantitatively, in licensing and regulatory actions. The importance of WASH-1400 techniques should be emphasized through an expanded risk assessment program that provides some of the evaluative tools to determine the qualitative or quantitative relative risk significance of events or patterns of events.
- Important participants in nuclear plant design and

construction, such as the reactor system vendors and the architect-engineer, should either be licensed or made accountable by some equivalent system.

- An organization should be designated to have primary responsibility in the rulemaking area to assure that the quality of the regulations are adequate.
- The two-step licensing process as it is now used, should be abolished along with other policies (limited work authorizations and the immediate effectiveness rule), and replaced with a system that provides incentives for more design and site-related safety and environmental issues to be resolved before construction begins.
- Incentives should be established that would result in more information prior to construction, fewer unresolved issues, and less variety in the design of important systems.
- Important areas such as the backfitting of new regulatory requirements, enforcement actions,

licensing operation, or permitting of continued operation with major open safety issues should be examined and prompt action taken to publish applicable regulatory criteria. Judgment needs to be exercised, but on a rational regulatory basis bounded by criteria based on the best available relative risk assessment.

- The NRC should be relieved of all responsibilities placed on it under the Nuclear Nonproliferation Act of 1977. These functions should be transferred to the Executive Branch.
- The NRC should be relieved of its precicensing antitrust review responsibilities under the Atomic Energy Act of 1954, as amended. These responsibilities should be transferred to the Executive Branch.
- The U.S. Government, after considering and comparing societal risks from presently available means of generating electricity, should decide on the choices to be made as a matter of national policy.

# COMMISSION RECOMMENDATIONS

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## A. THE NUCLEAR REGULATORY COMMISSION

The Commission found a number of inadequacies in the NRC and, therefore, proposes a restructuring of the agency. Because there is insufficient direction in the present statute, the President and Congress should consider incorporating many of the following measures in statutory form.

### Agency Organization and Management

The Commission believes that as presently constituted, the NRC does not possess the organizational and management capabilities necessary for the effective pursuit of safety goals. The Commission recommends:

1. The Nuclear Regulatory Commission should be restructured as a new independent agency in the executive branch.
  - a. The present five-member commission should be abolished.
  - b. The new agency should be headed by a single administrator appointed by the President, subject to the advice and consent of the Senate, to serve a substantial term (not coterminous with that of the President) in order to provide an expectation of continuity, but at the pleasure of the President to allow removal when the President deems it necessary. The administrator should be a person from outside the present agency.
  - c. The administrator should have substantial discretionary authority over the internal organization and management of the new agency, and over personnel transfers from the existing NRC. Unlike the present NRC arrangement, the administrator and major staff components should be located in the same building or group of buildings.
  - d. A major role of the administrator should be assuring that offices within the agency communicate sufficiently so that research, operating experience, and inspection and enforcement affect the overall performance of the agency.

## COMMISSION RECOMMENDATIONS

2. An oversight committee on nuclear reactor safety should be established. Its purpose would be to examine, on a continuing basis, the performance of the agency and of the nuclear industry in addressing and resolving important public safety issues associated with the construction and operation of nuclear power plants, and in exploring the overall risks of nuclear power.

a. The members of the committee, not to exceed 15 in number, should be appointed by the President and should include: persons conversant with public health, environmental protection, emergency planning, energy technology and policy, nuclear power generation, and nuclear safety; one or more state governors; and members of the general public.

b. The committee, assisted by its own staff, should report to the President and to Congress at least annually.

3. The Advisory Committee on Reactor Safeguards (ACRS) should be retained, in a strengthened role, to continue providing an independent technical check on safety matters. The members of the committee should continue to be part-time appointees; the Commission believes that the independence and high quality of the members might be compromised by making them full-time federal employees. The Commission recommends the following changes:

a. The staff of ACRS should be strengthened to provide increased capacity for independent analysis. Special consideration should be given to improving ACRS' capabilities in the field of public health.

b. The ACRS should not be required to review each license application. When ACRS chooses to review a license application, it should have the statutory right to intervene in hearings as a party. In particular, ACRS should be authorized to raise any safety issue in licensing proceedings, to give reasons and arguments for its views, and to require formal response by the agency to any submission it makes. Any member of ACRS should be authorized to appear and testify in hearings, but should be exempt from subpoena in any proceedings in which he has not previously appeared voluntarily or made an individual written submission.

c. ACRS should have similar rights in rulemaking proceedings. In particular, it should have the power to initiate a rulemaking proceeding before the agency to resolve any generic safety issue it identifies.

### The Agency's Substantive Mandate

The new agency's primary statutory mission and first operating priority must be the assurance of safety in the generation of nuclear power, including safeguards of nuclear materials from theft, diversion, or loss. Accordingly, the Commission recommends the following:

## COMMISSION RECOMMENDATIONS

4. Included in the agency's general substantive charge should be the requirement to establish and explain safety-cost trade-offs; where additional safety improvements are not clearly outweighed by cost considerations, there should be a presumption in favor of the safety change. Transfers of statutory jurisdiction from the NRC should be preceded by a review to identify and remove any unnecessary responsibilities that are not germane to safety. There should also be emphasis on the relationship of the new agency's safety activities to related activities of other agencies. (See recommendations E.2 and F.1.b.)

a. The agency should be directed to upgrade its operator and supervisor licensing functions. These should include the accreditation of training institutions from which candidates for a license must graduate. Such institutions should be required to employ qualified instructors, to perform emergency and simulator training, and to include instruction in basic principles of reactor science, reactor safety, and the hazards of radiation. The agency should also set criteria for operator qualifications and background investigations, and strictly test license candidates for the particular power plant they will operate. The agency should periodically review and reaccredit all training programs and relicense individuals on the basis of current information on experience in reactor operations. (See recommendations C.1 and C.2.)

b. The agency should be directed to employ a broader definition of matters relating to safety that considers thoroughly the full range of safety matters, including, but not limited to, those now identified as "safety-related" items, which currently receive special attention.

c. Other safety emphases should include:

(i) a systems engineering examination of overall plant design and performance, including interaction among major systems and increased attention to the possibility of multiple failures;

(ii) review and approval of control room design; the agency should consider the need for additional instrumentation and for changes in overall design to aid understanding of plant status, particularly for response to emergencies; (see recommendation D.1) and

(iii) an increased safety research capacity with a broadly defined scope that includes issues relevant to public health. It is particularly necessary to coordinate research with the regulatory process in an effort to assure the maximum application of scientific knowledge in the nuclear power industry.

5. Responsibility and accountability for safe power plant operations, including the management of a plant during an accident,

## COMMISSION RECOMMENDATIONS

should be placed on the licensee in all circumstances. It is therefore necessary to assure that licensees are competent to discharge this responsibility. To assure this competency, and in light of our findings regarding Metropolitan Edison, we recommend that the agency establish and enforce higher organizational and management standards for licensees. Particular attention should be given to such matters as the following: integration of decision-making in any organization licensed to construct or operate a plant; kinds of expertise that must be within the organization; financial capability; quality assurance programs; operator and supervisor practices and their periodic reevaluation; plant surveillance and maintenance practices; and requirements for the analysis and reporting of unusual events.

6. In order to provide an added contribution to safety, the agency should be required, to the maximum extent feasible, to locate new power plants in areas remote from concentrations of population. Siting determinations should be based on technical assessments of various classes of accidents that can take place, including those involving releases of low doses of radiation. (See recommendation F.2.)

7. The agency should be directed to include, as part of its licensing requirements, plans for the mitigation of the consequences of accidents, including the cleanup and recovery of the contaminated plant. The agency should be directed to review existing licenses and to set deadlines for accomplishing any necessary modifications. (See recommendations D.2 and D.4.)

8. Because safety measures to afford better protection for the affected population can be drawn from the high standards for plant safety recommended in this report, the NRC or its successor should, on a case-by-case basis, before issuing a new construction permit or operating license:

- a. assess the need to introduce new safety improvements recommended in this report, and in NRC and industry studies;
- b. review, considering the recommendations set forth in this report, the competency of the prospective operating licensee to manage the plant and the adequacy of its training program for operating personnel; and
- c. condition licensing upon review and approval of the state and local emergency plans.

### Agency Procedures

The Commission believes that the agency must improve on prior performance in resolving generic and specific safety issues. Generic safety issues are considered in rulemaking proceedings that formulate new standards for categories of plants. Specific safety issues are considered in adjudicative proceedings that determine whether a particular plant should receive a license. Both kinds of safety issues

## COMMISSION RECOMMENDATIONS

are then dealt with in inspection and enforcement processes. The Commission believes that all of these agency functions need improvement, and accordingly recommends the following measures:

9. The agency's authorization to make general rules affecting safety should:

a. require the development of a public agenda according to which rules will be formulated;

b. require the agency to set deadlines for resolving generic safety issues;

c. require a periodic and systematic reevaluation of the agency's existing rules; and

d. define rulemaking procedures designed to create a process that provides a meaningful opportunity for participation by interested persons, that ensures careful consideration and explanation of rules adopted by the agency, and that includes appropriate provision for the application of new rules to existing plants. In particular, the agency should: accompany newly proposed rules with an analysis of the issues they raise and provide an indication of the technical materials that are relevant; provide a sufficient opportunity for interested persons to evaluate and rebut materials relied on by the agency or submitted by others; explain its final rules fully, including responses to principal comments by the public, the ACRS, and other agencies on proposed rules; impose when necessary special interim safeguards for operating plants affected by generic safety rulemaking; and conduct systematic reviews of operating plants to assess the need for retroactive application of new safety requirements.

10. Licensing procedures should foster early and meaningful resolution of safety issues before major financial commitments in construction can occur. In order to ensure that safety receives primary emphasis in licensing, and to eliminate repetitive consideration of some issues in that process, the Commission recommends the following:

a. Duplicative consideration of issues in several stages of one plant's licensing should, wherever possible, be reduced by allocating particular issues (such as the need for power) to a single stage of the proceedings.

b. Issues that recur in many licensings should be resolved by rulemaking.

c. The agency should be authorized to conduct a combined construction permit and operating license hearing whenever plans can be made sufficiently complete at the construction permit stage.

d. There should be provision for the initial adjudication of license applications and for appeal to a board whose decisions would not



## COMMISSION RECOMMENDATIONS

be subject to further appeal to the administrator. Both initial adjudicators and appeal boards should have a clear mandate to pursue any safety issue, whether or not it is raised by a party.

e. An Office of Hearing Counsel should be established in the agency. This office would not engage in the informal negotiations between other staff and applicants that typically precede formal hearings on construction permits. Instead, it would participate in the formal hearings as an objective party, seeking to assure that vital safety issues are addressed and resolved. The office should report directly to the administrator and should be empowered to appeal any adverse licensing board determination to the appeal board.

f. Any specific safety issue left open in licensing proceedings should be resolved by a deadline.

11. The agency's inspection and enforcement functions must receive increased emphasis and improved management, including the following elements:

a. There should be an improved program for the systematic safety evaluation of currently operating plants, in order to assess compliance with current requirements, to assess the need to make new requirements retroactive to older plants, and to identify new safety issues.

b. There should be a program for the systematic assessment of experience in operating reactors, with special emphasis on discovering patterns in abnormal occurrences. An overall quality assurance measurement and reporting system based on this systematic assessment shall be developed to provide: 1) a measure of the overall improvement or decline in safety, and 2) a base for specific programs aimed at curing deficiencies and improving safety. Licensees must receive clear instructions on reporting requirements and clear communications summarizing the lessons of experience at other reactors.

c. The agency should be authorized and directed to assess substantial penalties for licensee failure to report new "safety-related" information or for violations of rules defining practices or conditions already known to be unsafe.

d. The agency should be directed to require its enforcement personnel to perform improved inspection and auditing of licensee compliance with regulations and to conduct major and unannounced on-site inspections of particular plants.

e. Each operating licensee should be subject periodically to intensive and open review of its performance according to the requirements of its license and applicable regulations.

COMMISSION RECOMMENDATIONS

f. The agency should be directed to adopt criteria for revocation of licenses, sanctions short of revocation such as probationary status, and kinds of safety violations requiring immediate plant shutdown or other operational safeguards.



Nuclear Safety Oversight Committee

July 23, 1981

The President  
The White House  
Washington, D.C. 20500

Dear Mr. President:

Your Nuclear Safety Oversight Committee has recently reviewed the state of nuclear reactor licensing. We took as our premise that a license to operate a nuclear reactor reflects, first and foremost, a determination that the reactor has been designed and constructed in such a way that it can and will be operated with adequate protection of the public health and safety. We find that there are two fundamental problems in the licensing process that must be addressed in the current debate over operating license reform.

First, the licensing process includes many matters that do not bear on reactor safety. We believe that the licensing process should be recast to eliminate all issues that are not safety related. These other issues should be resolved in briefer parallel NRC proceedings, assigned to other federal or state agencies, or eliminated from consideration.

Second, we believe the Operating License hearing has proliferated into a process dominated by issues not relevant to safety and by redundant issues that should be resolved at the earlier Construction Permit hearing. The present two step licensing process should be changed to move as many issues as possible forward to the Construction Permit stage where safety issues can be thoroughly reviewed before basic design and construction commitments are made. The Operating License proceeding should be restricted to auditing performance of Construction Permit licensing conditions.

Since the Calvert Cliffs decision, the Nuclear Regulatory Commission has been charged with administration of the National Environmental Policy Act. Some NEPA issues such as the need for power and alternative technologies are not issues of reactor safety. The same is true of anti-trust issues. The Nuclear Regulatory Commission does not

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have the expertise to handle these economic issues well. These issues have consumed an extraordinary amount of Commission, staff and hearing board resources, thereby distracting the Commission from the central issue of reactor safety. We believe the Nuclear Regulatory Commission should be freer to concentrate on the safe design, construction and operation of reactors. Accordingly, it is our view that non-safety related environmental issues such as waste heat treatment, that bear directly on specific plant construction or operation, should be considered by the NRC at the Construction Permit stage, outside the formal licensing process, in the less structured NEPA hearing process employed by most Federal agencies. Broader economic and social issues that have come to be interpreted as requiring consideration under NEPA, such as need for power and alternative energy, should be removed from the purview of the NRC. We believe that a strong case can be made that market conditions and state utility regulation make federal consideration of many of these issues unnecessary. However, to the extent that it is judged necessary to examine these issues at the federal level, the responsibility should be assigned to an agency other than the NRC.

There is general agreement that Operating License hearings have become protracted proceedings in which non-safety related NEPA issues are extensively considered and in which many issues are litigated that should have been raised and decided at the Construction Permit hearing. Whenever possible, safety issues should be definitively resolved at the Construction Permit stage when there is still sufficient flexibility to make appropriate design and engineering changes. We believe the time is at hand for the Congress to make substantial changes in the direction of early one step licensing. With such changes, the Operating License hearing process should be restructured as an audit of compliance with terms and conditions set forth in the Construction Permit documents, together with a review of any substantial new specific safety issues that have arisen since the Construction Permit was issued.

We note that the Operating License hearing is an optional hearing, held only at the request of a public intervenor. It therefore cannot be intended to serve as the principal method of achieving closure on safety issues immediately prior to plant operation. The principal responsibility for

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safety closure for specific plants rests with the NRC staff, which we believe is doing a generally satisfactory job on this aspect of reactor safety. Nonetheless, staff work should be subjected to outside peer review to assure high technical quality; this is the mission of the Advisory Commission on Reactor Safeguards. We urge Congress to take action to relieve ACRS of the legal requirement that it review every license application. High quality NRC staff work can be best assured by in-depth review of selected issues rather than by a necessarily more cursory, legally required review of all applications. We join the Kemeny Commission, the Rogovin Study and the ACRS itself in urging this change.

With such a statutory change, the ACRS should begin development of a methodology for forming subcommittees of balanced composition to audit license applications in a manner optimized to review new issues as they arise and to provide overall quality control of the licensing process.

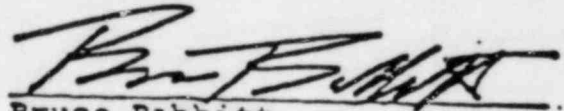
In sum, we believe that the time is at hand for a thoroughgoing legislative and administrative restructuring of the licensing process to achieve the following objectives:

- 1) Remove issues unrelated to safety, including such economic issues as the need for power and alternative technologies, from the licensing process. Only the environmental impact arising from the construction or operation of the specific plant under licensing review should be within NRC jurisdiction.
- 2) Move the resolution of as many issues as possible forward to the Construction Permit license hearing.
- 3) Recast the role of the Operating License hearing to determine whether the plant has been built as promised and to address substantial new safety issues that have arisen since the Construction Permit was issued.
- 4) Enable the ACRS to change its review function from mandatory review of all applications to

a more flexible and in-depth audit of problem areas and NRC staff performance in license reviews.

We recognize that most of these changes will require Congress to amend the Atomic Energy Act. However, we believe that the time is now at hand for a thorough assessment and redesign of a licensing process that has not been substantially changed for more than 20 years.

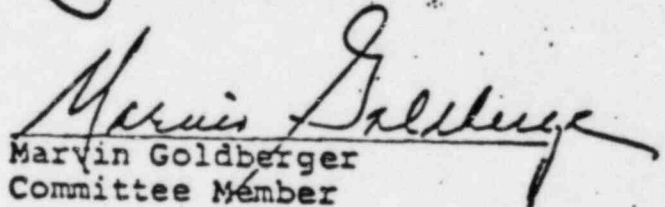
Sincerely,



Bruce Babbitt  
Chairman



John Deutch  
Committee Member



Marvin Goldberger  
Committee Member



Harold Lewis  
Committee Member

## REAGAN URGED TO REFORM NUCLEAR LICENSING PROCESS

The Nuclear Safety Oversight Committee, ordained by President Carter in March 1980 to conduct an independent review of nuclear regulation, has urged President Reagan to make big changes in the Nuclear Regulatory Commission's jurisdiction and mission. In a letter last Friday to Reagan, the five-member committee offered two basic recommendations: eliminating all non-safety issues from NRC's purview; and severely compressing procedures for issuing Operating Licenses, forcing resolution of safety issues during the earlier Construction Permit phase.

"We believe that the licensing process should be recast to eliminate all issues that are not safety-related. These other issues should be resolved in briefer parallel NRC proceedings, assigned to other federal or state agencies, or eliminated from consideration," said the letter. Into this class of dispensable items, the Nuclear Oversight Committee places the requirement (under the National Environmental Policy Act) to consider need-for-power and alternative technologies when judging a reactor license application. NRC also should be relieved of responsibility for antitrust review: "The commission does not have the expertise to handle these economic issues well," the committee told Reagan.

The oversight committee also believes that the proliferation of hearings at the Operating License stage should be truncated. "There is general agreement that Operating License hearings have become protracted proceedings in which non-safety-related NEPA issues are extensively considered and in which many issues are litigated that should have been raised and decided at the Construction Permit hearing....The Operating License hearing process should be restructured as an audit of compliance with terms and conditions set forth in the Construction Permit documents....We note that the Operating License hearing is an optional hearing...[and] therefore cannot be intended to serve as the principal method of achieving closure on safety issues immediately prior to plant operation."

To assure that the NRC staff's attention is riveted on the most important safety issues, the oversight committee offers a third recommendation—echoing similar advice from the Presidential (Kemeny) Commission on the Accident at Three Mile Island and from NRC's own TMI probe by Washington attorney Mitchell Rogovin. The NRC's Advisory Committee on Reactor Safeguards should be relieved "of the requirement that it review every license application. High quality NRC staff work can be best assured by in-depth review of selected issues rather than by a necessarily more cursory, legally required review of all applications."

Most of the nuclear licensing reforms will require changes to the Atomic Energy Act, the oversight committee admits. But "we believe that the time is now at hand for a thorough assessment and redesign of a licensing process that has not been substantially changed for more than 20 years."

Since it was formed in March 1980, the Nuclear Safety Oversight Committee—chaired by Arizona Gov. Bruce Babbitt—has dispatched several letters to the White House, urging reconsideration of a number of nuclear safety issues (such as radioiodine release from a damaged core, Three Mile Island clean-up, and manpower training requirements). So far, none of the letters has elicited any formal response, either from this Administration or the last.

And, although formation of the oversight committee ranked number two on the Kemeny Commission's list of recommendations, the White House apparently does not plan to extend the committee's charter beyond its September 30 expiration. This does not sit well with committee member John Deutch, chemistry professor at the Massachusetts Institute of Technology and Undersecretary of Energy during the Carter Administration. Reagan "would be well advised to keep the committee. He very badly needs a group to report to him on the pace of regulatory reform in the nuclear area," Deutch said. "There is no evidence that nuclear regulation is getting any better," said the former Energy Undersecretary.