

NUCLEAR REGULATORY COMMISSION

ORIGINAL

In the Matter of:

MEETING OF THE ACRS WITH NRC COMMISSIONERS

PUBLIC MEETING

DATE: September 10, 1982 PAGES: 1 thru 52

AT: Washington, D.C.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

MEETING OF THE ACRS WITH NRC COMMISSIONERS
PUBLIC MEETING

Nuclear Regulatory Commission
Room 1130
1717 H Street, N.W.
Washington, D. C.

Friday, September 10, 1982

The joint meeting convened, pursuant to
notice, at 2:03 p.m.

BEFORE:

VICTOR GYLINSKY, Commissioner
THOMAS ROBERTS, Commissioner

STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

- P. SHEWMON
- J. RAY
- D. MOELLER
- C. SIESS
- C. MARK
- H. ETHERINGTON
- D. WARD
- F. L. REMICK
- M. CARBON
- M. BENDER
- R. AXTMAN
- J. EBERSOLE
- D. OKRENT

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

2 COMMISSIONER GILINSKY: Why don't we start?

3 As you can see, we are a little shorthanded on
4 our side. We have got a skeleton crew. Joe, as you
5 know, is combatting a bout of pneumonia, and that is why
6 the Commissioner couldn't be here. And despite that, I
7 think Tom and I cover the entire spectrum of Commission
8 views.

9 (General laughter.)

10 COMMISSIONER GILINSKY: We will be able to
11 hold up our own.

12 The meeting is to be about three subjects.
13 One of them is the proposed NRC policy regarding severe
14 accidents and related views on nuclear reactor
15 regulation.

16 The second is proposed safety goals for
17 nuclear power plants and the related action plan for
18 implementation of these goals.

19 And the third is proposed changes in NRC
20 backfitting rule.

21 And at this point let me turn it over to you,
22 Mr. Shewmon, and have you take it from there.

23 MR. SHEWMON: Thank you.

24 I won't introduce our new member to you.
25 Otherwise I might. We are pleased to have him on

1 board.

2 The first item on severe accident Dave Okrent
3 will handle, and why don't we go ahead.

4 MR. OKRENT: Okay.

5 Well, I guess we have all recognized this is a
6 fairly complicated subject, and the Committee has tried
7 to look at what was being proposed in SECY 82-1A to see
8 whether, as it was proposed, or perhaps in some
9 alternate approach, one might better address what the
10 staff is trying to do there.

11 We are still in the process of developing our
12 thoughts. I am going to have to be speculative, and at
13 least much of the time it will be me and not the
14 Committee that you hear, okay, because I don't want to
15 have committed the Committee in any sense.

16 One of the questions that comes to mind in
17 reading SECY 82-1A is whether for plants to be designed,
18 if one proceeds along the route proposed, and if I can
19 paraphrase it, have an applicant submit a design, a
20 request for an FDA, and do a PRA in connection with
21 this, have this reviewed by the staff, he would have
22 been required to consider the unresolved safety issues
23 and the other topics as a part of this; then to have the
24 decisions on features for prevention, litigation,
25 management of severe accidents made in the course of the

1 rulemaking on the basis of whether they are cost
2 effective.

3 I think I, for one, and the Committee, may
4 have questions as to whether if you try to do this on
5 more than one application and in what I will call a
6 fairly limited time, let's say on the order of two
7 years, whether that is likely to be the best procedure.

8 One question is is it really going to be
9 practical to make such decision using cost-benefit
10 analysis? Is it good enough, and are the uncertainties
11 going to permit you to do it? And a second question is
12 is that the time to include those features in the design
13 if the decision is made, or might the design be better,
14 if it were possible to have the designer consider these
15 things at the beginning when he is doing the design, or
16 at least during the preliminary conceptual phase when he
17 can go from one thing to another and he hasn't got
18 pretty much a detailed design in hand.

19 I think that is at least one of the questions
20 we are wrestling with, and unfortunately, it is not
21 straightforward. It is just other than the
22 alternatives, it might be better.

23 An alternative that might be better, if one
24 could do it, is if the Commission over the next couple of
25 years could develop what you would call at least general

1 policy guidance on at least some of the aspects that
2 enter into this sort of thing so there wasn't a large
3 part of it, very much of it left for this rulemaking, so
4 that it could be factored into the design while it is
5 still in a flexible stage, at least I think and the
6 Committee may think that if that could be done, that
7 might be an improved approach.

8 I think that in a sense is perhaps the
9 principal comment, and there may be members that want to
10 add or correct whatever I have said.

11 COMMISSIONER GILINSKY: It seems to me that
12 underlying this proposal was the notion that not much
13 will be required of future plans beyond what is required
14 of existing plans. That seemed to be --

15 MR. SHEWMON: You mean the proposal of SECY
16 82-1A?

17 COMMISSIONER GILINSKY: Yes, and one has to
18 decide whether one accepts that rather than just
19 adjusting it at the margin, or whether deeper, more
20 thoroughgoing changes may be required or be desirable or
21 whatever, and devising some mechanism for coming to, you
22 know, a conclusion about that.

23 MR. OKRENT: Well, I think your reading is the
24 same as mine, and I guess I for one, and the Committee,
25 may question whether for future plants quite that

1 decision can be made now that there won't be some kinds
2 of design changes that are not just rather simple things
3 to put in, let's say, at the end of a rulemaking
4 stages. Sometimes they could be things that interact
5 among different safety issues, and let me just give one
6 example of the kind of thing we have been talking about,
7 of how it may be better to think about some of these
8 things in the beginning.

9 In some of the current reviews that are being
10 made in existing plants, at least the people doing the
11 PRAs find that the approach in the newer plants where
12 they have two 100 percent trains completely separated,
13 no cross-connections, is not necessarily more reliable
14 than an older plant that has two 100 percent trains with
15 interconnections.

16 Now, the answer -- it is not clearly, well,
17 let's go back to interconnection, because in fact the
18 staff does have concerns about common cause or
19 interconnected failures and so forth, but there are
20 other things that enter. One of the problems that
21 exists is when you have maintenance, how much time is it
22 okay to be running with only one train available? There
23 are tech spec things that sometimes there are problems
24 in operating a plant in this regard. And then when you
25 think about sabotage considerations, you may say, well,

1 I would prefer to have three separated areas, if I
2 could, rather than two.

3 And after thinking about things like this, one
4 might well decide that there are advantages to combine
5 these things and include the reliability of the system
6 itself. It may be, for example, four 50 percent trains,
7 which the Germans have, well separated and not
8 interconnected, give advantages in several directions
9 rather than, say, using two 100 percent trains. That is
10 the kind of, in the end, combined judgment and could be
11 a question of policy. In fact, I think the Chairman has
12 a policy like that, you know, whether to have gone in
13 for 100 percent in other areas for some reason.

14 What I am trying to indicate is this is the
15 kind of decision that in fact on the face of it is not a
16 major change in the overall capability of the plant, and
17 yet it is something to do at the beginning. It is hard
18 to go from a two train to a four train layout.

19 COMMISSIONER GILINSKY: Let's see if anybody
20 else has any thoughts on this.

21 MR. REMICK: I have comment, Commissioner
22 Gilinsky. I don't quite read 82-1A as narrowly to be
23 there would be no additional features. That is a plus
24 outcome. But 82-1A does indicate that the licensees
25 would have to address the questions of containment and

1 base mat and things like this, and it is possible it
2 might be required they would also have to address how
3 they are going to handle USIs. And I don't see that
4 necessarily those would be precluded.

5 So I don't think that you can say that the
6 outcome would be no additional features. It is
7 possible.

8 COMMISSIONER GILINSKY: I didn't mean to
9 preclude it, but that was the direction I sensed the
10 paper to be edging toward, that not a great deal was
11 going to be added. Maybe in the end it would be the
12 right thing to do. I am just commenting on my
13 impressions.

14 MR. REMICK: Certainly at this point in time
15 there is no indication it would be required. I think it
16 is a possible requirement, depending on the outcome at
17 the time.

18 MR. OKRENT: Excuse me. If I could add one
19 point that I feel is going to be relevant to the
20 Commission's thinking, that is at least for new plants
21 you will have to be fairly conversant with what it is,
22 let's say, the British are doing and why, what the
23 French are doing and why, what the Japanese are doing
24 and why. They are making changes from existing LWRs.
25 And some of them in fact, I guess you could classify, at

1 least I would classify as not just refinements of design
2 which the staff alludes to as the most likely kinds of
3 things to be expected for the future.

4 COMMISSIONER GILINSKY: The area I was
5 interested in was containment, but before -- go ahead.

6 MR. BENDER: I haven't developed all of my
7 thoughts, either. No matter what position we take on
8 the so-called severe accident mitigative features, we
9 have to know a lot more about how they can be
10 implemented. I think it is fairly easy to deal with the
11 kinds of things that Dave has described that the foreign
12 countries are going to improve their safety features.
13 They are not too sophisticated in the sense of knowing
14 what they are, but as you go into the development of
15 concepts that involve very complex behavioral mechanisms
16 that are very far down the road as far as accident
17 circumstances are concerned, the understanding becomes
18 less and less clear. The liability questions become
19 less and less clear. The cost of implementing them
20 becomes very much more complicated, and a costing basis
21 may not even exist, and finally, the question of what
22 kinds of maintenance and control has to be exercised
23 over these devices that are not likely to be used in
24 many cases. And so you cannot test them under operating
25 conditions, and that has to be taken into account also.

1 I think we tend to deal with the problem as
2 though they are the kinds of things we are thinking
3 about or the kinds of things that some of the European
4 countries are doing now, or perhaps some Japanese are
5 doing. But there is another school of thought that has
6 to do with devices of a different character, and I
7 believe in putting out the rule for consideration you
8 need to give some thought really on what devices really
9 might have to be covered by the rule.

10 That's all I have to say.

11 COMMISSIONER GILINSKY: Well, let me ask you
12 this.

13 What is your sense that, as we go down the
14 roads and new plants are ordered, are we going to want
15 important changes in those plants as compared with
16 current plants, or will they be refinements of current
17 designs?

18 MR. BENDER: I can only give you a personal
19 opinion that is not even representative of the whole
20 Committee or some large fraction of the Committee, and
21 that is in most cases you cannot show a benefit from
22 doing much more than we have done. And if I were to
23 state my preferences, in some places we have probably
24 overdone it.

25 COMMISSIONER ROBERTS: Are there others that

1 share that same view?

2 MR. BENDER: I don't know if in this room
3 there are, but I could find that school of thought.

4 COMMISSIONER GILINSKY: How about at this
5 table?

6 MR. SHEWMON: I don't know about the
7 overdoing, but I think many of us probably have -- well,
8 let me speak again. I think that you have learned a
9 lot, and you can see that simply by changing what was in
10 the plants that the SEP has taken and to what they are
11 doing now. I think that has been a constructive
12 evolution. And so I personally would not feel unhappy
13 if we did do small additional changes and feel some
14 concern at intimations that what we have now is not safe
15 and substantial. Changes are going to be needed.

16 There certainly are things that one could do
17 better, and it is worth looking at, but I don't think we
18 are in bad shape where we are.

19 One of the other things the Japanese are
20 looking at a fair amount is what can you do to ease
21 maintenance and inspection, and I think one of the
22 things that doesn't get much look at, at least in the
23 NRC, or at least in the ACRS, is the things you could do
24 in that direction.

25 Hopefully the utilities will push the vendors

1 into doing things of this sort, but I see less evidence
2 of it here.

3 COMMISSIONER GILINSKY: Well, that has to do
4 with a lot of little things that make a plant generally
5 more maintainable.

6 MR. SHEWMON: And they are making it easier to
7 do them when you go in so it is not a big production to
8 take them in and to do an inspection. Therefore you
9 will do it without waiting for a shutdown or burning
10 somebody up because you have got to remove a ton of
11 steel which is there for some extremely unlikely
12 accident. Therefore he can't get in to see whether he
13 has got a leak in that weld, or he can't see it by
14 walking past it; he has to make a big production out of
15 it.

16 COMMISSIONER GILINSKY: Just to pursue this
17 point, I take it the Committee as a whole does not see
18 important changes down the road that it would recommend
19 or feel would be useful to put in place, that what are
20 needed are a lot of refinements or perhaps refinements
21 in both directions?

22 MR. EBERSOLE: I can't help but think we might
23 be on the verge of overdoing the fragments and
24 underdoing the integral, and that is the nature of the
25 way we do our work. We will pick up the electrical

1 system, as we did the other day, and we will beat it to
2 a pulp. We will pick up the fire protection and beat it
3 to a pulp. We will go to another place. And yet we
4 miss lots of the central points of what constitutes
5 safety: can we shut it down and keep it cool, which is
6 an integral question. And I don't think we approach it
7 in an integral fashion. We approach it piecemeal. We
8 design the pieces of the plant and fit them together.
9 This has always bugged me a bit.

10 I am for integral shutdown, dedicated systems,
11 go to the core of the problem, not work on a piece of
12 it, bludgeon it to death.

13 Fire protection is a case in point. We will
14 absolutely overdo ourselves to do anything to keep it
15 from burning up, but there are only a few small
16 functions that need to be fail free, the real havoc in
17 an integral contest of shape.

18 COMMISSIONER GILINSKY: Will those fall into
19 the category of major design changes?

20 MR. EBERSOLE: Major conceptual changes you
21 ought to start out with and start licensing on line as
22 they evolve. I think it is terrible to wait until
23 something is locked up in stone or paper, which is as
24 bad as stone.

25 MR. BENDER: I tend to support Jesse's view in

1 a few areas, at least. Fire protection is a good one.
2 This business of the double-ended pipe break that we
3 have engineered plants for has created all sorts of
4 large, complicated pieces of equipment that probably are
5 not usable for the types of accidents that we are going
6 to see.

7 Now, you can argue that you might have those
8 accidents, but whether it makes any sense to engineer
9 for them is still a matter of judgment. And I think
10 everybody agrees now that these very complicated pipe
11 whip restraints and some of the seismic restraints are
12 doing more harm than good.

13 COMMISSIONER GILINSKY: Well, we are looking
14 into that one.

15 MR. BENDER: But I think it is just a matter
16 of judgment whether that is a big change or a small
17 change. For the guy that has spent ten years and \$100
18 million, it is a pretty big change. To a guy that sees
19 it as just a small tail, maybe it isn't.

20 MR. OKRENT: I think a bunkered, dedicated
21 shutdown heat removal system with a small LOCA
22 capability I would consider not to be a refinement in
23 the existing plants. We know how to do it in principle
24 because it is already being done elsewhere, but that is
25 a kind of policy decision I think, and if you are going

1 to do it, I don't think you would do it during the
2 rulemaking on some kind of a cost-benefit basis. I
3 think there are other areas where certainly in France
4 and in England changes are being made that I would not
5 classify as refinements only, and I anticipate myself if
6 not in the next two years within the next ten years it
7 is going to be difficult for the U.S. to not to have
8 gone at least much of the way if not pretty much as far
9 as really is done there.

10 COMMISSIONER GILINSKY: You say they are going
11 further than we are in various respects.

12 MR. OKRENT: Yes, they are, sometimes in the
13 same way, sometimes in other ways.

14 Well, let me leave it at that.

15 I am not in favor of radical changes in the
16 whole design of the LWR, the PWR, but I think one is
17 talking about things that are not just refinements or
18 things that are easily added at the time you are
19 granting the CP.

20 MR. EBERSOLE: I think it is fair to say that
21 if you look at the history of these things over the last
22 25 years, shutting the plant down after it has tripped
23 and keeping it cool has almost turned out to be an
24 afterthought. Let's see if we can do that after we have
25 got all this other stuff here. Can we use it to do

1 this?

2 It was not put in place to do that in the
3 first place. It has been a finding almost after the
4 fact: by George, we can, or we can with modifications
5 do this critical thing.

6 MR. SHEWMON: Any other comments?

7 MR. MOELLER: I think some of the designs the
8 Committee has heard about in terms of future thinking of
9 the various vendors offer opportunities for real
10 progress. So I think in the future we hopefully will
11 see safer plants. It leaves no doubt in my mind.

12 COMMISSIONER GILINSKY: Are there any
13 particular items that leap to mind?

14 MR. MOELLER: I don't think we can really talk
15 too much about them because most of them were given to
16 us in closed session.

17 MR. SHEWMON: One thing that comes to my mind,
18 the NRC has had a research program, and some of us heard
19 a review of it out at Sandia, on the susceptibility to
20 sabotage, and that is one of the things we usually don't
21 talk about in polite company because you have to go into
22 closed session and this and that, but I came away from
23 that meeting feeling that people who -- the vendors were
24 looking at it carefully, and the NRC had some
25 contractors who were looking at it carefully. We tried

1 to take a global approach at it and narrow it down to
2 what would be the best options for a saboteur, or
3 inversely, what would be the best, the danger points you
4 ought to protect against, and there I think the best
5 generation will have an appreciably better thinking
6 factored into it.

7 COMMISSIONER GILINSKY: In terms of reduced
8 vulnerability?

9 MR. SHEWMON: Pardon? Yes.

10 COMMISSIONER GILINSKY: I think it certainly
11 would be nice to reduce the vulnerabilities of the plants
12 so they don't have to be armed camps with all the
13 physical security paraphernalia and so on.

14 MR. SHEWMON: Whether it will go that far we
15 will leave for you to predict, but I think with regard
16 to the technical basis for that, or plants from the
17 ground up were thought of with that in mind, that there
18 will be real improvements.

19 MR. RAY: I have a feeling of confidence in
20 existing plants in that they are substantially safe and
21 that perhaps the most vulnerable area of accidents is in
22 the human factor zone, the operators. I am sure there
23 are going to be changes, physical changes, as Jesse
24 indicates he feels he needs and as David says we would
25 anticipate. I think these would be gradual, and should

1 reflect the experiences we have had rather than they
2 would be nice things to have, and from this point some
3 of them might be very marginal when you consider the
4 cost-benefits of them.

5 But I feel myself that the great area of
6 vulnerability is in the operations of the plants. And I
7 have seen evidence, as we have reviewed applicants'
8 stories for OLS, that this message is getting through to
9 them, and that they are trying to organize and manage
10 plants on a more structured basis and a more logical
11 basis than the hit and miss that I think characterized
12 many of the earlier plants.

13 COMMISSIONER GILINSKY: But there isn't an
14 absolutely clean line between the human side and the
15 hardware side. You know, they are in touch, and some
16 are more difficult to cope with than others.

17 MR. RAY: There is an interface there that is
18 a difficult problem, there is no doubt about it, but it
19 is getting attention now and therefore probably that
20 area of vulnerability will be properly prescribed to
21 correct it.

22 MR. REMICK: I have one additional comment.
23 Your earlier question about we have a feeling that we
24 have overreacted in some areas -- this is a personal
25 view -- I do think the physical security area is one

1 where the Commission has overreacted. I think the
2 Commission staff has had an opportunity to do QA audits
3 with operators, and they are highly demoralized because
4 of what they consider excessive physical security
5 requirements and inability to get ready access to the
6 plants.

7 So that is an area in response to your
8 question, have we overdone it? I personally think we
9 have.

10 COMMISSIONER GILINSKY: In what years was that
11 because I think there was certainly a feeling like that
12 when the rules came in.

13 MR. REMICK: This was post-TMI.

14 COMMISSIONER GILINSKY: My impression is that
15 in many of the plants people have learned to live with
16 physical security rules and accommodate them much more
17 easily now than they have in the past.

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1 MR. REMICK: I think there is a transition
2 period, that it is particularly hard for older operators
3 who were used to having ready access to all parts of the
4 plant, but there is no question about it. As I say, the
5 operation of QA audits or the opportunity with
6 management encouragement and sometimes to sit down and
7 talk to operators and see what their problems were and
8 their training and so forth, and I found that was a
9 predominant concern, where we even have individual
10 operators that I knew back when they were trained where
11 we took training programs at Penn State who told me that
12 it was their first chance to get out of the business and
13 they were going to get out, and these were experienced
14 SRO's.

15 It made an impression on me, and the thing
16 that they complained about primarily was the increased
17 physical security which was affecting their ability to
18 do the job.

19 COMMISSIONER GILINSKY: I must say I have been
20 concerned about the lack of -- well, the various access
21 controls and whether we might have gone to the point in
22 some cases where we are affecting safety functions or we
23 have got some people looking into it, and we are trying
24 to find ways to permit easier access for carrying out of
25 safety responsibilities without, we hope, reducing the

1 security of the plant. Perhaps we ought to move to the
2 next subject.

3 MR. SHEWMON: This is the safety goals. Here,
4 Dave will present the main points, and Mike Bender has
5 some additional points on PRA primarily.

6 MR. OKRENT: Mike has an easier job than I
7 do.

8 MR. BENDER: Well, I know what my position is,
9 at least.

10 MR. OKRENT: We are trying to prepare comments
11 on the staff draft action plan to implement safety
12 goals, and we are trying to prepare comments on the 15
13 questions that the staff posed for the Commission. I
14 don't know. I guess I would say the odds are a little
15 better than 50 percent we will accomplish that at this
16 meeting.

17 COMMISSIONER GILINSKY: Are you preparing
18 answers, or what?

19 MR. OKRENT: No, no, no, just our comments on
20 the questions. And in fact in connection with the
21 comments we will probably take the opportunity to
22 provide some comments that are only related to the
23 original question.

24 MR. SIESS: I think if you would like two sets
25 we can probably provide them.

1 COMMISSIONER GILINSKY: I hope this is not a
2 take home.

3 MR. OKRENT: No, no quiz. If I tried to think
4 of the implementation plan, I think one of the
5 committees' comments was likely to be that there is not
6 enough there about the process that will be followed in
7 implementation. In other words, there is sort of an
8 outline of how one might use safety goals for operating
9 plants and for CP's and so forth, but if you are really
10 going to do PRA's and reliability analyses and cost
11 benefit analyses, we don't have an existing single
12 methodology and set of data.

13 COMMISSIONER GILINSKY: Before you get into
14 implementation, I wonder if I could ask you a question
15 here on the Committee's letter. The letter seems to say
16 on the one hand the Committee would like to see more
17 explicit quantitative statements. On the other hand, it
18 questions the use of various quantitative techniques,
19 and I'm not sure where that leaves us.

20 MR. RAY: When you get an answer, let us know.

21 COMMISSIONER GILINSKY: I wonder if you could
22 tell us what the Committee means by that.

23 MR. OKRENT: Well, of course, it is always
24 hard to know what the --

25 COMMISSIONER GILINSKY: Somebody was

1 responsible for one paragraph, and somebody else for
2 another?

3 MR. OKRENT: No, what 10 or 15 people have in
4 mind when they agree to a stated position, it is easier
5 for those who append their individual thoughts in that
6 case, but I will try to give you a personal opinion
7 which may reflect the situation. I think the PRA
8 technique is a potentially very valuable technique, and
9 we should try to use it in as many ways as seem to make
10 sense. On the other hand, I am convinced that there not
11 only are large uncertainties, but that that is going to
12 remain the case for the foreseeable future, and one is
13 going to be faced with opinions of different experts, if
14 you want to call it that, although sometimes it will be
15 only the end of a long series of calculations, but there
16 is expert judgment in the input to these calculations
17 and so forth, and there is no right answer most of the
18 time, if not all the time.

19 So it is a technique that one has to use
20 cautiously, and while some of the time it will be sort
21 of straightforward, the realm of uncertainties will be
22 such that you can see things are okay or something needs
23 to be done.

24 COMMISSIONER GILINSKY: Could you say
25 something about the uncertainties, the source of the

1 uncertainties?

2 MR. OKRENT: There are many sources of
3 uncertainties. It almost depends on -- One of his
4 problems is just that.

5 MR. BENDER: It may be the fundamental
6 problem, but unless you have real statistics for the
7 things that you are trying to evaluate, you are only
8 speculating on what the likelihood is that some piece of
9 hardware or some event will occur, and in fact we have
10 very few events to use as a basis for experience.

11 I will just cite a few pieces of hardware they
12 are talking about. We have got several thousand valves
13 in these plants, and maybe a few hundred of them are
14 pretty important, but in fact when you get down to try
15 and figure out how much information we have on the
16 likelihood that these valves will work the way they are
17 supposed to work under the circumstances that are
18 specified, we are not basing it on any operational
19 experience. We are basing it on the judgment of the
20 people that have engineered the valves and a few tests.

21 Now, I can be very hardnosed about it and say
22 that is not enough information to make a judgment on its
23 reliability, because I don't have any actuarial
24 experience. Instead, what I usually do is say, I trust
25 my judgment well enough to be able to decide that for

1 this application that is good enough, but if I have to
2 pin it down in a way that says, look, I need to show
3 that this thing will work every time if called upon for
4 a thousand operations, and give you some level of
5 certainty associated with it. I probably cannot make a
6 case for knowing that it will work twice out of every
7 three times based on what I really know.

8 Now, if I try to do it in a numerical sense
9 and I use those kinds of numbers, the chances are I
10 would convince myself those valves are no good for that
11 application, because a numerical analysis won't stand
12 up, so I am really basing my judgment not so much on
13 what I know about statistics as just what my engineering
14 judgment says about it. You can go through the whole
15 selection of hardware that we have and do that same
16 exercise. There are only a few pieces of hardware to
17 look at where we really have the numbers to justify the
18 reliability.

19 COMMISSIONER GILINSKY: Is that really the
20 basic problem, the lack of data on reliability?

21 MR. BENDER: That is absolutely the problem.
22 So what do people do in order to get away from the fact
23 that they don't have hard numbers? They put wide
24 uncertainty bands on them, and then somebody says, well,
25 look, it is not going to be as bad as the worst or as

1 good as the best, so we will come to somewhere in the
2 middle, and they would like to use the median, and
3 somebody else would like to use the mean.

4 MR. OKRENT: That is inverted.

5 MR. BENDER: I am sorry, but it doesn't make
6 any difference. We don't know the shape of the
7 distribution between these two extremes, and so I am not
8 sure it makes any difference whether it is mean or
9 median. We don't know where to draw the line. And so
10 when you start to do numerical analysis, you wind up
11 with just a bunch of numbers, and when you take those
12 numbers with large uncertainties and multiply them
13 together, or add them as exponents, before you know it,
14 the uncertainties compound themselves, and you don't
15 know where you are.

16 Now, I don't trust that kind of business. I
17 think it is nice to do the logical analysis of the
18 hardware just because it enables you to see where the
19 weaknesses are, but to put any faith in the numbers as a
20 basis for saying something will surely not damage the
21 public at some frequency because of these numbers is, I
22 think, putting faith in a numerical analysis that
23 doesn't have that kind of substance behind it. That is
24 really what my problem with the safety goal business is.

25 I think the staff, by the way in which it is

1 functioning; and the industry by the way in which it is
2 going through these PRA exercises is getting itself all
3 wrapped up in the numbers. The public doesn't
4 understand the numbers. The people that work on them
5 don't understand the numbers, and the people that
6 understand the hardware don't know how the numbers are
7 being used.

8 Now, that is a bad situation, and I would
9 mistrust a safety goal which uses those numbers as a
10 basis for telling the public that the plants are safe,
11 and that is the end of my message.

12 COMMISSIONER GILINSKY: Well, let me just
13 follow my question up with this. How do you feel about
14 the way the calculations model the plant? Are you
15 comfortable with that aspect of it?

16 MR. BENDER: Not very well.

17 MR. SHEWMON: Are you talking about fault
18 trees, event trees, that sort of thing?

19 COMMISSIONER GILINSKY: You are taking very
20 complicated objects and modeling their interactions in a
21 very simple way.

22 MR. BENDER: I am sure I am not alone in this
23 review that says you can model a fairly narrow aspect.
24 You can take a few events and combine them, but if you
25 take a long sequence of events and combine them, the

1 number of variables in the sequence and the number of
2 things you might omit or deal with incorrectly becomes
3 such an extensive sequence of things to consider that
4 you would certainly be uncomfortable with whether the
5 thing you would start to analyze would actually have any
6 meaning when you got to the end of the computation.

7 MR. SHEWMON: I think some of the comments on
8 that struck a cord. Carson?

9 MR. MARK: I wanted to mention, and you would
10 be very well aware of it, in addition to the date which
11 we were mainly pointing out, there is the logical
12 question of completeness, and it was absolutely
13 impossible to take the position I have covered
14 everything. This has the effect that probably PRA can
15 be used to show that something is not acceptable because
16 you found a track which could exist and which is
17 unacceptable. You can perhaps ask yourself is it in
18 principle possible to prove that something is acceptable
19 if I have the chance, whatever it may be, but I forgot
20 to cover some other track.

21 MR. WARD: I would like to say a word in
22 response to your question about what the Committee meant
23 by wanting more explicit data compartments. I think
24 some of us, at least, like to -- would like to see more
25 of a distinction drawn between a safety goal, let's say,

1 even in quantitative, health risk terms for which the
2 safety goal is expressed to the public, and requirements
3 that are placed on the licensees to enforce the safety
4 goal.

5 One the one hand, I think the public has a
6 right to ask the Commission to what risk it is being
7 exposed by operation of the nuclear power industry in
8 general, and perhaps even at particular plants, so a
9 safety goal of the bottom line health risk type and
10 quantity in terms as has been expressed is appropriate
11 for doing that, and we ask you to recognize that it is
12 very, very inexact, for all the reasons that Mike has
13 mentioned, but it is very inexact, or how to do it when
14 you are trying to take a responsible position and doing
15 the best you can.

16 On the other hand, I don't think you can ask
17 each licensee to compare the risk his plant is offering
18 against that safety goal, because you are involving all
19 licensees in this morass of uncertainty involved in
20 that. So, I think the position the Commission should
21 take is that it is going to hold the bag on translating
22 from this bottom line public health risk into workable,
23 practical quantitative goals for the place on the
24 licensee for the operation of the plant, and many of
25 those just might be in the very traditional form of

1 regulations, quantitative, perhaps some just
2 deterministic, perhaps it will evolve that some will be
3 more real liability and probabilistic based on
4 distribution.

5 COMMISSIONER GILINSKY: Could you give us an
6 example, without giving the number?

7 MR. WARD: Yes. For instance, I don't think
8 the Commission should be telling a given licensee that
9 he has to conform with this kind of -- well, with, say,
10 a safety goal as expressed, but I think the Commission
11 staff should develop over the years from the PRA
12 information that is available a set of requirements to
13 be placed on clients in order to enforce the safety
14 goal. I mean, system reliability requirements, one that
15 you have already talked about is an acceptable
16 probability of core melt frequency. Well, maybe that is
17 a little too broad. I don't know. People are
18 struggling with a similar concept for containment
19 reliability, but some sort of numbers, possibly on a
20 probabilistic base at a system level that are as
21 unambiguous as can be made, or perhaps it would be in
22 more deterministic terms, like insisting that there will
23 be four trains of decay heat removal systems, but I
24 don't think you can ask the licensees to compare the
25 risks of their plant with a safety goal.

1 COMMISSIONER GILINSKY: That is something that
2 is just one level of generality higher than current
3 requirements.

4 MR. WARD: Possibly. I think the PRA may be
5 up to doing that in the near future.

6 MR. SHEWMON: I don't understand what you just
7 asked him. Would you just tell me what you think you
8 got for an answer? What was one level more?

9 COMMISSIONER GILINSKY: Well, I thought what
10 Mr. Ward was saying was, imposing system requirements,
11 numerical system requirements, we would in a sense
12 collect groups of requirements and impose certain
13 performance standards for larger entities or subentities
14 of the reactor.

15 MR. SHEWMON: Okay. As long as they are
16 subentities, because to get it to the whole plant is a
17 problem, and to relate that to how many people would --

18 COMMISSIONER GILINSKY: Right. I take it to
19 mean performance of various subsystems. I think core
20 melt is going a little further, perhaps.

21 MR. WARD: That is right. That is perhaps
22 more general than can be made into an unambiguous
23 requirement relatively, I think.

24 MR. SHEWMON: Did you point get covered?

25 MR. SIESS: I'm not quite -- Carson mentioned

1 completeness is irrelevant, and certainly the degree of
2 completeness, but I think I should mention that built
3 into the implementation plan is a specified
4 incompleteness, by ignoring or choosing to ignore
5 external events as an initiator or sabotage as an
6 initiator. If the argument is, we don't include them
7 because we don't know how to do it, I would have to say
8 that we don't know how important they are, either, so if
9 we get down to the bottom line on the safety goal, we
10 hav nothing. We have an incompleteness that we know is
11 there with no uncertainty about it except how big it
12 is.

13 MR. SHEWMON: That is what he meant by saying
14 the Commission has to stay holding the bag, I think.

15 COMMISSIONER GILINSKY: The Commission always
16 holds the bag.

17 MR. BENDER: I would just like to add one
18 point to what has been said. We tend to overlook a
19 number of features of these plants that really do not
20 lend themselves to probabilistic analysis at all. The
21 structures can only be evaluated deterministically. One
22 can't define any set of statistics that will tell you
23 whether something would fail or not for those features
24 under some operating conditions. Consequently, there is
25 a whole collection of features that are outside the

1 probabilistic analysis area, and when we begin to
2 discuss probabilities we are really only talking about a
3 few kinds of hardware, a few kinds of elements of the
4 system that are being analyzed, and the other aspect of
5 it is the phenomenological area. We don't really know
6 how the events progressed. We are just speculating.
7 And so, being able to put an certainty on how the events
8 progressed is, I think, maybe totally in the realm of
9 speculation. We really can't apply numerical analysis
10 to it.

11 COMMISSIONER GILINSKY: What is the state of
12 your conversations with the NRC staff on this subject?
13 Do you find yourself in agreement or degree of agreement?

14 MR. BENDER: Yes and no. We agree on places
15 where the methodology can apply, but I would guess that
16 in the set of conversations we have had, we usually find
17 divergence of opinion on how good their analytical
18 methods are, whether they are using them properly,
19 whether they can back them up with experimental
20 evidence.

21 MR. SHEWMON: Divergence or convergence?

22 MR. BENDER: Divergence. Now, particularly in
23 the areas of phenomenological events. Now, whether that
24 will come back together again, I don't know.

25 MR. SHEWMON: Jess?

1 MR. EBERSOLE: I think it would be appropriate
2 to say something about PTS in this context, and Mike
3 would be the best man to say something.

4 COMMISSICNER GILINSKY: What is the PTS?

5 MR. SHEWMON: Let me add one comment on
6 pressurized thermal shock, which adds another to his
7 list of uncertainties which seem to be more mechanical.
8 There is the question of what are you going to assume
9 the operator is going to do in pressurized thermal shock
10 that comes through in speeds, because the largest
11 uncertainty is, can we assume the operator will know
12 what to do and do it within 15 minutes or half an hour
13 or no. And I would guess, speculating as an individual,
14 that is likely to remain one of the largest
15 uncertainties when the staff comes up and we say, what
16 is your basis for that.

17 MR. MARK: Could I try to correct an
18 impression which I don't think Mr. Bender meant to
19 leave? Because a structure isn't amenable to PRA
20 doesn't mean that we are consequently ignorant of the
21 features of the structure.

22 MR. BENDER: No, I said we do it
23 deterministically, but whether I can put a this won't
24 fail more than so many times under certain kinds of
25 circumstances number on it, I guess chances are I

1 wouldn't be able to do it with any sense of knowing what
2 I was talking about.

3 COMMISSIONER GILINSKY: Where does this leave
4 us then on what you think about the Commission's
5 statement? There are all these qualifications and
6 difficulties.

7 MR. OKRENT: Well, I think myself the idea of
8 developing tentative quantitative design objectives and
9 testing them out fairly systematically may be using
10 alternate measures. In fact, alternate measures perhaps
11 in the original design objectives as well as alternate
12 measures of how you met them is really worth doing. It
13 is probably the best game in town, as it were, from the
14 point of view of learning just what the potential for
15 going more quantitative is, and if you don't do it,
16 people are going to be using the methodology anyway, and
17 probably misusing it more than if you somehow control
18 its use, than have good quality and always have good
19 documentation as possible, and always have someone to
20 give an independent review, and this sort of thing.

21 So, I myself would favor trying to test this
22 out, as I said, on a non-binding basis, but rather
23 thoroughly and carefully and systematically, and maybe
24 deliberately picking some things that are hard and
25 making sure that you have examples that involve big

1 uncertainties, and if you were going to do a cost
2 benefit decision at the rulemaking, you know, would you
3 be able to, and so forth? This is my general impression.

4 I wouldn't, in other words, throw it away. On
5 the other hand, I wouldn't adopt it as the thing to
6 start using for real.

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1 MR. BENDER: It seems to me you need to tell
2 us -- and I mean the Commissioners need to tell us and
3 the public -- what are you going to use the goals for?
4 Vic, you raised this question yourself. But no matter
5 what, the Staff is not clear, I think, what the goals
6 would be used for.

7 My discomfort with them stems from the fact
8 that I think they will be used for the wrong purpose and
9 that is why I am concerned about them. Dave is
10 optimistic that if you put them out in some sort of
11 controlled fashion and work with them for a while you
12 will find a way to make them helpful to you -- and that
13 is probably a legitimate position too.

14 But if you do not tell the people that you are
15 presenting the goals to how they are going to be applied
16 and what they are going to be used for -- particularly
17 when they get into the legal processes -- you are likely
18 to create chaos and I think we are seeing a little bit
19 of chaos now as people are beginning to try to test what
20 they think will be the goals policy against some of the
21 regulatory practices.

22 MR. AXTMANN: As I recall, the Committee was
23 inclined to think there would be goals. Can't we tell
24 them how to use them and why?

25 MR. BENDER: No. Some people said that we

1 had, but I do not happen to be in that camp.

2 MR. RAY: Bob, I do not think the Committee
3 said they should be used universally.

4 MR. SIESS: Well, Jack, I think the position,
5 after listening to my colleagues over a period of
6 several months on this and listening to the Staff, I
7 think I can say that we think safety goals are a good
8 idea. We think PRA is a good idea, but we have got
9 serious reservations about how they go together.

10 (Laughter.)

11 MR. SHEWMON: That may be as good a
12 valedictory on that point as we have.

13 All right, the remaining topic is the
14 backfitting rule and if you would like we could briefly
15 summarize what we think we will say on that for your
16 possible comments.

17 COMMISSIONER GILINSKY: Please do.

18 MR. SIESS: First, I believe I am not speaking
19 just for myself. The Committee has a position on this,
20 am I correct, and I can give you that position in four
21 words or 150 words.

22 COMMISSIONER GILINSKY: I think we can stand
23 150 words. Our secretary will start counting.

24 MR. SIESS: I believe we agree the Staff's
25 approach to backfitting in individual cases should be

1 more restrained and more disciplined, but we do not
2 understand why the Commission should have to change its
3 rules in order to enforce this kind of discipline on the
4 Staff. Now we believe that all that is needed is to
5 develop criteria for backfitting and to implement those
6 criteria under existing rules.

7 In addition, we have a problem with the
8 proposed rules that would make it unnecessarily
9 difficult for the Staff to obtain the information it
10 needs to examine the safety issues. We think there must
11 be some flexibility in obtaining information from
12 licensees and from CP holders and that if the Staff
13 exhibits unnecessary zeal in seeking such information
14 we think this could and should be controlled by
15 management direction and oversight.

16 In other words, in the four words, we do not
17 like it.

18 COMMISSIONER GILINSKY: Let me ask you what
19 you think about the way backfitting has been carried
20 on. Now I was going to ask you is that it was sort of
21 across-the-board. There has been too much backfitting
22 or that it was inconsistent, or what, or not enough of
23 it?

24 MR. SIESS: I am not sure whether anybody
25 knows, whether they have ever made a study of all of the

1 individual backfits that have been made. It must range
2 from very minor to relatively large and have been done
3 over a period of years, of plants of various
4 vintages.

5 COMMISSIONER GILINSKY: I must say my own
6 feeling is, if I can inject my own thoughts, that of all
7 the areas where more Commission guidance is needed and
8 would be helpful, this is, to my mind, number one, and
9 that the Commission ought to be clearer about what it
10 wants to happen, that it is not so much a matter of
11 wording of particular rules. It is really the
12 Commission's philosophy on backfitting.

13 MR. SIESS: Well, you have taken a major step
14 in generic backfitting -- generic requirements -- CRGR.
15 At another level, not necessarily another extreme but
16 again in individual cases, we have been looking at the
17 application of the systematic evaluation program at some
18 of the older reactors.

19 Now we have not gotten back to the real old
20 ones. We started out with the two most recent -- or the
21 Staff did -- and there there has been some very
22 selective backfitting based on some judgments and not
23 just on blind adherence to the requirements of
24 modern-day plants.

25 Now I am sure there are many reviewers who

1 look at the standard review plan and say this plant does
2 not meet it. How can I make him do it, because if the
3 standard review plan says it is necessary, that is
4 probably the way it ought to be. But I do not know what
5 the extent it.

6 But we have heard that nobody has ever used
7 50.109, the backfitting rule, to get around it.

8 COMMISSIONER GILINSKY: My impression is that
9 we get around it because if we use it that does not
10 imply it is necessary for the backfit.

11 MR. SIESS: No. To use it they would have to
12 justify the backfit. That is what I would. It is a lot
13 easier to tell somebody to do it under 50.54.

14 COMMISSIONER GILINSKY: Well, the
15 justification would involve you in basically admitting,
16 or at least by implication, that the situation had not
17 been satisfactory up to then, and this gets you in one
18 of these regulatory logical traps, that, in order to
19 avoid it, people go a different way.

20 MR. SIESS: Here we get into an argument. I
21 would like to avoid arguments.

22 MR. SHEWMON: Be reasonable; do it my way.

23 MR. SIESS: Or else. No, I am not saying that
24 backfitting is bad, but it has been undisciplined.

25 COMMISSIONER GILINSKY: Would it be useful to

1 take a look at the extent of backfitting, make some sort
2 of an assessment? Is that doable?

3 MR. SIESS: Don't ask me; ask -- Harold Denton
4 could probably tell you, but I just doubt if you could
5 do it. Somebody would have to look at amendments or
6 orders, if you have got them on the computer.

7 COMMISSIONER GILINSKY: This is certainly one
8 of the points about which one hears the most complaints,
9 and the Commission is always committing itself to more
10 predictability and so on.

11 Well, let's see. Where do you come down,
12 then? You do not like this rule?

13 MR. SIESS: We do not like it. We think it
14 can be done by management.

15 COMMISSIONER GILINSKY: Is it being done at
16 the present time, do you think?

17 MR. SIESS: Everything that we hear is that it
18 is not, that nobody has told people that they should use
19 50.109 and justify backfits and not do other things.

20 COMMISSIONER GILINSKY: What is your sense of
21 the operation of the CRGR?

22 MR. SIESS: That is for generic items. This
23 is for individual actions.

24 COMMISSIONER GILINSKY: Do you have any sense
25 for how many -- if you take a mass of backfits how many

1 fall in one category or the other? Would they not
2 mostly fall into the generic category?

3 MR. SIESS: (Nods in the negative.)

4 COMMISSIONER GILINSKY: You think not?

5 MR. SIESS: (Nods in the negative.)

6 COMMISSIONER GILINSKY: Mostly individual?

7 MR. SIESS: I do not know -- not most. There
8 must be a great many more individual actions than there
9 are generic actions, but the generic actions involve a
10 lot more plants and usually involve bigger items. I do
11 not have a feel for the statistics.

12 MR. BENDER: Almost certainly fifty percent of
13 them or more are associated with seismic requirements
14 that have changed with time, and another substantial
15 fraction of them has to do with our favorite discussions
16 about fire protection.

17 MR. SIESS: Those were generic.

18 MR. BENDER: Well, they are generic in the
19 sense that they cover one subject, but they are
20 different for every plant.

21 MR. SIESS: But they were generic orders and
22 they would have gone through CRGR if there had been a
23 CRGR.

24 MR. BENDER: And then there is a category of
25 things that were involved in the reevaluation of the

1 single failure criterion. I think they are the places
2 where the Staff probably has exercised more individual
3 judgment than in any other place, and I think those
4 would be the places I would look.

5 MR. CARBON: With all due respect to Mike's
6 answer, I personally do not know if anyone has a good
7 handle on how much backfitting there has been and how
8 much it has broken down, and it seems to me a desirable
9 thing to do to try and get a handle on those two to
10 really get an appreciation of what is involved.

11 MR. SHEWMON: Any thoughts about those,
12 Forest? You used to run an office that did these kinds
13 of studies.

14 MR. REMICK: No, I do not think I do. I would
15 guess that certainly the Staff would have a better
16 feeling of how this would be done and how regionally it
17 could be done. From my respect, I do not think I could
18 indicate one way or the other how much of a job it is or
19 how long it would take.

20 MR. SIESS: You could get some individual
21 answers if you asked the utilities if they were --

22 MR. RAY: I am sure they would all say there
23 have been too many and they have not been justified.

24 MR. SHEWMON: But part of his question was not
25 a value judgment. It was how many. That should be

1 slightly more mutual and definable.

2 MR. CARBON: That would seem like it could be
3 done fairly readily by going to utilities -- not the
4 value judgment but how many; what are they and so on.

5 MR. MARK: Under the backfitting rule you
6 might be able to ask the question.

7 MR. BENDER: You have to know more than how
8 many. You have to know how extensive their effects were
9 on the plant. Some things are quite trivial and if they
10 are trivial it is hardly worth our trying to buck them
11 up to this table.

12 COMMISSIONER GILINSKY: Well, certainly you
13 want to categorize them in some way.

14 MR. EBERSOLE: May I comment on that since we
15 have another topic later in the day which takes up
16 regionalization, one of the great, popular things of
17 this Administration? I think this sort of thing is --

18 COMMISSIONER GILINSKY: That is the Dircks
19 Administration?

20 MR. EBERSOLE: There is a great
21 decentralization, that we do not know in any simple
22 context what is going on and there is probably no
23 uniformity in whatever practice there is. So it is one
24 of the ill effects. Of course, there are some good ones
25 of decentralization, but I think really this is an

1 activity that shows one of the other effects of
2 decentralization.

3 COMMISSIONER GILINSKY: How do you connect
4 decentralization?

5 MR. EBERSOLE: I gather that what happens is
6 an individual operator is told by even an individual in
7 the field that he has got to change this and change
8 that.

9 MR. SIESS: It was suggested, for example,
10 that on a reload review, which comes up every year or 18
11 months, Staff reviewers will sometimes take that as an
12 opportunity to upgrade a plant to the current
13 requirement -- simply say this will expedite our
14 review.

15 Now I was told that. I do not know it for a
16 fact, but it was a fairly high level source, somebody
17 that ought to know.

18 COMMISSIONER GILINSKY: Well, it is certainly
19 true that at times when approvals are required or a
20 plant has to come back up it is, so to speak, more
21 vulnerable from the regulatory point of view and
22 requests get more attention and go beyond fair. But I
23 think it is true that a lot of the business is done at
24 that time.

25 MR. SIESS: You asked how much of this is

1 done. I think what is more important is how much good
2 has it done and if it had been done under 50.109 or
3 something like that where somebody had to make an
4 evaluation as to whether this backfit would improve
5 safety, I would like to know that more than the other.
6 If these were all improvements that contribute to safety
7 and we do not know whether we are below or above a
8 safety goal which we have not got yet, then I could not
9 get excited about people doing things through the back
10 door, as long as it was improving safety.

11 COMMISSIONER GILINSKY: Well, certainly it
12 must be the judgment of the persons on the Staff that it
13 does improve safety. They are not doing it
14 frivolously.

15 MR. SIESS: Well, it could simply be the
16 judgment it is in the standard review plan now.
17 Therefore, it must improve safety. Let me give you an
18 example -- general design criteria 55, 56, and 57.

19 COMMISSIONER GILINSKY: Improve safety and be
20 worth doing.

21 MR. SIESS: For example, GDC 55, 56, and 576
22 relate to having isolation valves on pipes going through
23 containment, two valves -- one inside, one outside, one
24 check valve, one motor-operated. It is very specific --
25 probably the most prescriptive criteria we have got.

1 When the Staff looked at this in connection
2 with a systematic evaluation program, it looked at some
3 PRAs that had been done. It turned out that the number
4 of the valves and whether they were inside or outside
5 containment was no contribution to safety at all. The
6 unreliability was simply dominated by the probability
7 that the valve would not close.

8 And all of these other specific criteria made
9 no significant contribution to risk, so they did not backfit it. But
10 if they had not gone through that review, is this really
11 worthwhile? We know it is going to cost money. They
12 would have said that is not in the standard review
13 plan. That is in the rules. They have got to get an
14 exception to the rule and not backfit, if you decide to
15 backfit.

16 COMMISSIONER GILINSKY: I think it might be
17 useful for the Committee to watch how the process is
18 working now -- there have been some management changes
19 in the Staff -- and see what you think about it. The
20 system is only a few months old, if that, and you might
21 keep an eye on it.

22 MR. WARD: I think you brought up an
23 interesting point. It was new to me -- backfitting --
24 that you said maybe the Staff has been reluctant to use
25 50.109 because it gets them into a logical regulatory

1 trap. I think our response to the new rule -- I had not
2 heard that argument. We did not hear that argument at
3 all -- only that 50.109 was not used because there were
4 easier, more effective ways to get the thing done.

5 COMMISSIONER GILINSKY: Well, that is the way
6 it was explained to me.

7 MR. WARD: Well, I am kind of wondering about
8 the answer to the letter which we have tentatively
9 prepared because we have not heard that argument at
10 all.

11 MR. SIESS: We did not hear much from the
12 Staff anyway.

13 MR. SHEWMON: I think that is all we have.

14 MR. SIESS: I do not care how it is done. I
15 just think we need to change the rules to have people do
16 it right. The rules are there.

17 COMMISSIONER GILINSKY: Do you think further
18 guidance is useful?

19 MR. SHEWMON: Yes, no question.

20 COMMISSIONER GILINSKY: In the context of the
21 rule. Does that pretty well exhaust the three
22 subjects? Is there anything else that you would like to
23 bring up in the remaining few moments which we do not
24 have to take. But if anyone has something he would like
25 to liberate himself of --

1 MR. MOELLER: One comment I think is
2 appropriate, and that is because of the close
3 interrelation of these various items one would expect
4 that the proposed safety goals, the plan for their
5 implementation, the backfitting policy and the severe
6 rulemaking policy or policy statement would be closely
7 integrated and would follow some coherent, systematic
8 philosophy.

9 And I do not believe that we found that to be
10 the case.

11 MR. SIESS: We had a different Staff spokesman
12 for each item.

13 MR. SHEWMON: The integration will be a
14 management exercise or challenge.

15 MR. MOELLER: And some Staff, in presenting
16 any particular one of these four items, for example, has
17 implied that they were anticipating what decisions would
18 be made regarding the other aspects.

19 MR. MARK: I have a question which perhaps
20 does not belong here, but it is easy to throw out. In
21 formulating the safety goal, which is one-tenth of one
22 percent of some background health effect, was it
23 supposed that the person referred to this average person
24 who wanders averagely around the circuit, was tied in
25 there, or was he free to jump on his bicycle and get the

1 heck out, in which the chances of his being hurt were
2 zero?

3 COMMISSIONER GILINSKY: I do not know. Tom,
4 what do you think? My name is not attached to that
5 document.

6 (Laughter.)

7 MR. MARK: I am not sure I got an answer.

8 MR. SHEWMON: I am not sure you will get an
9 answer.

10 MR. MARK: It depends a little bit, you know,
11 enough credit is not given to what you can do by
12 evacuation. Maybe you can leave all the pumps alone.

13 COMMISSIONER GILINSKY: I am not sure they got
14 to that level of detail.

15 MR. SHEWMON: Carson was discussing some
16 dedicated school buses with which we could get everybody
17 out.

18 COMMISSIONER GILINSKY: Mr. Etherington, do
19 you have any thoughts?

20 MR. ETHERINGTON: I have no comments.

21 COMMISSIONER GILINSKY: Tom, any closing
22 thoughts?

23 COMMISSIONER ROBERTS: No.

24 COMMISSIONER GILINSKY: Well, thank you very
25 much, gentlemen. I certainly enjoyed the discussion. I

1 am sure the Chairman will enjoy reading the transcript.

2 Thank you.

3 (Whereupon, at 3:18 o'clock p.m., the meeting
4 adjourned.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

ARCS WITH NRC COMMISSIONERS

in the matter of:

Date of Proceeding: September 10, 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.

ALFRED H. WARD

Official Reporter (Typed)



Official Reporter (Signature)