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UNITED STATES NUCLEAR REGULATORY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

In the Matter of:)
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)
SUBCOMMITTEE ON SAFETY PHILOSOPHY,)
TECHNOLOGY, AND CRITERIA)

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Place: Bethesda, Maryland

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3 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
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8 proceedings of the United States Nuclear Regulatory
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10 as reported herein, is an uncorrected record of the discussions
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Tuesday,
September 26, 1989

Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland

The meeting convened, pursuant to notice, at
1:35 p.m.

BEFORE:

MR. DAVID A. WARD
Research Manager on Special Assignment
E.I. du Pont de Nemours & Company
Savannah River Laboratory
Aiken, South Carolina

ACRS COGNIZANT STAFF MEMBER:

DEAN HOUSTON, NRC Cognizant Staff

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P R O C E E D I N G S

1
2 MR. WARD: The meeting will now come to order.
3 This is a meeting of the Advisory Committee on Reactor
4 Safeguards, the Subcommittee on Safety Philosophy,
5 Technology, and Criteria. I am David Ward, the Subcommittee
6 Chairman. Other ACRS members who we expect later in the
7 afternoon are Dr. Lewis and Dr. Remick.

8 The purpose of the meeting is to discuss the
9 preparation of a joint paper which gives the ACRS and NRC
10 staff positions on the concept of adequate protection as it
11 relates to the safety goals. Dean Houston is the cognizant
12 ACRS staff member for the meeting.

13 The rules for participation were announced as
14 part of the notice of the meeting published in the Federal
15 Register on September 18th. A transcript is being kept and
16 will be made available as stated in that notice. I request
17 that each speaker identify herself or himself and speak with
18 sufficient clarity and volume so that he or she can be
19 readily heard. We have received no written comments or
20 requests to make oral statements from members of the public.

21 Before I ask Wayne Houston to make whatever
22 comments he has prepared, I would like to make a couple of
23 comments. First, this meeting may not have to run very
24 long. Second, we do have a couple of hours for this subject
25 scheduled at the full committee meeting next week when

1 presumably I will be the only member there. Because I think
2 that there are some issues here that we want to get before
3 more of the membership. Some of the people have expressed
4 concern, or interest, or ideas about some of these things.

5 I think that the topic in addition to the
6 question about adequate protection, I think that the staff
7 and the ACRS still have some other differences on the safety
8 goal policy, or the next stage or whatever. We can perhaps
9 discuss these a little bit today, or it might be more
10 suitable to hold some of the discussion until next week at
11 the full committee.

12 But Wayne, as I see these, the remaining
13 questions are that of whether or not there should be a
14 containment performance guideline of some sort. We still
15 differ on the definition of a large release. We still see
16 the need for an acknowledgement that PRA, which is the only
17 tool that we have to measure even on a sampling basis the
18 performance of plants and hence the performance of
19 regulations with a safety goal, has some major gaps in it.

20 Particularly it does not really provide any real
21 quantitative estimate of the human and organizational
22 performance in a plant. We think somehow that the safety
23 goal policy or the implementation work after the policy
24 should acknowledge that explicitly.

25 And then finally we have a problem with the word

1 description of this as implementation of the safety goal
2 policy, and we have talked about that before. We see it as
3 really what you are doing is a fleshing out of the policy.
4 Not that it is inappropriate to have some sort of agreed
5 upon fleshing out and document it, but whether it should be
6 called implementation if questionable. It is just a
7 semantic question, but it remains a question.

8 So with that, I would like to listen to what you
9 have to say about it. Oh, I guess also although the
10 Commission has asked us to prepare a joint paper, that does
11 not seem to necessarily be a workable way to go about this,
12 but I would like to hear your opinions on that.

13 MR. W. HOUSTON: Thank you, Dave. My name is
14 Wayne Houston from the Office of Nuclear Regulatory
15 Research. And I appreciate the opportunity to appear here
16 this afternoon and talk with your subcommittee in absentia
17 to a large extent at the moment.

18 There is time available this afternoon to address
19 each of the other issues on which there is either apparent
20 disagreement, or a real disagreement, or a misunderstanding
21 with respect to other aspects of safety goal policy and/or
22 implementation thereof which is a semantics question.

23 In preparation for this afternoon's meeting, I
24 did not really have a presentation to make. You have before
25 you I believe copies of the SECY-89-102 entitled

1 Implementation of Safety Goal Policy dated March 30, 1988,
2 which incidentally to the best of my understanding has not
3 been made public, and it is not I think available in the
4 document room.

5 But in that document among other things there are
6 a couple of pages I think particularly in the text of the
7 Commission paper in which we attempted to describe
8 particularly the ACRS view that relates to the question or
9 the issue of adequate protection. I did prepare three
10 questions that I thought might be fruitful for discussion
11 possibly in the order that I will read them, and I do have a
12 little handout of them.

13 I have always assumed that our starting point
14 both from the ACRS point of view and the staff's point of
15 view, although I have a residual question on this point, and
16 that is the safety goal policy statement itself which was
17 published in 1986. And the question here is the policy
18 statement itself. It is quite clear on the meaning of
19 safety goals as they may relate to the adequate protection
20 issue.

21 And I am prepared to cite some portions of that
22 policy statement which while the staff's reading of it on
23 balance we think that it is clear that there are statements
24 in it which could be regarded as somewhat ambiguous on this
25 point. So that was one question that I thought we might try

1 to discuss.

2 The second one and from our vantage point perhaps
3 the most important one is our characterization of the ACRS
4 view relating to the adequate protection issue essentially
5 correctly characterized in SECY-89-102.

6 And the third is should there be a relationship
7 between safety goal policy in the Commission's backfit
8 policy as set forth in the backfit rule 10 CFR 50.109. In
9 the staff's paper, as you are aware, we did make the point
10 of making a distinct relationship between the concept of
11 implementing the safety goal policy and its relationship to
12 and its utilization in the process of applying certain
13 elements of not the entire backfit rule but certain elements
14 of it.

15 And one might add parenthetically at this point
16 that to the best of my knowledge it is the only place that I
17 think that you will find reference to the term adequate
18 protection in the Commission's regulations, that is in
19 50.109 which is the backfit rule. There may be others on
20 the staff if they were here who might recognize that there
21 are other parts of the regulations where that phraseology
22 which comes right out of the Atomic Energy Act is used, but
23 I am not aware of it.

24 MR. WARD: So it is in the Atomic Energy Act, but
25 it is not in the regulations except in this?

1 MR. W. HOUSTON: To the best of my knowledge,
2 this is the only place it is in the regulations.

3 MR. WARD: Okay.

4 MR. W. HOUSTON: Which causes me parenthetically
5 to remark that I had asked or had tried to get somebody from
6 our Office of General Counsel to come down this afternoon,
7 particularly the attorney who is most familiar with and most
8 involved with the creation of the most recent revision to
9 the backfit rule, Steve Crockett. Unfortunately he is in
10 Tokyo. The second choice unfortunately is in France or in
11 Germany I think today.

12 And although I think that some others in the
13 office would have liked to have come down, I do not think
14 that we are going to have anybody from the Office of General
15 Counsel.

16 MR. WARD: Do you think that Steve for example
17 might be available next week?

18 MR. W. HOUSTON: He said that he would be and
19 that he was planning to be present at the full committee
20 meeting.

21 MR. WARD: Okay.

22 MR. W. HOUSTON: So if we might go to the first
23 question, if you think that would be productive.

24 MR. WARD: I think that is a good way to go about
25 it. That is fine.

1 MR. W. HOUSTON: What I propose to do is just to
2 sort of read some words that appear at various places in the
3 safety goal policy statement.

4 MR. WARD: Could you tell me where those are. I
5 have got a copy like this.

6 MR. W. HOUSTON: I will identify the location.
7 The second sentence in the beginning summary statement.
8 "Its objective," that is the objective of that policy
9 statement, "is to establish goals that broadly define an
10 acceptable level of radiological risk."

11 My point in mentioning it is that it uses the
12 word "acceptable". That is one input. That statement is
13 repeated again later on in the introduction under purpose
14 and scope.

15 Another sentence though that I would quote under
16 the purpose and scope in the first paragraph that the NRC
17 stated in response to the recommendations of the President's
18 Commission on the accident at Three Mile Island that it was
19 "prepared to move forward with an explicit policy statement
20 on safety philosophy and the role of safety-cost tradeoffs
21 in the NRC safety decisions."

22 That really was the origin of, I think that it is
23 fair to say, the origin of the concept of developing safety
24 goals, and it was intended to be responsive at least in
25 large measure to recommendations made by that Commission.

1 And it does in that sentence link safety philosophy and the
2 role of safety/cost tradeoffs.

3 Now that does not necessarily mean however that
4 one cannot necessarily I think infer from that language that
5 they can be related in such a way that the safety goal
6 policy applies only to situations in which there are
7 safety/cost tradeoffs. It does not need to be interpreted
8 that way. I think that this was the intent.

9 MR. WARD: You are saying that the safety goal
10 policy, you would infer from this statement, was intended to
11 apply or could be interpreted of this statement applying
12 only in situations where there is explicit safety/cost
13 tradeoff and that that is the only place?

14 MR. W. HOUSTON: I think that it is a piece of
15 evidence that could be interpreted that way, yes.

16 MR. WARD: Okay.

17 MR. W. HOUSTON: And again parenthetically if we
18 were to recall the earlier proposed policy statement, it did
19 explicitly incorporate for example the criterion or
20 guideline that has been in use by the staff for some time in
21 carrying out cost/benefit analyses on potential risk
22 reduction requirements of \$1000 per person rem. But that
23 was deleted from the final version of the policy statement.
24 And I believe that I am correct in saying that this is the
25 only place in this final policy statement which safety/cost

1 tradeoff language is used.

2 MR. WARD: It is clearly used here, but the grand
3 purpose of the safety goal seems to be --

4 MR. W. HOUSTON: It is not definitive.

5 MR. WARD: Yes.

6 MR. W. HOUSTON: In the next paragraph, "Current
7 regulatory practices are believed to ensure that the basic
8 statutory requirement, adequate protection of the public, is
9 met. Nevertheless, current practices could be improved to
10 provide a better means for testing the adequacy of and need
11 for current and proposed regulatory requirements."

12 I think that that statement is one that from my
13 vantage point that the ACRS perhaps picked up on. And from
14 that statement you might get the point of view or the
15 opposite point of view that the purpose here is, although
16 the current regulatory practices are believed to assure that
17 the statutory requirement is met, that they could be
18 improved and "particularly testing the adequacy of," using a
19 word closely related to adequate protection.

20 One would draw a different kind of inference from
21 this that the intent of the safety goals is to give a
22 confirmatory feeling that the regulations do in fact assure
23 that the basic statutory requirement is met.

24 Towards the end of that paragraph they go on to
25 say, "This statement of NRC safety policy expresses the

1 Commission's views on the level of risks to public health
2 and safety that the industry should strive for in its
3 nuclear power plants."

4 Now this one could be taken to mean that there is
5 not any intent on the part of the Commission to do something
6 called implementing safety goals, but merely to set goals
7 that it expects licensees and applicants for licenses to
8 strive for and leave the matter at that. That is one
9 possible interpretation of that statement.

10 Under purpose and scope in the introduction but
11 going on is the last paragraph in that section. Again there
12 is a restatement of the objective in words that are very
13 similar and essentially identical to that which is in the
14 summary statement. "The objective of the Commission's
15 policy statement is to establish goals that broadly define
16 an acceptable level of radiological risk that might be
17 imposed on the public as a result of nuclear power plant
18 operation." Again the word acceptable.

19 MR. WARD: Where is this?

20 MR. W. HOUSTON: This is the last paragraph under
21 purpose and scope.

22 MR. WARD: I have found it.

23 MR. W. HOUSTON: The beginning sentence.

24 MR. WARD: Okay.

25 MR. W. HOUSTON: The next one that I would point

1 out falls under III in which are discussed the quantitative
2 objectives used to achieve the safety goals, that is the two
3 quantitative health objectives. There is a general
4 consideration section and the classification of quantitative
5 risk objectives. Then Part C, the health affects, deals
6 with the prompt and latent cancer mortality risks.

7 If we start from the beginning of that Part C,
8 the first paragraph incorporates the two statements of the
9 quantitative health objectives. And the paragraph
10 immediately following that, "The Commission believes that
11 this ratio of 0.1 percent appropriately reflects both of the
12 qualitative goals," et cetera.

13 And then the next sentence, "However, this does
14 not necessarily mean that an additional risk that exceeds
15 0.1 percent would by itself constitute a significant
16 additional risk."

17 The staff has looked at that among other things
18 here I think as a key sentence in the policy statement,
19 which would imply I think that it was not intended by the
20 Commission that the 0.1 percent quantitative health
21 objectives be inferred in some sense as statements such as
22 if a finding could be made or were made at a particular
23 plant that the risk would exceed the 0.1 percent for either
24 the prompt and latent cancer mortality risk, that that in
25 and of itself should be considered undue risk which legally

1 equates to the term adequate protection.

2 Finally I think that there was just one more
3 really that is pertinent to the point here. Under
4 Part IV, the treatment of uncertainties, in the second
5 paragraph there is the discussion of the use of mean versus
6 median values which was of course a debate of some length a
7 number of years ago.

8 The Commission explains that it "has adopted the
9 use of mean estimates for purposes of implementing the
10 quantitative objectives of this safety goal policy." Then
11 it says, "Use of the mean estimates comports with the
12 customary practices for cost/benefit analyses." And it
13 seems to me that that is a key sentence.

14 So it is on the basis of taking of all of those
15 statements into account that in the staff's proposed further
16 implementation if you will of the safety goal policy that it
17 was taken as a given from this statement that what the
18 Commission had in mind was not safety goals that would in
19 some fashion define undue risk, or no undue risk, or
20 adequate protection, but rather couple it to the use of
21 cost/benefit methods for dealing with what could be
22 significant safety improvements in plants based upon new
23 knowledge, new operating experience or whatever, and we went
24 from there.

25 From the ACRS letters which we read very

1 carefully, it appears that a different interpretation,
2 either a different interpretation of the policy statement
3 was made or that the ACRS approached this matter and did not
4 necessarily take it as a given that this policy statement
5 was not going to be changed, or modified, or edited, or
6 revised in some sense. That is another way that I can ask a
7 question. Maybe I will stop there for a moment.

8 MR. WARD: Okay.

9 MR. W. HOUSTON: Mat Taylor has pointed out that
10 there is another place in here, I think that it is under
11 the statement about the health effects and quantitative
12 objectives. And from the same paragraph that I quoted
13 before to the effect that an additional risk that exceeds
14 0.1 percent does not necessarily mean that exceeding that
15 would constitute a significant additional risk. The next
16 sentence says that, "The 0.1 percent ratio to other risks is
17 low enough to support an expectation that people living or
18 working near nuclear power plants would have no special
19 concern due to the plant's proximity."

20 I guess that this could be taken to mean that
21 this is not a cliff hanger and that this is not a sharp
22 threshold between something that one side of which is safe
23 and the other side of which is unsafe.

24 MR. WARD: Well, to answer your questions about
25 the ACRS meant, starting from the back and from the last

1 one, I think we were not necessarily setting out to insist
2 that the policy statement be revised or reworded, but we did
3 not think that would be entirely appropriate if it seemed to
4 be necessary.

5 You know, we did think that the policy statement,
6 as you pointed out, is not completely unambiguous. I think
7 that our hope or our intent was to see this implementation
8 or this fleshing out of the policy statement clear up the
9 ambiguity by going in one direction or another, and we
10 suggested a direction.

11 And I think that our direction as you pointed out
12 is more clearly related to the second paragraph under the
13 purpose and scope in the introduction. I guess that we took
14 that as the one that we liked, and just suggested that the
15 further development and application of policy take off from
16 that one.

17 Our philosophy I guess for the safety goal
18 strategy would be to take off from something more like the
19 words that are in that second paragraph under the
20 introduction, Section A, purpose and scope.

21 Whether that would leave one with the need to go
22 back and change the other words in the introduction or not,
23 I do not think we necessarily had an opinion on that. Most
24 written documents have ambiguity in it, and as long as the
25 implementing work is clear. It is a big problem.

1 MR. W. HOUSTON: I guess that I might add if I
2 may perhaps for the record that at the time of the
3 preparation of the safety goal policy statement, the number
4 of years that passed between its initial conceptualization
5 and the final issuance of it, at no time to the best of my
6 knowledge or recollection was this so-called issue of
7 adequate protection foremost in the minds of the Commission,
8 or the staff, or perhaps anybody.

9 The words adequate protection of the safety and
10 health of the public come right out of the Atomic Energy
11 Act. And in each case in which the Commission has issued a
12 license and both a construction permit and particularly a
13 license to operate a plant, there has been a finding that
14 there is adequate protection. But it has been a finding
15 made on a case by case basis. And it has never been
16 regarded as what is sometimes now being referred to as a
17 standard, a statutory standard.

18 I gather from a legal point of view that that is
19 reasonable language, that it is an adequate protection
20 standard that is set by statute. It was not until the
21 modification of the backfit rule, 50.109, from that which
22 had been on the books for some twelve or fifteen years, I do
23 not know the exact number, but starting in I think 1985 that
24 a revision was made which the NRC was taken to court because
25 of some ambiguous language I believe primarily in the

1 statement of considerations accompanying the rule, and then
2 was republished in accordance with the court decision on the
3 matter in final form in 1988.

4 But there is why I made the statement early on
5 that I think that is the only place in the regulations that
6 the term adequate protection is in fact used. And the fact
7 that it has been used there and in the context of the
8 backfit rule it has heightened the awareness on the part of
9 the staff and the Commission on the legal significance of
10 the term.

11 And of course from the court's point of view and
12 I think quite properly that the primary, I would say, the
13 primary legal significance of the term is that requirements
14 that are imposed by the Commission in order to establish
15 adequate protection of the health and safety of the public
16 cannot be established on the basis of cost or cost/benefit
17 tradeoffs. That is that they must be imposed as
18 requirements without regard to cost.

19 The only exception to that being what might call
20 the relatively minor exception that if there is more than
21 one way to satisfy a particular requirement that is needed
22 for adequate protection that the relative costs of the
23 different alternative ways can be a consideration. But cost
24 per se cannot legally be employed or have anything to do
25 with a basis for establishing a requirement that is needed

1 for adequate protection.

2 So the legal aspect of it seems to focus more on
3 the question of its association with or disassociation from
4 cost considerations rather than its definition either
5 qualitative terms or quantitative terms. But its
6 prospective use in the backfit rule at least to the Union of
7 Concerned Scientists seems to call for and they petitioned
8 the court to try to get the court to force the Commission as
9 it were to issue some kind of an objective standard or a set
10 of objective criteria so that the staff and the public would
11 know what that term means in a somewhat more concrete
12 fashion, and the court declined to do that.

13 MR. WARD: Well, I guess that the ACRS did not
14 very explicitly consider the concept of adequate protection
15 relative to the safety goal in its thinking and
16 deliberations over the last few years either.

17 In fact this connection I think in a way we came
18 kind of by the back door in that I think that our central
19 theme in the advice that we have given the Commissioners
20 about the safety goal has been that the goal should be the
21 criteria by which regulations are judged to be adequate, or
22 not or judged to be appropriate or not to get away from the
23 word adequate.

24 In fact that is sort of the grand scheme that we
25 see. That the Commission is facing its constituency and

1 saying look, we are going to regulate. By our regulations
2 we are going to do what we can to make sure that nuclear
3 power plants are this safe, and by this safe they mean the
4 level that is defined in the safety goal. And then they
5 turn around and they face the staff and say staff, we want
6 you to provide a body of regulations that will carry out
7 this promise that we have made.

8 So therefore the test of the regulations is
9 whether or not they contribute to providing a population of
10 plants that meets the safety goal. When legal arguments
11 come in about the term adequate protection and the much used
12 definition of adequate protection is something that meets
13 the regulations, you come up with a logical equivalency.

14 But I guess that I have some trouble with that
15 logical equivalency in making an algebraic equivalency. You
16 know, the ACRS has tried to express its view all along that
17 we do not think that the safety goal and the quantitative
18 measure of using the PRA should be used as an absolute test
19 for an individual plant, and whether that plant is regulated
20 in a way that provides adequate protection.

21 But it is more the body of regulation and the
22 population of plants, and that indirectness is an important
23 part of the relationship between the safety goal and what we
24 see as the definition of adequate protection.

25 MR. W. HOUSTON: From your remarks, I just wonder

1 if we might move to the second question which I asked if the
2 staff correctly characterized the ACRS view.

3 MR. WARD: And I think that the answer is no, I
4 do not think so. Let me see, where is that?

5 MR. W. HOUSTON: It begins on page four of the
6 SECY paper.

7 MR. WARD: Okay.

8 MR. W. HOUSTON: The last sentence in the middle
9 paragraph says, "However, ACRS comments raise the issue of
10 whether safety goals should be used to define adequate
11 protection in the statutory licensing standard which must be
12 applied without considering economic costs."

13 Then we make reference to the ACRS letter dated
14 May 27, 1988. I am sorry, the ACRS letter dated
15 April 12, 1988. In which we had responded to a question
16 from the Chairman in May that the ACRS view appeared to be
17 directed toward a different purpose than that expressed in
18 the Commission policy statement on safety goals. That is of
19 course as we read the policy statement.

20 MR. WARD: This is a quote from the May 27th.

21 MR. W. HOUSTON: That is correct.

22 MR. WARD: The staff's memo referring to the ACRS
23 letter. The different purposes as you went over the policy
24 statement, you could pick out a number of purposes if you
25 narrowly interpret each paragraph. As I said before, I

1 think that the purpose that the ACRS sees as most useful for
2 the goal is captured by that second paragraph in the
3 introduction.

4 MR. W. HOUSTON: If I may, let me continue to
5 read from this. "The staff understands that the ACRS view
6 expressed is a top-down approach to regulation," in which I
7 think that I borrowed the words "top-down" from the ACRS
8 letter.

9 MR. WARD: Yes.

10 MR. W. HOUSTON: " -- and would associate
11 quantitative objectives in a hierarchy as targets for
12 defining adequate protection of public health and safety."
13 Now that is a staff statement, and the ACRS letter did not
14 say that. But then it goes on --

15 MR. WARD: I think that that is a pretty good
16 interpretation.

17 MR. W. HOUSTON: "The process of implementation
18 would thus be directed toward the ultimate establishment of
19 a body of regulations and practices that are derived from
20 the safety goals and objectives and would then constitute a
21 complete statement or definition of adequate protection."

22 MR. WARD: Yes. I think that you have captured
23 very well what we are trying to say. It is just that you
24 introduce that statement by saying that this is something
25 different from what the Commission's policy statement says.

1 MR. W. HOUSTON: And you disagree with that?

2 MR. WARD: Yes, I disagree with that.

3 MR. W. HOUSTON: Okay.

4 MR. WARD: I think that the last couple sentences
5 of that paragraph expresses very well what we were trying to
6 say.

7 MR. W. HOUSTON: I go on. I think that I have
8 cited at least one other. I thought that maybe there were
9 two others. It is still in the April 12th letter. "They
10 expressed a view that regulations should be revised without
11 recourse to cost/benefit arguments when the purpose of
12 revision is directed toward achieving safety performance
13 based upon safety goal guidance." I think that is a direct
14 quote, although I did not put it in quotation marks.

15 MR. WARD: Well, I do not know if it is, but it
16 is close. I think that it captures what we said. To my
17 mind it just follows logically and inevitably from what you
18 said before.

19 MR. W. HOUSTON: The next sentence gets into the
20 question of how safe is safe enough. And for this one, we
21 went to an ACRS letter dated July 20, 1988 on the subject of
22 key licensing issues associated with DOE sponsored reactor
23 designs. And here reference is made again in that letter to
24 the use of safety goal policy. And the statement here that
25 we have made is, "The ACRS associates the safety goal policy

1 with a resolution of the question how safe is safe enough."

2 And then we point out that the Commission's
3 backfit policy as set forth in 50.109 recognizes that there
4 are circumstances in which substantial increases in the
5 overall protection of the public health and safety over and
6 above the minimum needed for adequate protection can be
7 achieved by justifiable regulatory action in which economic
8 costs are a consideration.

9 Then we say, "The staff believes that the
10 Commission intended that the safety goals and objectives
11 should be directed toward these latter circumstance." Now
12 that is a statement of what the staff thought that the
13 Commission intended.

14 MR. WARD: But you seem to be saying, and this is
15 the first thing that you pointed out in the policy
16 statement, you seem to be saying that you think that the
17 safety goals should be directed only toward that.

18 MR. W. HOUSTON: Yes, that is a fair statement.

19 MR. WARD: You have drawn that pretty narrowly
20 from the words in the policy statement it seems to me.

21 MR. W. HOUSTON: That would not follow from the
22 policy statement per se, that is correct. What it does is
23 that I perceive that it follows from attempting to combine
24 if you will or relate the safety goal policy statement to
25 the backfit rule coupled with I guess some common sense and

1 logic that there is no such thing as zero risk.

2 And eventually if you keep imposing requirements
3 on operating plants and if you keep proper track of what
4 happens to the risk profile if you will of plants as these
5 things are done step by step, and if in fact you are
6 achieving a gradual step by step reduction in risk, you are
7 gradually getting to the point where you can no longer
8 justify any additional requirements or any additional
9 backfits. And that is when the question of how safe is safe
10 enough is answered.

11 So we really differ I think on the meaning or we
12 may differ on the meaning, or significance of that simple
13 question which has been around for a couple of decades on
14 how safe is safe enough. Because if you think about it, it
15 is a question which can lead to ambiguity in answers. Safe
16 enough for the public or safe enough for the NRC to back
17 away and say we cannot improve the safety of the plant
18 anymore.

19 MR. WARD: It seems to me the safety goal has to
20 have something to do with the question of how safe is safe
21 enough.

22 I mean, if anyone, any layman, I guess, or person
23 who hasn't been paying much attention, hears about the
24 safety goal and is aware of the concept of how safe is safe
25 enough, that must be, it is almost sort of an obvious truism

1 or something that there is a relationship between those two
2 things.

3 So the safety goal policy, saying that the safety
4 goal policy is associated with the resolution or is a
5 resolution of how safe is safe enough, seems to be a pretty
6 widely held concept.

7 Now, okay. Then you get the cost-benefit thing.
8 You know, one problem with anything like the safety goal,
9 any sort of a standard goal, is the threshold problem.

10 Conceivably, the cost-benefit, the backfit rule
11 and the cost-benefit argument, could be a tool for dealing
12 with the threshold problem.

13 But it doesn't provide the total -- I mean, there
14 are certain requirements now in the body of regulations
15 which would probably fail a cost-benefit analysis. I don't
16 know that the ACRS, for example, would therefore suggest
17 that those regulations be eliminated.

18 But I think that if certain regulations are found
19 not to contribute to plants conforming to the safety goal,
20 you know, I think there would be an argument coming from,
21 for example, the ACRS, that those regulations should be
22 eliminated or changed, as unnecessary.

23 I guess what I'm getting at is I sort of see the
24 safety goal as a macro tool and the cost-benefit as a micro
25 tool for massaging the inevitable problems you are going to

1 have with the interface with any fixed standard. That's one
2 way of looking at it.

3 MR. W. HOUSTON: I'm not sure whether reference
4 is made to it in this paper. I think probably not.

5 But in one of the ACRS letters -- I think it was
6 probably in the April 12 letter -- the sentence that I read
7 a moment ago, about regulations, the ACRS expressed the view
8 that regulations should be revised without recourse to cost-
9 benefit arguments when the purpose is to establish
10 achievement performance based upon safety goal guidance.

11 The words seem to suggest there may be other uses
12 of cost-benefit arguments. But then it sort of left me
13 hanging as to what those other uses might be.

14 MR. WARD: It did, I agree. And we didn't --

15 MR. W. HOUSTON: I recognize that you, like we, I
16 suppose in a sense, grapple with the fact that the backfit
17 rule is there.

18 MR. WARD: Right.

19 MR. W. HOUSTON: Whether you or we like it or
20 not.

21 MR. WARD: Right.

22 MR. W. HOUSTON: And it is there and it is
23 something we have to live with and it is something the staff
24 really, it is guidance to the staff, basically, or direction
25 to the staff.

1 And what we are trying to do is orient the thrust
2 of dealing with safety goals, or as we called it, the
3 implementation of, to be consistent with the backfit policy,
4 and to provide a kind of an answer of how safe is safe
5 enough.

6 But in the context in which I personally
7 understood that question many, many years ago to be not so
8 much in the context of what does the public think is safe
9 enough, but when will the NRC or then the AEC get off our
10 backs, so to speak, we've done enough, our plants are safe
11 enough.

12 That to me was the original context of the
13 question.

14 MR. WARD: Yes, I agree. I think the Commission
15 has the responsibility as the agent of the public or agent
16 of society or whatever, to, as expert, to establish the
17 standard for how safe it safe enough.

18 I think that is what is done with the safety
19 goal.

20 MR. WARD: Yes.

21 MR. W. HOUSTON: We just haven't learned to use
22 it very well yet.

23 MR. WARD: No. We're struggling with it. Yes.

24 MR. W. HOUSTON: But another way to phrase it, I
25 guess -- the phraseology isn't in here, and it might be

1 unwise in a sense to use it to extrapolate from a different
2 kind of a situation, but thinking of, you used the word
3 "threshold" -- thinking of safety goal objectives as
4 threshold numbers, one could, the interpretation that the
5 staff has placed upon it is that the thrust of implementing
6 the safety goals is such that when there exists reasonable
7 assurance that the regulations are sufficiently effective,
8 or the regulatory process, practices and regulations are
9 carrying their weight, in a both plus and minus sense, the
10 results should be that nothing more, anything more than that
11 becomes below regulatory concern.

12 And although we haven't used the BRC terminology
13 in this context, I think that is still an apt term for what
14 we are talking about.

15 So it seemed to us that what we had was a
16 threshold using safety goals as a threshold beyond which
17 there need be no regulatory concern. And that was the
18 answer to the question "how safe is safe enough."

19 But an alternative view on the answer to the
20 question is, could be, that the safety goal, the
21 quantitative health objectives, for example, could be taken
22 to represent that which the public need have no concern
23 about, but is also equivalent to a definition of adequate
24 protection and no undue risk.

25 And that is the one the staff has steered away

1 from. In other words, it is safe enough for the public.

2 And I see a band in between those two, you see.

3 MR. WARD: I'm sorry. I'm missing the
4 distinction. They sound like the same thing to me.

5 MR. W. HOUSTON: Well, if we can imagine a plot,
6 for example, with a risk scale as the ordinate, so that
7 increasing risk is going upwards, at some level, let's say,
8 on this plot, near the upper portion of the plot, one might
9 draw a line and call that the line between adequate
10 protection and inadequate protection, or no undue risk on
11 the lower side and undue risk on the upper side.

12 MR. WARD: Okay.

13 MR. W. HOUSTON: You can think of it as a line,
14 if it is a threshold thing, or a fuzzy band, if you like.

15 Down near the bottom of the thing, this plot,
16 there is another line or a fuzzy band below which you are in
17 a region of below regulatory concern.

18 And in between those two bands is the realm in
19 which the backfit policy, backfit rule, can function.

20 That's another way of looking at that.

21 MR. WARD: Okay. And you are saying that is
22 where the backfit rule operates.

23 Let's see. Is that a lot different from -- okay.
24 I guess the structure I was seeing was that fuzzy line,
25 there is only one fuzzy line.

1 But I recognize that there is a problem with
2 interpretation and what I call the threshold problem, and
3 that you need something like the backfit rule or a cost-
4 benefit concept, to deal with that.

5 So maybe we are really talking about kind of the
6 same thing.

7 MR. W. HOUSTON: Yes. I guess, hearing what you
8 say, it sounds to me like if we take the same plot, rather
9 than putting the two lines on them as I've done, you've got
10 a fuzzy band somewhere in the middle of this.

11 MR. WARD: Yes.

12 MR. W. HOUSTON: And that sort of below this band
13 it is acceptable and above this band it is not acceptable.

14 MR. WARD: Yes.

15 MR. W. HOUSTON: And that because it is a band
16 rather than a sharp line or a threshold, you've got a little
17 maneuvering room in there in terms of cost-benefit perhaps
18 or judgment questions in dealing with the uncertainties of
19 the PRA.

20 MR. WARD: I guess it is not so much that you
21 have maneuvering room, that sort of implies you want that,
22 but I see it more that there is going to be --

23 MR. W. HOUSTON: An uncertainty.

24 MR. WARD: -- arguing room in there or something.

25 MR. W. HOUSTON: Okay. Arguing room. Fine.

1 MR. WARD: And you want to have a tool for
2 dealing with that, you know, systematic way of dealing with
3 those inevitable arguments.

4 MR. W. HOUSTON: And that tool would be?

5 MR. WARD: Maybe something like the backfit rule.

6 MR. W. HOUSTON: Or cost-benefit.

7 MR. WARD: Yes, or cost-benefit.

8 MR. W. HOUSTON: All right. Yes.

9 MR. WARD: So maybe we're talking about the same
10 thing.

11 See, because in your definition, you've got this
12 area called no undue risk, Then below that, another area
13 called no regulatory concern.

14 But that means that in the area of no undue risk,
15 you do have regulatory concern.

16 And I guess, what authority does the agency have
17 for having regulatory concern in an area where there is no
18 undue risk? It's just kind of a logical -- or maybe that
19 his just semantics.

20 MR. W. HOUSTON: If I used those words, I
21 misspoke.

22 MR. WARD: That's what you said. Well, I didn't
23 understand, I guess, then.

24 Yes? Why don't you come up here and participate.
25 Glad to have you participate.

1 This is Matt Taylor.

2 MR. TAYLOR: I just wanted to add that there is a
3 two-tier philosophy that was established in the court test,
4 the initial court test on the backfit rule, when it
5 interpreted the statutes for the Atomic Energy Act.

6 So there is a two-tier philosophy. One of which,
7 the threshold line would be called the adequate protection
8 line. And to achieve that, no costs would be allowed.
9 Below that level, would be certainly improvements that could
10 be made in safety but one was permitted to make a cost-
11 benefit test.

12 So that two-tier philosophy is not that much
13 different than what I believe Wayne is talking about, and it
14 does have a statutory basis.

15 MR. WARD: Yes. Okay. It's a line and a region,
16 I guess. Well, same thing. Okay.

17 MR. W. HOUSTON: Would I be correct in -- let's
18 see if we can figure out whether we're making any progress
19 here.

20 MR. WARD: Yes.

21 MR. W. HOUSTON: Would I be correct in
22 understanding that that ACRS didn't really set out with its
23 proposed plan for safety goal policy implementation to
24 define in a legal sense the term "adequate protection"?

25 THE WITNESS: No.

1 MR. W. HOUSTON: Is that a fair statement?

2 MR. WARD: That's right. As I say, I think we
3 backed into it.

4 MR. W. HOUSTON: Sort of backed into it.

5 MR. WARD: Yes.

6 MR. W. HOUSTON: And sort of like getting a
7 buzzsaw as you're backing in.

8 Although I recall very clearly back in early
9 1987, the first people that you brought in after we had some
10 problems with an earlier version of staff's plans, that you
11 brought in the lawyers. And so that's a piece of evidence
12 of concern that there was something sort of lingering there
13 that you wanted to get a better grasp on.

14 MR. WARD: Yes. I think that's right. Yes, I
15 don't know that I'm really, when I say -- Yes, I'm not
16 really speaking for the committee.

17 MR. W. HOUSTON: My third question, and I don't
18 know whether we've really exhausted this, and I'm not sure
19 what the answer is, I again raise the question, has the
20 staff correctly characterized the ACRS view? I guess it is
21 partly yes and partly no.

22 MR. WARD: Yes. I think most of the text on Page
23 4 and 5 I think you did, where you described the ACRS view.
24 But then you just, you led off by saying that you sort of
25 implied, well, that may be a nice logical view. It doesn't

1 derive from the safety goal policy.

2 MR. W. HOUSTON: Okay.

3 MR. WARD: That's kind of what you said.

4 MR. W. HOUSTON: Right.

5 MR. WARD: And that is where we differ with you.

6 I think we think that it can, it does derive from
7 the safety goal policy.

8 MR. W. HOUSTON: We've talked enough about the
9 backfit policy. I guess my question was, should there be a
10 relationship between the two?

11 MR. WARD: Yes. And I acknowledge we, the ACRS,
12 didn't really come to grips with that in our April whatever
13 it was, 12th, 1988 letter. We kind of left that for a
14 future time which is now, I guess.

15 MR. W. HOUSTON: Now is the future.

16 MR. WARD: Yes.

17 MR. W. HOUSTON: Maybe before -- I sense we may
18 be coming to some sort of a conclusion here. A couple of
19 things. This again is just sort of for the record. That
20 in any future work, either on the part of the ACRS or the
21 staff, I think it might be of use to bear in mind, to the
22 best of my knowledge and experience, very few -- and Matt, I
23 am sure you will correct me if I am wrong on this --
24 certainly in the recent past there is a real paucity of
25 examples of instances in which new regulatory requirements

1 have been imposed as backfits that utilized, or that were
2 justified on the basis of needed for adequate protection.

3 Most everything that comes through provides a
4 regulatory analysis which incorporates cost benefit
5 considerations.

6 MR. WARD: Yes.

7 MR. W. HOUSTON: There is currently in process
8 one that departs from that. The current change to the PTS
9 rule, Part 50.61, where there are some changes I think in
10 the formulas that are identified there for calculating the
11 reference temperature for a nil ductility transition, that
12 has gone through the CRGR, it has gone I think through the
13 ACRS.

14 I am not sure the ACRS focused on that element of
15 the justification, or the rule change. But there is, to the
16 best of my knowledge, one of the first examples of the use
17 of the current backfit rule and an appeal to that part of
18 the backfit rule dealing with adequate protection.

19 MR. TAYLOR: I would just point out one example,
20 I believe -- the station blackout rule. That was very
21 clearly stated to be resolution of a USI aimed towards
22 accident prevention, enhanced safety, not mandatory for
23 adequate protection, but certainly cost beneficial and
24 justified through the backfit rule.

25 So that was in that second tier, if you will, of

1 the statute.

2 The Commission has passed standards in that two-
3 tier, that are not mandated by the adequate protection
4 standard. And I believe that there has been a fairly
5 obvious practice by the Commission to impose upon itself a
6 test of all new rules against the backfit rule, suggesting
7 that all new rules are in fact in that second tier.

8 MR. WARD: Well, I guess what we have been
9 stumbling around here with is that that may not be, that
10 there first should be a test against, I mean, you know one
11 concept would be a test against the safety goal, and if it
12 is a close call or you seem to be muddling around in the
13 area of the threshold, then you call on cost-benefit
14 analysis, which the backfit rule provides for, to help with
15 the decision there.

16 But I think so far the staff hasn't been
17 explicitly using the safety goal in its resolution of USIs.

18 MR. W. HOUSTON: That is correct.

19 MR. WARD: I think that is sort of, it is out
20 there and I am sure it is in everybody's mind, but there
21 hasn't been explicit use of it.

22 I don't know if this comes together as a -- what
23 happens if you have a proposed new rule that let's say, that
24 is clearly shown to -- or you reach a conclusion from the
25 risk studies that have been made and from staring at the

1 safety goal, you reach a conclusion that it really doesn't,
2 isn't going to do much to bring plants into conformance with
3 the safety goal. But you can develop an argument for
4 spending a certain amount of money based on the cost-benefit
5 rule.

6 What do you do then?

7 Warren Minners.

8 MR. MINNERS: Warren Minners of the Office of
9 Research.

10 I don't think that can occur, because the backfit
11 rule requires you to not only do a cost-benefit balancing
12 but you have to make a finding of substantial safety
13 improvement.

14 So I think what you postulate is pretty hard to
15 come by.

16 MR. WARD: So I guess in making a finding of
17 substantial safety improvement, what do you use for a gauge?
18 I mean, that is where, I guess that is where the safety goal
19 would logically fit in. There is another term, substantial
20 safety improvement. Where does that fit into the glossary
21 of definitions?

22 MR. MINNERS: Even as a practical matter, you
23 don't have to pay too much attention to substantial safety
24 improvement, because when you do a cost-benefit balancing,
25 unless you have a substantial safety improvement, you are

1 not going to be able to make a cost-effective balance.

2 MR. W. HOUSTON: Let me supplement that, if I
3 may.

4 In many instances, the staff has in fact used two
5 entirely different gauges for substantial safety
6 improvement, although it may not have thought of them as two
7 different ways of gauging something as similar as a safety
8 improvement.

9 One of them is, as Warren has said, is on the
10 benefit side of the ratio or the equation, if you will, of
11 the cost-benefit analysis.

12 The benefit is, a safety improvement expressed in
13 terms of a lessened, incrementally lessened impact,
14 potential impact on the public.

15 But it is quite common in resolving safety issues
16 also to deal with, to try to quantify the effects on
17 preventing accidents from happening in the first place,
18 which is done in terms of calculating core damage
19 frequencies. And if the nature of the issue is such that
20 there is a potential for a reduction in core damage
21 frequency, this also is specified and can be thought of as
22 another way of measuring just how safety significant the
23 proposed reduction is. You know, a factor of 2, a factor of
24 10, or whatever it happens to be.

25 We don't have strict guidelines that a factor of

1 2 is significant and anything less is not. But comparisons
2 are made on a before and after sense with and without the
3 fix of the effects on core damage frequency or core melt
4 frequency.

5 But although I don't think you will find any
6 regulatory analysis that associates these with safety goals,
7 quote unquote, they are nevertheless results of PRA analyses
8 which have been used in that fashion.

9 MR. WARD: Yes.

10 MR. W. HOUSTON: And can be represented as one of
11 the measures of safety improvement.

12 MR. WARD: Yes, It seems to me there is in fact
13 use of the safety goal there, because maybe there is not an
14 explicit policy yet. That is because you have taken so long
15 to get this implementation out.

16 But I mean it seems to me the staff is all aware
17 of the numbers that are being considered as part of the
18 safety goal policy.

19 And I think no one has ever pretended that these
20 judgments are going to fall out of the analysis
21 automatically from the numbers, or that the decisions are
22 going to fall off.

23 But the staff, whoever is making the decision, is
24 going to look at the numbers they generate and they are
25 going to look at the safety goal policy, or some sort of a

1 standard, whether it has been real explicit or not, and
2 reach a judgment. And that is the process that goes on.

3 I think here we are just talking about let's get
4 a little more explicit and firm up and get everybody to
5 agree on using the same standard over here when they are
6 staring at something to reach a judgment.

7 MR. TAYLOR: Just one thought again. Going back
8 to the station blackout rule, I believe you will find a
9 regulatory analysis did address the degree to which that
10 rule might be expected to conform with the safety goal
11 policy and a 10 to the minus 6 large release, and the
12 analysis supporting that rule.

13 So there was an attempt to address regulatory
14 analysis in that rule, supporting analysis. NUREG 1032 I
15 believe.

16 MR. MINNERS: I know in A-45 there was a direct
17 comparison.

18 MR. WARD: Yes. Actually, in A-45, let's see,
19 there was, I think there was some inconsistency with what
20 the staff was staring at over here and what is the most
21 probable set of safety goal numbers that is going to
22 develop, as I recall.

23 MR. MINNERS: I think we said we were talking
24 about we had set a goal of 10 to the minus 5.

25 MR. WARD: Yes. That's right. What does the

1 safety goal say in its present incarnation?

2 MR. W. HOUSTON: 10 to the minus 5 just for the
3 contribution from decay heat.

4 MR. WARD: Oh, maybe that was it. Okay.

5 MR. W. HOUSTON: Sort of a partitioned safety
6 goal, if you will.

7 MR. WARD: Okay. All right. I'm wrong about
8 that I guess.

9 MR. W. HOUSTON: I wonder if we are at the point
10 where we can talk about how we deal with the joint letter?

11 MR. WARD: Yes. Yes. That's what I was going to
12 suggest. Because we are going to be having the same
13 discussion next week. And so let's talk about that.

14 MR. W. HOUSTON: It seems to me that the only
15 practical way for this to happen is the customary way in
16 which the staff prepares a response for the EDO to share its
17 comment on it.

18 Hopefully, it could be the kind of thing where
19 the staff paper or the ACRS could agree with. But you know,
20 it depends on what it says.

21 MR. WARD: Yes. Well, let's anticipate that as a
22 possibility, anyway.

23 But if not, at least we could try to be, perhaps
24 ACRS can try to be a little more complete and a little more,
25 well, just be a little clear about where it actually

1 disagrees or something.

2 MR. W. HOUSTON: What I think we propose to do
3 would be to draft such a paper. While I conceivably could
4 have such a draft next week, it is not one that could get
5 through the EDO's office.

6 MR. WARD: Yes.

7 MR. W. HOUSTON: The Commission requested a
8 response by mid-October.

9 MR. WARD: Yes.

10 MR. W. HOUSTON: And right now I guess I would
11 say that it may be a little bit difficult to put this
12 together, both things, to go to the Commission prior to
13 October 15.

14 MR. WARD: Yes.

15 MR. W. HOUSTON: What I could have is some draft
16 language to discuss at the full committee meeting, making
17 use of our discussion today, and some changes I think in the
18 way it was described in the Commission paper, sort of
19 highlighting, I think the differences. There are not very
20 many differences, I think. It boils down to the overall
21 objective in which the staff tied its position pretty much
22 to the integration, if you will, with the backfit rule,
23 which the ACRS view did not.

24 MR. WARD: I see.

25 MR. W. HOUSTON: But at the same time did not

1 intentionally set out to try to define the definition of
2 statutory, the statutory definition of adequate protection.

3 MR. WARD: Yes.

4 MR. W. HOUSTON: I think that is the key right
5 there.

6 MR. WARD: Yes. I think that is a workable
7 approach.

8 I mean, this paper you had proposed to write,
9 what are we talking about? It would be a, you know, how
10 long a paper? I mean, if you are going to get the --

11 MR. W. HOUSTON: Two pages.

12 MR. WARD: Okay. Yes. Well, I think --

13 MR. W. HOUSTON: I don't think it would take more
14 than that.

15 MR. WARD: Yes. I don't see why it should,
16 either. But I think something --

17 MR. W. HOUSTON: It may be done in one page.

18 MR. WARD: Okay. But I think something like
19 that, you know, within the scope of a meeting next week, the
20 ACRS may be able to get its hands around, its mind around,
21 or something, enough to have an opinion that is clear and
22 can be stated clearly, as to agreeing, or we agree except
23 for this point, or something.

24 MR. W. HOUSTON: I mean, it is clear that you
25 can't really formally comment on or write a letter on

1 something until you see something has been presented to the
2 Commission. Correct?

3 MR. WARD: Sure. No, we can comment on
4 something. We could even attach the draft to the letter, I
5 guess.

6 I mean, you can't present it to the Commission
7 until you get it through the EDO's office, right?

8 MR. W. HOUSTON: Correct.

9 MR. WARD: I don't know, Dean. When we've got
10 this October 15 deadline, which is sort of so what, I guess.

11 We are just trying to do it by the usual means.
12 But we would comment on something the staff has written.

13 The problem is that if we comment on something
14 that is in draft form and then by the time the Commission
15 sees it, it is different, our comments may make even less
16 sense than they did the first time around. And I think that
17 is what we're trying to deal with.

18 Would it do any good to postpone it by a month?

19 MR. W. HOUSTON: It would make it easier.

20 MR. WARD: Yes. But would we just have the same,
21 let's see -- well, we have commented on drafts of things
22 before.

23 MR. W. HOUSTON: That is true.

24 MR. WARD: We've just stated that this is the
25 draft of such and such a date, and that's it.

1 MR. W. HOUSTON: That is true.

2 MR. WARD: Why can't we do that? I mean, that
3 draft is documented within the agency, right?

4 MR. W. HOUSTON: Yes.

5 MR. WARD: I mean, if we define a title and a
6 draft dated such and such, doesn't that refer to a fixed
7 piece of paper, more or less?

8 MR. W. HOUSTON: It should. Sometimes you see
9 two different drafts having the same date on it.

10 MR. WARD: Yes. Yes. Okay.

11 Well, why don't we do that? I don't know,
12 that's not so far out.

13 MR. W. HOUSTON: Very good.

14 MR. WARD: Okay. Do you want to talk about these
15 other items now or do you want to wait and take about those
16 at the full committee meeting? That might be more -- what
17 do we have, two hours at the full committee?

18 MR. D. HOUSTON: Yes. Right now it is the first
19 thing on the agenda Thursday morning, 8:35 to 10:35.

20 MR. W. HOUSTON: I guess I'm inclined to say it
21 probably would be better to wait and do it with the full
22 committee.

23 MR. WARD: Yes.

24 MR. W. HOUSTON: And I will prepare some
25 viewgraphs.

1 MR. WARD: Okay.

2 MR. W. HOUSTON: And identify the uses.

3 MR. WARD: All right.

4 MR. W. HOUSTON: I think you have identified
5 everything. I just reread recently the transcript of your
6 meeting with the Commission.

7 MR. WARD: Yes.

8 MR. W. HOUSTON: Back in April or whenever it
9 was, where you sort of outline some of the differences
10 there.

11 MR. WARD: Yes. Okay. Well, I think, you know,
12 two hours -- well, then the question comes up, how can we
13 come to closure on these additional points?

14 MR. W. HOUSTON: I don't know.

15 MR. WARD: I'm talking more just about the
16 process.

17 MR. W. HOUSTON: Yes. It's been some five months
18 I think that the Commission has had before it --

19 MR. WARD: Yes.

20 MR. W. HOUSTON: -- our request to authorize us
21 to proceed.

22 MR. WARD: Yes. Well, the only difference they
23 seem to pick up on is this one, on the adequate protection.

24 MR. W. HOUSTON: I think that was a key one, yes.

25 MR. WARD: Yes. I think frankly, the committee I

1 think thinks a couple of these others are more important.

2 MR. W. HOUSTON: I understand that.

3 MR. WARD: Okay.

4 MR. W. HOUSTON: Additional containment failure
5 probably.

6 MR. WARD: Yes. And you know, what we mean there
7 is, you know, containment failure probability may be too
8 restrictive of a definition of what we are groping for or
9 asking for. But some floor on the mitigative capacity sort
10 of is what we really want.

11 MR. W. HOUSTON: Yes.

12 MR. WARD: Whether that is a containment or a
13 process or something.

14 MR. W. HOUSTON: Something you are struggling
15 with with a different hat on in the future.

16 MR. WARD: Yes. That's right.

17 MR. W. HOUSTON: Oh . On the large release
18 question. I guess what we wrote in a paper as a definition
19 was really intended as a criterion. And I'm not quite clear
20 for example, the comments that ACRS has made on that is that
21 it is ten times more conservative than the quantitative
22 health objective for early fatality.

23 I don't know where that comes from. I'd be
24 curious. I think it may be that the early draft of 11.50
25 may have, simply because they presented results of some

1 calculations which may have shown something of that order of
2 magnitude. I don't think that same comparison is in the
3 revised draft of 11.50.

4 It certainly was not intended to be something
5 that was definitively more conservative. As a matter of
6 fact, the very reason that it is there was the fact of the
7 fair amount of time that we spent discussing the potential
8 definitions of large release.

9 ACRS members made it very clear that it is
10 something that should be big enough to at least have the
11 potential for outside fatality because that was inherent in
12 the quantitative health objectives.

13 That's the only reason it was there. But it was
14 probably a mischaracterization of it to state it as a
15 definition.

16 It was done that way by analogy to a problem with
17 core damage or core melt frequency where people blithely
18 talk about 10 to the minus 3, minus 4, minus 5, minus 6 core
19 melt frequencies and don't concern themselves particularly
20 with what core melt is.

21 MR. WARD: Yes.

22 MR. W. HOUSTON: And you've faced up to that
23 issue.

24 MR. WARD: Right.

25 MR. W. HOUSTON: And yet I haven't heard anybody

1 insist on a precise definition of core melt. And what we
2 are trying to is leave it flexible for the time being in
3 terms of the large release.

4 And there is ha discussion in the paper of the
5 problems associated with -- admittedly they are perceived
6 problems associated with -- a release as a release kind of
7 thing, by number of curies.

8 Basically I don't think we are in disagreement on
9 what we are trying to achieve there. But the words probably
10 didn't come out quite right.

11 I think we can resolve that one.

12 MR. WARD: Okay. Yes.

13 MR. W. HOUSTON: We will be trying to quantify or
14 come to grips more with the containment performance
15 objective.

16 MR. WARD: Yes.

17 MR. W. HOUSTON: That is one that the staff has
18 wrestled with on and off I think for a number of years, and
19 is not yet successfully dealing with it.

20 MR. WARD: Yes.

21 MR. W. HOUSTON: Okay. We will be prepared to do
22 that next week.

23 MR. WARD: Okay. And the other one is this
24 acknowledgement of the inability of the present art of PRA
25 to meaningfully quantify the risk that comes from --

1 MR. W. HOUSTON: We have no disagreement there.
2 I think it just highlighted the fact that the ACRS said
3 that. I guess what I didn't say is that if we were to
4 revise the policy statement as we recommended, we would
5 incorporate that in there. But I don't think it said that.

6 MR. WARD: Yes.

7 MR. W. HOUSTON: That was not intentional.

8 MR. WARD: Okay. Well, revising the policy
9 statement or what I keep calling "fleshing it out," I mean
10 it seems it would be appropriate, well, you agree it might
11 be appropriate to say something like that in this document,
12 89-102?

13 Oh. Okay. All right. Okay.

14 And we will probably spend 30 minutes talking
15 about using the word "implementation" here. See if you can
16 think of something clever to get out from that. That would
17 be a good idea.

18 MR. W. HOUSTON: Okay.

19 MR. WARD: All right. Well, thank you very much.

20 Any other comments? Dean, do you know anything
21 else we ought to talk about?

22 MR. D. HOUSTON: No.

23 MR. WARD: Okay. Thank you very much for coming
24 down. I apologize that my colleagues couldn't make it.

25 But we will be here in force next week.

1 Thank you very much.

2 (Whereupon, at 2:55 p.m., the meeting was
3 adjourned.)

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CERTIFICATE

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

Name: SUBCOMMITTEE ON SAFETY PHILOSOPHY, TECHNOLOGY, AND CRITERIA

Docket Number:

Place: Bethesda, Maryland

Date: September 26, 1989

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

Joan Rose

(Signature typed):

Joan Rose

Official Reporter

Heritage Reporting Corporation

Heritage Reporting Corporation
(202) 628-4888

INTRODUCTORY STATEMENT BY THE SAFETY PHILOSOPHY, TECHNOLOGY, AND
CRITERIA SUBCOMMITTEE
CHAIRMAN'S REPORT
SEPTEMBER 26, 1989

The meeting will now come to order. This is a meeting of the Advisory Committee on Reactor Safeguards Subcommittee on Safety Philosophy, Technology, and Criteria.

I am D. Ward, Subcommittee Chairman.

Other ACRS Members in attendance are: H. Lewis and F. Remick.

The purpose of this meeting is to discuss the preparation of a joint paper which gives the ACRS and NRC staff positions on the concept of adequate protection, as it relates to the safety goals.

D. Houston is the cognizant ACRS Staff Member for this meeting.

The rules for participation in today's meeting have been announced as part of the notice of this meeting previously published in the Federal Register on September 18, 1989 (FR 38468).

A transcript of the meeting is being kept and will be made available as stated in the Federal Register Notice. It is requested that each speaker first identify himself or herself and speak with sufficient clarity and volume so that he or she can be readily heard.

We have received no written comments or requests to make oral statements from members of the public.

(Chairmens' Comments - if any)

We will proceed with the meeting, and I call upon W. Houston to begin.

Insert
#2

ADEQUATE PROTECTION AND SAFETY GOAL POLICY *

1. Is the Safety Goal Policy Statement itself clear on the meaning of safety goals as they may relate to the adequate protection issue?
2. In SECY-89-102, Implementation of Safety Goal Policy, dated March 30, 1989, has the staff correctly characterized the ACRS view?
3. Should there be a relationship between Safety Goal Policy and the Commission's Backfit Policy as set forth in the Backfit Rule, 10 CFR 50.109?

* Questions for discussion with ACRS Sub-Committee, Sept. 26, 1989