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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE  
ATOMIC SAFETY AND LICENSING BOARD

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OFFICE OF SECRETARY  
GENERAL INVESTIGATIVE  
DIVISION

In the Matter of  
  
UNITED STATES DEPARTMENT OF ENERGY  
PROJECT MANAGEMENT CORPORATION  
TENNESSEE VALLEY AUTHORITY  
  
(Clinch River Breeder Reactor  
Plant)

Docket No. 50-537

APPLICANTS' MOTION TO STRIKE  
PORTIONS OF THE TESTIMONY  
OF DR. THOMAS B. COCHRAN (PART V)

Pursuant to 10 C.F.R. § 2.730, the United States Department of Energy and Project Management Corporation, for themselves and on behalf of the Tennessee Valley Authority (the Applicants), hereby move to strike certain portions of the Testimony of Thomas B. Cochran (Part V), dated November 1, 1982.

The Applicants move to strike the portions of the testimony identified herein ab initio because each identified portion of the testimony has already been ruled beyond the scope of this proceeding by the Board. Granting this motion at the outset will allow the hearings to proceed without unwarranted delay.<sup>1/</sup>

1/ The Applicants reserve their right to cross-examine at the hearings and to move to strike based on witness  
(Continued)

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The portions of Dr. Cochran's testimony which should be stricken and the reasons for striking each portion are presented below:

I. Answer A.9(3) (p.11).

A. Testimony.

(3) While the Commission believes that, after irradiation, the fuel for the CRBR will be "self protecting" against theft due to its radioactivity, the hypothetical possibility of theft of a irradiated fuel cannot be dismissed. To the extent there is water transport of irradiated fuel over the open ocean, hijacking and subsequent diversion to a national government for reprocessing cannot be ruled out. See Letter, dated February 21, 1979, from DOE to this witness, with enclosures (attached as Exhibit 4).

B. Reason for Striking.

In its Protective Order of May 27, 1982, the Board found interrogatories dealing with the transportation of plutonium outside of the United States to be beyond the scope of this proceeding because they concerned "environmental impacts outside the United States and beyond the scope of NEPA." Id. at 2. The Board stated that "[s]uch information is unnecessary for a comprehensive evaluation of protective measures governing the use, storage or handling of plutonium in the

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qualifications or any other grounds which arise during the course of the cross-examination.

United States associated with the CRBR fuel cycle." Id. at 3.

II. Answer A.13 (pp. 13-14).

A. Testimony.

A13. In assessing the probability of an act of theft or sabotage, I do take into account current Commission regulations. It is my judgment, that, in certain respects, the Commission regulations may be inadequate. For example, with respect to acts of sabotage, under 10 CFR § 73.1(a)(1) the possibility of an internal conspiracy of more than one insider is not included. See Commonwealth of Virginia v. William E. Kurkendall and James A. Merrill, Jr., Circuit Court, Surry County, Virginia (circa 1980). As for the design basis threat for acts of theft under 10 CFR § 73.1(a)(2), the definition excludes collusion of more than one insider. Further, it does not appear to include the use of suitable weapons larger than handled weapons, e.g., rocket launchers, and groups larger than small, e.g., ten to twelve, even though such factors, as pointed out in my answer A.9 are credible and the Department of Defense takes such threats into account when establishing its threat levels.

B. Reason for Striking.

The sole purpose of A.13 is to question the validity of Commission regulations. Testimony challenging the validity of Commission regulations cannot be heard in a licensing proceeding. See, Board's Special Prehearing Conference Memorandum and Order of April 6, 1976 at 10 (denial of contentions "as constituting a direct challenge to

Commission regulations, which we are not empowered to consider.")

III. Answer A.21 (pp. 20-21).

A. Testimony.

A.21. I do not believe there is sufficient information in the record to support the Staff's conclusions regarding the adequacy of safeguards at the CRBR and its supporting fuel cycle. The analysis undertaken by Applicants in the ER and by the Staff in the DEISS is essentially hypothetical and conjectural, because there are so many unknowns with respect to the future CRBR fuel cycle. Essentially, both Applicants and Staff are speculating as to what systems may or may not be in place ten years hence and how effective they may be. Several examples demonstrate the point. "[T]he exact location and design of the conversion process are not determined at this time." ER 5.7-42. Further, while Applicants believe that fuel will likely be reprocessed at the DRP, this is not necessarily the case, and reprocessing could take place at DOE's Savannah River Plant, at its Purex Plant in Hanford, Washington, or at a small facility that would be built into the FMEF. See NRC Dep. at 111-112 (Witness Hurt). Each of these plants has (or likely would have) markedly different characteristics compared to the proposed DRP, yet the only analysis carried out by the Commission Staff has been with respect to the DRP. The Staff cannot answer whether figures theoretically achievable at the DRP are "technically reasonable" for other alternatives. NRC Dep. at 116 (Witness Hurt). Even at DRP, "only very preliminary design information is available". Letter, dated March 24, 1982, from John Longenecker to Paul Check at 3. No site has even been selected for the DRP. DOE Dep. at 50 (Witness Yarbrow). In addition, no information whatsoever is available at this time with respect to transportation routes for fresh fuel or irradiated fuel, Applicants' Updated Answers to Intervenor's Eighth Set of Interrogatories, dated April 30, 1982 at 12, 13, and, there is no information with respect to the identity, location, complement or equipment of ground forces that would respond in

the case of an emergency during transport. Staff's Updated Answers to Intervenors' Twelfth Set of Interrogatories, dated April 30, 1982 at 2, showing "still applicable and need(ing) no updating", Staff's Response to Intervenors' Twelfth Set of Interrogatories, dated November 15, 1976 at 23, 24. Finally, at the CRBR site itself, the Staff has not reviewed any detailed security or contingency plans, and, indeed, the identity, location, complement and equipment of ground forces have not been specified by Applicants. Staff's Updated Answers to Intervenors' Twelfth Set of Interrogatories, April 30, 1982, at 10. (Emphasis added.)

B. Reason for Striking.

Dr. Cochran's A.21, as stated in its first sentence, deals with "the adequacy of safeguards at the CRBR and its supporting fuel cycle." The Board clearly stated in its April 14, 1982 Order Following Conference With Parties that issues concerning "the adequacy of safeguards at DOE, DOD and NRC licensed facilities" "are beyond the scope of the purpose for which Contention 4 was admitted-a NEPA cost/benefit analysis." Id. at 14. Moreover, the answer arrives at the conclusion that "the Staff has not reviewed any detailed security or contingency plans, and, indeed, the identity, complement and equipment of ground forces has not been specified by Applicants." A review of detailed security and contingency plans is outside the scope of this LWA proceeding. Such

information is not even required for a construction permit (C.P.) review, and is necessary only in connection with an operating license (O.L.) review. Compare 10 C.F.R. § 50.34(a) (no requirements at C.P.) with 10 C.F.R. § 50.34(c) and (d).

IV. Answer A-26 (pp. 26-28)

A. Testimony.

A.26. There are several steps the Staff might have taken but didn't.

First, it could have looked at safeguards records at existing facilities and assessed DOE's assertions against current problems. This would have made particular sense in this proceeding, since reprocessing, for example, may take place at either Savannah River or Hanford. Moreover, the Purex plant site at Hanford is the only candidate identified for plutonium conversion. Yet none of the Staff's safeguards experts is familiar with these existing information was developed by the Staff concerning current regulatory compliance by DOE. NRC Dep. at 51-52 (Witness Hurt).

Second, it could have examined various critiques of existing safeguards at DOE facilities which have been prepared by the General Accounting Office. These critiques are numerous, e.g.:

- "Improvements Needed in the Programs for the Protection of Special Nuclear Material" (11/7/73)
- "Protecting Special Nuclear Material In Transit: Improvement Made and Existing Problems" (4/12/74)
- "Shortcomings in the Systems Used to Control and Protect Highly Dangerous Nuclear Material" (7/22/76)

- "Safety and Transportation Safeguards at Rocky Flats Nuclear Weapons Plant" (1/11/77)
- Letter to Chairman, John Dingell, U.S. House of Representatives, Re: unaccounted for nuclear material (5/5/78)
- "States of Physical Security Improvements to ERDA Special Nuclear Material Facilities" (9/8/77)
- "Federal Actions are Needed to Improve Safety and Security of Nuclear Materials Transportation" (5/7/79)
- "U.S. Nuclear Safeguards -- A National Strategy is Needed" (2/19/80)
- "Nuclear Fuel Reprocessing and the Problems of Safeguarding Against the Spread of Nuclear Weapons" (3/18/80)
- Letter to Rep. Tim Wirth, Re: Alleged missing material from DOE's Rocky Flats weapons production plant (10/1/80)
- "Nuclear Diversion in the U.S.? 13 Years of Contradiction and Confusion" (12/18/78)

Yet the Staff did not rely on or refer to them in its assessment of DOE Safeguards. NRC Dep. at 57 (Witness Dube).

Third, in conducting its safeguards analysis, the Staff only assumed "current conditions", NRC Dep. at 80 (Witness Jones), and its approach was simply to judge the safeguards proposed by DOE against existing regulatory requirements such as those found in 10 CFR Part 73. See Staff's Updated Answers to Intervenors' Sixth Set of Interrogatories, April 29, 1982, at 5. In other words, the Commission Staff did not analyze the extent to which proposed safeguards would meet threats different than those specified. NRC Dep. at 78 (Witness Dube). This results in ignoring "residual risks," and is particularly questionable at the present time, when the Commission is considering upgrading its MC&A rules for some facilities. See 46 Fed. Reg. 45144 (Sept. 10, 1981).

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B. Reasons for Striking.

The first and second paragraph of A.26 deal with the adequacy of safeguards at DOE facilities, an issue which the Board has clearly ruled to be beyond the scope of this proceeding. See III.B., supra.

The third paragraph challenges the validity of existing Commission regulations. See II.B., supra.

V. Answer A-28 (p. 30).

A. Testimony

A.28 The word "approach" is something of a misnomer; the Staff just seems to have made a horseback judgment. In fact, there are at least two major flaws in its "approach." First, it did not, as noted earlier, look at current compliance and attempt to project future compliance based on present, empirical evidence. In fact, questions have been raised with respect to the adequacy of DOE's compliance with its current safeguards requirements. See GAO reports cited in my Answer A25 [sic]. Most recently, it has been reported that, in a "black hat" exercise, seven counter-terrorist experts were able to demonstrate the lack of effectiveness of physical security at DOE's Savannah River nuclear weapons plant. Albright, "Crashing a Nuclear Plant," Atlanta Constitution, October 3, 1982, at 1A. If these problems exist today, it cannot be concluded that similar or greater problems will not exist in the future. (Emphasis added.)

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B. Reason for Striking

The testimony deals with "the adequacy of DOE's compliance with its current safeguards requirements," an issue beyond the scope of the proceeding. See III.B., supra.

VI. Question Q.30 and Answer A.30 (p. 32)

A. Testimony

Q.30 Could construction and operation of the CRBR and its supporting fuel cycle have an impact on nuclear proliferation?

A.30 One important omission of the Commission in its analysis is its refusal to regard the construction and operation of the CRBR as impacting on proliferation problems. See Staff's Answers to Intervenors' Twentieth Set of Interrogatories, dated April 30, 1982, at 46. As pointed out by Dr. Theodore Taylor during the Commission's July 29, 1982 hearing on Applicant's Section 50.12 exemption request, see Transcript of July 29, 1982 hearing, at 205-210, the construction and operation of this plant may well stimulate breeder development elsewhere and, as a consequence, exacerbate proliferation risks. See also Letter, dated January 13, 1982, from Frank von Hippel of Princeton University to the Commission.

B. Reason for Striking

Dr. Cochran's Q.30 and A.30 deal with the nuclear proliferation, a programmatic issue covered in the LMFBR Programmatic EIS. Programmatic issues considered in DOE's environmental review need not be reevaluated in licensing proceedings before the Commission. See, United

States Energy Research and Development Authority,  
et al. (Clinch River Breeder Reactor Plant), CLI-  
76-13, 4 NRC 67 (1976).

VII. Answer A.31(1) (p.33)

A. Testimony

(1) Current Commission material accounting practices are fundamentally flawed. The Staff indeed concludes that the timeliness of detection depends entirely on physical security, NRC Dep. at 104 (Witness Dube), i.e., that MC&A standing alone won't do the job, and DOE as well appears to be of the view that MC&A and physical security need not be independently effective. DOE Dep. at 14 (Witness Katz). These flaws cannot be offset by enhancing physical security, and, considering physical security separately, the design basis threat cannot be justified. I have set forth these views extensively in testimony submitted in the NFS Erwin proceeding (Docket No. 70-143). A copy of my testimony at that proceeding, dated October 12, 1982, at pages 28-37, in which I explain the basis for these conclusions, is attached as Exhibit 5. In my judgment, the same failures which affect the Erwin facility also affect the CRBR and its supporting fuel cycle.

B. Reason for Striking

Dr. Cochran's A.31(1) challenges Commission regulations. See II.B., supra.

VIII. Answer A.31(2) and (3) (pp. 33 35)

A. Testimony

(2) The Commission exercises no regulatory authority over DOE's fuel cycle facilities, NRC Dep. at 50 (Witness Dube), and it has no real assurance that safeguards will be applied at such facilities or that, if applied, they will be effective. The Staff has no knowledge at this time whether DOE meets its own standards, NRC Dep.

at 72 (Witness Jones); admits that it is "possible" that current safeguards don't meet current regulations at some CRBR fuel cycle facilities, NRC Dep. at 35 (Witness Dube); and concedes that, if DOE commitments relative to fuel cycle safeguards are not implemented, there is nothing the Commission can do about it. NRC Dep. at 134 (Witness Dube). The Staff in fact does not even have criteria for concluding that there is a reasonable assurance that DOE will comply with applicable safeguards regulations. NRC Dep. at 46-47 (Witness Dube). In reaching the conclusion that DOE will comply with its own orders, the Staff has simply accepted DOE's "commitments". NRC Dep. at 48 (Witness Dube). The entire safeguards system upon which the Staff pins its reliance, therefore, is nothing more than a handshake and a hypothetical to which no particular probabilities have been (or perhaps can be) attached. But, given the history of safeguards problems, see Answers A.26 and A.28, above, it is difficult to be sanguine about prospects for effective safeguarding.

(3) There are good reasons to believe that certain of these hypothetical "commitments" will not be realized. This is particularly the case with respect to material accounting at the CRBR reprocessing facility. As noted above, the General Accounting Office has questioned the effectiveness of current systems and expressed doubt as to how much diversion risks can be reduced by improved safeguards. GAO, Nuclear Fuel Reprocessing and the Problems of Safeguarding Against the Spread of Nuclear Weapons 10 (EMD-80-38, March 18, 1980). In its words: real time accountancy instituted, long-term diversion would still remain a problem:

For large scale facilities the abrupt diversion guidelines could probably be met; however, problems still existed meeting the protracted diversion guide lines for plutonium accountability in the main process MBA.

Id. .t 89.

B. Reason for Striking

The testimony deals with the adequacy of safeguards at DOE facilities. See III.B, supra.

IX. Answer A31.(6) (p. 39)

A. Testimony

(6) There are serious questions about the adequacy of guard forces. See generally General Accounting Office, Security at Nuclear Power Plants--At Best Inadequate (EMD-77-32, April 7, 1977); Testimony of Monte Canfield before the Energy and Environment Subcommittee of the House Committee on Interior and Insular Affairs, 97th Cong., 1st Sess. (May 5, 1977). The human element is a major weakness in the current system. It is likely to remain so. But it is never addressed by the Staff or Applicants.

B. Reason for Striking

The testimony deals with the adequacy of safeguards, an issue beyond the scope of the proceeding. See III.B, supra.

X. Exhibit 1

A. Testimony

On page 4 of Dr. Cochran's testimony, he incorporates Exhibit 1 as part of his testimony. Applicants object to incorporation of the following portions of Exhibit 1 into Dr. Cochran's testimony.

1. Paragraph 7.3.2 (pp. 5 6)

7.3.2 The statement that "compliance provides reasonable assurance that there will be no significant increase in the overall risk to the public from acts of sabotage, theft or diversion at a reactor site" is both vague and conclusory. No evidence is provided to support this statement. No effort is made to define what constitutes "reasonable assurance". Further, it is not clear whether the phrase "reasonable assurance" reflects the current requirements of law. Lastly, the Staff does not indicate what a "significant" increase in risk would be.

2. Paragraph 7.3.3.3 (pp. 9 10)

7.3.3.3 In the discussion of these programs, the Staff has not judged the adequacy of DOE safeguards (both materials accounting and physical security). It has not identified inventory differences at a facilities likely to be utilized and the effect of such differences on assurances that safeguards are effective. And, it has failed to discuss current criticisms of DOE safeguards by other organizations, such as the GAO. See GAO, Nuclear Fuel Reprocessing and the Problems of Safeguarding Against the Spread of Nuclear Weapons (EMD-80-38) (March 18, 1980).

B. Reason for Striking

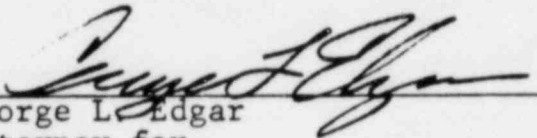
1. The underlined testimony in X.A.1, supra, is a conclusion of law, which is not appropriate or necessary as subject matter for this testimony. Dr. Cochran is not qualified to testify on legal requirements.

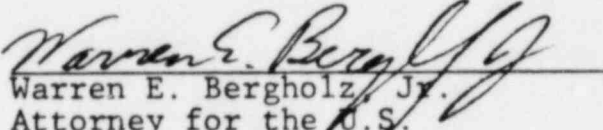
2. The testimony in X.A.2, supra, deals with the adequacy of DOE safeguards, an issue beyond the scope of this proceeding. See III B, supra.

CONCLUSION.

For the reasons presented, the Applicants request the Board to strike those portions of Dr. Cochran's Testimony (Part V) designated, supra.

Respectfully submitted,

  
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Dated: November 12, 1982