

ORIGINAL

OFFICIAL TRANSCRIPT
PROCEEDINGS BEFORE

NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DKT/CASE NO. 50-537
TITLE UNITED STATES DEPARTMENT OF ENERGY PROJECT
MANAGEMENT CORPORATION TENNESSEE VALLEY AUTHORITY
(Clinch River Breeder Reactor Plant)
PLACE BETHESDA, MARYLAND
DATE JANUARY 5, 1983
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:	:
	:
UNITED STATES DEPARTMENT OF ENERGY	:
PROJECT MANAGEMENT CORPORATION	: Docket No. 50-537
TENNESSEE VALLEY AUTHORITY	:
	:
(Clinch River Breeder Reactor Plant)	:
	:
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5th Floor Conference Room
4350 East-West Highway
Bethesda, Maryland

Wednesday, January 5, 1983

The hearing in the above-entitled matter was
convened, pursuant to recess, at 9:00 a.m.

BEFORE:

MARSHALL E. MILLER, Chairman
GUSTAVE E. LINENBERGER, JR., Member

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1 MR. SWANSON: The FES I notice uses the number
2 537.

3 JUDGE MILLER: Okay, the correct docket
4 number, then, is 50-537, and if I stated different
5 numbers, which I did, ignore that. The correct number
6 is and will continue to be 50-537.

7 Now, are there any other corrections for the
8 record that anyone has noticed?

9 (No response.)

10 All right. On behalf of the staff, page 6734,
11 Appearances, is this Mr. Dube an attorney?

12 MR. SWANSON: No, he isn't.

13 JUDGE MILLER: Then let's strike the Esquire.
14 I take it he was probably your consultant, wasn't he?

15 MR. SWANSON: That is correct. That is the
16 way he was introduced.

17 JUDGE MILLER: If there are any other
18 corrections that can be made either informally or
19 formally, I believe now we're at the point of -- Dr.
20 Cochran, are you going to argue on behalf of the
21 intervenor, NRDC, with reference to VII, the fuel cycle
22 matters revolving around Contention 6(B)(1) and 3?

23 MR. COCHRAN: Yes, sir.

24 JUDGE MILLER: You may proceed.

25 ARGUMENT OF THOMAS B. COCHRAN

1 ON BEHALF OF INTERVENOR, NRDC

2 MR. COCHRAN: Mr. Edgar indicated yesterday
3 that there were four principal fuel cycle issues in
4 dispute, and I think that fairly characterizes the major
5 issues. These are the plutonium isotopic concentrations
6 to be used and considered in use. The second is the
7 consideration of alternative plants for reprocessing
8 CRBR fuel other than the DRP. The third issue was the
9 confinement factors used by the applicant and staff for
10 fuel processing and fuel fabrication and the associated
11 releases from normal operations.

12 Now, Mr. Edgar did not mention, and I would
13 add either as a subpart of this issue or as a separate
14 point, that failure of the staff and applicant to
15 analyze environmental impacts of accidents at
16 reprocessing plants or, for that matter, any of the fuel
17 cycle facilities. And finally, the dose values
18 associated with the waste management activities. And I
19 will address these issues in the order that I have
20 presented them.

21 The first issue is the plutonium isotopic
22 concentrations. Now, intervenor presented its
23 affirmative case that the use of plutonium recovery from
24 light water reactor high burn-up spent fuel is
25 reasonably foreseeable, and that the use of plutonium

1 recovery from such fuel would increase the plutonium
2 bone surface dose contribution by a factor of 2 to 4.3
3 over the respective dose estimates of the staff and
4 applicant. The 2 to 4.3 was derived by Cochran at TR
5 4586 to 4591. And this represented a more accurate
6 derivation than that presented earlier by Morgan, I
7 believe. Morgan calculated a value of 5.6, but we would
8 take the lower value, which was a fuller consideration
9 of the factors that go into the calculation.

10 Now, the derivation of the factor 4.3 is not
11 in dispute. Neither applicants nor staff found any
12 fault with the derivation by Cochran. In fact,
13 applicants conceded that if the fuel -- that if CRBR
14 were fueled with high burn-up light water reactor fuel,
15 you would increase the plutonium source term by -- in
16 the two controlling isotopes, PU-238 and 241 -- by a
17 factor of 2 to 4. That is at TR 4265, Yarrowborough.

18 And furthermore, the applicants admitted that
19 it is possible that PU from light water reactor spent
20 fuel will be used in the CRBR, but they didn't know the
21 likelihood of such an event, and this is at TR 4253,
22 Sherwood.

23 Now, the applicants and staff have raised
24 several counter-arguments to our argument that the bone
25 surface dose from plutonium transuranics, more or less

1 throughout the evidence of this proceeding by the
2 calculations by the staff and applicant, should be
3 raised by a factor of 4.3. And I will take these
4 arguments one at a time.

5 The first argument is that CPBR is being
6 licensed for operation with low burn-up plutonium.
7 Well, this argument was made by the applicants and
8 staff, one or the other, in an effort to strike some of
9 Morgan's testimony. And the Board didn't buy this
10 argument previously because this is an LWA-1 proceeding
11 and it is for a reactor of the general size and type,
12 and not for a reactor of the general size and type
13 having licensing tech specs for a certain specific
14 limitation on plutonium isotopes.

15 Now, it is perhaps useful to just step back
16 and see how we got to this decision. Prior to 1977, the
17 administration and, in fact, the entire nuclear industry
18 was proposing to use breeders in conjunction with light
19 water reactors and get the plutonium from the light
20 water reactor industry and put it in the breeder and
21 generate additional plutonium. And in fact, that is the
22 way the initial application contemplated plutonium
23 coming; from commercial light water reactor fuel --
24 namely, the Barnwell plant.

25 And then as you recall, in 1977 the Carter

1 Administration put the ice on reprocessing, and so for
2 the Clinch River reactor, the administration looked
3 toward the DOE stockpile, which is plutonium from the
4 Hanford N reactor primarily, not entirely, which has --
5 which would be of lower burnup than the plutonium from
6 the recycled LWR fuel.

7 And so, they started doing the heterogeneous
8 core, which calculations were based upon consideration
9 of that source of plutonium more recently, and more
10 recently, the administration is going back to using that
11 plutonium for other purposes -- the DOE stockpile -- and
12 going back to seeking the plutonium from the commercial
13 LWR industry.

14 Now, all of this is sort of beyond the scope
15 of the proceeding. My point -- I have two points here
16 in this regard. One is that it hardly makes sense to
17 allow one to limit the plutonium isotopic concentrations
18 you consider and then, at the same time, not allow one
19 within the scope of the proceeding to address whether
20 any such plutonium, in fact, will exist for that purpose.

21 And the second point is the one I made before,
22 that this is for a reactor of the general size and
23 type. And one, at this stage in the game, cannot
24 project what the actual plutonium isotopic
25 concentrations will be and whether they could be so

1 limited.

2 As a third matter on this same issue, this
3 sort of defense of "we will license it with low burn-up
4 plutonium" is what I will call the bubble gum defense.
5 And basically, it goes like this.

6 The applicants are basically saying, Look, we
7 can come in at an LWA-1 proceeding and pretend that
8 we're going to license this reactor fueled with, let's
9 say, with uranium, which is less toxic than plutonium or
10 even bubble gum. I mean, that is my farfetched
11 analogy. And then once we get the site, the finding
12 that the site is suitable and proceed to the OL stage
13 where one gets around to formalizing the tech specs of
14 the license, then we will change the tech specs to
15 plutonium or higher isotopic concentration.

16 You have then built the reactor and so forth
17 and you are well beyond the site suitability stage. And
18 so then, you will not have the same problems in changing
19 the tech specs as you would if you were to address this
20 issue up front at the site suitability stage.

21 I don't think that is a reasonable approach,
22 and I think you have to look at the site suitability in
23 terms of all of the sort of foreseeable options that
24 might confront this reactor, and one of those certainly
25 foreseeable options is that you're going to fuel this

1 reactor with higher burn-up plutonium. And, therefore,
2 the analysis at this stage in the licensing proceeding
3 should be based on the conservative assumptions with
4 regard to the isotopic concentrations.

5 (Discussion off the record.)

6 JUDGE MILLER: Back on the record.

7 MR. COCHRAN: The fact that or the issue of
8 whether the high burn-up fuel is a reasonably
9 foreseeable alternative brings us to the second
10 counter-argument that has been made by the applicants
11 and staff, and that is there are ample stocks of low
12 burn-up light water reactor fuel around. And there are
13 several reasons, I believe, for dismissing this argument.

14 First, the applicants claim that there is
15 enough LWR spent fuel at burnups up to 25,000 megawatt
16 days per metric ton for operating the Clinch River
17 reactor for 15 years or so. This is at TR 4313 to 14,
18 Hartman.

19 But intervenors introduced evidence,
20 particularly Intervenor Exhibit 14, which shows if you
21 just take the staff and applicant's fuel isotopic
22 concentrations -- and I'm referring now to the ones that
23 would be consistent with the highest concentrations of
24 238 and 241 that they considered in the fuel cycle
25 analysis and in the site suitability analysis and also

1 in the Appendix J analysis, if you just take those
2 isotopic concentrations -- and look at Exhibit 14, you
3 will see that their burnup is more -- for that fuel is
4 characteristic of something in the neighborhood of 12 to
5 14 thousand megawatt days per metric ton, and not 25,000.

6 And therefore, it is not 15 years, or even if
7 you would assume that Mr. Hartman is correct with regard
8 to the 15-year figure, it does not apply to this case
9 since we are talking about a cutoff at a much lower
10 burnup. The Intervenor's Exhibit 14 was discussed at TR
11 4531 to 33, and 4562.

12 And one must also recognize that this 15-year
13 value, or actually something less than 15 years since we
14 are really talking about 12 to 14 thousand megawatt days
15 per metric ton, is based on an assumption of whether
16 there is adequate inventory based upon an assumption
17 that you would be operating in that period with
18 once-through fuel cycle, and I think the record will
19 show that you cannot -- that the CRBR would operate on a
20 once-through fuel cycle, and the record would show that
21 that is also a reasonably foreseeable alternative.

22 That DRP or whichever alternative to it would
23 not be available in time to insure that CRBR recycling
24 commenced immediately, and there is nothing in the
25 record to indicate that the actual fuel management

1 schemes will be so efficient that you could really turn
2 the CRBR fuel around and put it back in the CRBR so that
3 you did not obtain the additional plutonium from the
4 other sources that you would need.

5 But more importantly, there is no assurance
6 that TVA, after the five-year demonstration period, or
7 even DOE during the five-year demonstration period
8 would, in fact, utilize this low burn-up light water
9 reactor fuel that is available below 12 to 14 thousand
10 megawatt days per metric ton. There is nothing in the
11 record regarding TVA's fuel management intentions and
12 how it proposes to manage to mix its plutonium; that it
13 would derive, if it, in fact, did so from its light
14 water reactors or from the CRBR. And there is nothing
15 to indicate TVA would go shop around and buy up all of
16 the low burn-up spent fuel all over the country rather
17 than using the high burn-up spent fuel from the TVA's
18 own reactors.

19 There is just nothing in the record to support
20 that sort of argument, that you would actually use that
21 low burn-up spent fuel, even if it were available.
22 Moreover, the record indicates that the reactors, light
23 water reactors, are achieving burnups higher than 33,000
24 megawatt days per metric ton now, and are expected to go
25 to even higher levels.

1 And just some relevant sites that are relevant
2 in that regard -- DOE reports give a wide range of
3 burnup for light water reactor spent fuel. They picked
4 the 25,000 as representative. I'm not sure that this
5 burnup was typical. It is at TR 4261. They admit that
6 some light water reactors today are achieving a burnup
7 of 33,000 megawatt days per metric ton. The same, 4261,
8 that higher burnups -- there would be a greater
9 percentage of 238 and 241 and higher releases.

10 This is moving to TR 4263 to 64. They admit
11 that the light water reactor are moving to higher
12 burnups at this time. In 4264, they said they didn't
13 know how high the burnups are going to be. Higher
14 burn-up plutonium would increase the 238 and 241 source
15 terms by a factor of 2 to 4, as I mentioned earlier.
16 There is also the evidence that with regard to the DRP
17 capacity and the fact that it is being designed to
18 handle -- its design is such that there would be no
19 limitations on burnup. That's at TR 4308.

20 And there is evidence that the DRP is actually
21 only about 8 percent of its capacity would be for the
22 CRBR, and that there would be a lot of -- the intent
23 would be to use a balance of that capacity or some part
24 of the balance of that capacity to reprocess LWR spent
25 fuel.

1 So there is further evidence there that, in
2 fact, if you go ahead with CRBR, you can expect to
3 reprocess and recover light water reactor spent fuel,
4 and again, that I think supports the argument that some
5 of that light water reactor spent fuel will find its way
6 into the CRBR. And I think you should see generally TR
7 4309 to 4313.

8 Now, Mr. Edgar has raised what I would call a
9 spurious argument that one should make some distinction
10 between the light water reactors and the Clinch River or
11 LMFBRs, because in the light water reactor case you are
12 building up the isotopes 238 and 241, and in the CRBR
13 you would be reducing the concentrations of those same
14 isotopes, and as you recycle, those concentrations would
15 be reduced.

16 Now, the reason this is not terribly relevant
17 is because if you're going to put the high burn-up light
18 water reactor fuel in the CRBR, the minute you put it in
19 there, it has got the higher concentrations and you
20 don't get to the lower concentrations unless you put it
21 in there to begin with.

22 So you are starting out, if you put the high
23 burn-up light water reactor spent fuel in the LMFBR,
24 you're starting out with these higher concentrations,
25 and therefore, the analysis should be based on these

1 higher concentrations that would show up initially. And
2 in fact, the applicant cited, I believe, two references
3 for the fact that the isotopic concentrations in the
4 CRBR for 238 and 241 would decrease, and one of those
5 is, I guess, a PSAR -- excuse me, an ER citation that
6 was given by Mr. Edgar yesterday.

7 The second -- I would confess, without
8 reviewing that material I'm not clear precisely how fast
9 these concentrations would be reduced; whether they're
10 going to be reduced in any significant amount over any
11 significant period of time. But we could check that
12 particular citation. The other citation gives no
13 evidence with regard to whether this reduction in the
14 CRBR of these isotopes is significant or whether it is
15 just a minor reduction. But that is at least for me,
16 until I go back and re-read the record, that is an open
17 question.

18 It's been brought to my attention that that
19 citation is the ER amendment 14.4A.

20 Now, there's a third claim, or maybe a fourth
21 claim, I've lost track of the numbers, and that is that
22 all of this business about isotopic concentration
23 doesn't matter. And this was an argument made by Mr.
24 Edgar yesterday and his argument is basically limited to
25 fuel cycle considerations.

1 The extent to which it matters elsewhere with
2 regard to other contentions, particularly Contention 2,
3 is that it would increase the site suitability bone
4 surface dose numbers, all other things considered equal,
5 by a factor of 4.3. And that, in our view, is one of
6 the factors that tips the balance and indicates that the
7 CRBR design at the site is not suitable.

8 Now, the argument -- well, I would also add
9 that it similarly increases the dosages in the Appendix
10 J analysis by the same factor, and the importance of
11 that depends upon the particular application,
12 obviously. Mr. Edgar's claim that it wasn't important
13 was really limited to fuel cycle considerations.

14 Now, this claim basically goes as follows.
15 Most of the dose to the public from the CRBR fuel cycle
16 is associated with reprocessing. At least, that is the
17 conclusion of the NEPA analysis by the staff. And that
18 most of that dose is due to carbon 14 and tritium. And
19 that the plutonium or transuranic contribution to that
20 dose is on the order of 1 percent or less. And then,
21 that if you multiply that by a factor of 4.3, so what?

22 It would be true that this additional factor
23 of 4.3 would not be important if, in fact, the staff had
24 accurately calculated the plutonium bone dose from
25 transuranics at the reprocessing plant, but that is also

1 a matter of dispute. And if they have greatly
2 understated the plutonium dose contribution, bone dose
3 contribution, from the reprocessing plant, then the fact
4 that -- then you can no longer say that the plutonium
5 contribution to health risk is at the 1 percent level.
6 And so, the argument does not hold.

7 So the argument holds if you believe the
8 staff's -- Mr. Edgar's argument holds if you believe the
9 staff's calculations of the health effects due to
10 plutonium exposure at the reprocessing plant. And it
11 does not hold if you do not buy their calculation. And
12 intervenors do not believe they have adequately analyzed
13 the plutonium dose calculations for reprocessing, in
14 part because of their failure to look at the reasonably
15 foreseeable alternative of reprocessing at principally
16 the Savannah River plant, which would be a plant, an
17 alternative to the DRP. And that is the second issue
18 that was raised by Mr. Edgar and also by me, so I will
19 address that now.

20 So I will now turn to the question of
21 alternative reprocessing options to the DRP,
22 principally, the Savannah River plant. Well, let me
23 defer that for one minute to just clean up one point on
24 the dose calculations.

25 Mr. Swanson gave some citations to the

1 record. I'm not sure whether staff or applicant
2 witnesses were discussing this 1 percent factor, or 99
3 percent of the whole body dose comes from carbon 14 and
4 tritium. Let me just first say that there are two. Not
5 only must one look at the whole body dose, but one must
6 also look at the plutonium bone surface dose exposure,
7 and the NEPA analysis that the staff has done only
8 reported the whole body dose; they did not report the
9 bone surface dose.

10 Now, Mr. Swanson tried to deflect this point
11 by saying that Dr. Johnson was in error in saying they
12 didn't look at these other organs, and he referred to a
13 footnote (a) in the tables, one of the figures in the
14 EIS. But if you look at that figure, you will see it
15 applies not to reprocessing but only to fuel fabrication.

16 Now, the only place you will find any
17 reference to the bone surface dose is in my testimony,
18 and, in fact, Mr. Edgar cited that to make the same with
19 respect to the bone surface dose that he is making to
20 the whole body dose. That is that even with respect to
21 the bone or to the bone surface, most of the dose comes
22 from carbon 14 and tritium, by the staff's analysis.
23 That is true by the staff's analysis. It is not the
24 same -- well, it is still true in the same 1 percent
25 level.

1 My point is that don't be deflected by all of
2 this discussion of the whole body dose because it is not
3 particularly relevant when you're talking about the
4 plutonium exposure contribution, because the risk is
5 associated not with whole body but with bone surface.
6 So it would be helpful if we would focus not on the
7 whole body numbers but on the bone surface numbers.

8 Well now, turning back to the alternatives to
9 the DRP, there are really three points that need to be
10 made in order to make this argument. First is that are
11 reprocessing options such as the use of the SRP,
12 reasonably foreseeable options? And second, if they
13 are, has the staff bounded their analysis in the
14 environmental impact system by considering only the DRP
15 and not these other options? And third, if it is not
16 bounding, have they done an adequate analysis or any
17 analysis of these other alternatives?

18 And so, I will take these one at a time.
19 First, with respect to whether the SRP or even the PUREX
20 is a reasonably foreseeable alternative, applicants and
21 staff admit that the SRP is a reasonably foreseeable
22 alternative in the ER and FES and in their testimony,
23 and you can find references in the FSEF at D-15 to
24 D-17. In the ER it is Applicant's Exhibit 35 at page
25 5.7-7, and in the testimony there is reference to GAO

1 reports at TR 1495 and to budget reports at TR 4205 to
2 4210. And I think that those references adequately
3 demonstrate that SRP is a reasonably foreseeable
4 alternative.

5 Now it is outside of the record but I can't
6 pass up the opportunity to note that Mr. Stockman has
7 zeroed out the DRP and that is not a particularly
8 foreseeable alternative in my view, but that is all
9 beyond the scope of this proceeding.

10 Now, the second question is whether the DRP
11 analysis by the staff is bounding in terms of the
12 environmental releases and risks associated with the
13 other reprocessing alternatives. Applicant witness
14 Sherwood admitted that there may be greater releases
15 from transuranics at existing facilities, such as at
16 Savannah River. That is at transcript 4220.

17 And in the written testimony by Cochran, it is
18 demonstrated that the plutonium releases from SRP and
19 PUREX are one or more orders of magnitude higher than
20 the releases assumed for the DRP. That is at transcript
21 4597 to 4600.

22 Applicants and staff claim that the
23 transuranics are not controlling. However, as I
24 indicated earlier, this statement only applies if you
25 accept their assumptions with regard to the releases of

1 plutonium at the DRP. It doesn't necessarily apply to
2 the Savannah River plant.

3 The staff did not analyze the transuranic
4 releases from the Savannah River plant. That is at TR
5 4397 and 98, Lowenberg. The staff -- well, let me say
6 that Mr. Edgar tried to deflect this argument by saying
7 that first, Cochran's analysis only showed that SRP
8 releases were, in fact, a factor of 10 higher than those
9 projected for the DRP, and after all, you can patch that
10 up by slapping on another HEPA filter.

11 Well, there are several things wrong with this
12 argument. First, the whole argument is based on the
13 assumption that you're only talking about gaseous
14 releases to begin with. The DRP design is based upon
15 zero liquid effluents. The Savannah River plant is not
16 a zero liquid operation. And the staff has not analyzed
17 the liquid effluents at the Savannah River plant.

18 A second point is that the factor of 10 is a
19 number based on selected years of operation at Savannah
20 River, and also, the most recent years for which I had
21 data and also, the Hanford. I also looked at the
22 lifetime of the Savannah River operation and the
23 differences were more like a factor of 4000, and you
24 cannot tell -- there is nothing in the record that would
25 tell you whether you can properly take the factor of 10

1 rather than a larger factor, somewhere between 10 and
2 4000 as the appropriate factor by which to increase the
3 gaseous plutonium emissions because there has been no
4 analysis of where those releases occur at the Savannah
5 River plant; whether they occur from accidents, whether
6 they occur through the HEPA filters or whether they
7 represent bypass leakage around all other filter systems
8 and so forth.

9 Until somebody has done that analysis, you
10 can't just jump on the factor of 10 and ignore the
11 factor of 4000.

12 Similarly, this business of well, you can
13 patch up a factor of 10 by slapping on another HEPA
14 filter, depending solely on the assumption that all of
15 the releases are through the HEPA filters and that none
16 of these releases are due to accidents or bypass sources
17 around an entire filter system.

18 Mr. Lowenberg's statements with regard to
19 reducing by a factor of 10 would be true under the
20 limited condition that it could be shown that the
21 releases are through the HEPA filter systems. That the
22 principal releases are through the HEPA filter systems.

23 But there is yet another point, and that is
24 there is no evidence that the Savannah River operations
25 would slap on that other HEPA filter to begin with. I

1 mean, there is nothing -- there is no analysis to
2 demonstrate that that sort of function would be done.

3 Now, part of the counter argument was that if
4 you were to reprocess spent fuel at the Savannah River
5 plant, you would put on -- you have to add on a new head
6 end facility, and therefore, that gives you the
7 opportunity to -- in effect, the implication is that
8 gives you the opportunity to clean up the plutonium
9 releases to any level you would desire.

10 And the problem with that argument is the
11 plutonium -- there is no evidence that the plutonium
12 releases come from the head end part of the plant, and
13 in fact, there is evidence in the record that it may
14 come from the back end of the facility. The back end of
15 the chemical operations.

16 Now, to the question of whether the staff has
17 analyzed the SRP, I would note further in this regard
18 that the staff did not, as I've noted previously,
19 analyze those due to liquid effluents from SRP. That is
20 at transcript 4411 to 12, Brannigan. The staff made no
21 independent analysis of liquid effluents from SRP;
22 rather, the staff relied solely on DOE assertions that
23 they would meet goals and objectives at any alternative
24 reprocessing plant. TR 4429, Clark.

25 And in this regard, I would also remind you of

1 the evidence of Johnson that DOE cannot be trusted. TR
2 6022 to 23.

3 At TR 4409, the staff admitted that the
4 remaining 10 percent of the reprocessing dose would be
5 -- this is that due to other than carbon 14 and tritium
6 -- would be released from the balance of the SRP, not
7 from the head end facility. That's at TR 4409.

8 The staff has no basis for saying that SRP
9 releases other than carbon 14 and tritium might
10 contribute -- well, my notes are confusing and I will
11 just have to refer you to 4409 for the reading of that
12 text.

13 The staff did not include liquid effluents in
14 its calculations and isn't aware of what the dose from
15 SRP would be due to liquid effluents. See TR 4411 to
16 12. Staff cannot tell whether DOE would commit to zero
17 liquid effluents if the SRP were used. TR 4429.

18 Staff did not consider accidental or bypass
19 leakage from HEPA filters, TR 4436.

20 With regard to the issue of the confinement
21 factors, again, I have already -- the confinement
22 factors associated with the DRP. We will set aside now
23 the SRP case. I have touched on this already. Well,
24 excuse me. Let me correct my statement with regard to
25 the confinement factors used by the applicant and the

1 staff for fabrication and associated releases from
2 normal operations.

3 I've already indicated that the assumptions
4 the staff and applicant are making about being able to
5 correct by factors of in the neighborhood of 10 are
6 based on the assumption that all the plutonium goes
7 through the HEPA filters, and, therefore, it does not
8 apply to alternative plants where the releases may be
9 due to accidents or bypass around the entire filter
10 banks.

11 The fourth issue was the dose values
12 associated with reprocessing. Mr. Edgar and I,
13 according to Mr. Edgar, do not disagree with the
14 calculations I made based upon the EPA proposed
15 standards up to a point, and that was I took the one-one
16 hundredth of the total number of health effects
17 associated with the standard, applied them to the CRBR
18 component of the waste, and got a value of 10 that Mr.
19 Edgar said should be -- you should get something smaller
20 because the CRBR's share of the waste is not 1 percent,
21 but a smaller fraction, I believe.

22 I don't attach much significance to that
23 correction. I don't think anybody at this time could
24 really predict those numbers with anything like that
25 accuracy in any case.

1 But then, I divided the total number of health
2 effects which were remaining, which were 10, by 30,
3 which was the operating lifetime of the reactor, to get
4 three-tenths of a health effect per year of operation of
5 the CRBR. And Mr. Edgar says I am doing the analysis
6 wrong because really, all of those health effects don't
7 appear in one year; they appear over 10,000 years. And
8 of course, I realize that.

9 I am reporting the number of health effects
10 associated with one year of CRBR operation, which is the
11 way the health effects analysis is done in the EIS, and
12 I remind you that even in the fuel cycle analysis, the
13 health effects in the staff's analysis are calculated
14 over a 100-year period. And then some to give you how
15 many health effects associated with one year of
16 operation of the plant, or what dose is associated with
17 one year of operation of the plant, and it is that
18 number that I was trying to calculate.

19 I don't think it is terribly -- I don't think
20 it is significant for the purposes of the analysis here
21 whether -- the distinction that Mr. Edgar is making, but
22 we don't appear to quarrel with the analysis at that
23 point.

24 Mr. Edgar points out that this analysis is an
25 upper bound estimate. I accept that. My point is that

1 it is much higher than the total health effects one
2 would calculate from the balance of the fuel cycle, and
3 by the staff's analysis based upon their total of
4 something like 170 man rem per year from the fuel cycle
5 or somewhere in that neighborhood. And it is not a
6 negligible contribution to the total health effects,
7 and, therefore, I think it should be discussed more
8 fully in the environmental impact statement, as opposed
9 to the absence of any discussion of the uncertainties
10 associated with the health effects from the high level
11 waste management operations associated with the CRBR.

12 That I believe concludes my remarks. Let me
13 just check and see if I have overlooked a citation.

14 (Pause.)

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1 DR. COCHRAN: I added a point to Mr. Edgar's
2 list of four items, and that was the failure to consider
3 accidents, and I think I have covered it, but if not,
4 you should look at transcript 4436, where the Staff did
5 not consider accidental releases, and I believe there is
6 another citation but I don't seem to find it in my notes
7 at the moment, so I will just --

8 [Pause]

9 Yes, you should also see transcripts 4336 by
10 Clark and the failure to consider accidents in the fuel
11 cycle, and that concludes my remarks.

12 JUDGE MILLER: Any rebuttal?

13 REBUTTAL ARGUMENT BY GEORGE L. EDGAR, ESQ.

14 ON BEHALF OF PROJECT MANAGEMENT CORPORATION

15 MR. EDGAR: Yes, a few quick points. One, I
16 will just pinpoint several assertions made by
17 intervenors in the argument. The first is the argument
18 was made that there is no assurance that DOE or TVA
19 during the operation of Clinch River would use low
20 burnup fuel and that that was asserted to be a
21 significant point. Again, as we have indicated before,
22 it seems rather difficult to conceive of this happening
23 under the terms of the application and the license.
24 That assumes essentially no regulatory process.

25 The next point is that Dr. Cochran asserted

1 that LWRs are achieving 33,000 megawatt days per metric
2 ton of burnup and are expected to go higher. Whatever
3 the truth or merit of that statement, he neglected to
4 point out in the transcript he conceded that virtually
5 all of the LWR spent fuel now in existence is below
6 30,000 megawatt days per metric ton. See TR 4252
7 through 4253.

8 The next point is that Intervenors have
9 characterized the point we made that there is a
10 difference in the physics of an LWR, an LMFBR in terms
11 of building up or burning up the isotope plutonium 238
12 and 241 as a "spurious argument." That neglects the
13 origins of the argument in the first place.

14 Let's consider Intervenors' Exhibit 9, TR
15 3131, the testimony of Dr. Morgan, where the assertion
16 is made that more PU will be contained in the fuel
17 loading of the CRBRs as the number of recycles
18 increases. The argument was introduced and the initial
19 assertion made by Intervenors that there would be
20 buildup of PU 238 and PU 241 during subsequent
21 recycles.

22 It does suggest to us that either Intervenors
23 are now abandoning their own argument, which may, in
24 fact, be the case, or that the description of the
25 argument as spurious should be directed toward their own

1 origins. In any event, Dr. Cochran does not doubt that
2 plutonium 238 and 241 would not build up in Clinch
3 River. See TR 4539.

4 The next point that one should consider in
5 regard to the fuel cycle is that the discussion of waste
6 management and the doses from waste management, there is
7 no dispute whatever in the record that the analysis
8 conducted by the Staff and displayed in the FESS is an
9 upper bound analysis. Dr. Cochran said that today in
10 oral argument and confirmed what has been established in
11 cross-examination.

12 The curious inconsistency, however, arises
13 because he now asserts today that the FESS should have
14 had a discussion of uncertainties in those values. It
15 seems quite clear that if indeed these are computed to
16 be upper bound values, then it is rather nonsensical to
17 indicate that there should be discussion of
18 uncertainties.

19 In conclusion, Your Honor, we believe that
20 nothing in this record exists to show that there is any
21 basic defect or any significant shortcoming in the
22 analyses presented in the FESS. On the contrary, the
23 record clearly shows that the analysis of the fuel cycle
24 impacts and, indeed, the evidence as to all of the four
25 disputed issues is clearly overwhelmingly in favor of

1 applicants.

2 JUDGE MILLER: All right. I believe that
3 brings us, then, to the next contentions. That is Roman
4 numeral VIII, Contentions 5(A) and 7(C), alternative
5 sites, I believe. Is that correct?

6 MR. EDGAR: Correct.

7 JUDGE MILLER: Very well. You may proceed.

8 ARGUMENT BY GEORGE L. EDGAR, ESQ.

9 ON BEHALF OF PROJECT MANAGEMENT CORPORATION

10 MR. EDGAR: In regard to alternative sites,
11 the primary sources of affirmative evidence here are as
12 follows: first, Applicant's Exhibit 45; then the
13 sections of the environmental report cited in
14 Applicant's Exhibit 45, which are Applicant's Exhibits
15 34 through 38; next, Staff's Exhibits 15 and 16, which
16 is the Staff's direct testimony on alternative sites;
17 and finally, Staff Exhibit 8, Appendix L, which is the
18 appendix of the final environmental statement
19 supplement, which addresses alternative sites.

20 In considering the alternative site issue, it
21 is important to establish several basic points of
22 reference in regard to the standards which should
23 control the NRC review of alternative sites and this
24 Board's consideration of alternative sites in its
25 decision. The controlling test for alternative sites is

1 found in the Commission's August 17, 1976 decision,
2 4 NRC 67 at 92.

3 Alternatives, when assessed, for Clinch River
4 should be assessed in terms of their ability to meet the
5 informational objectives established for the project
6 through the LMFBR program. Review of alternative sites
7 need go no further than to establish whether or not
8 substantially better alternatives are likely to be
9 available for satisfying the program objectives for
10 CRBRP.

11 It should also be recognized that as a
12 practical matter, the NRC Staff has developed a
13 methodology or a formalism for analysis of alternative
14 sites which is reflected in the so-called proposed rule
15 for alternative site analysis. In our judgment, the
16 proposed rule provides a relevant factual frame of
17 reference but it is not controlling. One must look at
18 the August '76 decision.

19 The role of the proposed rule in terms of this
20 review of alternative sites in the Clinch River
21 proceeding is, in our judgment, one which does not
22 differ in substance. It really in reality merely
23 enables one to arrange the available information in a
24 format, and perhaps the best conception of it is that it
25 is an overcheck or checklist on the analysis.

1 Just briefly, the proposed rule methodology is
2 one which enables one to examine the alternative site
3 analysis on two levels. The first contemplates
4 selecting a population of candidate sites as
5 representative from the standpoint of environmental
6 considerations. The sites are classed or candidate
7 sites are classed by physiographic units and types of
8 water sources at which the sites are located.

9 Having established the population of candidate
10 sites, one then proceeds to the Level 1 analysis, which
11 is to consider as amongst the alternative sites whether
12 any of the candidates are environmentally preferable to
13 that of the proposed site. Assuming that no such
14 candidate sites are environmentally preferable, that
15 should end the analysis. If, however, a candidate site
16 is found to be environmentally preferable, then one goes
17 to Level 2, where economic, institutional and
18 programmatic factors are brought to bear in the analysis
19 and a balance struck and a determination made as to
20 whether a given alternative site is obviously superior
21 to the proposed site.

22 We do not see a difference in significant
23 degree between the legal test of substantially better,
24 on the one hand, which is the controlling test from the
25 Commission's August '76 decision, and the obviously

1 superior test, which is the test enunciated in the
2 proposed rule.

3 We think that the logical course of action in
4 terms of the Board's analysis is to cut right to the
5 heart of the matter. The August '76 decision is
6 controlling; the proposed ruling is only relevant as an
7 overcheck. Let us then consider just what the issues
8 are and what the evidence is in regard to alternative
9 sites for Clinch River.

10 The first point is that the Staff considered
11 alternative sites on a number of distinct levels. The
12 first is alternative sites within the TVA system. The
13 second is alternative sites on a national scale.
14 Without belaboring the matter in detail, the key point
15 is that the analyses of the sites, both TVA and DOE
16 sites, indicated that upon examination of the basic site
17 characteristics and environmental considerations, there
18 was no site that indicated a clear advantage to Clinch
19 River or any discernible advantage. See Applicant's
20 Exhibit 45 at 7 and 15. See Staff Exhibit 16 at 7
21 through 8 and 13. See Staff Exhibit 15 at 7.

22 It is true that some of the alternative sites
23 had lower population densities and more favorable
24 atmospheric dispersion characteristics. See Applicant's
25 Exhibit 45 at 14. It should be noted, however, that all

1 of the sites, including Clinch River, meet Regulatory
2 Guide 1.23, 1.145 as to meteorology, and meet Regulatory
3 Guide 4.7 as to population density. See Staff Exhibit
4 15 at 8 through 10, Staff Witness Sauffert, TR 4818.
5 Furthermore, it is apparent that all of the sites will
6 meet 10 CFR Part 100. See Staff Exhibit 15 at 17, Staff
7 Witness Sauffert, TR 4818.

8 The important point to consider is that, yes,
9 there are differences in population density and
10 meteorology. All of the sites are below or exhibit
11 characteristics which are acceptable. What on a
12 comparative basis is the significance of the difference?
13 And I might ask the question, is it significant at all?
14 In our judgment the answer is no. There is not a
15 significant difference in going from the Clinch River
16 site to the alternative sites.

17 The reasons for this are severalfold. First,
18 if one examines Appendix J of the FESS -- that is Staff
19 Exhibit 8 -- one will see that the risks associated with
20 severe accidents are small, they are comparable to those
21 of light water reactors, and that the risk reduction one
22 would get in going from the Clinch River site to one of
23 the alternative sites is not in reality a significant
24 risk reduction. See Staff Exhibit 8, Appendix J, at J2,
25 Staff Witness Sauffert, TR 4789, 4818.

1 The point is this, that any reduction in the
2 already low residual risk associated with accidental
3 radiation releases which are attributable to population
4 density or meteorological differences are not
5 significant. See Staff Exhibit 15 at 23. See Staff
6 Witness Sauffert, TR 4818 through 19.

7 The same result holds true in regard to normal
8 operations: that in regard to normal operations, the
9 level of risk associated with routine releases is so
10 small that the analysis of the differences between the
11 sites yields an insignificant risk reduction. See
12 Applicant's Exhibit 45 at 14.

13 Thus, if one examines Clinch River versus the
14 alternative sites on the basis of environmental
15 considerations alone, the conclusion follows that none
16 of the sites are substantially better than Clinch River,
17 but under the Commission's August '76 test, that does
18 not end the inquiry. We have not completed the
19 sentence. The question now is are those sites
20 substantially better for meeting the objectives? And we
21 must bring in the objectives.

22 If one looks at the programmatic objectives,
23 and the programmatic objectives are stated and discussed
24 in Applicant's Exhibit 58, which is the testimony
25 addressing the next subject which we will approach on

1 oral argument, one can conclude that there are two
2 objectives for Clinch River which are site dependent.
3 That is, there are two objectives where the ability to
4 meet those objectives may vary as a function of what
5 site is selected, and those two objectives are the
6 objectives of utility participation and also the
7 question of programmatic timing.

8 In regard to utility participation,
9 examination of the participation at the alternative
10 national sites indicates that one cannot get utility
11 participation, one cannot obtain a significant utility
12 role in the design, construction and operation of the
13 facility at the alternative sites. See Staff Exhibit 16
14 at 16, Staff Exhibit 8 at 9 through 11. See Applicant's
15 Exhibit 37 at F-18.

16 In regard to timing, the Applicant's analyses
17 show and the Staff's independent review of that analysis
18 concurs that if one were to move to an alternative site,
19 the delay incurred would be on the order of 33 months to
20 43 months. That in itself doesn't tell the whole
21 story. One must go back now and ask the question, is
22 there any compensating benefit or is there any advantage
23 to accepting that delay? The delay is clearly
24 inconsistent with the programmatic timing of as soon as
25 possible. But as we had discussed, the only possible

1 benefit to be derived from moving would be the purported
2 reduction in risk, and as we have indicated, the record
3 clearly shows that the risk reduction is not
4 significant. Thus, any decision that one should move is
5 clearly inconsistent with the programmatic timing. See
6 Staff Exhibit 8 at 9 through 12, Applicant's Exhibit 37,
7 ER, Appendix E at E12.

8 Thus, we believe that the evidence clearly
9 shows that with respect to the alternative sites, there
10 is essentially equipoise between Clinch River and those
11 alternative sites which exhibit the most favorable
12 characteristics, and those factors only apply and only
13 need be considered as differences with respect to
14 meteorology and population density. It should be
15 emphasized that all of the sites meet the existing
16 objective threshold criteria for both meteorology and
17 population density.

18 Then the question arises as to whether the
19 actual risk reduction compared based on meteorology and
20 population density is significant to either severe
21 accidents or normal operation, and the record clearly
22 shows that it is not.

23 Therefore, and taking into account the
24 controlling test of whether any site is likely to be
25 available which is a substantially better alternative

1 satisfying programmatic objectives, and in light of the
2 fact that utility participation and programmatic timing
3 would be seriously compromised, if not made impossible
4 at the alternative sites, it follows that none of those
5 alternative sites are substantially better under the
6 Commission's controlling test.

7 We thus submit that the record is clear, the
8 weight of the evidence is overwhelming, and that the
9 Board should find favorably in connection with NRDC
10 Contentions 5(A) and 7(C).

11 JUDGE MILLER: Let's take about a ten-minute
12 recess.

13 [Recess.]

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1 JUDGE MILLER: All right. The Intervenors
2 will proceed next.

3 ARGUMENT BY BARBARA A. FINAMORE, ESQ.
4 ON BEHALF OF NATURAL RESOURCES DEFENSE COUNCIL AND
5 SIERRA CLUB

6 MS. FINAMORE: I think all of the parties
7 agree that the test here is whether any of the sites
8 analyzed by the Staff and Applicants as alternatives to
9 the Clinch River site are in fact substantially better
10 than the Clinch River site. Intervenors submit that the
11 evidence shows that there are in fact several sites that
12 have been analyzed which are substantially better than
13 the Clinch River site, both environmentally and in
14 meeting the programmatic objectives of the Clinch River
15 project.

16 In particular we feel that the evidence shows
17 that the Hartsville and Yellow Creek sites, which are
18 within the TVA service region, are in fact substantially
19 better than the Clinch River site, and also that all
20 three of the sites owned by DOE and analyzed in the
21 impact statement are also substantially better, namely,
22 the Hanford site, the INEL, which is the Idaho National
23 Engineering Laboratory, and the Savannah River site.

24 The many reasons that we feel these sites are
25 substantially better, as demonstrated in the record and

1 as I will discuss, are: first of all, that they show
2 substantially better population and meteorological
3 factors which, when combined together, demonstrate a
4 substantial reduction in radiological risk to the public
5 from accidents at the Clinch River plant.

6 In addition, we feel that in the Staff's own
7 analysis of these alternative sites, that the other
8 environmental parameters are either comparable or better
9 for each of these alternative sites, and that when
10 combined, they show substantially better characteristics
11 and that the Board should give serious consideration to
12 the sites in its decision.

13 I will also show that the reasons given by the
14 Staff and Applicants for rejecting these sites are not
15 valid and that there was inappropriate weight given to
16 certain of these factors, such as timing necessary to
17 move to alternative sites, cost of moving to alternative
18 sites, and other institutional and programmatic factors.

19 Let me begin by briefly going over these
20 characteristics to give the Board an idea of what is at
21 stake here. To begin with, in terms of meteorology at
22 these alternative sites, which is measured in this
23 analysis in terms of the chi over Q values, the evidence
24 shows that the chi over Q values for the Hartsville site
25 average about a factor of 2 lower than those for the

1 Clinch River. That is at TR 4878 and 4803 through 04.

2 For Yellow Creek the chi over Q values vary
3 from slightly worse than CR, Clinch River, for the zero
4 to two-hour dose at the exclusion area boundary to about
5 a factor of 6 better than Clinch River for the 4 to
6 30-day dose at the LPZ, low population zone, and that is
7 at TR 4878 and 4804.

8 The Staff characterized the sites as having
9 comparable or very similar chi over Q values at TR 4878
10 and 4806 and 4811. We would disagree and say that those
11 are in fact better when balanced at the Yellow Creek
12 site.

13 Now, the chi over Q values for the Hanford and
14 INEL sites average about a factor of 3 lower than those
15 for the Clinch River, and the chi over Q values for the
16 Savannah River plant site average about a factor of 4
17 lower than those for the Clinch River.

18 Next in terms of relative population
19 densities, at Yellow Creek the zero to 30-mile
20 population density projection for the year 1990 is about
21 a factor of 4 lower at Yellow Creek than at Clinch
22 River. That is at TR 4884, 4886 and 4806 through 07. At
23 Hanford and the Hartsville site, the population density
24 projections are about a factor of 3 lower than the
25 Clinch River site, 4807.

1 At the INEL site the population density
2 projections are more than a factor of 5 lower than for
3 Clinch River, and for the Savannah River plant, finally,
4 the population density projections are more than a
5 factor of 2 lower than for Clinch River.

6 When you combine these two factors together,
7 population and meteorology, which the Staff has admitted
8 would be a surrogate for radiological risk, the
9 environmental consequences of an accident at the
10 Harsville site in terms of radiological doses to the
11 public would be about a factor of 6 lower than at the
12 Clinch River site.

13 The accident doses at the Yellow Creek site
14 would vary from about a factor of 3 better than Clinch
15 River at the zero to two-hour dose at the exclusionary
16 boundary to a factor of about 24 better than the Clinch
17 River for the 4 to 30-day dose at the LPZ boundary. The
18 accident doses at the Hanford site would be a factor of
19 8 to 9 lower than those at the Clinch River site. The
20 accident doses at the INEL site would be a factor of 15
21 through 18 lower than those at the Clinch River site,
22 and finally, the accident doses at the SRP site would be
23 a factor of 8 to 11 lower than those at the Clinch River
24 site.

25 Now, I am going to return to a discussion of

1 the weight that the Board should place on radiological
2 risk in evaluating these alternative sites, but if I may
3 quickly point to some of the other environmental factors
4 that were analyzed, I think we can get the whole picture
5 here.

6 For the Hartsville site, if one looks at the
7 actual evidence in the environmental impact statement
8 rather than at the characterization of that evidence
9 that the Staff has placed on it, one will see that for
10 virtually every environmental factor, the Hartsville
11 site is at least comparable and in many cases better
12 than the Clinch River site.

13 For example, water availability, meteorology,
14 as I have said before, ecology, population density,
15 aquatic effects and terrestrial effects are all better
16 at the Hartsville site than at the Clinch River site,
17 and the remaining factors, except for socioeconomic
18 effects, are comparable, and this is according to the
19 Staff's own estimates.

20 For the Yellow Creek site one can see that all
21 of the hydrology factors, such as water availability,
22 drinking water effects, groundwater effects, water
23 quality and ecological factors such as aquatic and
24 terrestrial factors are all better at the Yellow Creek
25 site than at the Clinch River site.

1 I might point out that in several of these
2 cases the Staff has come to a conclusion of
3 comparability which does not follow from the data which
4 show that the Yellow Creek site is in fact superior.
5 For the other factors, such as geology and seismology,
6 industrial, military and transportation facilities, et
7 cetera, the Yellow Creek site is comparable.

8 Again, for the Hanford site the evidence shows
9 that hydrology, water quality, ecology and as well as
10 the meteorology and population density we mentioned
11 earlier are better at the Hanford site than at the
12 Clinch River site, and for all of the remaining factors
13 except for geology and socioeconomics, the Hanford site
14 is comparable.

15 For the INEL site, again when you balance the
16 overall factors you find that they are on the whole
17 comparable to or better than the Clinch River site, and
18 similarly for the Savannah River site, and again, you
19 will notice in several of these cases, although the
20 Staff comes to a conclusion of comparable, we submit
21 that the evidence shows that they are in fact better.

22 I can give you one example.

23 [Pause.]

24 Most of the examples relate to meteorology and
25 population density, which I will get to in a minute.

1 Now, we feel that because for these five sites
2 the environmental factors other than population and
3 meteorology are comparable or better on the whole, and
4 coupled with the fact that the radiological risk, as we
5 will demonstrate in a minute, is substantially better at
6 these sites than at the Clinch River site, we feel that
7 the overall conclusion one should reach is that these
8 sites are substantially better. We feel that
9 radiological risk is important not only in improving the
10 safety of the plant but in meeting the programmatic
11 objectives of demonstrating the safety of the plant and
12 the environmental acceptability of the plant.

13 Now, the Applicants and the Staff have
14 mentioned several factors which they feel outweigh these
15 environmental advantages, in particular the cost of
16 moving to another site, the timing involved in moving to
17 a site and utility participation.

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1 Now, the Applicants and the Staff have
2 mentioned several factors which they feel outweigh these
3 environmental advantages, in particular the cost of
4 moving to another site, the timing involved in moving to
5 a site, and utility participation.

6 Now, concerning the cost of moving to an
7 alternative site, the Applicants' additional cost
8 figures do not reflect the potential savings of moving
9 to sites with cancelled nuclear plants where some
10 preparation has already been done, for example, the
11 barge unloading facilities, the roads and the
12 railroads. And that is at transcript 4709 through 11.

13 I would also point out that the Staff did not
14 do an independent analysis to check the Applicants' cost
15 figures -- that is at transcript 4781 -- but they simply
16 accepted the Applicants' figures and made some
17 adjustments to them to account for inflation --
18 transcript 4779.

19 Now, using the Applicants' cost range figures
20 for alternative TVA sites, the Staff concluded that the
21 added cost in present worth terms of moving to the least
22 costly of the TVA sites would be only 1.1 or 1.2
23 percent. The Staff projected that the added cost of
24 moving to the most costly TVA site would be about 8.9
25 percent. The Applicants could not identify particular

1 alternative TVA sites with particular added cost,
2 claiming that the specific ranges of added cost they
3 provided were intended to encompass any alternative TVA
4 site, at transcript 4705.

5 The Staff also did not identify particular
6 costs with particular sites, as they simply accepted and
7 modified the ranges derived by the applicants. That is
8 at transcript 4782. Nevertheless, it is clear in the
9 record that the present worth cost penalty of moving the
10 breeder to an alternative TVA site is estimated to range
11 from a low of only 1.1 percent to about 8.9 percent. A
12 1.1 percent cost difference, we submit, would not amount
13 to a significant institutional advantage for the Clinch
14 River Breeder Reactor plant.

15 Finally, in terms of costs, the Applicants
16 concluded in their updated programmatic impact statement
17 that the parameters of an updated cost-benefit analysis
18 such as commercial breeder introduction dates and future
19 nuclear capacity are so uncertain that the value of the
20 analysis would be questionable.

21 The Staff concluded in the FES supplement at 9
22 through 14 that the cost-benefit analysis in the FES was
23 not current, but any attempt to update it would be
24 speculative. And the Staff's witness also admitted that
25 the Staff did not attempt to update the analysis, and

1 that the Staff had to rely on the Applicants' conclusion
2 that an update would be speculative. That is transcript
3 4784.

4 Given this factor, we submit that the Board
5 should not place much weight on the cost figures that
6 the Staff used in its environmental impact statement and
7 should not use that factor as a basis for rejecting any
8 of the alternative sites.

9 Turning to population and how one should
10 analyze the relative populations of the alternative
11 sites, in the impact statement despite the figures that
12 I mentioned earlier showing that the alternative sites
13 have much lower population densities than the Clinch
14 River site, the Staff nevertheless came to the
15 conclusion that all the population densities were
16 comparable. In fact, the Staff witness testified that a
17 site with no resident population within ten miles would
18 not be preferable to the Clinch River, and that is at
19 transcript 4789.

20 The reason the Staff and the Applicants came
21 to this conclusion is their feeling that since all the
22 sites will allegedly meet Regulatory Guide 4.7 that one
23 need not compare them as to their relative advantages
24 regarding population density.

25 We submit that this reading is an incorrect

1 reading of 4.7 which is directly contradicted by the
2 approach taken by the Staff in the proposed rule on
3 alternative sites, and it is also not in accordance with
4 the NEPA case law.

5 The Staff interprets Regulatory Guide 4.7 to
6 mean that no consideration need be given to relative
7 population densities for sites which are below the
8 500-person per square mile trip level, transcript 4807
9 through 4821.

10 Staff testimony claimed that Regulatory Guide
11 4.7 defines low population densities to be those below
12 the trip levels -- 4807 to 4822. In fact, the
13 regulatory guide contains no such definition. That has
14 merely been the Staff's interpretation -- transcript
15 4823.

16 The Staff witness admitted that the regulatory
17 guide does not state that there should be no distinction
18 between sites with differing population densities below
19 the trip levels -- 4823 to 24. He claimed that there
20 was an implication that population differences below the
21 trip levels are insignificant because there is no
22 explicit requirement for further analysis of sites below
23 the trip levels. In fact, any implication in the
24 regulatory guide is quite the contrary. The discussion
25 of Regulatory Guide 4.7 population considerations on

1 page 4.7-9 clearly implies that population densities
2 above the trip levels are "not acceptably low."

3 The guide states that if the population
4 density is not acceptably low, special consideration
5 must be given to alternative sites with lower
6 population. The very next passage states that if the
7 trip levels are exceeded, special attention must be
8 given to alternative sites.

9 Since the regulatory guide prescribes that
10 special attention to alternatives is required if the
11 trip levels are exceeded and if the population densities
12 are not acceptably low, the implication is strong that
13 densities above the trip levels are not acceptably low.

14 The Staff witness resisted this
15 interpretation, saying that trip levels are not upper
16 bound limits of acceptability -- transcript 4825 to 26.
17 We agree that sites above the trip levels are not
18 automatically rejected, but neither are sites with
19 densities which are not acceptably low. In both cases
20 the regulatory guide prescribes special consideration to
21 alternative sites.

22 But one thing is abundantly clear: the
23 regulatory guide in no way suggests that sites with
24 population densities below the trip levels need not be
25 compared as to population. That is what the Staff has

1 done.

2 Now, our interpretation that sites below the
3 trip levels of 500 persons per square mile must still be
4 compared as to their relative densities is strongly
5 supported by the proposed rule on alternative sites
6 which is set forth by the Staff in Appendix K. And we
7 agree that this proposed rule is not controlling in this
8 instance, but we believe it provides strong evidence of
9 the Staff's interpretation of how one should compare
10 population densities.

11 As the Staff witness admitted, the same trip
12 levels from the Regulatory Guide 4.7 appear in the
13 proposed rule as one of the five acceptance criteria for
14 candidate sites -- transcript 4827. Thus, the proposed
15 rule clearly implies that sites with population
16 densities above the trip levels are not acceptable as
17 candidate sites. The Staff witness admitted this --
18 4827.

19 The Staff witness also admitted that he was
20 aware of nothing in the proposed rule that suggests that
21 sites below those trip levels need not be compared as to
22 their population densities in the alternative siting
23 analysis, 4828. Quite the contrary. The Staff witness
24 acknowledged that the proposed rule requires
25 consideration of population in the first part of its

1 two-part test comparing candidate sites which have
2 already met the threshold acceptance criteria; that is,
3 the Staff must analyze the population of various sites
4 which are in fact below the 500-person per square mile
5 trip level.

6 In light of this strong evidence that the
7 sites with population densities below the trip levels
8 are to be compared and the complete lack of evidence
9 that they should not be compared, the Staff's position
10 in this regard, we submit, is untenable; and its
11 alternative siting analysis is clearly inadequate since
12 the Staff did not in fact compare population densities
13 of the alternative sites. And as I have said before, a
14 look at the population densities of alternative sites
15 clearly reveals that all the sites have lower population
16 density figures than the Clinch River. All of them
17 except Phipp's Bend are at least twice as good as Clinch
18 River. The Yellow Creek site is four times better. The
19 Hartsville and Hanford site is three times better, and
20 the INEL site better by a factor of five.

21 Now, I would like to discuss now radiological
22 risk and what factor or what weight the Board should
23 place on that factor in its discussion. As a matter of
24 background, in the 1977 final environmental impact
25 statement the Staff did in fact compare the radiological

1 risk of the three alternative DOE sites to that of the
2 Clinch River, and it did so by comparing or by combining
3 the population and the meteorology of those sites.

4 In the 1977 FES it was concluded that the
5 three DOE sites had sufficient advantages over the
6 Clinch River site to warrant detailed consideration, and
7 that the DOE sites are better than the Clinch River site
8 and any other alternatives because the isolation
9 provided would result in lower accident doses.

10 In the 1982 supplement, however, the Staff
11 changed that conclusion to the DOE sites are not
12 substantially better than the Clinch River site. The
13 Staff testified that this change reflects a reassessment
14 of the preferability since 1977, and that while there
15 were some changes in the meteorology and population
16 figures between those times, the major reason for the
17 change conclusion was the result of Appendix J of the
18 FES supplement and the revised SSR, to the effect that
19 the radiological risks for an accident at the Clinch
20 River site are extremely low, and that therefore any
21 reduction in risk would not be significant. And that is
22 at 4788 and 4794.

23 In other words, the relative dose risks among
24 the alternative sites have not changed appreciably
25 according to the Staff, but the absolute risk has now

1 been estimated to be so low that any differences are
2 considered inconsequential. In fact, the Staff has now
3 changed its analysis so that it no longer considers
4 radiological risk in comparing alternative sites. In
5 other words, it did not consider population and
6 meteorological conditions jointly in its alternative
7 siting analysis, although the Staff admitted that it may
8 be more appropriate to do so than considering them
9 separately; and that combining population and
10 meteorology would be a less crude surrogate for risk
11 than considering them separately. And that is at
12 transcript 4795, 4799 and 4801.

13 Similarly, the Applicants' witnesses stated
14 that their conclusion that the three DOE sites are not
15 environmentally preferable is based solely on the fact
16 that they considered a factor of 50, which was the
17 figure in the 1977 FES, difference in radiological risk
18 to be not significant.

19 And as Mr. Edgar stated before, the reason for
20 that is that the Clinch River site will meet Part 50 and
21 Part 100 guidelines as well as the regulatory guides.

22 As the Board is aware, we strongly contest the
23 fact that the Clinch River site meets Part 100
24 guidelines and Part 50 guidelines or that Appendix J is
25 appropriate or adequate. But even despite that fact, we

1 believe that the Staff's use of Appendix J to subvert
2 its required consideration of alternative facts is
3 inappropriate and inconsistent with the case law.

4 The Staff, in effect, is implying that the
5 alternative site analysis can be obviated by a
6 sufficient degree of plant safety. This is unsupported
7 by the Commission regulations or precedent. As the
8 Appeal Board stated in Boston Edison Company, Pilgrim
9 Unit 2, ALAB 479, 7 NRC 77478, 1978, NEPA requires the
10 Commission to consider whether reasonable alternatives
11 less harmful to the environment exist before allowing a
12 utility to proceed with construction. Simply following
13 the requisite procedural steps will not guarantee a
14 record or an alternative site review up to NEPA
15 standards. And that is citing Public Service Company of
16 New Hampshire, Seabrook Units 1 and 2, CLI 77-8, 5 NRC
17 503-523, 1977. And that is the Pilgrim case at page 779.

18 In the Pilgrim case the Appeal Board affirmed
19 the Licensing Board's denial of an LWA-1 because of the
20 inadequacy of the alternative site analysis. The Appeal
21 Board held that "The litmus is whether the environmental
22 consequences of each reasonable alternative has been
23 given a hard look."

24 That standard was not met at Pilgrim, the
25 Appeal Board found, because the Staff did not look

1 specifically at suggested alternative sites. In the
2 Clinch River case a deficiency in the alternative site
3 analysis is different. While the Applicants and Staff
4 did look with some specificity at the alternative TVA
5 and DOE sites which it considered and generated
6 substantial data on those alternative sites, the
7 analysis of those data are deficient, and the
8 conclusions which are drawn do not follow from the data.

9 The Staff has failed to provide a detailed
10 DARCO analysis drawn from adequate data so that a
11 reviewing body can decide on an objective basis whether
12 the agency fairly assessed other courses of action which
13 might realistically be substituted for the one
14 proposed. And that is Pilgrim case at page 779.

15 Where the data here indicated up to a factor
16 of 24 difference in accident dose consequences to the
17 public between the proposed site and several of its
18 alternatives, the Staff has brushed that obvious and
19 substantial advantage of the alternative site aside
20 based upon assertions on Appendix J that the plant is so
21 safe that the differences are inconsequential.

22 We submit that this is not a thoughtful hard
23 look analysis. It is certainly not the kind of
24 treatment that should be accorded to the most important
25 environmentally-related test that the Staff is, which is

1 a quote from Florida Power and Light Company, St. Lucie
2 Unit No. 2, ALAB-435, 6 NRC 541-543, 1977, and also the
3 Pilgrim case at 791.

4 We submit that there is absolutely no
5 authority anywhere in NEPA or its case law or Commission
6 regulations or case law for the novel proposition that
7 such substantial differences in environmental
8 consequences, particularly radiological risk, between
9 alternative sites should be disregarded because of a
10 speculative projection that the consequences will be low.

11 The alternative site analysis and the
12 principle over most siting are not alternatives to the
13 plant safety analysis, but they are separate analyses
14 which provide an extra layer of safety. One cannot be
15 substituted for another.

16 Under the Commission's 1976 decision in this
17 case if any of the alternatives are substantially better
18 than the Clinch River site, considering environmental
19 and institutional factors, this Board must reject the
20 application for the proposed site.

21 Similarly, if the analysis of alternative
22 sites does not measure up to NEPA standards, the LWA-1
23 application currently in question must be denied. As
24 the Appeal Board has stated, "Approval may not be given
25 to an FES which treats in such a cavalier and misleading

1 fashion one of the most important questions which NEPA
2 requires to be considered." And that is the St. Lucie
3 decision, 3 NRC 830-840, 1976, and the Pilgrim decision
4 at 782.

5 The Staff prefers a non-analysis treating all
6 population densities below a certain level as comparable
7 even when there are substantial factual differences or
8 actual differences, by treating substantial differences
9 in atmospheric dispersion characteristics as similar, by
10 treating enormous differences in relative overall
11 accident dose consequences with factors of 3 to 24 as
12 insignificant, by treating terrestrial impact advantages
13 of other already cleared and level sites as unimportant,
14 and by treating aquatic and water quality impact
15 advantages of sites on larger rivers as unimportant.

16 Staff's data show that certain alternatives
17 have sometimes substantial advantages with respect to
18 population and meteorology, aquatic water quality
19 impacts and terrestrial impacts. The Staff's data shows
20 slight disadvantages for the alternatives as regards
21 socioeconomic effects and a virtual wash for other
22 considerations.

23 A genuine, intellectually honest evaluation of
24 these data would appear to lead to a conclusion that at
25 least some of these alternatives are on the whole

1 environmentally substantially better than the Clinch
2 River site. To avoid this result the Staff has
3 concluded that all of these real advantages are
4 insignificant, thus altogether evading its
5 responsibility to engage in an actual comparison.

6 We submit that this amounts to a cavalier and
7 misleading treatment of this most important NEPA
8 question, and we feel that the Board should pay
9 particular attention and give a hard look to the
10 relative advantages and disadvantages of the sites,
11 since such a hard look has not been performed by the
12 Staff or the Applicants.

13 In closing I would just like to point out that
14 in terms of meeting the programmatic objectives which
15 the Applicants and Staff characterize as informational
16 objectives, I will be discussing the timing objective
17 and how that should be weighed in the alternative siting
18 analysis when I get to Contentions 7(A) and 7(B),
19 particularly Contention 7(A)(1), in terms of the cost of
20 moving to alternative sites -- I've discussed that
21 already -- and in terms of utility participation, which
22 is also a programmatic objective of the plant.

23 Mr. Edgar incorrectly stated that the record
24 shows that such utility participation would not be
25 available. In fact, as concerning the Hartsville and

1 Yellow Creek sites, they are within the TVA service
2 region, and presumably TVA would still be available to
3 participate if one moved to those alternative sites, as
4 well as if it were confined to the Clinch River site.

5 And finally in terms of the DOE sites where
6 the Applicants claim that utility participation would be
7 unavailable, we submit that the only evidence there is
8 several letters, one from each of the alternative DOE
9 sites, which claim that the utilities involved would not
10 be interested in participating.

11 We believe it is clear from the record that
12 this is a self-serving letter; that these particular
13 utilities are already involved in the Clinch River site
14 as part of the breeder reactor corporation. They have
15 an interest in moving ahead with the project at the
16 present site. And we don't think that it is necessarily
17 true that if the Clinch River site were found to be
18 unacceptable for the breeder reactor, then that moving
19 to these alternative sites were necessary because of
20 their substantial advantages in radiological risk and
21 other factors, that the utility participation would
22 still be unavailable if that meant that the breeder
23 could not proceed at all.

24 That concludes my presentation.

25 JUDGE MILLER: Staff?

1 ARGUMENT OF DANIEL SWANSON, ESQ.
2 ON BEHALF OF THE NUCLEAR REGULATORY COMMISSION
3 MR. SWANSON: In addressing the alternate site
4 issue I think it is important first of all to recognize
5 the state of the record as it exists on this issue.
6 Mr. Edgar indicated in the Applicants'
7 testimony that had been presented -- he also pointed out
8 the Staff Exhibits 15 and 16, prefiled written
9 testimony, as well as Appendix L of Staff Exhibit 8;
10 that is the FES supplement -- all address the issue of
11 alternate site analysis.
12 Intervenors filed no written testimony,
13 prefiled written testimony on this matter but instead
14 are relying on cross examination and their
15 interpretation and use of data primarily derived by the
16 Staff.
17 In a nutshell, it can be stated the Staff did
18 in fact take the hard look required by the Commission
19 and court interpretations of NEPA. The Staff
20 independently reviewed the environmental preferability
21 of five TVA sites and the three DOE sites as well as the
22 hook-on option described at transcript pages 4915
23 through 18, as well as 4913.
24 Let me just very briefly address two aspects
25 of the contention that I believe were not touched on in

1 the cross examination, that being the hook-on option and
2 the underground siting concept.

3 The Staff indicated that it had rejected the
4 hook-on option, and that is discussed at transcript page
5 4913. In addition, at pages 4888 through 89 and 4990
6 through 93 the Staff discussed its analysis of
7 underground siting where it concluded that the concept
8 is feasible, but that the benefits of possible reduced
9 radiological risk are outweighed by construction
10 difficulties, operational problems and costs.

11 Similarly, Intervenors failed to cross examine
12 on the issue of co-location. At transcript page 4892
13 through 95 the Staff presented its conclusion that
14 regarding co-location of Clinch River with other LMFBR
15 fuel cycle facilities the concept has little merit. The
16 reason for this conclusion is that there would be little
17 safety or strategic advantage for co-location and that
18 the need to constrain fuel facility size to the fuel
19 requirements of Clinch River presents an additional
20 problem.

21 Turning to the contested aspects of the
22 alternate site analysis by the Staff, I would like to
23 address my remarks primarily to those matters addressed
24 originally by counsel for NRDC; that is, primarily the
25 Staff's meteorological and its population assessment of

1 the alternate sites.

2 To assess the meteorological preferability of
3 the five TVA sites the Staff reviewed site-specific data
4 for the purpose of calculating chi over Q values or
5 atmospheric dispersion values. This is discussed at
6 transcript pages 4792 and 4872. The conclusion reached
7 is that the data utilized indicates that the Clinch
8 River site meets the standard set or that the analysis
9 meets the standard set for it in Reg Guide 1.23.

10 The Staff's chi over Q values were derived in
11 accordance with Reg Guides 1.111 and 1.145. This is
12 discussed at transcript pages 4790, 4846 through 4843,
13 73 through 75. The Staff presented its chi over Q
14 values, accident values at transcript page 4878, and
15 normal operation chi over Q values for evaluating the
16 consequences of normal releases of Clinch River at 4875
17 through 76. And I won't go into the details of those.
18 Those are set forth on those pages.

19 The Staff concluded that chi over Q values are
20 comparable between Clinch River and the other TVA sites
21 but that the chi over Q values are somewhat worse for
22 Clinch River than those for the other DOE sites.
23 However, the differences in chi over Q and meteorology
24 are not significant between Clinch River and the DOE
25 site since there is only a marginal change in risk that

1 would be expected between Clinch River and those sites.

2 The matters I just discussed are explained in
3 greater detail at transcript pages 4814 through 15, 4878
4 through 79, 4800 through 4801, and 4646 through 4652.

5 Staff witness testified that regarding the chi
6 over Q values and population densities of Clinch River
7 versus other sites that the analysis that the Staff
8 performed showed that the effect of those factors on the
9 environmental impact due to radiological releases, be
10 they normal or accidental, were insignificant. This is
11 discussed at transcript page 4648. Excuse me. That was
12 Applicants' witness.

13 The Staff witness, Spickler, addressed the
14 same matter at transcript page 4800. He concluded that
15 when you look at the differences between the sites --
16 and we're talking about risk which is the concept that
17 one needs to look at when you're looking at these raw
18 numbers -- he concluded, "I don't think, frankly, that
19 the meteorology and meteorological differences between
20 sites are such that you can significantly change
21 potential risks as described in Appendix J of our FES."
22 And again, that reference is transcript page 4800.

23 He concluded that there are differences but
24 that they don't significantly change the probabilistic
25 numbers that are stated in the FES. Again, the same

1 cite for that, but it continues on to page 4801.

2 The starting point for the Staff analysis is
3 that given in Appendix J to the FES, and that is Staff
4 Exhibit 80, where the Staff concluded that risks are
5 minimal at Clinch River. For comparative purposes in
6 Table J-5 located at page J-16 the Staff compared risks
7 between Clinch River and a comparable LWR plant -- and
8 by "comparable" I mean a typical LWR plant, that being
9 Midland -- and showed that risks are somewhat smaller at
10 Clinch River than they are for other LWR plants.

11 Given a minimal risk at Clinch River and a
12 comparison between Clinch River and a favorable
13 comparison of risk between Clinch River and other
14 acceptable LWR sites, the Staff's premise was that risks
15 are acceptable at Clinch River and that relatively
16 insignificant changes between Clinch River and other DOE
17 sites would result in minor reductions in risk to an
18 already acceptable level, and that the overall
19 conclusion one must draw is that you cannot result in
20 significant reductions in risk by transferring the
21 Clinch River site to one of the DOE sites in terms of
22 meteorological impacts.

23 Turning to population density, Staff testified
24 that it utilized Reg Guide 4.7 for use as a criterion
25 for considering population density in light of the fact

1 that there are no Commission regulations concerning an
2 absolute requirement for population density and siting.
3 This is discussed at transcript page 4883 and 4884.

4 The Staff testified that the Clinch River year
5 1990, 0 to 30 mile population density is below the Reg
6 Guide 4.7 criteria and that the Clinch River density,
7 population density would also meet this criteria at the
8 end of its operating license time. This is discussed at
9 transcript page 4883 through 85.

10 The Clinch River population density weighted
11 for its power level was compared with other LWR
12 population densities and found to be average. This is
13 discussed at transcript page 4885 through 86 and 4829
14 through 4831.

15 Now, when the Staff compared the Clinch River
16 population with other sites that had slightly lower
17 populations, the Staff concluded that it would not
18 attach significance to numerical differences in
19 population densities for these other sites, all of
20 which, including Clinch River, met Reg Guide 4.7 trip
21 levels.

22 The Staff also did not attach significance for
23 two reasons. First, there is no guidance or requirement
24 in Reg Guide 4.7 which requires one to consider
25 distinctions in population densities below the trip

1 levels. Secondly, since density, population density is
2 used by the Staff as a crude surrogate for residual
3 radiological risk, and given that the Appendix J risk at
4 the Clinch River site is already minimal, any reduction
5 in risk again would not be significant.

6 There are a number of transcript cites where
7 Staff testified to these points. Some of them include
8 4799 through 4802, 4818, 4849, 4886 through 87, 4821
9 through 28, and 4833 through 37.

10 When Staff witness Soffer was asked whether or
11 not the Staff based its conclusions on population and
12 alternate sites solely on the fact that the Staff does
13 not attach significance to actual differences in
14 population below the trip level, he responded at
15 transcript page 4818 that no, the Staff based its
16 consideration on additional factors, those being some of
17 the ones that I just mentioned, including the results of
18 Appendix J which showed that risks of severe accidents
19 are very low, and the results of the site suitability
20 report analysis which show that the doses associated
21 with hypothetical design basis accidents for the Clinch
22 River site are within guideline doses of Part 100.

23 Additionally, of course, the Staff relied upon
24 the fact that the Clinch River site and each of the
25 other alternative sites had population densities well

1 below the values given in Reg Guide 4.7. I think the
2 transcript cite for that statement is 4818.

3 In summary on this point, witness Soffer
4 indicated that in a situation like Clinch River where
5 the risk attained by a low population density site is
6 already at such a low level, any further slight
7 reduction in risk that might be obtained by moving to an
8 alternate site is not necessary because the basic risk
9 is already so acceptably low. He summarized this point
10 at transcript page 4822.

11 In sum, the Staff's position regarding
12 meteorology and population is that the factors were in
13 fact considered by the Staff, and given the already
14 minimally low risk, radiological risk, that could be
15 found by analyzing accidents at the Clinch River site,
16 the acceptable values of population and meteorology at
17 Clinch River, and the fact that the alternate sites
18 would result in lowering this already low chi over Q and
19 population density factor by a relatively insignificant
20 margin leads one to conclude that there is no
21 substantially better alternative site based on those
22 factors; that although there may be slight -- that there
23 may be some differences in the raw data, the numbers,
24 that when you look at the overall risk -- in other
25 words, the environmental concern -- that one has to

1 address in considering the alternate sites, one simply
2 has to conclude that there is not a substantially better
3 environmental risk found at those alternate sites.

4 The Staff concluded that information on
5 alternate sites was sufficient to assess whether or not
6 the alternate sites are substantially better. It
7 utilized specialists in each of the areas, including
8 many areas which were not addressed this morning and
9 apparently are not as heavily contested.

10 The Staff undertook to update information to
11 give an independent review and concluded that there were
12 no substantially better alternative sites. This
13 analysis is briefly described at transcript pages 4919,
14 4766 through 67, and 4770.

15 The bottom line conclusion was that there were
16 no DOE or TVA sites which were environmentally
17 preferable to or substantially better than the Clinch
18 River site. This is discussed at transcript page 4919
19 and 4922.

20 One need only look at Table L-1 found at page
21 L-51 of the Staff's final environmental supplement,
22 statement supplement -- that is, Staff Exhibit 8 -- to
23 show the overall ranking of the sites based upon the
24 factors presented by the Staff which summarize the data
25 described at Appendix L to the Staff's FES supplement.

1 In that table the Staff compared not just the
2 raw data, as you have heard from Intervenors, but the
3 environmental impacts that NEPA requires one to consider
4 when addressing the alternate sites. And when one
5 considers these impacts of the various sites and the
6 various categories as presented in Table L-1, one is
7 forced to conclude that there is no substantially better
8 alternate site to Clinch River from a NEPA standpoint.

9 I think it is useful to remember that when the
10 Staff took on its task of comparing the alternate sites
11 it did not have to reach the second stage of comparing
12 cost of delay and programmatic objectives in order to
13 reach the conclusion that there was no other site which
14 was substantially better.

15 As the Staff indicated at page 9-9 of its FES
16 supplement, only upon identification of an
17 environmentally preferable site would the Staff normally
18 conduct the second part of its two-stage analysis in
19 which economics, technology and the institutional
20 factors would be considered.

21 However, because these subjects were addressed
22 in the 1977 FES, the Staff decided to undertake to
23 update some aspects of that presentation, and that
24 update is described starting at page 9-9 of the FES
25 supplement.

1 In performing that analysis the Staff
2 concluded that selection of an alternate site at this
3 time would delay plant operation by some 36 months as
4 described at transcript page 4920 through 21. This
5 delay would be in conflict with the timeliness
6 programmatic objective, and the Staff recognized that.
7 The Staff presented this at transcript pages 4776
8 through 77.

9 The cost of delay would be in the range of \$39
10 to \$300 million for the TVA sites based upon a present
11 worth basis, and some \$61 to \$259 million for DOE sites,
12 again on a present worth basis. This is described at
13 transcript page 4922.

14 Contrary to the allegation of Intervenors this
15 morning, cost figures, although obtained from
16 Applicants, were independently evaluated by the Staff.
17 They were not independently derived, but they were
18 evaluated. In other words, the Staff took the hard look
19 required by NEPA. This is presented at transcript pages
20 4885 to 86.

21 It is important to note that again since there
22 was no affirmative evidence presented by Intervenors on
23 this issue that we don't have a basis for a conflict in
24 the numbers or data presented by Staff, merely a
25 difference in interpretation based upon the Intervenors'

1 position and their cross examination of Staff and
2 Applicant witnesses.

3 In conclusion, if one looks at the totality of
4 the record, including the Staff's prefiled testimony,
5 Exhibits 15 and 16, and Appendix L to the FES
6 supplement, as well as Chapter 9, it is obvious that the
7 Staff did take the mandated hard look at the alternate
8 sites; that they considered the factors; and that
9 contrary to allegations that we have heard, the Staff
10 did take the requisite look into the environmental
11 impact of some differences in meteorology and population
12 density and found those differences to be
13 environmentally insignificant.

14 In addition, the Staff considered the other
15 factors that are relevant to a consideration of
16 alternate site, and those factors of course are
17 presented in the testimony and FES supplement
18 described. And that when one considers these various
19 factors and particularly considers the Staff's
20 assessment of them and the culmination in Table L-1 of
21 the FES supplement, one realizes the Staff has performed
22 the required analysis and that the Staff has adequate
23 justification for its conclusion that there are no
24 substantially better sites available as alternatives to
25 the Clinch River site, and that in fact the Intervenors

1 simply do not prevail on their Contentions 5(A) and 7(C).

2 That concludes Staff' argument.

3 JUDGE MILLER: Any rebuttal?

4 REBUTTAL ARGUMENT OF GEORGE L. EDGAR, ESQ.

5 ON BEHALF OF THE PROJECT MANAGEMENT CORPORATION

6 MR. EDGAR: There is one point of fact that
7 needs clarification on the record that is an incorrect
8 statement and an oranges and apples comparison.

9 Counsel for NRDC argued that because the
10 programmatic environmental impact statement for the
11 LMFBR program indicated that the value of an updated
12 cost-benefit analysis is questionable that therefore one
13 should not put any weight on the cost figures that are
14 developed in the FES and the Applicants' testimony and
15 the ER in relation to the cost of moving the CRBR.

16 The two bear no relation to one another. The
17 cost-benefit analysis that is included within the
18 program statement is one that addresses a commercial
19 LMFBR economy and the economic considerations associated
20 with the deployment of commercial LMFBRs. On the other
21 hand, cost figures that we are talking about in the
22 context of Clinch River alternative site analysis are
23 simply the incremental cost of moving a facility from
24 Clinch River to another site.

25 So that just as a matter of clarification it

1 cannot follow that because a certain qualification was
2 placed on the LMFBR program environmental statement
3 cost-benefit analysis that you shouldn't place any
4 weight on the cost figures of the alternative site
5 analysis. The two concepts are simply orthogonal; that
6 is, that it makes no sense at all to make that argument.

7 In terms of another fundamental point, we
8 think in regard to meteorology and population density
9 the Staff's rather extensive discussion fairly well puts
10 to rest Intervenor's arguments concerning the Staff's or
11 the validity of the Staff's comparison on the merits.
12 There is not much more that we could add in that regard.

13 There is a point, though, where I am reluctant
14 to leave the record as it is concerning two cases
15 discussed by counsel for NRDC; that is, Boston Edison
16 and St. Lucie.

17 The Boston Edison case, in our judgment, has
18 no bearing on the issue at hand. Boston Edison involved
19 a case where the analysis of alternative sites was
20 criticized by the Appeal Board because alternative sites
21 were not looked at. They were dealing with a case of
22 omission.

23 Here, on the other hand, if one credits NRDC's
24 argument to their fullest extent, the best that can be
25 said about their argument is that the analysis of the

1 alternative sites is not satisfactory to them. We are
2 not dealing with a case of omission; we are dealing with
3 a case where their judgment as to the quality of the
4 evidence and the conclusion drawn is in disagreement
5 with that of the Staff and the Applicants.

6 Similarly, in St. Lucie this involved a case
7 where there was no look at an alternative site -- it
8 involved a so-called hypothetical model site -- and a
9 similar analysis applied. So that we have a hard time
10 seeing how, unless one credits dicta, that Staff did a
11 cavalier job, and unless you have some analysis which
12 brings the two cases together, why those cases are of
13 any importance to the Board's decision here. And we
14 think clearly they are not.

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1 The key point here is that there was no lack
2 of comparison and full consideration of meteorology and
3 population density. That was exhaustively considered by
4 both applicants and staff. What we have here is NRDC
5 quarreling with the conclusion or quality or the
6 comparison. In our judgment, based upon the evidence --
7 that is, the staff's testimony, the applicant's
8 testimony, the ER and the FES -- those judgments were
9 sound, they were sponsored by qualified witnesses and
10 there is no substantial evidence to the contrary.

11 As a final point just as a matter of fact,
12 counsel for NRDC mentioned that in regard to the DOE
13 sites and applicant's conclusion and the staff's
14 concurring conclusion that one could not get the utility
15 participation, NRDC points out that there are letters in
16 the record from the participating utilities. What they
17 neglect to point out, that there is testimony of staff
18 and applicants' witnesses and that the evidence here is
19 absolutely and totally uncontroverted. And NRDC says
20 well, this may not be necessarily true. However, look
21 at the record. The evidence cuts one way and there is
22 nothing to the contrary.

23 Based upon what we've heard, it is our
24 judgment and it is our conclusion that the Board should
25 find affirmatively in regard to contentions 5(A) and

1 7(C).

2 (Board conferring.)

3 JUDGE MILLER: I believe that brings us, then,
4 to the final point, number 9, is that correct?

5 MR. EDGAR: Yes, sir.

6 JUDGE MILLER: Which is 7(A) and (B), design
7 alternatives. Mr. Edgar?

8 ARGUMENT OF GEORGE L. EDGAR, ESQ.

9 ON BEHALF OF PROJECT MANAGEMENT CORPORATION

10 MR. EDGAR: On Contentions 7(A) and (B), the
11 principal affirmative evidence on the subject are found
12 in two sources, Applicant's Exhibit 58 and Staff's
13 Exhibit 21.

14 To state the issue simply, Contentions 7(A)
15 and (B) raise two or three basic issues. The first is
16 whether CRBR is likely to meet its objectives, and that
17 is encompassed within NRDC Contention 7(A)(1) and (3).
18 The second issue is whether CRBR will demonstrate or
19 provide information relevant to commercial LMFBRs; that
20 is, Contention 7(A)(2). And finally, the issue is
21 whether there has been adequate analysis to determine
22 whether the informational objectives of the CRBR might
23 be substantially better satisfied by alternative design
24 features to those in the proposed CRBR. That is
25 Contention 7(B).

1 We think it is important at the outset to
2 describe several points of historical background to
3 Contentions 7(A) and (B) because they bear on later
4 portions of the discussion, on subsets of the issues.
5 The Contentions 7(A) and (B) was originally numbered
6 when it was admitted ultimately in 1976 NRDC Contention
7 10, and after the Commission's August 76 decision which
8 established the scope and the standards for
9 consideration of alternatives in this proceeding, the
10 Board undertook consideration of Contention 10, and in a
11 rather extensive order which was dated October 5, 1976,
12 admitted the NRDC Contention 10, which had language
13 which is the same as that found now in Contention 7.
14 The Board's April 14, 1982 order admitted the same
15 contention as renumbered Contention 7.

16 As a matter of reference, Contention 7(C),
17 which deals with alternative sites, we have just
18 discussed. In terms of the Commission's controlling
19 standard in the August 76 decision, again, as with
20 alternative sites, the question of need for objectives
21 and timing of Clinch River are to be taken as given, and
22 alternatives are to be evaluated in terms of their
23 ability to meet program objectives, and the controlling
24 test is whether there is likely to be any substantially
25 better alternative for meeting those objectives.

1 In terms of the three basic issues encompassed
2 within Contention 7(A) and (B), we submit that the
3 record shows that, one, Clinch River is likely to meet
4 its programmatic objectives; two, that Clinch River will
5 generate information relevant to a commercial LMFBR; and
6 three, there are no identifiable design alternatives for
7 Clinch River which are substantially better means for
8 satisfying the programmatic objectives.

9 The evidence in the record as to each of these
10 points can be briefly summarized as follows.

11 In terms of meeting the objectives, I will try
12 to state briefly the evidence and provide highlights of
13 that evidence rather than recount it all. But there is
14 an important preliminary point to be made about the
15 ability of this project to meet its objectives and why
16 it is likely that it will.

17 It is often misunderstood that this project
18 considers the objectives in some after-the-fact
19 process. In other words, you design the reactor and
20 then after the fact, look and see if you've met the
21 objectives. And gee whiz, they may be met by
22 happenstance or not.

23 The objectives for this project were made from
24 the outset an integral part of the design process.
25 Applicants Exhibit 58, TR 6410 through 12, describes the

1 systematic application of the objectives in the design
2 process itself; that one sees a pass-down of the project
3 objectives to a set of design guidelines. The design
4 guidelines to an overall plant, design description.
5 Then the overall plant design description requirements
6 to 56 separate system design descriptions. And lastly,
7 the requirements of the system design descriptions being
8 passed down to the equipment specs.

9 So that as one progresses with the design, the
10 project objectives are made an inherent part of the
11 designers' day-to-day task.

12 In addition, the project objectives are not
13 only part of the design process, but as seen at
14 Applicants' Exhibit 58 at TR 6412 through 20, the
15 project has adopted specific and -- pardon the
16 expression -- real time management systems to assure
17 that the likelihood of meeting the objectives is
18 continually controlled and measured. And here again, we
19 are not dealing with happenstance; we are dealing with
20 the systematic management approach, consisting of design
21 reviews, configuration management and quality assurance.

22 Now, with that introduction, let's consider
23 the objectives and their likelihood of being met.

24 Although clearly, the actual construction and
25 operation of Clinch River will be necessary for the

1 ultimate demonstration of meeting objectives -- and that
2 is why the need for Clinch River was established in the
3 first place -- at this juncture, we believe there is a
4 substantial likelihood that each of the objectives will
5 be met.

6 The first objective I would like to consider
7 is that of technical performance. We have a power
8 plant. The important thing here is that this power
9 plant will generate thermal power, steam conditions and
10 electrical power production as designed. This
11 discussion is at TR 6420 through 23.

12 The core physics have been tested on CPPR with
13 a CRBR mark-up. Core flow has been tested by scale
14 model hydraulics tests, and the analytical tools have
15 been confirmed on EBR-2 and FFTF. The heat transport
16 system performance is based on direct experience with
17 EBR-2 and FFTF, and finally, we come to the steam
18 generators.

19 Now here, we would commend to the Board's
20 attention the testimony of first Mr. Longenecker at TR
21 6325, which mentions over 20 years of experience being
22 brought to bear on the design and fabrication and
23 testing of the steam generators. In fact, as Mr.
24 Longenecker points out, there is a well-founded program
25 for testing the steam generators and seeing that they,

1 indeed, operate as predicted.

2 Also, the Board should consider the testimony
3 of staff witness Becker at TR 6526 through 33, the
4 highlight of which are that for the Clinch River steam
5 generators, there is a thorough and well-conceived
6 development and test plan, and the technical risks
7 associated with the steam generators have been
8 minimized; that leak-free designs are within the state
9 of the art of engineering, of fabrication and of
10 operation. And finally, that the likelihood of any
11 major design defect arising and not being detected by
12 the ongoing test program is very small.

13 As for the turbine generators, which is the
14 final step in assuring that technical performance is
15 met, that portion of the plant is essentially similar to
16 those of light water reactors at fossible plants. Proven
17 technology has been employed and it is very likely that
18 that will be met.

19 Thus, in sum, when one considers the core heat
20 generation and flow, the heat transport system
21 performance and the steam generators and turbine, it is
22 clear that the design is well conceived, that, more
23 importantly, there is a very high likelihood that CRBR
24 will produce power as designed and meet its technical
25 performance objectives.

1 On reliability, I shall only briefly discuss
2 that. The pertinent reference is 6423 through 24. But
3 the key point here is that reliability analysis
4 techniques have been made an integral part of the design
5 to assure that the system, subsystems and components are
6 specifically engineered from the outset to meet
7 availability goals.

8 We have had a lot of discussion of reliability
9 in this record that has been misplaced. The purpose of
10 the reliability program here is not to address that a
11 CEA should not be a DBA; rather, it is an engineering
12 tool by which the availability and operability of the
13 design can be assured.

14 Based on this, the fact that reliability
15 analyses have been put in place and are continuing,
16 there is a very high likelihood of meeting this
17 objective.

18 Maintainability, which the Board will note
19 appearing at TR 6424 and successive discussion, goes
20 hand in hand with reliability. Maintainability reviews
21 are part of the normal design review process which I
22 have previously described. There are certain
23 requirements and characteristics of the plant equipment
24 that flow from the maintainability reviews.

25 For example, components must be designed so

1 that they will drain of sodium or have the ability to
2 drain so that removal and maintenance is facilitated.
3 Major components must be either repairable in place or
4 removable so that one can minimize down time and
5 effectuate the appropriate repairs.

6 And in addition, space and access for
7 maintenance has been a major element of the engineering
8 process. For all areas of the plant, a detailed scale
9 model has been used to assure that the pieces fit
10 together in such a way that effective maintenance can be
11 performed. There are critical areas of the plant where
12 more detailed models were built because operations and
13 maintenance activities would be especially important in
14 these areas.

15 An example here is the head access area where
16 the refueling activities are to be undertaken, and where
17 the design encompasses a number of moving parts a
18 detailed markup of the head access area was developed to
19 assure that maintainability and operability of that
20 equipment and in the head access area would be effective.

21 The same -- another example would be in the
22 secondary control rod drive mechanisms where a detailed
23 markup of that area was established or developed in
24 order to assure that those pieces of equipment could be
25 effectively maintained.

1 In summary, the systematic application of
2 maintenance requirements in the design process renders a
3 very high likelihood that this objective will be met.

4 As to safety and environmental acceptability,
5 see TR 6429 through 33. We believe that the licensing
6 process and the initial evidence here would be the
7 staff's site suitability report. Staff Exhibit 1, and
8 the Final Environmental Statement, Staff Exhibit 8,
9 indicate that this plant can be licensed -- this plant
10 can be safely operated within the constraints of
11 existing environmental requirements.

12 Two additional objectives which I've joined
13 together for this purpose are worthy of note. The two
14 are economic feasibility and conservation of
15 non-renewable resources. See here TR 6430 through 31.
16 The first point here is that the Clinch River project
17 has developed a comprehensive cost accounting system to
18 develop and to provide the kind of cost information to
19 the next generations of plant that will facilitate
20 scale-up and extrapolation. The costs are separable
21 between first of a kind and recurring costs, so that an
22 ample and reliable basis for extrapolation in future
23 design is provided.

24 There was some discussion in the record
25 considering operating ratio and the significance of that

1 in the context of these two objectives. The record
2 shows that this is a factor but it is not a controlling
3 factor for CRBR in the overall LMFBR program. I would
4 cite there two sources of authority. The first is the
5 Board's order of October 5, 1976 at pages 7 through 10.
6 Secondly, Mr. Longenecker's testimony at TR 6382 through
7 83.

8 In any event, though, the record clearly shows
9 that a respectable breeding ratio, more than 1.2, can be
10 achieved with the heterogeneous core based on the CPPR
11 core physics mockup, and in addition, as plant size
12 increases from Clinch River to the next generation,
13 breeding ratio correspondingly increases. See Dr.
14 Anderson's testimony, TR 6383 through 85. Also, 6387
15 through 6388.

16 As for the final objective of the utility
17 operation in the utility environment, this will, in
18 fact, be demonstrated by operation of CRBR on the TVA
19 system with TVA personnel. See TR 6431.

20 Thus, we believe that the evidence clearly
21 demonstrates and, indeed, there is no evidence to the
22 contrary in this record, that CRBR has a high likelihood
23 of meeting all of its objectives. See similar
24 conclusions rendered by the NRC staff, Staff Exhibit 21
25 at 6538 through 45.

1 As to the second issue, that is, whether CRBR
2 will provide information relevant to commercial designs,
3 the evidence is clearly in the affirmative. See here
4 two sources of information, see Applicants' Exhibit 58
5 at 27 through 37, TR 6433 through 43. See also Staff
6 Exhibit 21 at 13 through 15, TR 6434 through 36.k

7 There is one point which warrants emphasis
8 here. The key point is this. The information developed
9 from the CRBRP systems design are already, at this time,
10 providing direct relevant information to the next
11 generation of LMFBRs, the LDP project. See the tables
12 contained in Applicants' Exhibit 58 at 29 through 32, TR
13 6435 through 39.

14 Indeed, the LDP systems are based in almost -
15 well, based in more than major part -- on the CRBRP
16 systems. Without recounting all of the evidence, --
17 this simple fact, though, can be extended along with the
18 evidence in the record -- the point is that CRBR is
19 already, in fact, furnishing direct relevant information
20 to the program that is relevant to commercial designs,
21 and there is a high likelihood that it will continue to
22 do so.

23 Now, turning to the question, the final
24 question presented by these contentions, as to whether
25 there are any alternative designs which are

1 substantially better alternatives for meeting the
2 program objectives, there is extensive evidence in the
3 record from Applicants' Exhibit 58 at 35 through 47, TR
4 6441 through 53. In addition, Staff's Exhibit 21 at 25
5 through 29, TR 6546 through 50.

6 Now, NRDC had suggested in the course of
7 discovery that there are six design alternatives that
8 could be substantially better. Granted, NRDC has not
9 presented testimony and there is scant evidence to
10 suggest that any of these would be better. But the six
11 are the pool design, heavy sodium pump flywheels, lower
12 system operating temperatures, a third shutdown system,
13 a core catcher and last, a no-vent containment.

14 Examination of the aforementioned staff and
15 applicant testimony shows that none of these
16 alternatives are substantially better for meeting the
17 program objectives. And I will not recount that
18 evidence here. And in the interest of time, I would
19 like to address just two of these alternatives for the
20 purposes of emphasis.

21 The first is the pool type design because that
22 is the subject of some attention in the record. And the
23 second is the no-vent containment because the cross
24 examination and the arguments during this period of
25 closing argument on other contentions has revealed some

1 fundamental misconceptions about this element of the
2 design.

3 So, starting with the pool versus loop, the
4 primary evidence in this regard is found in Applicants'
5 Exhibit 58 at pages 37 through 39, TR 6443 through 45.
6 In the loop design, the components of the reactor
7 systems are interconnected by piping. In contrast, in
8 the pool design, the components are housed in a large
9 pool of sodium which is contained in a vessel which
10 houses not only the components, but also, the reactor
11 core.

12 Now, it is important to note that everything
13 downstream of the primary heat transport system -- that
14 would be the intermediate heat transport system, the
15 steam generator system and the turbine generators --
16 would be common in both the hot and the loop concept.
17 That is, that the difference would result in the primary
18 system.

19 Now, in the U.S. both pool and loop designs
20 have been built. EBR-2 is a pool, FERMI and C-4 is a
21 loop. Examination of foreign designs indicates about an
22 even split between the two concepts.

23 Recent evaluations conducted by a team of U.S.
24 vendors and architect engineers -- see the transcript
25 6443 through 45, also, TR 6361 through 62 -- indicates

1 no clear superiority of one concept versus the other.
2 Either could satisfy the existing engineering design
3 safety and environmental criteria.

4 There is, however, one significant difference,
5 and that is as a practical matter, there is a lack of
6 pool type construction experience in recent years in the
7 United States, and the light water program contemplates
8 loop operation and most importantly here, the pool
9 concept requires more field labor. And consequently,
10 carries with it a greater cost and schedule risk.

11 On this basis, it is clear that the pool
12 concept is not a substantially better alternative for
13 meeting the project objectives.

14 Turning now to the no-vent containment, -- in
15 this respect, see Applicants' Exhibit 58 at 44 through
16 46, also, TR 6450 through 52. The basic problem here is
17 the apparent confusion in the record concerning the
18 several modes of containment venting and the different
19 containment vent systems on CRBRP. And let me just step
20 through these to make sure that it is clear.

21 Under normal operation, the containment is
22 vented by the heating, ventilation and air conditioning
23 system through HEPA filters. The second mode of
24 operation that is important here is that in the event of
25 a radioactive release to containment, the containment

1 will isolate.

2 And at that point, there is another system of
3 importance. It, though, operates continuously in all
4 modes, and that is the containment annulus cooling
5 system. Its function is to provide a negative pressure
6 within the containment annulus.

7 Assuming isolation and after operation of the
8 containment annulus system, if in the event of a threat
9 to containment integrity because of over-pressurization,
10 it is available to the operator to activate the thermal
11 margin beyond design basis vent through a radioactive
12 cleanup system. So, there are three separate
13 considerations here.

14 Now, the key point in regard to a no-vent
15 containment is that in terms of normal operation, there
16 is a significant advantage for maintenance to have a
17 vented containment. In terms of severe accident
18 conditions, though, the question is whether one should
19 have the thermal margin beyond the design basis vent
20 system.

21 And it is the judgment of our experts, as
22 expressed in the testimony at 6451 through 52, that one
23 cannot foresee all possible contingencies in the design
24 process. Yes, there is a conservative design, but a
25 no-vent containment would, in this case, constitute a

1 perfect design for containment. The vent in this case
2 provides flexibility and a prudent additional layer of
3 assurance to provide containment integrity in the event
4 of over-pressurization.

5 In the judgment of our witnesses and as shown
6 in the testimony, a no-vent containment is, in reality,
7 a less advantageous alternative for Clinch River and it
8 is clearly not substantially better.

9 On a final note, we should not conclude
10 without some mentioning of the timing objective. As
11 indicated at the outset, the objectives and timing and
12 need for Clinch River are, under the Commission's August
13 1976 decision, fixed. They are not open to scrutiny in
14 this proceeding, and they are not subject to challenge
15 here.

16 Now, there is a confusing line of questioning
17 which commenced at TR 6318 and ultimately ended at TR
18 6332. Both the Board and the witnesses had considerable
19 difficulty in deciphering these questions, and it was
20 unclear as to where they were headed. For some time, as
21 the Board patiently withheld its hand, the real answer
22 as to where this was headed was found at TR 6330 through
23 32. It finally emerged that counsel identified the
24 object of the line of questioning, and see here TR 6330
25 through 31.

1 It was in counsel's words, and I quote,
2 "Because the way the timing objective is stated now,
3 there is no way that the present design could not meet
4 it because it has no meaning. And that is what we are
5 trying to establish on the record."

6 The point here is simply this. The timing
7 factor is fixed for the purposes of this review. It is
8 one factor to be weighed in the balance, and NRDC's
9 attempts to challenge it, notwithstanding this factor,
10 should and can be considered inappropriate factual
11 context. We believe that the conclusion which NRDC will
12 doubtless advance, that the timing objective is
13 meaningless, is beyond the scope of the proceedings.

14 In conclusion, we submit that the record is
15 essentially uncontroverted in regard to three basic
16 propositions. First, CRBR is likely to meet its
17 objectives. Second, CRBR has and will continue to
18 provide relevant information for commercial designs.
19 And third, there are no substantially better design
20 alternatives for meeting the objectives.

21 Therefore, we urge the Board to find favorably
22 for applicants in regard to NRDC Contention 7(A) and
23 7(B).

24 JUDGE MILLER: This would be a good point to
25 take our lunch recess. Let's reconvene at 1:15.

1 MR. SWANSON: Mr. Chairman, there are, I
2 think, two unresolved matters that we want to take up
3 this afternoon, one being scheduling, the other being
4 the Board mandate last August for the parties to try to
5 reach an agreement on a list of ACRS references that
6 were made in the testimony back in August.

7 The parties have talked about both of those.
8 I think it would be probably more efficient, in terms of
9 hearing time, if the parties could maybe have just a
10 little extra time over lunch to try to reach as much
11 agreement as we could, or at least to refine.

12 JUDGE MILLER: How much time do you want?

13 MR. SWANSON: I think an extra half hour.

14 JUDGE MILLER: 1:45, then?

15 MR. SWANSON: I think that would do it.

16 JUDGE MILLER: Okay, we will resume then at
17 1:45.

18 (Whereupon, at 12:10 p.m., the hearing in the
19 above-entitled matter was recessed for lunch, to
20 reconvene at 1:45 p.m. the same day.)

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1 AFTERNOON SESSION

2 [2:00 p.m.]

3 JUDGE MILLER: All right. I guess the Staff
4 is ready to go on the closing arguments on Contentions
5 7(A) and (B). right?

6 MR. SWANSON: That is correct.

7 ARGUMENT BY DANIEL SWANSON, ESQ.

8 ON BEHALF OF U.S. NUCLEAR REGULATORY COMMISSION

9 MR. SWANSON: Again I find myself in a
10 position where Mr. Edgar has in considerable detail gone
11 through, stated the testimony by both Applicants and
12 Staff on the contentions, so I will confine my remarks
13 to just a brief summary of the methodology that the
14 Staff followed and provide some transcript references
15 where various points are discussed by the Staff.

16 The principal documents by the Staff on this
17 subject consist of the prefiled written testimony, Staff
18 Exhibit 21, Chapter 8 of the FES Supplement, which is
19 Staff Exhibit 8, and also Chapter 8 in the original
20 filed Environmental Statement that is Staff Exhibit 7.
21 Mr. Edgar indicated the testimony filed and received by
22 Applicants. There was no prefiled written testimony
23 submitted by Intervenors on this subject.

24 Briefly, the Staff considered and concluded
25 that the major programmatic objectives for the LMFBR

1 program will be likely to be met for Clinch River in a
2 timely manner satisfying the objective of completing the
3 CRBR as expeditiously as possible, as discussed at
4 Transcript pages 6523 through 24.

5 The timing objective could be impacted by
6 selection of an alternative site. Unavoidable delay
7 could result in 32 to 48 months delay if an alternate
8 site were selected. The Staff position, however, is
9 that this delay is avoidable because in fact the
10 substantially better alternate site simply does not
11 exist.

12 Secondly, the Clinch River site is suitable as
13 it was found in the Staff site suitability report.
14 These points are discussed at transcript pages 4919
15 through 21, and 6525. The Staff, in response to
16 concerns raised by Intervenors in discovery, evaluated
17 and discussed specifically in the testimony whether or
18 not Clinch River will be able to meet the timeliness
19 objective in light of concerns raised in a GAO report on
20 steam generator testing.

21 Mr. Edgar has already discussed some of the
22 details of the analysis of this matter, but I would like
23 to point out the basic Staff conclusions in this
24 regard. First, the Staff concluded that the present
25 testing program of the Clinch River steam generator

1 system adequately minimizes the risk of discovering
2 major problems. That is discussed at transcript pages
3 6529 through 31.

4 Secondly, design modifications that are
5 required to modify the prototype of the steam generator
6 system in light of systems integration testing that was
7 performed are minor and should not present a significant
8 problem, as discussed at transcript pages 6530.

9 Thirdly, the Staff concluded that the present
10 design and testing of the steam generator system
11 indicates a high probability of successful operation of
12 the Clinch River steam generator. This is discussed at
13 transcript pages 6531 through 32.

14 Finally, the Staff concluded that additional
15 testing of the Clinch River steam generator system could
16 minimize but could never completely eliminate the
17 technical risk. This is discussed at transcript pages
18 6526 and 27, and 6531.

19 As a result, the Staff concluded at transcript
20 page 6531 and 32 that there is a high likelihood that
21 Clinch River can meet its objectives without additional
22 steam generator testing. The Staff concluded also that
23 since Clinch River will be using the design concepts
24 which the commercial LMFBR program is likely to adopt,
25 that the Clinch River project maximizes the

1 informational benefits to the LMFBR program. This is
2 discussed in greater detail at transcript pages 6534 and
3 6535 through 37.

4 The Staff concluded that Clinch River is
5 reasonably likely to achieve its objectives of generated
6 information relevant to the design, construction,
7 reliability, maintainability, safety, environmental
8 acceptability and economic feasibility of practical
9 commercial-sized LMFBRs. That conclusion is stated at
10 transcript 6545.

11 Turning to alternate design features, the
12 Staff position was that incorporation of alternatives in
13 Clinch River can only be justified if first the features
14 are likely to be incorporated in LMFBR commercial-sized
15 reactors or, second, that the information on alternative
16 designs is indispensable to the LMFBR program and that
17 the state of development in the U.S. is sufficiently
18 advanced so as to incorporate this design into Clinch
19 River without adverse effects on being able to meet
20 primary programmatic objectives. This was discussed at
21 transcript 6546 through 47.

22 The Staff evaluated the six alternate design
23 concepts which were referred to by Intervenors in
24 discovery and which were discussed by Mr. Edgar. I will
25 just simply refer to places in the transcript where

1 these matters are discussed by the Staff. First,
2 flywheels and sodium pumps are discussed at transcript
3 page 6548. Second, the self-actuated shutdown systems
4 were discussed at transcript page 6547 and 6491 and 92.

5 The core retention system was discussed at
6 transcript page 6492 through 95, and 6547 through 48.
7 The homogeneous core is discussed at transcript page
8 6498 through 6508, and 6544 and 6549. The fully
9 isolated containment is discussed at transcript 6549,
10 and finally, the loop versus pool design for a cooling
11 system is discussed at 6537 and 6580.

12 After considering each of these alternative
13 designs and discussing the reasons why they would not
14 provide the advantages advocated by Intervenor, the
15 Staff concluded that there is no advantage to adopting
16 these alternative concepts in that the programmatic
17 objectives, including timeliness, would not be met by
18 adopting those alternatives but would, in fact, be met
19 with the current Clinch River design discussed at
20 transcript 6550.

21 In sum, the Staff and Applicants carefully
22 considered the concerns raised in Intervenor Contention
23 7(A) and (B) and concluded, as I referenced in the
24 testimony, that the Clinch River is reasonably likely to
25 achieve its objectives and that the alternative design

1 concepts advocated by Intervenor in discovery, although
2 not testified to in this proceeding, do not present the
3 advantages that will help to ensure that the Clinch
4 River meets its objectives.

5 That concludes the Staff argument.

6 JUDGE MILLER: NRDC?

7 ARGUMENT BY BARBARA A. FINAMORE, ESQ.

8 ON BEHALF OF NATURAL RESOURCES DEFENSE COUNCIL AND
9 SIERRA CLUB

10 MS. FINAMORE: Intervenor's main arguments
11 with regards to Contentions 7(A) and 7(B) can be stated
12 as follows. First of all, it is clear to all the
13 parties and the Board that the objectives of the LMFBR
14 program must be taken as given in this proceeding.
15 However, what is open to the Board and what function the
16 Board must perform is in deciding whether these
17 objectives have been met and also in deciding what
18 weight should be given to any particular objective and
19 whether or not it will be met in balancing the
20 alternatives and in deciding whether or not a particular
21 alternative is substantially better.

22 Our main concern is that the way in which
23 several of these programmatic objectives has been
24 interpreted and the weight that such alternatives have
25 been given by the Staff and the Applicants is

1 inappropriate and therefore has skewed the weighing of
2 alternatives to the Clinch River breeder reactor site
3 and designs. We believe that if the proper weight were
4 given to these alternatives and if the proper
5 interpretation were given to these alternatives, that
6 several alternative designs as well as several of the
7 sites that we mentioned earlier would, in fact, turn out
8 to be substantially better.

9 In particular, we believe that the Staff and
10 the Applicants have misinterpreted the timing objective,
11 which we do accept as a given. We believe that it has
12 prevented the Staff and Applicants from coming to the
13 conclusion that the alternative steam generator testing
14 program is, in fact, substantially better than the
15 present one.

16 We also believe that the Staff's
17 interpretation of several of the programmatic
18 objectives, in particular the economic feasibility
19 objective as well as the technical performance,
20 reliability and maintainability objective are such as to
21 make a nullity, in effect, of their review of whether or
22 not those objectives have been met. We believe that if
23 the proper interpretation were given to those particular
24 alternatives, the alternative designs such as the core
25 catcher would in fact turn out to be substantially

1 better.

2 Finally, I would have a few words to say about
3 the discussion of the nonventing containment. So that
4 outlines my argument.

5 Now to begin with, Contention 7(A)(1), which
6 alleges that it has not been established how the CRBR
7 will achieve its objectives in a timely fashion. I
8 would just like to point out for a matter of background
9 that at the time this contention was drafted and at the
10 time the Commission held in 1976 that timing of the
11 demonstration LMFBR is a programmatic given and that the
12 only thing to be discussed was whether or not such
13 objective had been met, the timing objective was stated
14 in terms of the date certain. In this way it was
15 possible to make a determination by the Board or Staff
16 or Applicants whether or not the objectives would be
17 achieved in a timely fashion.

18 Now, as you know, the four-year hiatus in the
19 CRBR project rendered the original date certain moot as
20 a timing objective for completion of the project, and
21 that when the project was resurrected and the
22 programmatic impact statement updated, rather than set a
23 new date certain as the timing objective, it was stated
24 to be simply as expeditiously as possible.

25 Now, it is clear at the present time that

1 Applicants and Staff are interpreting the DOE goal of
2 moving expeditiously in such a manner as to overwhelm
3 the consideration of alternative sites and designs that
4 is required by NEPA. The Applicants supplied this
5 timing goal in such a way that favors them and the Staff
6 but cannot be used against the present project as
7 composed.

8 This attempt to reject all sites and design
9 alternatives because they would allegedly prevent
10 achievement of objectives as expeditiously as possible
11 cannot succeed. We believe that too much weight has
12 been given to the timing objective in the testimony of
13 the Applicants and Staff.

14 It is clear from that testimony and the
15 Applicants' and Staff attempt to get this Contention
16 7(A)(1) summarily dismissed that the real test being
17 applied here is not whether the objectives will be
18 timely met but rather whether the action to be taken
19 corresponds to that preferred by the Applicants and
20 Staff.

21 If you look at the testimony, it turns out
22 that anything other than the Clinch River breeder
23 reactor in its presently proposed configuration and
24 program would allegedly prevent achievement of the
25 all-important timing objectives, and furthermore, that

1 that fact is enough to reject the alternative as
2 substantially better.

3 For example, the Staff testified that if the
4 ASLB agrees with the Staff position that the site is
5 suitable under Part 100, a decision to choose a
6 different site would result in an unnecessary delay of
7 approximately three or four years in plant construction
8 and operation. Consequently, that choice would not be
9 compatible with the timing objective of completing the
10 plant as expeditiously as possible. That is the
11 testimony of Lynch, Baker and Long at 4.

12 With respect to the testing of the steam
13 generators, the Staff has testified, "The alternative
14 course advocated by GAO would require a precise
15 prototype to be fabricated and tested before contracting
16 for production of the plant units." This would cause a
17 certain delay of at least two years and possibly
18 longer. This is a direct and certain forestalling of
19 accomplishing any facet of the CRBR informational
20 objective and therefore less desirable.

21 The Applicant's witness testified that the
22 alternative which completes the project at the earliest
23 date is by definition as expeditiously as possible.
24 That is transcript 6319. The Staff testimony clearly
25 implies that the Licensing Board could not find that

1 alternatives to the proposed action are substantially
2 better consistent with the timing objective.

3 In other words, the timing objective
4 completely overwhelms the consideration of
5 alternatives. The logic goes: as long as the proposed
6 action is judged to be suitable, alternative courses of
7 action, no matter how much better they may be, should be
8 rejected since they would conflict with the timing
9 alternative.

10 Needless to say, if this methodology were
11 generalized, the consideration of alternatives under
12 NEPA would be a complete nullity since the choice of an
13 alternative to any proposal will almost always entail
14 some delay relative to the preferred action. We submit
15 the timing should be simply an institutional or
16 programmatic factor to be considered together with all
17 others and not the paramount objective, and we submit
18 further that if, as we have argued to you today and will
19 argue in a minute, that alternative sites and designs
20 are in fact found to be substantially better on
21 environmental or on safety grounds, that consideration
22 of the delay that would be incurred in moving to such an
23 alternative should not serve as a bar to the Board
24 finding that such alternatives are indeed substantially
25 better.

1 In this case, however, it is apparent that
2 timing to the Applicants and the Staff has somehow
3 become the absolute consideration that prohibits a
4 choice of alternative sites or design features which are
5 or might be substantially better than those proposed and
6 that even dictates against thorough prior testing of a
7 new design for the steam generators, a plant component
8 which has caused very serious problems both in breeders
9 and in PWRs in the past.

10 Now, granted that the Commission to conceded
11 to DOE the right to establish the timing objective for
12 this project. It is clear that the Commission had in
13 mind a timing goal against which the Clinch River
14 project itself would be measured. Among the three
15 levels of inquiry which the Commission decided were its
16 proper province in this proceeding were to examine
17 whether the Clinch River facility as proposed is likely
18 to meet the LMFBR program informational goals which the
19 ERDA review process determined should be met by a
20 demonstration reactor within the time frame. That is 4
21 NRC at 78.

22 Thus, while it is for DOE to decide what the
23 timing of CRBR should be, it is for the Commission to
24 determine whether the CRBR is likely to meet its
25 objectives within the desired time frame and how much

1 weight should be accorded to the factor of timing in the
2 course of the consideration of whether or not
3 alternatives are substantially better.

4 The interpretation given to the timing
5 objective has transformed the question of what is the
6 desired time frame and will CRBR meet it to a means for
7 rejecting alternatives. Both the Staff's motion to
8 summarily dismiss this contention and the Applicant's
9 support of it argue that since no alternatives could
10 achieve the objectives more expeditiously than CRBR, the
11 contention was moot.

12 I might also point out that under the
13 Commission's order, the Staff was supposed to decide
14 whether or not the Clinch River project itself had met
15 the timing objective, but that the record shows that the
16 Staff has made no attempt in the EIS to determine
17 whether the project itself has met the objective, but it
18 has only used the objective in the context of
19 alternatives.

20 But in spite of the apparent timing advantage
21 which CRBR has vis-a-vis its alternatives, the Staff at
22 least has acknowledged that certain aspects of the
23 particular approach being pursued have the potential to
24 cause long-range delays rather than short-range delays.
25 For example, the Staff stated it would certainly be

1 imprudent to install an untested steam generator design
2 since this choice has high technical risk and could lead
3 to delays in the long run. That is the testimony of
4 Leach, Becker and Long at 5.

5 Now, we submit that in rejecting alternatives,
6 the Staff and the Applicant have looked merely to
7 short-term delays in deciding whether or not an
8 alternative would meet the objective as expeditiously as
9 possible but have not considered whether going ahead
10 with a particular choice such as the steam generator
11 might in the long run be more expeditious than the
12 present proposal because it would prevent long-term
13 delays that might be discovered later with some problems
14 in the steam generator.

15 Now, the evidence shows that concerns about
16 the steam generator testing were raised in a recent GAO
17 report on the subject: "Revising the Clinch River
18 breeder reactor steam generator testing program can
19 reduce risks." That is Intervenors' Attachment 2 to
20 their Exhibit 22.

21 The GAO concluded that DOE's plans to install
22 a new design of steam generators without thorough,
23 full-scale testing would not minimize the risk of
24 failure of the steam generators, a plant component with
25 a substantial history of serious problems both in

1 breeders and in PWRs. Even the Staff testified that the
2 most likely source of problems in demonstrating
3 technical performance is in energy conversion systems
4 such as steam generators -- the testimony of Leach at 19.

5 Now, in the record the questions were asked of
6 the witnesses whether or not any technical people had
7 participated in the GAO report, and the answer was that
8 the only technical person did not believe that such
9 additional testing was necessary. We submit that that
10 is incomplete. The GAO report will show, if you read
11 it, that the company which designed and built the
12 prototype steam generator for CRBR, which has a
13 substantially different design than those which DOE now
14 plans to install, and I believe it is Atomics
15 International, agreed with GAO's conclusion that
16 additional testing was called for.

17 In addition, GAO's technical consultant also
18 agreed that the planned testing program would not
19 provide sufficient information on structural integrity
20 and the ability to withstand sharp temperature changes,
21 which are two key considerations in steam generator
22 performance. The cite from the technical consultant
23 that was quoted by the Applicants and Staff was that
24 DOE's consultant, in spite of its misgivings,
25 recommended against delaying CRBR to accommodate

1 additional testing, and we submit that the technical
2 consultant was also placing delay over the absolute
3 advantages to the health and safety of the public which
4 would occur if the additional testing was performed, and
5 we also believe that is an inappropriate use of the need
6 for haste or timing.

7 The Staff's testimony is very selective in
8 citing all of the caveats and the uncertainties noted in
9 GAO's analysis, but it avoids, though, carefully the
10 thrust of the analysis. The only real response that the
11 Staff offered to GAO's main point that the present
12 approach is unnecessarily risky was its optimism and
13 confidence in Applicant's good intentions.

14 The Staff on page 8 of its testimony expresses
15 confidence that all lessons have been understood and
16 assimilated in the final design and that careful
17 material selection and quality assurance will ensure the
18 success of the steam generators.

19 Intervenors submit that the risk to
20 achievement of the plant's programmatic benefits which
21 the steam generator factor presents is very
22 substantial. If nine of these novel design steam
23 generators are installed and prove to be defective in a
24 fundamental way which necessitates replacement, the
25 additional cost and delay entailed will be enormous,

1 possibly enough to terminate the whole project.

2 The Applicants and Staff insist that this risk
3 is insufficient to justify the certain but much shorter
4 delay time necessitated by additional testing. Once
5 again, it is difficult to understand why haste is so
6 important that it dictates adherence to an inadequate
7 development program.

8 In order to grant an LWA 1, this Board must
9 make a finding that there are not likely to be
10 alternatives which are overall substantially better than
11 the Clinch River breeder reactor. The relevant
12 considerations in making this determination under NEPA
13 and the Commission's 1976 order are environmental and
14 institutional factors, the latter in this case of
15 comprehending the achievement of the programmatic
16 objectives for the LMFBR demonstration plant, including
17 timing.

18 This Board must determine for itself the
19 weight to be accorded to the various factors and the
20 comparison of alternatives. That weight is not dictated
21 by NEPA, Commission's rules or the Commission's 1976
22 order.

23 As the Appeal Board has said, whether an
24 alternative is a reasonable one or whether it has been
25 adequately considered is in the end a matter of sound

1 judgment dependent on the facts and circumstances of
2 each situation, and that is the Boston Edison case,
3 Pilgrim Unit 2, ALAB 479, 7 NRC 774, 779, 1978, citing
4 Vermont Yankee Nuclear Power Corporation v. NRC.

5 Thus this Board, we submit, should reject the
6 analysis of alternatives offered here by the Applicants
7 and the Staff because they are based on the implicit
8 assumption that the fastest possible timing is the
9 consideration which prevails among all the others.
10 Neither Applicants nor Staff has presented any evidence
11 or argument on the basis of which this Board could
12 attribute such overreaching significance to the timing
13 factors.

14 In fact, in response to some questioning by
15 the Board on this very issue, the Staff witness Leach
16 testified that, yes, timing is somewhat subordinate to
17 achieving the informational goals, transcript 6521.
18 Unfortunately, this assertion does not correspond to the
19 weight that the Staff gave the timing factor in its
20 consideration of alternatives in the FES.

21 So we submit that, based upon the information
22 in the GAO report and the backup by the technical
23 consultant and the Atomics International people in that
24 report to the extent that additional testing would, in
25 fact, minimize risk, and based upon our belief that the

1 timing objective should in fact be given subordinate
2 weight in such a situation, we do believe that the
3 testing of the steam generator is in accordance with the
4 GAO report and is, in fact, a substantially better
5 alternative, and we would recommend that the Board pay
6 particular weight to the information in that GAO report.

7 Now, there are several other programmatic
8 objectives which the Staff has interpreted in the record
9 in a manner in which we feel is inappropriate. In
10 particular, in defining the economic feasibility
11 objective, the Staff stated in response to questioning
12 that it does not take into account the actual cost of
13 the plant itself but merely whether or not the project
14 has a detailed cost accounting system, and in fact,
15 Applicants have used the same test as to whether or not
16 the plant meets its economic feasibility objective,
17 merely whether or not there is a detailed cost
18 accounting system.

19 We submit that a plain reading of the economic
20 feasibility argument would dictate the result that one
21 must determine in fact whether or not the breeder can in
22 fact be economically feasible, not just whether it can
23 provide information on feasibility. If the information
24 it provides is that the plant in fact will be too
25 expensive to ever be commercially feasible, we submit

1 that is a factor that should be considered; and having
2 failed to consider it, we do not believe the Staff has
3 demonstrated a high likelihood of meeting that objective.

4 In addition, the question as to whether a
5 plant can meet, the CRBR can meet its programmatic
6 objectives is a factor that must be considered in the
7 cost-benefit analysis of the plant, and we feel that the
8 cost of the plant is a very relevant factor to be
9 included in that cost-benefit analysis.

10 Similarly, the Staff has interpreted other
11 programmatic objectives such as the technical
12 feasibility, reliability and maintainability objectives
13 as simply being whether or not the plant itself can
14 provide information on technical performance,
15 reliability and maintainability. The Staff witness
16 concluded that even if there were a core-disruptive
17 accident in the plant during the first five years of
18 information, that the plant would still meet its
19 objectives because it would provide information on
20 whether or not such an accident could occur.

21 We submit that this is inappropriate. If
22 there is reasonable likelihood that certain accidents
23 might occur or if the Staff feels that the information
24 that it might gather from the plant would demonstrate
25 that the plant would not be technically feasible,

1 reliable or maintainable, that that information should
2 serve to cut against the finding of meeting the
3 programmatic objectives.

4 If all that is included in these programmatic
5 objectives is providing information and that no matter
6 how negative the information is, the programmatic
7 objectives can still be met, we submit that the whole
8 exercise has become a nullity, and that if that is the
9 Staff's interpretation, they have not completed their
10 responsibility of meeting those objectives.

11 It is interesting to note that under the two
12 questions of safety or environmental acceptability, they
13 have been interpreted as demonstrating whether or not
14 the plant will be in compliance with applicable laws for
15 health and safety, and we feel that that is the proper
16 approach to be used, whether or not the plant will, in
17 fact, demonstrate environmental acceptability, not
18 whether the plant will provide information showing that
19 it is not environmentally acceptable.

20 Even under this very vague standard that the
21 Staff has set up in its interpretation of the
22 programmatic objectives, we submit that it has applied
23 it to at least one of the alternative design features in
24 an even more vague way.

25 In terms of the core catcher, the Staff

1 witness and the Staff testimony indicates that the core
2 catcher is not a substantially better alternative
3 because the Staff and the Applicant would be unable to
4 get any relevant information from the core catcher
5 unless it was actually put into use, which would only
6 occur if there were a core-disruptive accident or a
7 meltdown, and the Staff's reasoning is that such a
8 core-disruptive accident or meltdown is so highly
9 unlikely that the core catcher would never be used, no
10 information would ever be generated from use of the core
11 catcher.

12 This reasoning is directly in conflict with
13 the statement that was made by Mr. Edgar earlier
14 regarding the informational benefits from the plant as
15 presently proposed. Mr. Edgar has stated and it has
16 long been the Applicant's position that the construction
17 and design, fabrication and testing of particular
18 components of the CRBR are already providing information
19 of use to later portions of the LMFBR program, in
20 particular the LDP.

21 In that analysis it is not necessary to ever
22 use the particular components before one can generate
23 useful information, and we submit that the same is true
24 of the core catcher; that as a matter of logic, a lot of
25 information could be derived from the design,

1 fabrication, construction and testing of the core
2 catcher; that it would be of substantial use to the
3 project itself and to later versions of the project.
4 And since the particular accidents with which the core
5 catcher is associated are of such potential radiological
6 risk, we feel that the use of the core catcher is
7 necessary to meet the programmatic objectives because,
8 as we have shown before, we believe there is a
9 substantial risk of the accidents that it would be
10 intended to mitigate and that such a core catcher would,
11 in fact, be a substantially better alternative.

12 Finally, I would just like to say a few words
13 about the nonventing of the containment, which we had
14 indicated before would be a substantially better
15 alternative. Mr. Edgar has stated several times that
16 there is a matter of confusion regarding the various
17 vent purge systems, annulus filtration systems. We
18 submit that this is not true. We have no dispute with
19 the Applicants over his description of those particular
20 vent purge systems, annulus filter systems.

21 We have no dispute with the purpose of those
22 systems or how they work. We have no quibble with
23 whether a scrubber can or cannot be called a filter
24 system. These are not central to the concerns which we
25 have addressed all the way through about whether or not

1 Applicants' approach in their analysis is acceptable
2 concerning the vent systems.

3 Our main concern is not what the scrubbers do
4 but what assumptions are regarding when those vent
5 systems will be used or put into use and how they are
6 incorporated into the modeling of a site suitability
7 source term accident or a core-disruptive accident.
8 That is our main concern.

9 Just briefly, if I can outline it to the
10 Board, it is obvious from the record that in order to
11 release the sizable fractions of halogens, iodine,
12 fission products and plutonium fuel from the Clinch
13 River, a core-disruptive accident has to occur and it
14 has to involve the whole core or a sizable fraction of
15 the core. One either needs a meltdown or an energetic
16 CDA, which would most likely also involve a meltdown.

17 Now, in such an event, a CDA with whole-core
18 involvement, the melt-through of the reactor vessel
19 would occur at about 1000 seconds, according to the CRBR
20 in the record, the molten core, and about 1000 pounds of
21 the sodium would be dumped into the reactor cavity.
22 With the present CRBR design and the absence of the core
23 catcher, this would lead to a requirement that the vent
24 purge system be turned on.

25 Now, there is some dispute between Applicants

1 and Staff as to whether the system is required after 12
2 hours, 24 hours, 36 hours or a similar range, but in any
3 case, the doses to the public are not terribly sensitive
4 to the actual time. The doses to the public, however,
5 are very sensitive to whether or not the vent purge
6 system is used at all.

7 Now, our two central points are this. You
8 must postulate a core melt or an energetic CDA to get
9 large release fractions from the core, and if you have a
10 meltdown you will inevitably have to use the vent purge
11 system under the present design. I think the record is
12 clear on that point.

13 Now, our main concern with the vent purge
14 system and whether or not a nonventing containment
15 would, in fact, be substantially better is that the
16 Applicant's and the Staff's site suitability source term
17 analysis fails to include the implications of the vent
18 purge system. We believe that it is a gross fiction to
19 postulate a large fractional release of halogens, iodine
20 and fission products in fuel and then fail to model both
21 of the two vent systems what will inevitably have to
22 operate. You cannot get the SSST releases assumed by
23 the Applicants and the Staff without meltdown, and you
24 cannot get a meltdown without being forced to operate
25 the vent purge system.

1 This is the nature of the current CRBR design,
2 and in fact, the CDA analysis by the Staff and the
3 Applicants in this proceeding assumes that the operating
4 of the vent purge system will be required one day or so
5 after the accident is initiated. The failure to monitor
6 the vent purge system in the Applicant's and the Staff's
7 SSST analysis leads to the result that the "conservative
8 SSST analysis" results in a smaller dose than the
9 "realistic CDA analysis," even for the most benign of
10 the CDAs considered.

11 Now, in this Contention 7(A) and 7(B) we argue
12 in part that the alternative features such as core
13 catchers and improved containment are substantially
14 better and, in fact, necessary because even the most
15 benign CDAs considered exceed the 10 CFR 100 guideline
16 values at the LPC. Now, that was in our testimony and
17 closing argument under Contentions 1, 2 and 3, and that
18 is the basis for our conclusion that the core catcher
19 and the no-vent containment are in fact substantially
20 better than the present design.

21 That concludes my argument.

22 JUDGE MILLER: Thank you.

23 Any rebuttal?

24 REBUTTAL ARGUMENT BY GEORGE L. EDGAR, ESQ.
25 ON BEHALF OF PROJECT MANAGEMENT CORPORATION

1 MR. EDGAR: The first point concerns the
2 so-called GAO report, which is an exhibit, or attachment
3 to Intervenor's Exhibit 22. In this regard, we would
4 point out to the Board that the evidence of record
5 indicates that the only technical capability available
6 to GAO in conducting that report consisted of a
7 technical consultant who disagreed with the conclusions
8 of that report.

9 We think the Board should compare the
10 second-hand, highly questionable source of evidence of
11 this report against the first-hand testimony of
12 technically qualified witnesses in these proceedings,
13 Mr. Longnecker, TR 6325, and Mr. Becker, TR 6526 through
14 32. We believe that the reliable, probative, first-hand
15 evidence sponsored by qualified witnesses indicates
16 clearly the likelihood that the steam generator will
17 meet the technical performance objective.

18 Another point. Intervenors argued that as to
19 the economic feasibility objective, that one must
20 determine that the breeder concept will be economically
21 feasible. This argument overlooks the fact that in
22 August of 1976 the Commission addressed this issue.
23 This argument suggests that one must consider the
24 economics of the commercial LMFBR. This is, in fact,
25 NRDC's original Contention 11 and this is not within the

1 scope of these proceedings.

2 Similarly, NRDC argued repeatedly today that
3 providing information is simply not enough in terms of
4 measuring the benefits. We again repeat, the
5 Commission's August '76 decision is clear as a bell: the
6 benefits of Clinch River are to be measured in terms of
7 the information it will generate. The test here is not
8 whether the plant will in fact meet the objectives. The
9 standard is whether it is likely to meet the objectives,
10 and the standard is whether there are substantially
11 better alternatives which are likely to be available to
12 meet the objectives.

13 In terms of alternatives, one alternative
14 raised today in argument was the core catcher. The
15 Board should consider here again the testimony at
16 transcript 6449 through 6450. The core catcher does not
17 buy you anything in terms of real risk reduction. It
18 does not affect the likelihood of the accident, and the
19 consequences of core melt accidents without the core
20 catcher for Clinch River have been analyzed and shown to
21 be acceptable.

22 In regard to the no-vent containment, the
23 argument we just heard really consists of rearguing the
24 point which is resident within NRDC Contentions 1, 2 and
25 3, that the core-disruptive accident should be a design

1 basis accident and that the site suitability source term
2 should envelope core-disruptive accidents.

3 We submit that the evidence in terms of
4 Contention 1, 2 and 3, which we will not repeat here at
5 length, clearly demonstrates that the Intervenor's are
6 wrong here. We thus submit that in terms of NRDC
7 Contention 7(A) and (B), the record is very, very
8 clear: one, CRBRP is likely to meet its objectives;
9 two, CRPRB has already and will continue to generate
10 relevant information for commercial LMFBRs; and finally,
11 there are no substantially better design alternatives
12 for satisfying programmatic objectives.

13 JUDGE MILLER: Well, that concludes our
14 closing arguments at this time. I believe now that the
15 parties and counsel have had a chance to confer
16 regarding the proposed schedule for the further
17 development of these hearings.

18 MR. EDGAR: Yes. I would like to, if I may,
19 just lay out a couple of basic points. We do have a few
20 areas of disagreement and I think I can define those
21 quickly. Perhaps the most convenient way to do it would
22 be to set up -

23 JUDGE MILLER: Maybe you had better tell us
24 what you are talking about first before we go through
25 this whole exercise. We don't really know what you are

1 talking about. You used the word "pleading." What is
2 a pleading in this context?

3 MR. EDGAR: Let me try to start at the
4 beginning. The parties have conferred about seeing if
5 we can reach an agreement on a schedule for the next
6 phase of hearings and on the scope of the issues to be
7 considered in the next phase of hearings. Given the
8 Staff's review schedule and the nature of the remaining
9 contentions that we have in these proceedings, it seems
10 logical and, indeed, appropriate here now to go directly
11 to the CP hearings with no bifurcation with an LWA 2.

12 JUDGE MILLER: Why is that?

13 MR. EDGAR: Because the Staff now has a firm
14 schedule for the SER. The Staff now has the approach in
15 place to get all of the ACRS review done, and
16 furthermore, the schedule for site preparation would not
17 require any so-called -- well, if you will allow a loose
18 term, intermediate relief. That from the Applicant's
19 standpoint, there is no need to request an LWA 2 at this
20 time.

21 JUDGE MILLER: Are you withdrawing your
22 request? You will notice, by the way, that our
23 self-imposed refraining from participating in the
24 discussions, now that you have finished your arguments
25 we now want to discuss some of these things with you and

1 we are not taking anything for granted. First of all,
2 from time to time there seems to be a variation in the
3 pace and scope of our proceeding depending upon
4 sometimes what the length of the Applicant's foot is, in
5 the sense you want an LWA 1, you don't want an LWA 1,
6 you want them separate, you want them together, now you
7 want to telescope LWA 1 into CP.

8 MR. EDGAR: I didn't mean to imply that.

9 JUDGE MILLER: I raise this in this context
10 because the Board has ruled in the past that there are
11 certain matters that were design specific or site
12 specific which were not subject to full discovery and
13 evidence, and we made a commitment which we intend to
14 honor to the Intervenorrs that we were not going to move
15 into another phase where they were going to be precluded
16 from going in adequate depth, at any rate, into some of
17 these matters because some of the views the Board took,
18 and we were urged to take those views by both Applicant
19 and the Staff of a somewhat more limited nature, in a
20 sense, of the facility that is being addressed and not
21 in the extent of the NEPA, which had to be in full
22 depth, but the question of design-specific nature of
23 some of these things and so forth.

24 Now, we would like to start separating out
25 some of these contexts that seem to get blurred, and

1 they come and they go depending upon the desires of the
2 moment. Now, this is the context that I would like to
3 -- well, I will let Judge Linenberger tell you what the
4 fine points are.

5 JUDGE LINENBERGER: Well, one of the first
6 things that comes to mind here, Mr. Edgar, is that your
7 suggestion of no further bifurcation, folding the LWA 2
8 considerations into the CP phase of evidentiary
9 hearings, is, it seems to me, in part, at least,
10 predicated on the March 4th schedule for the SER
11 publication.

12 Now, I make a hypothetical here and I leave
13 the examination of history to others, but suppose that
14 that report turned out to be -- I will pull a number out
15 of the air -- say ten weeks later than March 4. What
16 does this do to the predicate for your argument?

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1 MR. EDGAR: Your Honor, I think the answer to
2 that is that if the milestone document, if the Staff's
3 document slips, then the schedule is not going to be
4 meaningful. We have seen that in the past, and we would
5 expect that to recur.

6 JUDGE MILLER: To be realistic we'd better
7 hear from the Staff, but it was the Staff that came out
8 with a little bit different aspect last summer where
9 they were going to start recirculating everything else.
10 But this can change very sharply and unexpectedly, the
11 schedule the Board developed, and we don't want to go
12 through that exercise again.

13 MR. SWANSON: Just to clarify the record, the
14 Staff did issue its environmental document at the time
15 that it said it would.

16 JUDGE MILLER: We were delaying because you
17 had to recirculate the document, and that cost the Board
18 time and it cost energy and it caused the telescoping of
19 energy.

20 Now, there were reasons why the Board
21 permitted it, but I'm putting you all on notice now
22 we're not going to go galloping up to the last minute.
23 We're going to do it because so and so says he will do
24 it and he doesn't quite do it.

25 Now, you had better back up a little in making

1 your representations and in sticking to them. We
2 permitted it last summer and fall. There is no
3 precedent. Don't count on that again. We're not going
4 to establish a schedule now that's dependent upon
5 something that we're not very, very certain is going to
6 come about and when and how. So we are asking for a
7 high degree of realism and of commitment on the record,
8 because we're going to be looking at it three months
9 from now or six months from now.

10 In that context, I guess, since the Staff's
11 ability both to perform its functions and the timing
12 upon which they can guarantee they are going to have it
13 done is the bedrock we'd better look at before we look
14 at any more scheduling discussions. That's the bedrock,
15 and we had better hear from Staff now with some
16 firmness. And whenever you're making commitments,
17 people are going to be reading six months from now.

18 MR. SWANSON: Okay. Just to back up again,
19 just so the record is clear, when we set up a schedule
20 for the environmental review, that was predicated on the
21 most optimistic possibility, that being that there would
22 be no recirculation, that is correct. The document did
23 come out I guess about when it was scheduled, but, of
24 course, recirculation was needed.

25 JUDGE MILLER: It was tentative, and it was

1 not what you had represented you were capable of doing
2 realistically. And I've checked several different times
3 now as to whether or not we were going to be able to
4 meet, and it wasn't a preliminary; it was with
5 finality. And that is what we gauged our program on
6 last summer. It didn't turn out that way. I'm not
7 quarreling with the reason, because we would rather have
8 the Staff be right than be rushed. But by the same
9 token, we don't want you rushing the Board now.

10 MR. SWANSON: No, but we don't have that
11 potential occurrence of recirculation of a safety
12 document.

13 JUDGE MILLER: Well, I don't say history
14 repeats itself exactly or lightning hits the same guy,
15 but if it's within the same neighborhood that's enough
16 for me.

17 Now, I'm not trying to outguess what's going
18 to happen. I just don't want anything to happen. And
19 if you feel you can give that kind of assurance, talk to
20 your experts and state it on the record and be prepared
21 to live or die by it, too.

22 MR. SWANSON: The Staff is prepared to commit
23 to a March 4th date for the SER.

24 JUDGE MILLER: Is that the only SER or are we
25 going to have more, and are we going to have to decide

1 which one we're going to take? I've been through that
2 routine, too.

3 MR. SWANSON: Well, as I say, we don't have
4 the potential occurrence of a recirculation depending
5 upon how certain conclusions are reached. The SER would
6 be issued on March 4th. The ACRS is going to meet, and
7 the Staff's date for an SER supplement based upon ACRS
8 review is May 2nd.

9 JUDGE MILLER: Now, is that the only thing
10 which could bring about an SSER which arguably could
11 also cause further delays, or are the alternatives the
12 Board is confronted with is to go ahead and then we'll
13 supply it later with all kinds of promises?

14 I'm asking you because boards have been
15 through this. We don't want any propaganda.

16 JUDGE LINENBERGER: You see, Mr. Swanson,
17 there have been situations that I've lived through
18 painfully where dates were indeed met because of the
19 importance of interscheduling of various parties, but
20 the publication turned out, because of meeting the date,
21 not to be able to contain everything that had been hoped
22 for or planned for initially. So it was issued with the
23 caveat that the balance of the material would have to
24 come out in a supplement. So this could, in line with
25 what the Chairman said, this could upset the whole

1 applectart.

2 (Counsel for NRC conferring.)

3 MR. SWANSON: I'm conferring with the Staff
4 just to make sure of what I can state with what degree
5 of precision.

6 As I indicated, the Staff is committed to
7 issue an SER on March 4th. Now, the May 2nd supplement
8 date, now that is based on an assumption -- that is
9 based on the assumption that the ACRS will hold its
10 meetings and present its position to the Staff in time
11 for that date to be achieved.

12 Now, I understand we did not have a written
13 commitment from the ACRS as to an exact time of
14 meeting. Now, that much I would have to state is not
15 nailed down in certainly.

16 JUDGE MILLER: When will you have that in
17 writing?

18 (Counsel for NRC conferring.)

19 MR. SWANSON: Well, we will make a phone call
20 and see if we can get any better idea on that. We don't
21 have a promise from ACRS as to what dates and when they
22 will schedule or let us know when the meeting can be
23 scheduled. So that the May 2nd supplement date is
24 premised on the ACRS completion.

25 Now, there have been discussions with ACRS,

1 and that May 2nd date is based upon the Staff's
2 understanding that the ACRS would be able to meet, but
3 we don't have that in writing; and it is, I guess,
4 within ACRS' purview to schedule their meetings at a
5 time which could conceivably upset that date.

6 JUDGE MILLER: Well, it could depend upon the
7 merits of this. I think you need a pretty firm
8 commitment, first of all, from ACRS.

9 MR. SWANSON: That is correct. The March 4th
10 date is not dependent -- the March 4th date is the SER
11 date, and the May 2nd is the supplement date.

12 Now, there is one assumption in the March 4th
13 date. The one assumption is the Staff would not be tied
14 up in discovery matters prior to that date, and in the
15 discussions we've had with other parties none of the
16 proposals that have been discussed would have the Staff
17 engaged in responding to discovery prior to that date.
18 So I wanted to state that assumption in case the Board
19 in thinking about schedules starts contemplating
20 discovery at least on the Staff prior to that date. So
21 I do state that.

22 JUDGE MILLER: Well, I would certainly want to
23 know with certitude now from the Intervenors, the NRDC,
24 about the nature and extent of any such commitments.
25 But you can go ahead now. That will have to be verified

1 and certified.

2 MR. SWANSON: I don't state commitments. I
3 state that in discussions we've had thus far on
4 schedules we haven't reached total agreement on all
5 dates, but at least no one has proposed a schedule
6 whereby the Staff would be responding to discovery prior
7 to March 4th.

8 JUDGE MILLER: Well, those aren't the same
9 thing. I understand and hear what you're saying, but
10 that's far from being a commitment by NRDC or anybody
11 else likely to be engaged in discovery that there will
12 not be any involvement of discovery by the Staff on such
13 and such a date in order to permit the subsequent
14 developments. So right there we are not having a square
15 commitment.

16 MR. SWANSON: Well, that is why I wanted to
17 state that assumption.

18 JUDGE MILLER: Yes. I wish you would state
19 all assumptions. What other assumptions are there?
20 What other contingencies are there? What other
21 possibilities that could or might occur?

22 MR. SWANSON: I am told by the Staff that
23 Staff has the information it needs to write its safety
24 evaluation and to make the March 4th date.

25 JUDGE MILLER: That is the safety evaluation

1 report?

2 MR. SWANSON: That is correct.

3 JUDGE MILLER: It has all the information now
4 in hand that is required for that purpose?

5 MR. SWANSON: For that purpose. That is my
6 understanding from the Staff.

7 Wait just a minute.

8 (Counsel for NRC conferring.)

9 JUDGE MILLER: And then having all the
10 information, has the manpower, the time, the ability to
11 meet given dates, to cover fully and without reservation
12 whatever it is is going to be contained in your SER of
13 March 4th '83.

14 MR. SWANSON: Yes. As far as the information,
15 taking that issue first, it's my understanding we have
16 the information from Applicants that we have requested.
17 We have one laboratory doing work which has committed to
18 getting its input in time to make that date.

19 JUDGE MILLER: What is the date of the input
20 of the laboratory?

21 MR. SWANSON: Early February.

22 JUDGE MILLER: That is sufficient time in the
23 technical staff's judgment in order to enable the Staff
24 to do everything that is required to issue an SER on
25 March 4, is that correct?

1 MR. SWANSON: That is the commitment I get
2 from the Staff, yes.

3 JUDGE MILLER: Well, are you willing to
4 represent it to the Board? I know you got it straight
5 from the lips of the man who told you, but I'm asking
6 for a little bit more than that.

7 MR. SWANSON: I'm authorized to represent that
8 that is a staff commitment, yes.

9 JUDGE MILLER: Very good. We will accept it
10 as a commitment.

11 MS. FINAMORE: If I may make one comment, I
12 think there is one assumption in the schedule that
13 hasn't been raised, and that is the assumption that
14 there will not be further proceedings on the LWA, a
15 reopening of the LWA or a denial of the LWA-1 by the
16 Board.

17 I know there has been cases, I believe
18 recently, very recently in the Three Mile Island case
19 where a decision went against the utility, and the
20 proceedings were opened again. And I'm not clear if we
21 have taken that into account in the schedule here, if
22 that occurred; and I don't want to prejudge the Board's
23 decision.

24 JUDGE MILLER: That's always a possibility.
25 The Board, of course, is committing itself. Of course,

1 we will make every reasonable effort to arrive at our
2 various conclusions and to issue whatever papers are
3 required to be issued by the middle to latter part of
4 February.

5 That is the extent of our commitment. We
6 can't go beyond that.

7 MS. FINAMORE: So as a result, the conclusions
8 that will be reached by the Board are still open, I
9 would hope, one way or the other, and that one of the
10 possibilities that we're assuming in order to reach this
11 schedule is that an LWA-1 will be granted and that no
12 further proceedings will be necessary. I would just
13 like to make it clear.

14 JUDGE MILLER: You're not talking about
15 appeals. I can't control that.

16 MS. FINAMORE: I'm not talking about appeals,
17 but I'd just like to have it on the record that as far
18 as it seems to me a reasonable assumption that if as a
19 result of the Board's decision further proceedings in
20 the LWA-1 are necessary, that this schedule will no
21 longer have the same relevance.

22 JUDGE MILLER: Well, I would presume so. At
23 any rate, the Board isn't going to bind itself to
24 anything other than that, and the parties, of course,
25 can do as they wish. But this schedule is on the

1 assumption the Board will have been able to complete and
2 will rule affirmatively on the issuance of an LWA-1,
3 period.

4 Now, this is not an LWA-2. It's an LWA-1, the
5 matters that are before us; and we've closed the record
6 on now, and we're starting to work on it, and we have
7 your assistance. That is all we're talking about at the
8 moment.

9 (Board conferring.)

10 JUDGE MILLER: First of all, we're exploring
11 now the contingencies or possible causes of slippages or
12 delays that the Staff is aware of, the technical staff
13 as well as the legal staff. And we will start exploring
14 some of these other matters. But that seems to us to be
15 bedrock almost before going further.

16 MR. SWANSON: The ACRS has not set up a
17 schedule which would include Clinch River meetings in
18 April.

19 JUDGE MILLER: You say it has not?

20 MR. SWANSON: It has not. So we do not have a
21 firm scheduled meeting. The Staff and ACRS have been in
22 communication. The ACRS is aware of the Staff's
23 schedule. And it is based upon these informal
24 communications with ACRS that the Staff is basing its
25 projection that the ACRS meeting will be -- the last

1 full meeting will be conducted by early April and that a
2 report letter from the ACRS will be issued by April 21,
3 which in turn will allow the Staff to issue its
4 supplement by May 2nd.

5 JUDGE MILLER: Are you presupposing what will
6 be contained in the ACRS communication?

7 MR. SWANSON: Not at all. But the schedule
8 factors in a Staff response to that letter as well as a
9 response to comments received in the meetings themselves
10 I would assume in sufficient time to prepare a
11 supplement addressing ACRS comments by May 2nd.

12 JUDGE MILLER: In other words, you look for a
13 no conditions request for additional information or
14 commitments or resolution of problems seen by someone on
15 the ACRS -- some of those delaying factors that perhaps
16 not frequently but occasionally do occur?

17 MR. SWANSON: Well, I guess there are
18 subcommittee meetings that have been going on
19 continuously. They continue to go on. And the schedule
20 is based in part on feedback the Staff is getting from
21 those meetings so that in these meetings the Staff is
22 able to respond to questions from ACRS for requests for
23 information, et cetera.

24 The one thing the Staff of course can't
25 project is when the full committee gets together in

1 early April, what that committee might request. That
2 is, it is a possibility that the full committee could
3 raise questions that were not raised in the subcommittee
4 and for which the Staff would need some time to respond
5 to. But that I don't see how we could get any firmer
6 projection than we have now until the meeting actually
7 occurs and the response is received from ACRS.

8 JUDGE MILLER: All right. What other
9 contingencies or causes of slippages are possible?

10 (Counsel for NRC conferring.)

11 MR. SWANSON: Those are the only uncertainties
12 that the Staff has identified.

13 JUDGE MILLER: Now, let me inquire further.
14 Why is the Staff desirous of proceeding on this proposed
15 schedule -- we haven't yet seen it, but we have some
16 idea of what it consists of -- instead of waiting
17 another six months, let's say, and after these ACRS
18 matters have been accomplished and the SER and the SSERs
19 have been already issued?

20 Why don't we wait until then before starting
21 to schedule, at least in totality, discovery or the
22 commencement of evidentiary hearings on the CP?

23 (Counsel for NRC conferring.)

24 MR. SWANSON: The Staff I think first of all
25 has a high degree of confidence based upon the continual

1 interaction it has had with ACRS in fairly numerous
2 meetings that the schedule projected can be met. The
3 Staff is sensitive to trying to be responsive to the
4 needs for movement along a path which will lead to a
5 Board decision which could authorize continued path
6 along the schedule proposed by Applicants.

7 May I have just one minute?

8 JUDGE MILLER: Yes.

9 (Counsel for NRC conferring.)

10 MR. SWANSON: Just to follow up on that point,
11 the Staff is desirous of trying to accommodate the needs
12 of the Applicants to get an early resolution of issues.
13 As far as why we would personally like to see a single
14 hearing, a CP hearing instead of an LWA-2 and then a CP
15 hearing, I think it is a matter of efficiency and
16 resources.

17 As I see it, if we were to go to an LWA-2 and
18 then a CP hearing, there is a good chance that we would
19 have to litigate the accident contentions twice. There
20 would be some overlapping, I think by necessity, since
21 in order to parse out the LWA-2 issues there would be a
22 need for the Board to make certain findings; that is,
23 the nature of unresolved safety issues, whether or not
24 they impact options which are in turn affected by
25 contentions.

1 I think we would find ourselves in
2 considerable debate in prehearing conferences trying to
3 parse out these issues. I could see that a fair amount
4 of time could be taken up doing that and that there
5 would undoubtedly be some redundancy in the
6 consideration of issues and hearings, just as we have
7 found ourselves in the accident contentions hearing some
8 of the information over again between the environmental
9 and the site suitability hearings.

10 I think by having a single hearing we would
11 eliminate that. That may be the case in other issues as
12 well, but I think the accident contentions present
13 probably the clearest example of a case where we might
14 find ourselves seeing testimony on them twice instead of
15 just once if we went the LWA-2 route.

16 The Staff is in a position now where it can
17 commit to a single SER which addresses all CP safety
18 issues and not just LWA-2 issues.

19 (Counsel for NRC conferring.)

20 MS. FINAMORE: If I could make just one
21 observation.

22 JUDGE MILLER: Just a moment.

23 MR. SWANSON: I just wanted to say as far as
24 the ACRS is concerned, I think it was contemplated by
25 ACRS that they would take a single shot at it also in

1 the form of a CP issue rather than trying to parse out
2 the LWA-2 issues. So that earlier thoughts by the Staff
3 of having perhaps an LWA-2 SER and supplement which just
4 addressed LWA-2 matters turned out to be a very -- a
5 more inefficient process than coming out with a unified
6 approach considering all CP issues.

7 And I think a final consideration is given the
8 issues that are raised by Intervenors. I think they
9 lend themselves, again efficiently, to a consideration
10 in a single process which the Staff would be able to
11 accommodate based on its safety review at an early time
12 based upon its ability to complete its safety evaluation
13 by March 4th.

14 So I think these factors all tend to point the
15 Staff in the direction of a single, one-time hearing
16 endeavor as opposed to a bifurcated and possibly
17 somewhat redundant or overlapping set of two hearings.

18 JUDGE MILLER: Well, what we are interested in
19 is the original prospect that you and others presented
20 to the Board of a trifurcated hearing. First of all, we
21 were going to have the LWA-1 for reasons that got mixed
22 up with the exemptions and adjudicatory and the rest.
23 At that time then or shortly thereafter there was to be
24 an LWA-2, but the LWA-2 then was going to, after the
25 other matters boiled up, we were asked not to pause to

1 render an initial decision on LWA-1 issues, but because
2 of the Staff's belief that March-April was about the
3 time they could bring out the SERs, to await the
4 bringing out of the SERs or SSERs and the ACRS action by
5 Staff, taking the evidence on the LWA-1 issues, not
6 rendering an initial decision but awaiting the rendering
7 of an initial decision until after the March-April
8 filing of documents and so forth by the Staff which
9 would enable the Applicants to get into the
10 safety-related structures or foundations or whatever the
11 things in addition to an LWA-1.

12 The next thing that came along -- and this is
13 partly, I think, the product of the position of the
14 Intervenors -- was we were requested to render an LWA-1
15 decision upon the completion of this hearing and this
16 record, and presumably we were then considering going
17 into LWA-2, if that became appropriate after the filing
18 of the March-April document we're talking about. That
19 was 1983. We were told we were talking about a CP about
20 early 1984.

21 Now, that is the scheduling the Board has been
22 presented. Now, it may be that you people talk and
23 things happen and evolve and pretty soon you take them
24 for granted by talking to each other; but the Board
25 hasn't been advised.

1 Now all at once we're confronted with a
2 situation where we are prepared to try to move
3 expeditiously but reasonably on the LWA-1. Now, we had
4 thought that the LWA-2 would be the next matter and that
5 the CP would be, as I say, the latter part of the year
6 or more likely early '84. Now we're told let's forget
7 about the LWA-2; let's just leapfrog it, which may make
8 some sense. We're not asking for trifurcation or even
9 bifurcation, but you're also keeping that very tight
10 schedule when you do that leapfrogging, and I don't want
11 to be the one on the bottom when you start leapfrogging,
12 when you go right into the CP from the LWA-1 where we
13 are now with a tight schedule and are built on a lot of
14 contingencies. And we all know the slippages that occur
15 in these matters, especially perhaps one that I won't
16 say is unique, but you don't build liquid metal fast
17 breeder reactors every day.

18 So, therefore, my question for the Board is in
19 view of all of this, why don't you back off on time? If
20 you want to go from trifurcate to bifurcate, okay, but
21 why don't you allow a little bit of time in there so we
22 can all catch our breath so that discovery -- and we
23 haven't gone into that yet. There does seem like an
24 awful lot of optimism here on some of these discovery
25 schedules.

1 In other words, why all of the haste if you're
2 going to move directly into CP? And we have heard your
3 reasons advanced, but they do seem to us insofar as they
4 have much weight or at least persuasiveness to be
5 embodying old concepts that are put into a new jar that
6 don't quite fit them. We can seem the elimination, if
7 reasonable, of an unnecessary LWA-2 stage, okay. But
8 then why are we on that same breathless schedule
9 substituting the CP instead of backing off and advancing
10 it maybe from what it was, but at least let us get some
11 of these things under our belt and see the performance.

12 It is not a matter of promise or optimism or
13 whatever, and it isn't a function of the Staff to
14 accommodate the Board or the Applicants or anybody
15 else. The function is to do those things that are
16 reasonably necessary in a situation of this kind, which
17 is very important to all of us and to the public, and to
18 take the time to do it in a reasonable way, to know that
19 it is done, that we are not pressing to try to
20 accommodate someone. I'm a little bit worried about
21 this accommodation business on the CP at this stage.

22 Now, those are some of the things on the
23 Board's mind. Now, we're willing to go ahead with the
24 Intervenor and the Applicants to get some of the
25 readings and commitments here if you wish, but we're

1 going to be coming back to that.

2 Do you want some time to think about it?

3 MR. SWANSON: Well, actually I think much of
4 what you have asked us is really at the initiation of
5 Applicants. It might be more appropriate for them to
6 discuss, but we can certainly give you our own point of
7 view on that. And we also have with us now the director
8 of the Clinch River program office for the Staff who
9 could address that from his perspective. We can take it
10 any order that you want.

11 JUDGE MILLER: Well, we had better see where
12 the Intervenor's position is on this. I don't know
13 whether NRDC is willing to commit or not. We had better
14 find that out, and then we will get to Mr. Edgar with
15 whatever other input we want before we get back to Staff.

16 JUDGE LINENBERGER: Before we leave the ACRS
17 subject and leave the Staff momentarily here, I would
18 just note that looking at the July 1982 letter of ACRS
19 to the Staff gives me a bit of an uncomfortable feeling
20 with respect to all of the various considerations that
21 ACRS said they are interested in don't necessarily
22 entirely agree with or whatever they have said. And I
23 have the letter here, so I know what they have said.

24 Now, you, Mr. Swanson, have the advantage over
25 me because there have been these subcommittee meetings,

1 and I infer from what you have said that things are
2 going pretty well. I just state an uneasiness here
3 about the possibility of optimism on your part about
4 that May 2 date, because ACRS sure raised a lot of
5 potential substantive matters in that July letter. So I
6 would just leave it at that.

7 MR. SWANSON: If you would like, since I have
8 been tied up in other kinds of hearings other than ACPS,
9 Mr. Check represented the Staff in those ACRS meetings,
10 and perhaps if you would like, he could give you his
11 perspective of the ACRS process and the basis for the
12 Staff's belief as to just where we are and our
13 likelihood of achieving getting an ACRS letter in time
14 to get a May 2nd supplement.

15 JUDGE LINENBERGER: Why don't we hold that?

16 JUDGE MILLER: Why don't we go first to the
17 NRDC and then to Mr. Edgar, and then we will get back to
18 you, and we probably will want to go into those
19 matters. I take it you have a copy of that ACPS letter
20 we were referring to, but some of the caveats you should
21 be able to address with specificity.

22 All right. Ms. Finamore.

23 MS. FINAMORE: We really do agree with the
24 Board in large measure. In particular, the statement
25 that was just made about the ACPS letter and the

1 statements that Mr. Swanson just made as to the extent
2 that there has been no firm date set by the full
3 committee and that they are not quite aware of what the
4 full committee is going to say or is going to require in
5 an SER supplement.

6 And I would also point out that in the ACRS
7 letter, as Judge Linenberger said, they have expressed
8 disagreement or problems with certain of the Staff's
9 general design criteria, and they had a very noncommittal
10 way of dealing with site suitability. They found it
11 site suitable for a reactor that was comparable, but
12 they never found the site suitable for the CRBR.

13 I think that indicates a real possibility that
14 there could be substantial new information generated by
15 the ACRS and that the Staff would not be able to respond
16 to it by supplementing I think the week and a half that
17 is presently scheduled.

18 It would also raise a substantial possibility
19 that this new information would come at a time that
20 would not give us enough time under the present schedule
21 to have a full and fair discovery opportunity. I
22 frankly must confess that the Intervenor's scheduled
23 here, which we indicated in response to the Applicants'
24 proposed schedule was based on, first of all, a
25 discussion that we had had in December in Oak Ridge

1 regarding Judge Hand's schedule and when we would
2 probably have hearings.

3 I realize now that that was referring to the
4 LWA-2 rather than the CP. We were talking about
5 hearings this summer on the LWA-2. Now, this is a CP
6 hearing, and the issues are much more detailed and
7 complex and greater in number.

8 And given that and given the wild card of the
9 ACRS and the ways in which our limited resources have
10 been stretched to the utmost limits to this point, we
11 would really really be aided by the Board's suggestion
12 which is to get those milestone documents in our hands
13 and then going ahead with proceeding with the CP
14 hearings. We would have a better idea of how we can
15 spread our resources, what kind of discovery that we
16 want, what kind of contentions that we are going to talk
17 about. And I think it would be a much more orderly
18 process than trying to push things while they are
19 premature.

20 The Applicants want us to start the day after
21 our proposed findings are in with discovery on the CP
22 before there is even an LWA-1 decision or an SER
23 document and whatever. And given the uncertainties that
24 exist, I would point out that even the tentative or the
25 draft environmental impact statement that came out last

1 summer before it was recirculated, it is my recollection
2 that that was in itself a month late, and then we had
3 the recirculation period. So I don't know whether or
4 not that could happen again, and if so, this whole
5 schedule is -- it would have to be totally reworked.

6 And it's our position that it would be to
7 everyone's advantage to wait until those milestone
8 documents are in and then start on the CP schedule.

9 JUDGE MILLER: Mr. Edgar.

10 MR. EDGAR: Judge Miller, I agree totally that
11 the anchor or the bedrock on the schedule has to be the
12 milestone documents. There is no question there. We
13 had the impression from discussions with the Staff that
14 they have very high confidence of achieving the May 2nd
15 -- excuse me; I misspoke myself -- the March 4th. And
16 based on discussions thus far with ACRS and the
17 subcommittee, the fact that ACPS is briefing the full
18 committee in January, that the May 2nd date was
19 achievable.

20 Now, there's another aspect to this thing.
21 The review schedule has emerged now so that the Staff
22 feels that it can get the SER out in one package. The
23 ACRS also would like to go with one package rather than
24 with one sliver of it such as the basemat. I think all
25 of the parties would as well, looking at it

1 realistically, because as the Chairman said,
2 trifurcation can become complicated.

3 There is another slant on this thing which is
4 to look at the scope of issues that we have left here.
5 The Chairman pointed out that we have a residuum coming
6 over from the LWA-1 which is the question of the
7 detailed scope of inquiry on safety issues.

8 Now, assuming that, ask yourself the questions:
9 What do we have left in the way of contentions here to
10 dispose of? And the parties aren't in dispute on that
11 as to what the scope of the contentions would be. It
12 would be one, two and three.

13 JUDGE MILLER: I thought we had some testimony
14 and evidence on the portions at least of 1, 2 and 3.

15 MR. EDGAR: Yes. It would be the balance of
16 it, but it would be the full, detailed --

17 JUDGE MILLER: What is the balance? That is
18 one of our questions. We have permitted an avoidance of
19 going into certain details for reasons that are obvious,
20 but we are getting now to the point where we are having
21 an advance date for going into the residue. And for one
22 thing, we need to know with some specificity just what
23 that residue encompasses, how it is reasonably
24 disassociated from what has reasonably preceded it.

25 MR. EDGAR: If you would allow me to return to

1 that point. But the next three get to be fairly
2 straightforward.

3 I will concede that 1, 2 and 3 is not quite so
4 easily addressed, but --

5 JUDGE MILLER: Let me have your list of what
6 the parties believe now need to be addressed in the next
7 phase of hearings.

8 MR. EDGAR: We're talking, if I can put 1, 2
9 and 3 into a cluster with the caveat I described, then
10 we're talking Contention 10 which is sodium fires and
11 which is the items such as missiles, turbine missiles.

12 JUDGE MILLER: Are you listing these in order
13 now? Are you going from 1, 2 and 3 to 4, 5 and 6?

14 MR. EDGAR: Let me back up just to be sure
15 that we have it. 1, 2 and 3, set that side. The next
16 item, number 9, 9 is the emergency planning contention
17 which in the Board's April 14th, 1982 order the Board
18 said that that needed specificity. The Board did not
19 reject it but granted leave to make it more specific and
20 admissible.

21 I m sorry. That's wrong. Nine is emergency
22 planning that the Board admitted by its April 14th order.

23 The next item is 10 which is the one I
24 described, sodium fires, missiles and the like. The
25 remaining item, the fourth and final item, is Contention

1 18.

2 JUDGE MILLER: Eighteen?

3 MR. EDGAR: Eighteen. Which is quality
4 assurance.

5 JUDGE MILLER: I remember quality assurance,
6 but I don't remember a number 18.

7 MR. EDGAR: Yes, sir.

8 JUDGE MILLER: Did you remember that?

9 MR. EDGAR: No, sir.

10 JUDGE MILLER: You go from 11 to 18 then, is
11 that it?

12 MR. EDGAR: Yes. It was a quirk that it was
13 numbered 18 when NRDC filed it and when the Board went
14 through the renumbering sequence and deferred 18, did
15 not admit it but said it needs more specificity, the
16 Board did not renumber it. So I suppose as a matter of
17 format it could be renumbered 12, but it has kept the
18 number 18.

19 JUDGE MILLER: That is the QA/QC program?

20 MR. EDGAR: Yes, sir.

21 JUDGE MILLER: I think there we said it needed
22 to be fleshed out and more concrete and the like. And I
23 think we did kind of push renumbering, but it was not
24 mandatory.

25 MR. EDGAR: That's what we're talking about in

1 terms of the contentions now. In terms of the LWA-2
2 versus CP, if one were just to go to the basemat scope
3 of construction, you would still have to hit the
4 residuum on 1, 2 and 3. You would still have to hit 10,
5 sodium fires, because you are dealing with the concrete
6 cells and liners, and QA would come into play.

7 The only item that wouldn't be folded in would
8 be emergency planning. However, we think on an
9 incremental basis -- that is, when you compare the scope
10 of activity required to trying these four sets of issues
11 -- if you have a certain quantum of activity required to
12 try 1, 2 and 3, 10 and 18, the incremental effort to try
13 9 is not large in relation to your base amount of
14 effort, that we think from a scope standpoint it makes
15 sense for the resources of all parties and the Board to
16 consider them all in one phase of hearings.

17 JUDGE MILLER: We have no objection to that.
18 We will be sure that all portions of contentions are
19 covered. We will set that aside for the moment. That's
20 not what our problem is. Our problem is the timing to
21 accomplish those things, eliminating the LWA-2. And I
22 do seem to remember that you, Mr. Edgar, said that once
23 you could go ahead with the site improvement work and so
24 forth that you would have work ahead of you for a year
25 or more. So we can see you out there bulldozing for a

1 year while we handle some of these things in an orderly
2 way. And now you're startling us a little.

3 MR. EDGAR: Understood. And I think the way
4 the review process has come down also be looking at the
5 contentions from that standpoint. That seems to make
6 more sense.

7 Now, I will grant you that the question of the
8 schedule is the crucial issue.

9 JUDGE MILLER: You're overlooking something.
10 You're addressing quite properly the nature of the
11 Staff's ability to honor their commitments, quite
12 properly, but also I come back to this word "pleadings"
13 that has appeared in these documents.

14 Now, I'm assuming so far we've got
15 contentions, we've ruled upon them one way or another.
16 One of them perhaps needs a little more refinement. We
17 know what they are.

18 Now, normally issues are framed by contentions
19 which are analogous to pleadings under the Federal Rules
20 of Civil Procedure, all right; but in addition now we've
21 got some documents to be issued, and we don't really
22 have a clear delineation of what might be regarded as
23 late-filed contentions that must satisfy the five
24 standards, and those that are not late filed because
25 they are triggered by certain documents not yet filed

1 but will be filed in the future and hence may be
2 admissible because they are raised for the first time
3 when they can be raised. And they don't have to satisfy
4 the five, but they certainly do have to satisfy all the
5 requirements of pleadings and contentions.

6 MR. EDGAR: The use of the term "pleadings"
7 has been confusing, but let me try to start at the
8 beginning where I think we are now and then what I think
9 can happen.

10 Right now we have admitted contentions. We
11 have 1, 2, 3, 10, 9. Eighteen needs to be specified.
12 That gives us a population of contentions against which
13 we can initiate discovery, and we can get moving on the
14 pretrial activities. We do have something that the
15 parties can move on there.

16 There is, as you suggest, a possibility that
17 new information could come to the fore in the SER or
18 even the supplement and that that could give rise to
19 additional contentions. But it seems to me that right
20 now we have something to go with, and it seems like a
21 manageable set of issues.

22 I can't foresee what new information would be.

23 JUDGE MILLER: Well, let's ask those who would
24 be asking the question or supplying the information, but
25 right now I don't want to get into more piecemeal

1 business. I want some finite contentions that I can
2 look at when I know also whether they are late filed or
3 whether or not they are late filed, what the possibility
4 or probability is. The Staff knows what the SER is, and
5 the Intervenors know what they're going to wish to set
6 up; so I guess we should hear from them on that point
7 because otherwise everything you say may be true, but it
8 still may be only half the picture. We're trying to get
9 you all together.

10 MR. EDGAR: I think our objectives here are in
11 common. We do want to definitely avoid the
12 piecemealing, and furthermore, we would like to get all
13 of the issues on the deck now and get going on the
14 pretrial.

15 JUDGE MILLER: Let's see what the
16 probabilities are in that regard. Maybe you have
17 encompassed nine-tenths of them and maybe you haven't.
18 I don't know.

19 The Staff first of all. Now, when are you
20 going to put in that SER that is sufficiently different
21 to be arguably the subject of additional contentions not
22 incumbent on the existing ones?

23 MR. SWANSON: Why don't I turn it over to Mr.
24 Check who has a better familiarity with what's in the
25 works?

1 MR. CHECK: First of all, I appreciate the
2 opportunity to give my perspective on what has been an
3 extremely complex case and an interesting one for that
4 reason.

5 Like many problems, when they are first
6 encountered they seem to have more complexity or
7 uncertainty associated with them than is the case when
8 one is well into it. And I think that alone explains
9 the confidence that the Staff has in its present
10 schedule and the fact that the present schedule is
11 different from the earliest schedules where we were
12 projecting a CP in June of '84. That was to simply make
13 prudent allowance for uncertainties that things might
14 not go as well as a best estimate would suggest.

15 Well, we have been pleased at our own
16 performance and that of others, and I guess we would ask
17 that in terms of looking forward at production of
18 important documents here on out be judged on how well we
19 have done the ones we have already accomplished. That
20 gives us confidence.

21 It is certainly true that we have this
22 confidence that I'm trying to exude regarding the 4th of
23 March document, the SER. We are determined to get it
24 out. And I anticipate no big problems associated with
25 that. It should occur. It is not a guarantee, but it

1 why it will not or
 2
 3 in the sequence, in the logical
 order that will be accomplished is the
 review of that document before the
 we and the Applicant are
 as we are completing our
 so that process is ongoing.
 the ACRS will conclude its
 I cannot guarantee it. A
 if I were to use that word, would be
 it would be for the March 4th
 I am not telling the Board anything when I
 the Staff controls the ACRS in the way it
 the Board.

(Laughter.)

MR. CHECK: However, one gains familiarity,
 one gains confidence in one's projections in dealing
 with parties, and just as we have been, well, certainly
 delighted, I might even say surprised, at how well the
 proceedings have gone in this case, we are optimistic,
 and I think not unrealistically so, about the way things
 will go with the ACRS.

We have had approaching 20 meetings with the
 ACRS. It is not anything that we are about to undertake

1 generalized.

2 MR. CHECK: Well, I'm afraid I cannot give you
3 an entirely satisfying answer. I'm going to tell you
4 that we will cover all residual matters, everything, and
5 more.

6 JUDGE MILLER: You're promising me a rose
7 garden.

8 MR. CHECK: Everything.

9 JUDGE MILLER: All the residuals and more.
10 I'm trying to find out what is the more.

11 MR. CHECK: "More" I use in the sense that our
12 safety review encompasses more than what is contended,
13 and that is what it will be. It will be a multi-section
14 document of perhaps unprecedented length.

15 JUDGE MILLER: All right. As you get into
16 matters beyond LWA-1 considerations you get beyond the
17 general size, type and care, you're going to get more
18 specific, but nonetheless, you're going to be a lot more
19 specific.

20 Now, when you do that what is it going to do
21 to the contentions? Are you familiar with the
22 contentions?

23 MR. CHECK: I believe it's going to address
24 all that remains to be addressed on those.

25 JUDGE MILLER: It is the "more" that I'm

1 interested in.

2 MR. CHECK: I anticipate no surprises, no. I
3 do not have at my fingertips what the residuum for the
4 contentions is. I can't specify it. I think the
5 attorneys can. But I am sure that I know we are
6 addressing those. Our whole review has been structured
7 with that in mind and with a more general pattern for
8 reviews which encompasses much more.

9 JUDGE MILLER: Well, I will either hear from
10 Mr. Swanson as counsel or go to the Intervenors and see
11 if they have matters that they believe are going to be
12 cognizable either as late-filed contentions or triggered
13 by these documents as nearly as they can project. And I
14 realize nobody can say with certainty, but we would
15 certainly like to try to get some kind of handle on this.

16 MR. SWANSON: Well, all I can really comment
17 is on the nature of surprises. Certainly there's going
18 to be information in the document that was not in the
19 earlier site suitability report, but if we talk in terms
20 of surprises, the correspondence between Staff and
21 Applicants is on the record. The meetings are open to
22 the public. The ACRS meetings, which are approaching 20
23 in number, are public.

24 If we are talking about surprises in the sense
25 that there is something that an interested member of the

1 public could not reasonably have gotten until that
2 document was actually out and really for the first time
3 seen, we are not aware of them.

4 JUDGE MILLER: Do you think that the
5 contentions, present and residual, cover all matters
6 that are likely to be encountered after people with a
7 technical background on behalf of the Intervenors
8 analyze these triggering documents, is that correct?

9 MR. SWANSON: I think what you're asking me is
10 do these contentions cover every possible issue that
11 could be raised, and of course not.

12 JUDGE MILLER: Well, what is the "of course
13 not" then?

14 MR. SWANSON: Well, just as the environmental
15 contentions didn't address every possible issue that
16 could have been raised say in the Staff's final
17 environmental statement, but in terms of the standard to
18 be applied.

19 JUDGE MILLER: It came awfully close to it. I
20 might be in error on that, but go ahead. You didn't
21 leave out too much now.

22 MR. SWANSON: But in terms of general issues
23 for which a party didn't have reasonable opportunity to
24 acquire information or to find out about the issues --
25 in other words, it didn't have reasonable notice at the

1 time either that the contentions were first raised or
2 say up until this date or the ACRS meetings -- I have
3 not seen the document, and it is not drafted yet. But I
4 would anticipate that if somebody had an honest inquiry
5 in an area that we are not aware of information that is
6 being held back in the SER, that the person could not
7 have been sensitized to go if they made a diligent
8 inquiry prior to that date.

9 I think that is really the standard for
10 whether or not somebody reasonably could not have been
11 exposed to the general topic so as to raise a contention
12 prior to that date.

13 JUDGE MILLER: NRDC?

14 MS. FINAMORE: Yes. First of all, we just
15 realized that there was another contention that is
16 missing from the list that was accepted by the Board but
17 deferred until the CP stage, and that is Contention
18 11(A). It is not apparent from the Board's order of
19 April 14th, but I believe the Staff raised it as having
20 been deferred by the Board and that the Board later made
21 that clear. And that has to do with ALARA.

22 Namely, we contend that neither Applicants nor
23 Staff have shown that exposures to the public and plant
24 employees will be as low as practicable or as low as
25 reasonably achievable. So that was an oversight that

1 really should have been added to the list of contentions
2 that are presently in the CP hearing stage.

3 I would just like to respond to the Board's
4 questions, if I might.

5 JUDGE MILLER: Yes, we had that one noted.
6 I'm just trying to find out if the Board was aware that
7 it was there to be addressed in the future. I'm
8 checking now to see if there are any more in that
9 category. However, go ahead.

10 MS. FINAMORE: The Board expressed a concern
11 with piecemealing and in particular about what
12 additional contentions might be raised as a result of
13 information in the SER and the SSER. And I can't speak
14 now as to what those documents will contain, but
15 information or a contention about the adequacy of the
16 SER can't be introduced until there is actually an SER.
17 We don't know at this time what is going to be in the
18 SER and if that is going to be consistent with the NRC's
19 requirements.

20 JUDGE MILLER: What will you be looking for in
21 the SER? You say whether it will be adequate and what
22 it addresses and the subject matter.

23 MS. FINAMORE: I can give you a couple of
24 examples. The first is the specific design criteria for
25 the plant.

1 Now, we had attempted to get information about
2 specific design criteria all the way through in
3 discovery, and the Staff repeatedly said that there will
4 be no specific design criteria for the plant until the
5 SER is issued. And these are the ones that would
6 correspond to what is now in the regulations as Appendix
7 A to 10 CFR Part 50. Those apply to light-water
8 reactors, but the Staff has not yet generated a
9 comparable set that would be applied to the breeder
10 reactor.

11 And we are going to be checking the SER very
12 carefully at the time it comes out with those specific
13 design criteria to see if they are in fact adequate.

14 JUDGE MILLER: Now, these were matters that
15 you and your associates more than once tried to get
16 into, and the Board at that time held that we were
17 looking at reactors of the general type, design and so
18 forth.

19 MS. FINAMORE: That's correct.

20 JUDGE MILLER: But it was understood then in
21 fact we told the parties when we got into the CP stage
22 at any rate that those matters appeared to us to be
23 relevant and the subject both of discovery and of the
24 evidentiary approach.

25 Is that what you are talking about?

1 MS. FINAMORE: Yes, it is.

2 And another one is the Contention 1(B), for
3 example, which talks about the reliability program of
4 the Applicant and the Staff's review of that reliability
5 program. As you are well aware, we did try to get into
6 that matter in the LWA-1 and were unable to.

7 JUDGE MILLER: Well, now there I'm asking
8 whether the umbrella of contentions, both residual 1, 2
9 and 3, or such as have been gone into at least in any
10 depth, sufficiently encompasses the issue. I'm trying
11 to get at it on an issue basis.

12 MS. FINAMORE: Well, in that case I don't
13 think that the present umbrella of the contentions
14 necessarily covers the question of the adequacy of the
15 specific design criteria.

16 JUDGE MILLER: In what respects? That's what
17 we're interested in. You know pretty much what's going
18 to be in it, I assume, by now.

19 MS. FINAMORE: I can tell you, for example,
20 that a lot of what is in Part 50, Appendix A has to do
21 with specific components in the plant. What Contentions
22 1, 2 and 3 deal with are only those contentions that
23 have a bearing on the probability and the consequences
24 of core disruptive accident.

25 I would say the great majority of the specific

1 design criteria do not have anything to do with what the
2 probability of a core disruptive accident would be, and
3 those are therefore not covered by Contention 1, 2 and
4 3, and we would need a new contention to go into those
5 details. In fact, Applicants have said several times --

6 JUDGE MILLER: Have said what?

7 MS. FINAMORE: They've said that very thing,
8 that a lot of the specific design criteria are outside
9 the scope of Contentions 1, 2 and 3 because they do not
10 deal with the CDA but rather with design accidents that
11 are now within the design basis. That is just one
12 example.

13 JUDGE MILLER: Is this correct?

14 MR. EDGAR: Dead wrong.

15 Now, what we're talking about here, I assume,
16 is late-filed contentions.

17 JUDGE MILLER: Yes.

18 MR. EDGAR: New information.

19 JUDGE MILLER: Yes.

20 MR. EDGAR: If you look at Staff Exhibit 1,
21 which is the site suitability report, you will see an
22 appendix to Staff Exhibit 1 which is the Staff's
23 proposed design criteria. They were issued generally.

24 Now, the general design criterion 10 CFR, Part
25 100, Appendix -- excuse me -- Part 50, Appendix A, are

1 the criteria that apply to light-water reactors. The
2 Staff has developed a set based on a similar approach.
3 These are general design criteria for a reactor.

4 Now, if the contention is that the general
5 design criteria are inadequate, clearly there has been a
6 basis of information in the record to have advanced that
7 contention years ago, if not months ago. If it is
8 outside the scope of Contention 1, 2 and 3, which it is
9 in major part, that is not relevant in my mind. The
10 question is is the information searchable, locatable
11 through reasonable diligence.

12 And what the Board's question, as I understood
13 it -- and correct me if I am wrong -- but I think the
14 Chairman's inquiry was directed to what kind of new
15 issues, new substantive information do you see coming to
16 the fore.

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1 JUDGE MILLER: Yes.

2 MR. EDGAR: As a result of the staff's review,
3 are there any big ticket items that you expect to see
4 coming up from the applicants' perspective? And we
5 cannot speak for the staff, but based upon what my
6 technical people advise me, there isn't that kind of big
7 surprise coming up. That what you have seen in the
8 PSAR, what you have seen in the correspondence of
9 meetings and what has gone on in the up to 20 ACRS
10 meetings is the normal evolution of the safety review.

11 And I didn't hear in NRDC's response the kind
12 of new information described that gives rise to allowing
13 filing new contentions. It is totally outside the ambit
14 of new contentions.

15 MS. FINAMORE: I would have to disagree with
16 his disagreement. The point is that he is assuming that
17 the general design criteria, or what the staff has
18 called the specific design criteria, for the Clinch
19 River Breeder Reactor are going to be exactly what they
20 are at the present time.

21 Now, it is my understanding that the staff is
22 still working on these design criteria. They are trying
23 to make them as specific as possible to the level of
24 specificity in Part 50, Appendix A, and we're assuming
25 that they are going to make every endeavor to make them

1 as specific as that.

2 If that is true, then no matter how much we
3 ask them now what those criteria are, they are not going
4 to tell us until the SER comes out. And in fact, in
5 their discovery they have not answered a lot of our
6 questions because they said we cannot answer that until
7 the SER is issued.

8 In that case, we cannot know right now what
9 new information is going to be in the SER, and also,
10 whether that information is adequate, until we actually
11 see the SER.

12 JUDGE MILLER: You're getting into discovery
13 matters, whereas what I was asking was whether or not we
14 have here in hand issues. Now, as long as we're talking
15 about pleadings, complaints, answers, affirmative
16 defenses, I can tell you what the issues are by
17 analyzing them. We have the analogue in contentions
18 which are a lot fussier.

19 I'm asking you now, this group of contentions,
20 you've been living with them and talking about them for
21 a long time. Is that all of them? Is it the great bulk
22 of them? Does anybody have any reason to believe that
23 there are going to be new contentions, pleadings,
24 issues, under which the rubric will start as to what is
25 triggered by or what has to satisfy the five factors and

1 what is discoverable and what your interrogatories are
2 and all the nuts and bolts of it?

3 I'm trying to find out first of all, just to
4 get a handle on what the issues are that we're going to
5 be looking at in this LWA-2-/CP.

6 MS. FINAMORE: Well, that is one of the
7 issues, the adequacy of the specific design criteria.
8 And we're not going to know, we're not going to be able
9 to raise that contention until we see what exactly the
10 SER looks like. If, in fact, the SER comes out and we
11 look at the design criteria and we think they are
12 adequate, we're not going to raise the contention. We
13 can't pre-judge.

14 JUDGE MILLER: Well, have you pleaded that the
15 design criteria are not adequate for the following
16 reasons?

17 MS. FINAMORE: No, because there have not been
18 any yet.

19 JUDGE MILLER: Well, what about the
20 observation that Mr. Edgar has made that there is a good
21 deal of information that has been available for a long,
22 long time? But the other is the nuts and bolts aspect
23 of it, the factual discovery, experts and so on. But
24 that the issue qua issue has been there for a long time
25 and he would certainly be urging, once you go into it,

1 that this is new matter and it is late filed and that it
2 should have been -- and the staff will say probably yes,
3 we think so, too. And then we're going to have to sit
4 down and spend a lot of time deciding what is new matter
5 and what it's triggered by. And on the new matter, does
6 it satisfy the five criteria. And we're all going to be
7 sending papers to each other and so forth.

8 Now, that's all right, that's our job and I'm
9 not quarreling with it. But that takes time, and I'm
10 talking to you really about time.

11 MS. FINAMORE: Okay, let me just stick to one
12 example. The criteria that Mr. Edgar is talking about
13 are a set of criteria that were included in the 1977
14 site suitability report. Now, we got a letter from the
15 ACRS last July saying that they do not necessarily agree
16 with these principal design criteria.

17 We are assuming on that basis that the ACRS is
18 asking the staff to rework those criteria, and as the
19 staff has indicated to us in the past, yes, they are
20 trying to rework those criteria, make them more
21 specific, make them a tight set of criteria that you can
22 measure the safety of the CRBR against. And that that
23 set of criteria is going to appear for the very first
24 time in the SER.

25 Now, on that basis we feel that that is a

1 major issue that is going to come up for the first time
2 in the SER and that we're going to want to raise a
3 contention about it once it shows up.

4 JUDGE MILLER: All right, we needn't pursue it
5 anymore now. All right. Do you have any other matters,
6 where you have this disagreement among yourselves, this
7 kind of thing?

8 MS. FINAMORE: Well, are you talking about
9 outside the present --

10 JUDGE MILLER: Beyond the present contentions.

11 MS. FINAMORE: I don't know if you would
12 include this. You probably would include this in the
13 present scope of contentions, but let me just mention
14 that the Board had said earlier that Contention 18,
15 Quality Assurance, needs some more specificity and basis.

16 The applicants want us, as soon as we finish
17 with the proposed findings of fact on the LWA-1, to
18 start working on Contention 18 and make it more
19 specific. Now, it seems to me that the best way to make
20 this more specific is to look at the review of the
21 quality assurance program in the SER, which is new
22 material that has not -- I mean, the SER itself is new
23 information. And how they treat the issues is not known
24 to us or to anyone until it appears.

25 And I submit that the best way for us to

1 sharpen and make this contention as meaningful as
2 possible would be to meet after the SER comes out, give
3 us a chance to look at it, see if we still disagree with
4 the way that it is being handled in the SER. If we
5 don't have problems, we will let it go. If we do have
6 problems, we can state them with specificity.

7 But to have us go ahead before these milestone
8 documents come out and try to, in a vacuum and based
9 upon the information that is not complete that we have
10 now, to state the contention and then have pleadings and
11 the prehearing conference with the Board, and then to
12 come back after the SER comes out and possibly after the
13 SSER comes out and go through a similar round of
14 pleadings and meetings with the Board is exactly what
15 the Board was talking about, when there is
16 piecemealing. And that is something we should all try
17 to avoid.

18 MR. EDGAR: Judge Miller, from hearing that
19 conversation I have a feeling I ought to enter a motion
20 to dismiss Contention 18 on the basis of failure to
21 state an admissible contention, once and for all.

22 It is my understanding -- just a correction
23 for the record. Ms. Finnamore is correct. It was --
24 11(A) should be in. The set of issues.

25 We believe that right now, with one, two,

1 three, ten and nine and 11A, there is a clear set of
2 issues. We further believe, based upon the conversation
3 this afternoon, that there are no new contentions which
4 are known to any party and which are tangible enough to
5 advance at this time.

6 We cannot foresee from our vantage point any
7 new information not previously available with a diligent
8 search in the SER. And we think, therefore, that it
9 does make sense to move ahead and that there is a
10 package of contentions upon which one can move ahead.

11 JUDGE MILLER: Well, I think the Board is
12 ready to rule. We appreciate your bringing these
13 matters to our attention as promptly as they come up,
14 because it does help all of us to address matters when
15 they arise rather than wait and have them bite us later.

16 We do feel, however, that any proposed
17 schedule at this time would be premature. We think that
18 there are too many uncertainties, or half-certainties,
19 that we have now seen the shape of. It may be that we
20 will be able to schedule a CP hearing, if that be your
21 wish, but the Board certainly doesn't want to multiply
22 the number of hearings.

23 So we have no quarrel at all with proceeding
24 after the Board has had the opportunity to issue
25 whatever findings it's going to make and whatever kind

1 of a disposition of the LWA-1 issues.

2 Once the Board has accomplished that -- and
3 our commitment, as you know, is the middle to latter
4 part of February -- we're not going to be willing to
5 bounce around on much of anything during that time
6 period. That leaves plenty on our plate. We suggested
7 that the staff show us a reasonable amount of confidence
8 that certain of these things at any rate will go
9 forward, and that they will probably trigger others.

10 I think that is about as far as we can really
11 ask the staff to go at the present time. They can't
12 commit beyond their own capabilities. I think that the
13 early part of March, we're all going to know a lot
14 more. We don't want to trigger contentions that are
15 either the product of filings or get into the
16 late-filed, five-factor matters if we don't have to.

17 So it does appear to us that when these
18 milestone documents are filed, or are on the verge of
19 being filed where you've got drafts that are pretty well
20 going to be bound, that that would be the time for the
21 parties initially to get together, and we encourage you
22 to continue to discuss these matters. Of course, you
23 are much closer to the picture than the Board is.

24 We are willing to consider talking to you the
25 early part of March. We expect to be getting pretty

1 busy with the LWA-1 which you have now passed over to
2 us. We do think it would be premature, but if we start
3 getting into -- there is a substantial body. Mr. Edgar
4 is right. But we're also concerned that we are going to
5 be trailing some matters and then trailing the trailers
6 on others, and it's just going to get mixed up and
7 confused.

8 We think it makes a lot of sense to try to
9 move now in an orderly, logical way into a CP type of
10 prehearing; filing of documents and appropriate
11 discovery, scheduling and dates of hearing and so
12 forth. But we think this is not the time to do it.

13 So we appreciate your bringing the matter to
14 our attention. We'll be glad to take it up with you
15 whenever it's convenient for all of you early in March.

16 Is there anything further now before we
17 adjourn our session here, which is really that of the
18 closing arguments? We appreciate, by the way, the
19 attention all of you have given to the closing
20 arguments, to the homework that you have done, your
21 bringing together in a logical and orderly fashion these
22 issues and the evidence upon which your varying points
23 of view are based. And we found it very helpful. We
24 hope it has been helpful to you, but at any rate, it has
25 been helpful to the Board.

1 Now, on the proposed findings, we have already
2 described to you what the Board considers proposed
3 findings of fact to be. That is what we are requesting
4 the parties to file in the sense of our regulations that
5 would then be mandatory.

6 Now, as to the others, we don't mean to
7 discourage you at all. If you wish to file conclusions
8 of law, briefs, you have had pretty extensive
9 arguments. Whatever you want to file. We're not
10 discouraging you from filing, and it might well be
11 helpful. But we're not making it mandatory.

12 You recall the provision of the regulations.
13 The parties may file proposed findings and so forth, and
14 it directed "shall." The "shall" are the findings of
15 fact as we have tried to describe it. The "may" is
16 whatever you wish.

17 We do suggest that you consider, if you're
18 going to file briefs or anything, alerting each other,
19 because we are all up against time barriers. And then
20 file it five days or seven days before the date that the
21 proposing findings of fact are due, so that if there be
22 mutual replies -- and we suggest that you get to that
23 point -- that the replies also be simultaneous. What
24 you can do on -- what is it, the 24th -- we've set the
25 date for the proposing findings of fact. Use that as

1 the same date for the replies to whatever papers such as
2 briefs and the like you may wish to file prior to that
3 time. And each of you can respond to everybody else's.

4 We just don't want it to drag beyond that date
5 because the Board is starting to meet. We are starting
6 to go over this whole record and all of the various
7 issues, and we don't want to drag it. But if you handle
8 it that way -- maybe you've sufficiently argued; we're
9 not trying to encourage you to file briefs if they are
10 not necessary, if they are reptitious, if you've covered
11 it -- we will read it, we assure you. We are reading
12 the transcript of these arguments, but we want you to
13 have the opportunity, and then the opportunity mutually
14 to reply, but we don't want to delay the closing off of
15 the proposed findings of fact which we have asked to be
16 mandatory by those precedent operations.

17 Can this be handled by counsel? You are all
18 experienced lawyers. Does anybody have a problem?

19 (No response.)

20 JUDGE MILLER: Okay, thank you very much.

21 MR. SWANSON: Excuse me, Mr. Chairman, there
22 were two matters. First, to close out a housekeeping
23 item that was raised on August 27th, as you may recall,
24 the staff moved to strike certain portions of Dr.
25 Cochran's testimony which were quotes from ACRS members

1 or references to the ACRS letter. The Board had asked
2 the parties to try to agree on a list of statements that
3 could be so struck.

4 We were unable to reach a final agreement.
5 Now what I have is a list of 23 items that represent
6 statements either by the ACRS orally or in writing in
7 the letter, or cross examination that dealt with those.

8 Now, I believe that falls clearly within the
9 scope of ALAB 94, that is, the Arkansas Nuclear 1 Unit 2
10 decision, where the appeal board ruled that the ACRS
11 reports, because they are not subject to cross
12 examination, may be introduced only for the limited
13 purpose of showing compliance with regulations which
14 require the ACRS letter to be docketed. But that the
15 report may not be assigned any independent probative
16 value.

17 JUDGE MILLER: What's the citation on that?

18 MR. SWANSON: That is ALAB 94.

19 JUDGE MILLER: The date?

20 MR. SWANSON: The date is January 18, 1973.

21 JUDGE MILLER: What is the reason the appeal
22 board restated that proposition? We believe it to be
23 regulatory law, and we feel bound by the appeal board's
24 ruling, as I say. Has there been anything recent over
25 the last three or four months?

1 MR. SWANSON: Let me try to characterize it.
2 The disagreement between ourselves and intervenors is as
3 to whether or not -- first of all, let me say I don't
4 think there's any disagreement about actual statements
5 by the ACRS regarding this letter. I think we both
6 agree that falls within the ruling.

7 JUDGE MILLER: Those would be held to be
8 inadmissible. They would be stricken if any had gotten
9 into the record and we reserved ruling. Since you
10 cannot cross examine the ACRS, letters and so forth are
11 not evidentiary, and not being evidentiary there's no
12 point in having the record cluttered up and having oral
13 argument about it. We're bound by the appeal board
14 ruling.

15 They will be stricken or not admitted, as the
16 case may be.

17 MR. SWANSON: That would be the second group,
18 or actually the third group. I was going to raise that
19 as cross examination based upon ACRS references.

20 The second group on which I think there is
21 disagreement refers to an ACRS report which dealt with a
22 proposed regulation, proposed Part 100. I included
23 those --

24 JUDGE MILLER: An ACRS report?

25 MR. SWANSON: It would not have been specific

1 to Clinch River. The reference is -- references start
2 on transcript page 2980. There is a reference to ACRS
3 comments on site criteria for nuclear reactors. That is
4 AECR 2/23. It is a December 10, 1960 document. That
5 was referred to by Dr. Cochran.

6 Then there was a cross examination by Mr.
7 Edgar on that document, and there were actual quotes
8 from that document read and discussed during the cross
9 examination.

10 JUDGE MILLER: All references to the document
11 directly or indirectly, whether by direct examination,
12 cross examination or anything else, will be stricken
13 from the record.

14 MR. SWANSON: Okay, that was included in my
15 list.

16 Now, we could either take a general ruling, as
17 I see it, from the Board which encompasses that nature,
18 or I could give you a list which unfortunately we don't
19 have total agreement on, where at least we perceive it
20 identifies areas where there were statements by ACRS
21 members that were discussed, either directly or in cross
22 examination.

23 JUDGE MILLER: It shouldn't be too hard to
24 identify the sources of ACRS reports, information,
25 discussion and the like, and all of those will be

1 stricken from the record insofar as they are presently
2 in the record.

3 MR. SWANSON: Okay, fine.

4 JUDGE MILLER: Now, if it would help any, you
5 might mutually circulate the list of the pages.

6 MR. SWANSON: I have circulated the pages that
7 we --

8 MS. FINAMORE: Can I comment?

9 JUDGE MILLER: Please.

10 MS. FINAMORE: This list I have several
11 problems with. First of all, there are a couple of
12 items in here, I don't know why they are in here but
13 they have no relation. I mean, they were draft versions
14 of 10 CFR Part 100 that in the course of rulemaking were
15 submitted to the ACRS for comments. These were not ACRS
16 regulations; they were draft Part 100 comments.

17 JUDGE MILLER: Well, if they are comments by
18 ACRS members --

19 MS. FINAMORE: No, they are not. They were
20 draft Part 100 criteria that were drafted by the
21 Director of Licensing of the NRC, submitted to the
22 ACRS. Now, I don't see how --

23 JUDGE MILLER: Well, what happened to them?
24 Something happened besides being submitted to the ACRS,
25 I assume.

1 MS. FINAMORE: We are quoting from the draft
2 criteria, and that was in -- I mean, portions of this
3 were in the Federal Register for public comment. This
4 is part of the legislative history of Part 100. And the
5 staff itself introduced the document as an attachment to
6 its testimony, which was the TIV 1484 document, which
7 was also part of the rulemaking of Part 100. And in the
8 course of all of these rulemakings, they are submitted
9 to the ACRS for comment, and that document was, too.
10 But I don't think that --

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1 JUDGE MILLER: Well, the fact that it was
2 submitted wouldn't mean anything. The question would be
3 was there any result therefrom. If the ACRS commented
4 anyway, that is out. If the action taken depended in
5 whole or in part on ACRS action, it is out. If, on the
6 other hand, you can show a clear line of descent wholly
7 apart from ACRS, it would remain in. Now, that is a
8 factual matter that you just simply, if you have an
9 argument about it, show your paternity right down the
10 line.

11 MS. FINAMORE: Let me just say it seems to me,
12 and I may be wrong, but all I know is that in CFR Part
13 100 and, to my knowledge, all regulations of the NRC,
14 most go through a period of ACRS review, and under your
15 rule, then, none of the legislative history of that
16 regulation would be available to cite as evidence since
17 at one point it was reviewed by the ACRS.

18 JUDGE MILLER: It wouldn't be evidence
19 anyway. The fact that the ACRS might have commented or
20 not doesn't make it evidentiary.

21 MS. FINAMORE: No, but the criteria, the draft
22 versions of a particular regulation --

23 JUDGE MILLER: Why are you worried about
24 drafts? Why don't we get to what the ultimate rule as
25 adopted was. That is certainly admissible and clearly

1 evidentiary.

2 MS. FINAMORE: And I think the proposed rule
3 as cited in the Federal Register is also evidentiary.

4 JUDGE MILLER: Why is it evidentiary? Why is
5 a proposed rule anything more than a proposed rule,
6 which is not evidentiary?

7 MS. FINAMORE: Well, the same as with any
8 bill, it is part of the legislative history.

9 JUDGE MILLER: That is the way you have to
10 construe it and that is not in this category at all.

11 MS. FINAMORE: No, we are talking about
12 construing Part 100.

13 JUDGE MILLER: We will construe it without the
14 legislative history. You have got to wrap up the ACRS
15 in the legislative history. If you don't have to, give
16 us whatever aid you want, but I don't think we are going
17 to have a lot of trouble construing it. You may not
18 agree, and you can appeal, but we are not going to waste
19 an awful lot of time with pedigrees.

20 MS. FINAMORE: The draft criteria which we
21 cited was drafted without any input from the ACRS. The
22 ACRS input occurred after this input.

23 JUDGE MILLER: Well, can you get it into
24 evidence, and if nobody objected, you got it in there.
25 If there would have been objection, it would have been

1 sustained.

2 MS. FINAMORE: I would also like to mention
3 that this other document, which is ACRS comments, was
4 introduced by Applicants as Applicant Exhibit 33.

5 JUDGE MILLER: Is it in any way dependent upon
6 ACRS action, comments or anything else?

7 MS. FINAMORE: Yes.

8 JUDGE MILLER: In that case, it will go out.

9 MR. EDGAR: And the direct testimony with it.

10 JUDGE MILLER: That's right.

11 MS. FINAMORE: I would also like to point out
12 that another one of the things, which is ACRS 239,
13 Appendix C, consists of the proposed, the statement of
14 considerations for the proposed rule that was issued in
15 the Federal Register, and I disagree that that should be
16 stricken from evidence because the proposed version of
17 the rule that went into the Federal Register was derived
18 in part from comments of the ACRS.

19 JUDGE MILLER: Well, the Commission itself
20 publishes the statements of consideration, and if you
21 cite that, that is it, it is controlling.

22 MS. FINAMORE: We did cite it. That is what
23 we did, cite it.

24 JUDGE MILLER: The Commission statement of
25 considerations?

1 MS. FINAMORE: Yes.

2 JUDGE MILLER: Well, that is admissible.

3 There is no argument about that.

4 MR. SWANSON: I don't have any argument about
5 that.

6 MS. FINAMORE: That is your Arguments 18 and
7 19.

8 JUDGE MILLER: The statement of consideration,
9 that is Commission action. It is something we take into
10 consideration. That is very admissible. We have no
11 problem there.

12 MR. SWANSON: I was just trying to limit it to
13 cross examination about what the ACRS might have
14 recommended or not recommended.

15 JUDGE MILLER: Well, now you are into the
16 ACRS. If you get into that, it is not admissible.

17 MR. SWANSON: If there is somehow a reference
18 to ACRS in a final statement of consideration, I agree.
19 That is not a matter of dispute.

20 MS. FINAMORE: Well, I think, then, your 17,
21 18 and 19 --

22 JUDGE MILLER: You can get together on
23 crossing the "t's" and dotting the "i's." I think the
24 ruling, you can do it as readily as we can.

25 MR. SWANSON: If the Board wants to rule,

1 leave it as a general ruling, I think that is certainly
2 satisfactory and workable from the Staff's point of view.

3 JUDGE MILLER: You shouldn't have a problem
4 there.

5 MR. SWANSON: One final item, and that was a
6 request. I have been asked to request on behalf of the
7 Staff if we could have an extension of time to respond
8 to the State of Tennessee and City of Oak Ridge comments
9 until next Tuesday. Apparently it is receiving a little
10 more sensitivity and review time. I don't think that
11 impacts on any schedule.

12 JUDGE MILLER: I was going to say I don't
13 think that impacts upon the proposed findings or the
14 voluntary briefs or proposed initial decisions and all
15 of the red tape and waivers which you are free to submit
16 if you wish. I don't see that there would be any
17 conflict there. We will give all of you the same
18 extension of time, and take the time you need. We are
19 not going to sit down and be decisive in the sense that
20 it is going to impact that violently in either time or
21 substance of our initial decision. So take the time
22 that you feel -- we simply didn't want it to drag on.

23 Anything further?

24 [No response.]

25 JUDGE MILLER: Thank you very much. We will

1 see you in March.

2 [Whereupon, at 4:21 p.m., the hearing was
3 recessed.]

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

ATOMIC SAFETY AND LICENSING BOARD

in the matter of: U.S. Department of Energy Project Management Corporation
Tennessee Valley Authority (CRBR Plant)

Date of Proceeding: January 5, 1983

Docket Number: 50-537

Place of Proceeding: Bethesda, Maryland

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

Ray Heer

Official Reporter (Typed)

Ray Heer

Official Reporter (Signature)