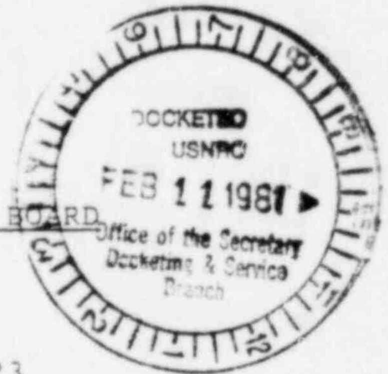
UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD



In the Matter of	)	
	)	
DUKE POWER COMPANY	)	Docket No. 70-2623
	)	
(Amendment to Materials License SNM-1773 for Oconee Nuclear Station Spent Fuel Transportation and Storage At McGuire Nuclear Station	)))))	

NATURAL RESOURCES DEFENSE COUNCIL'S BRIEF
IN REPLY TO APPLICANT AND STAFF EXCEPTIONS

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INTRODUCTION AND STATEMENT OF THE CASE

On March 9, 1978, the Duke Power Company ("Duke") applied to the NRC for authorization to ship spent fuel 170 miles from Oconee Units 1, 2 and 3 to the unused spent fuel pool for McGuire Unit 1. The McGuire plant has not yet received its operating license.[1/] Duke sought to justify this request on the grounds that without transshipping the spent fuel, the Oconee plants would be forced to shut down or to operate without full core reserve by mid-1979. All alternatives other than transshipment, including high density reracking of the Oconee pools, reracking with poison racks, construction of another on-site spent fuel storage facility and construction of an off-site independent spent fuel storage installation ("ISFSI"), while technically viable, were asserted by Duke to be unsatisfactory because none could be accomplished soon enough to forestall loss of storage capacity at Oconee, and each would be more expensive than shipping 300 assemblies.[2/] These conclusions were dutifully echoed in the Environmental Impact Appraisal

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1/ Although Duke initially requested permission to ship over 400 spent fuel assemblies, the NRC Staff's review and approval was limited to 300 assemblies. Environmental Impact Appraisal Related to Spent Fuel Storage of Oconee Spent Fuel at McGuire Nuclear Station Unit 1, Spent Fuel Pool. (Hereinafter "EIA") December 1978, Staff Ex. 3, at ix.

2/ Duke Power Co. (Amendment to Materials License SNM-1773 for Oconee Nuclear Station Spent Fuel Transportation and Storage at McGuire Nuclear Station), Initial Decision, October 31, 1980, Sl.Op. at 37-40, 57-59. (Hereinafter "I.D.").

produced by the NRC Staff,[3/] which concluded that even reracking would take a minimum of 15 months and would still require transshipment "to allow for the needed working space. . ."[4/] Longer-term alternatives involving the construction of more storage space at Oconee or elsewhere were likewise dismissed on the grounds that they could not be built before 1984 and thus "would not aid in solving the immediate problem."[5/]

Since this transshipment application was filed, and subsequent to the drafting of the EIA, Duke has in fact completed one of the options both it and the staff earlier dismissed and is well on the way toward accomplishing another. Specifically, the Oconee 1 and 2 spent fuel pool has been reracked, extending full core reserve capacity to September, 1982,[6/] and an uncontested application by Duke is pending to install poison racks in this pool, which will allow for the maintenance of full core reserve capacity through November 1986 and forestall total loss of onsite capacity to September, 1987.[7/] Thus, it is beyond question that Duke has no "immediate problem" with spent fuel storage at Oconee.

3/ EIA, Staff Ex. 3, at 49-56.

4/ *Id.* at 53.

5/ *Id.* at 52.

6/ I.D. at 42.

7/ The poison rack installation is scheduled for completion by March-April of this year. I.D. at 42. If the Unit 3 pool is fitted with poison racks, full core reserve capacity will be extended through April, 1991. *Id.* at 43.

Both Duke's application and the NRC review were strictly limited to the impact of transshipment of 300 fuel assemblies from Oconee to McGuire. However, during the course of the evidentiary hearing, compelling evidence was adduced by NRDC showing that the 300-assembly transshipment was, in fact, to be the first in a larger plan -- the so-called "cascade" plan -- for shipping spent fuel around the Duke system from the older to the newer facilities.[8/] This shell game was to continue indefinitely until the federal government provided a final resting place in an AFR for Duke's spent fuel.[9/] In addition, as the Licensing Board noted, Duke intentionally sought to keep the cascade plan secret from the NRC, Congress and the public.[10/] The Duke internal documents admitted into evidence contain such extraordinary statements as "Transportation aspects should be handled internally and should not be addressed in discussions of expansion plans with NRC," and "Each plant is expanded solely on the basis of meeting its own need for storage space. No mention of the Cascade approach in licensing documents."[11/]

The Licensing Board, after listening to all of the evidence, explicitly found the cascade plan to be a reality.[12/]

8/ I.D. at 10-15, 22-14.

9/ Id. at 23, Tr. 541-42.

10/ Id. at 15.

11/ Id.

12/ I.D. at 10-15.

It did so on the basis of a remarkable series of internal Duke memoranda, the testimony and cross-examination of Duke officials and NRC Staff[13/] and upon consideration of the objective circumstances driving the cascade plan and the nature of the corporate decision-making process at Duke (and NRC) ensuring that, once begun, the cascade would continue.

It should be understood that the Board's central holding -- that the scope of the NRC Staff's review of the impact of transshipment and alternatives to transshipment was unreasonably restricted --[14/] does not rest solely on the meaning of certain words in Duke's internal documents or the thoughts in the minds of Duke's executives. On the contrary, the holding is fully supported by evidence establishing two driving forces behind the cascade plan: 1) the incontrovertible fact that so long as the Oconee plants operate, they will generate spent fuel, 2) the fact that

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13/ Duke attempts at secrecy were apparently not wholly effective. The staff witness admitted to learning of Duke's larger plan substantially before the EIA was written (Tr. 572-574, 576) but no mention of it whatever appears in the document. Irrespective of the Staff's view that review of this plan can legally be segmented, the "full disclosure" aspects of NEPA compel the Staff to be more candid with the public than it has been in this case. 40 CFR 1500.1(b), 1508.9, 1502.1. See, also, Maryland National Capital Park and Planning Commission v. U.S. Postal Service 487 F.2d 1029, 1039-1041 (D.C. Cir. 1973), which requires the Assessment to take a "'hard look' at the problem' in determining whether an EIS is required.

14/ "The Staff's Environment Impact Appraisal and Negative Declaration are improperly segmented and unduly limited in scope, inadequate in the consideration of reasonably predictable environmental impacts, and fail to properly evaluate and give weight to preferable alternatives, as required by NEPA and the Commission's Regulations." I.D. at 91.

Duke's continuing policy is to delay making decisions and then to adopt the least expensive option to permit continued operation of its reactors on the assumption that a government-constructed AFR will solve Duke's problem.[15/] So long as the NRC allows it, this option is and will always be transshipment; all longer-term or more expensive courses of action involving the expansion of storage capacity will be rejected in precisely the same manner as they were prior to this request for transshipment authority.

Moreover, the evidence is uncontested that, irrespective of the firmness of any one plan for dealing with spent fuel from the Oconee units, the spent fuel problem is a system-wide one for Duke and viewed that way by management.[16/] All calculations of spent fuel capacity involve at least Oconee, McGuire and Catawba, and evaluations of solutions to that problem are also system-wide, as evidenced both by the cascade plan and by the fact that the operating license application for Catawba expressly includes a request for authorization to store spent fuel from other reactors in the Catawba pool.[17/]

Review of the 300-assembly transshipment in isolation had the direct practical effect of foreclosing rational

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15/ "Indeed, our plans are premised on avoiding significant costs of spent fuel storage while waiting for government to act on their plans for storage." Tr. 456. See also Tr. 458-463.

16/ NRDC Exh. 3, Tr. 1202, 444-51, App. Exh. 4.

17/ Tr. 588, 590-92.

consideration of system-wide solutions by artificially limiting the definition of the problem both in time and in scope. The difference in result can be demonstrated simply by formulating the problem in the following way: What are the alternatives available for storage of the spent fuel generated during the lifetime of all of the Duke reactors? Posing the question in that manner elicits a variety of alternative approaches to be considered, with differing environmental impacts and economic costs. These include maximum on-site reracking at each Duke site, construction of additional on-site pools and construction of centralized Duke storage facilities. In contrast, Duke and the NRC Staff posed the far narrower question: what are the alternatives available in the next few months to deal with 300 spent fuel assemblies at Oconee? The very formulation of the question dictated the only answer desired by Duke: transshipment to McGuire.

In addition to finding that the scope of NEPA review had been unreasonably restricted by the Staff, the Licensing Board also applied the five-factor balancing test devised by the Commission for case-by-case determination of whether interim actions addressed to ameliorating the shortage of spent fuel storage should be permitted pending broader examination of the generic issues involved.[18/] In brief,

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18/ Intent to Prepare Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Power Reactor Fuel, 40 Fed. Reg., 42801 (September 16, 1975).

the Board found that transshipment of 300 assemblies has no independent utility both because it is the first step in the system-wide cascade plan and because transshipment does not expand storage capacity; it merely delays expansion by prematurely using up the storage space in newer reactors and, not coincidentally, creates an artifical demand for construction of a government AFR.[19/]

The Board also found that approval of Duke's proposal would tend to foreclose available alternatives. The record clearly reveals a dynamic of decision-making at the Duke Power Company which delays selecting a course of action until it can persuade the NRC Staff that the only alternative available quickly enough to prevent loss of full core reserve or shutdown is transshipment.[20/] The Board held that with respect to the third of the five factors - the extent to which cumulative environmental impacts may be overlooked -- no attempt whatever has been made to address the impacts of the cascade plan.

Lastly, the Board found that factor five, mandating consideration of the need for the action, also weighs against

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19/ I.D. at 28-36. Tr. 463, 504.

20/ I.D. at 37-40. Tr. 463. The fact that, in this case, reracking was accomplished without dire consequences and poison racking will also be accomplished is due to NRDC's and the Licensing Board's actions in refusing to accept the fait accompli. The NRC Staff was fully willing to accede to Duke's strategy.

approval since, as noted above, subsequent modifications of the Oconee 1 and 2 pool will ensure that all Oconee units can maintain operation until November, 1986.[21/] Thus, there is unquestionably no immediate need for transshipment. Its balancing of the five factors led the Board to conclude that Duke's application should be denied.

Continuing, the Board found the EIA to be inadequate in numerous ways; inter alia:

1) It fails to acknowledge, much less consider, the cascade plan;[22/]

2) It fails to account for the added risk and the social impacts of more than doubling the annual total spent fuel shipments nationwide;[23/]

3) It utterly fails to objectively evaluate the available alternatives to multiple transshipment, particularly those that would greatly expand actual storage capacity without any need for shipment and thus, no impact associated with transshipment.[24/] All are dismissed because they would not solve Duke's "immediate" (but no longer existent) problem and cost more than transshipment for 300 assemblies;

21/ Id. at 41-43. In addition, if the Oconee 3 pool is fitted with poison racks, full core storage capacity will be fitted to April, 1991, Id. at 43.

22/ Id. at 44-45.

23/ Id. at 45-47.

24/ Id. at 52-59.

4) In assessing non-shipment alternatives, it does not fairly consider the unique disadvantage of transshipment, including the risk of sabotage and serious accidents.

The remainder of the decision favorably reviews the proposal against the ALARA criterion and resolves a series of contentions of the Carolina Environmental Study Group which will not be treated here.

Both the NRC Staff and Duke filed exceptions to the decision of the Licensing Board. Both claim that the Board was in error in finding that this is the first of a reasonably foreseeable series of transshipments throughout the Duke system. Both argue that it is permissible to assess the shipment of 300 assemblies in pristine isolation from the rest of the spent fuel storage problem for Duke's reactors and the effects of this shipment upon the options available to deal with the larger problem. Both defend the EIA and its narrow consideration of alternatives, despite the fact that its underlying premises have been quite literally overtaken by time.

NRDC supports the Licensing Board's decision, which reflects an understanding of both the letter and the spirit of NEPA. The obligations of that Act have been simply described as follows by the Appeal Board:

> At a minimum, it [the Agency] must provide a detailed, thoughtful analysis drawn from adequate data so that a reviewing body can decide

> on an objective basis whether the agency has fairly assessed other courses of action which might realistically be substituted for the one proposed.25/

That obligation has not been met in this case.

25/ Boston Edison Co. et. al. (Pilgrim Nuclear Generating Station, Unit 2) ALAB-479, 7 NRC 774, 779 (1978).

ARGUMENT

I. Standard of Review

Duke cites both caselaw and Commission authority in support of the proposition that the Appeal Board is not compelled to accept the factual findings of the Licensing Board, although conceding that they are accorded considerable weight. We have no quarrel with this general statement of the law.

An early judicial decision is Universal Camera Corp. v. NLRB, 340 U.S. 474, 71 S.Ct. 456 (1951), which recognizes that, because of the ability of the hearing officer to directly observe the witnesses, the significance of his conclusions depends on the importance of credibility in the particular case. 340 U.S. at 496-7, 71 S.Ct. at 468.

In Ward v. NLRB, 462 F.2d 8, 12 (5th Cir. 1972), the reviewing court was faced with a decision of the agency which was inconsistent with the factual findings of its trial examiner:

> [W]hen the ultimate determination of motive or purpose hinges upon the degree of credibility to be accorded the testimony of interested witnesses, the credibility findings of the trial examiner are entitled to special weight and are not to be easily ignored. Russell-Newman Mfg. Co., v. NLRB, 407 F.2d 247, 249 (5th Cir. 1969).26/

26/ Accord., NLRB v. Hamilton Plastic Molding Co., 312 F.2d 723, 727 (6th Cir. 1953):

> When the Trial Examiner and the Board disagree on the evidence, we may not disregard the superior advantages of the Examiner, who heard and saw the witnesses, for determining their credibility.

Duke cites cases where appellate bodies have reversed the fact-finder's conclusions on issues related to credibility, including Breeden v. Weinberger, 493 F.2d 1002 (4th Cir., 1974) and Gee Chee On v. Brownell, 253 F.2d 814 (5th Cir. 1958). These illustrate the truism that arbitary findings are not insulated from review. It should be noted that in both of these cases there was little or no factual evidence to support the trial judges findings on credibility. In the instant proceeding, in contrast, the Board's unanimous decision is supported by a number of documents, the testimony and cross-examination of witnesses under oath, by objective facts and by the past history of decision-making at the Duke Power Company.

The Appeal Board is not bound by the "substantial evidence" test when reviewing Licensing Board decisions. Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397 (1976). However, the Appeal Board has consistently affirmed its deference to the findings of those who heard the evidence:

> That we are free of the substantial evidence rule does not imply that we make our appellate determinations on a clean slate without regard to the licensing board's opinion or that we necessarily weigh each piece of evidence de novo. This is not the case. For example, though we have the right to reject or modify findings of the licensing boards, we have stressed before that we would not do so lightly, and where the credibility of evidence turns on the demeanor of a witness, we give the judgment of the trial board which saw and heard his testimony particularly great deference. Again, the decision below is "part of the record;" we

> may, indeed must, attach significance to a licensing board's evaluation of the evidence and to its disposition of the issues. And in practice we do so. Those boards are manned by individuals not necessarily less qualified or experienced than ourselves; we merely possess the natural advantages that accrue to those who review the decisions of others.

Duke Power Co., supra, 4 NRC at 404.27/

This point was also emphasized in Wisconsin Electric Power Co. (Point Beach, Unit 2), ALAB-78, WASH-1218 (Supp. 1), 517, 520 (1972):

> Obviously, an essential element of such review in a particular case is an inquiry into whether each of the essential findings of the Licensing Board is supported by reliable, probative and substantial evidence of record. But it scarcely follows that, even though we may be clothed with legal authority to do so, it is appropriate for us as a reviewing tribunal to substitute our judgment on purely factual matters for that of the Licensing Board. Specifically, while it is our duty to reject or modify factual determinations which we conclude are not well founded and rational, we see no justification for setting aside licensing board findings simply because, had we been the trier of fact, we might have found differently. (Emphasis added) 28/

This case presents particularly strong reasons for crediting the findings of the unanimous Licensing Board. Those three people observed Duke's witnesses attempting to avoid the damaging implications of a series of internal documents and heard descriptions of the decision-making process, past,

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27/ Accord., Northern Indiana Public Service Co. (Bailly Generating Station, Nuclear 1), ALAB-303, 2 NRC 858 (1975).

28/ See also, Consolidated Edison Co. (Indian Point Station Unit No. 2) ALAB-188, 7 AEC 323, 404 (1974).

present and future, at Duke and the considerations which impel the company toward multiple transshipment and foreclose consideration of other alternatives.[29/] They concluded, without dissent, that approval of this proposal would have the effect of starting in motion the aptly-named cascade, and that the National Environmental Policy Act requires the NRC to publicly and objectively assess the proposal in its true scope and to evaluate alternatives now which would otherwise become foreclosed by default. These findings cannot be upset by the post hoc word-splitting of lawyers.

Finally, it is important to note that neither the licensee nor the staff addresses the question of which party bears the ultimate burden of proof on the issues in this proceeding, although it is not an insignificant consideration where factual disputes must be resolved by an agency. The burden of proof on all issues is on the proponent of this proposal -- the Duke Power Company. Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-471, 7 NRC 477, 489 (1978); 10 CFR 2.732.

The central factual question is whether or not it is reasonably probable that transshipment of 300 spent fuel assemblies is the beginning of a sequence of multiple transshipments. Even if the evidence were in equipoise on this question, which is far from the case, NRDC would be entitled to prevail.

29/ Tr. 403-567, esp. 442-451, 463-467, 504-506.

II. The Licensing Board Correctly Ruled That The NEPA Review In This Case Was Unreasonably Truncated And Failed To Consider The True Scope Of Transshipment And Alternatives To Transshipment

A. Introduction

The Licensing Board's decision and the evidence in support of it have been outlined above. The licensee and NRC Staff attack the decision on two general grounds: first, that the cascade plan is or was not a firm commitment of Duke and, therefore, NEPA imposes no obligation on the agency to assess its impacts and the alternatives to it, and second, even if the proposal does have consequences extending beyond the transshipment of 300 spent fuel assemblies from Oconee to McGuire, NEPA review can lawfully be segmented without overlooking potential cumulative impacts or tending to foreclose available alternatives. We will respond below to both arguments.

It is appropriate to begin, however, with a discussion of the purpose of the National Environmental Policy Act as construed from its outset. In the welter of cases cited and the exceedingly close parsing of language characteristic of the briefs in support of exceptions, a vital point has been obscured: NEPA is to be met "to the fullest extent possible." If there is any doubt, it should be resolved in favor of full disclosure and early and open assessment of alternatives, rather than used as an excuse to avoid public scrutiny.[30/]

30/ Calvert Cliffs Coordinating Committee, Inc. v. AEC, 449 F.2d 1109, 1114 (D.C. Cir. 1971).

NEPA has been described as an "environmental full disclosure law" and the requirement of an Environment Impact Statement serves to "ensure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug." Silva v. Lynn, 482 F.2d 1282, 1285 (1st Cir. 1973).

The pertinent procedural requirements of NEPA are as follows:

In the case of major federal actions significantly affecting the quality of the human environment, the responsible agency must prepare a detailed statement on

> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
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> (iii) alternatives to the proposed action,
>
> (iv) the relationship between local short term uses of man's environment and the maintenance and enhancement of long term productivity, and
>
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.
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> 42 U.S.C. §4332(2)(C).

In addition, Section 102(2)(E)[31/] imposes a separate and independent obligation on all agencies to

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31/ Formerly numbered 102(2)(D).

> (E) Study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.
>
> 42 U.S.C. §4332(2)(E).

This latter obligation to consider alternatives applies whether or not a "detailed statement" pursuant to Section 102(2)(C) is required. NRDC v. Callaway, 524 F.2d 79, 93 (2d Cir. 1975); Calvert Cliffs, supra, 449 F.2d at 1114; Trinity Episcopal School Corp. v. Romney, 523 F.2d 88 (2d Cir. 1975); Dairyland Power Coop. (La Crosse Boiling Water Reactor) LBP-80-2, 11 NRC 44, 72 (1980).

This Board is fully familiar with the seminal NEPA decision, Calvert Cliffs Coordinating Committee, Inc. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971). However, certain language bears emphasis in this context:

> This requirement [§102(2)(E)], like the "detailed statement" requirement, seeks to ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit balance. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will be made. Moreover, by compelling a formal "detailed statement" and a description of alternatives, NEPA provides evidence that the mandated decision making process has in fact taken place and, most importantly, allows those removed from the initial process to evaluate and balance the factors on their own.
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> 449 F.2d at 1114. (Emphasis added).

The record in this case depicts failure by those responsible for implementing NEPA to assess other approaches to Duke's spent fuel problem or to consider, much less identify, whether one or a combination of these approaches offer advantages. Indeed, reliance on the Staff's EIA would have led one to the conclusion that even the reracking options since pursued by Duke were not viable. In that sense, this case presents a paradigm of the need for full compliance with NEPA.

B. The Proposed Shipment of 300 Assemblies is the First Step in a Multiple Transshipment Program.

The evidence in this case establishes beyond question that Duke has a plan to ship spent fuel around its system at least from Oconee to McGuire to Catawba.[32/] Although Duke disputes the degree to which it is "committed" to the cascade plan and parses at great length the words of the damaging internal documents discussing the cascade (and how to keep it quiet) these arguments do not meet the force of the Licensing Board's holding. As discussed above,[33/] the documents, as strong as they are, do not stand alone; they are supported by objective and uncontroverted evidence. The salient objective facts are 1) that operation of the Oconee units will unavoidably result in the generation of more spent fuel and 2) if one assumes (as Duke does) that the federal government will eventually provide it with storage

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32/ Tr. 419-423, 446-447, 456-460, 463-467.

33/ Supra, p. [illegible].

space, the cheapest short-term action to stave off crisis is always transshipment.[34] The consistent and uncontroverted evidence with respect to Duke's policy on spent fuel is that it is singularly predicated on avoiding cost until the government provides an AFR:

> It is evident that [transshipment] is the preferred economic method of handling the increasing quantity of spent fuel until reprocessing, government storage or government disposal facilities are provided.35/
>
> Indeed our plans are premised on avoiding significant costs of spent fuel storage while waiting for government to act on their plans for storage.36/

The other relevant aspect of Duke's policy is that it makes its decisions with respect to storage at the last moment, ensuring that shipment is not only the cheapest but arguably the only possible short term action. This process, and the evidence concerning it, is described by the Licensing Board.[37]

Overlaying these aspects of Duke's policy on the facts leads to the inescapable conclusion that there is an engine

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34/ See, e.g., Testimony of Ralph W. Bostian, Post Tr. 625, p. 7: ". . . I would note out that transportation has been found to be the most cost effective method of providing storage for spent fuel at Duke until reprocessing, government storage, or government disposal is made available." *See* also, EIA, pp. 49-55.

35/ *Id*. at 5.

36/ Tr. 456, NRDC Exh. 2.

37/ I.D. at 39-40.

driving the cascade and that this proposal is the first step in a larger, system-wide plan.[38/] Indeed, that context is the reason why the following statement is so credible:

> Duke's plan to alleviate the problem of an over-abundance of spent fuel assemblies until the government develops a program of its own is to ship these assemblies to the most recently completed Duke facility.[39/]

Under these circumstances, the Board was fully justified in finding the cascade a reality and in holding that the Staff's NEPA review was unreasonably limited in scope. With or without a formal corporate blessing, this record establishes an extremely high degree of likelihood that successive transshipments would follow the first.

The case perhaps most directly on point is NRDC v. Callaway, 524 F.2d 79 (2d Cir. 1975), which presented a challenge to the Navy's proposal to dump dredged material in Long Island sound. The impact statement prepared by the Navy failed to disclose the existence of a series of other dumping projects under consideration by other agencies. The defendants claimed that the tentative or speculative nature of these other projects -- and their severability from the Navy's proposal -- made it unnecessary under NEPA for them

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38/ It should be noted that Mr. Bostian implicitly recognizes the system-wide character and problem when he speaks of "providing storage for spent fuel at Duke," not at Oconee. Supra, n. 34.

39/ Tr. 463, NRDC Exh. 3.

to be disclosed or assessed. This claim was rejected by the court as representing "too constricted a view of the informative function of an EIS and of the duty of the responsible agency in preparing it." Id. at 88. The court stated:

> The fact that another proposal has not been finally approved, adopted or funded does not foreclose it from consideration, since experience may demonstrate that its adoption and implementation is extremely likely. Id.

Moreover, the court found that the Navy's "piecemeal approach" acted to foreclose consideration of alternatives because it avoided assessment of longer term solutions that are economically viable if the appropriate scale of the problem is acknowledged. Id. at 90.[40/] The result of "piecemealing" is remarkably similar here.

Several other cases beyond these cited by the Licensing Board lend strong support to its approach. Port of Astoria v. Hodel, 595 F.2d 467 (9th Cir. 1979) involved a contract by the Bonneville Power Authority to supply electricity to an aluminum plant pursuant to Phase I of a long-term program intended generally to facilitate financing by private utilities of generating capacity expansions. Plaintiffs maintained, and the court agreed, that the contract constituted "major

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40/ In addition, piecemealing creates the "bandwagon effect" proscribed in Scientists Institute for Public Information, Inc. v. AEC 481 F.2d 1079 (D.C. 1973), which "occurs when the very existence of a completed project tends to compel further development in a particular manner." NRDC v. Callaway, 524 F.2d 79, n. 9 at 89.

federal action" requiring an environmental impact statement on the complete program beyond Phase I because BPA's involvement "federalizes" the entire project[41/] and because this initial commitment "sets the stage for the initiation of Phase II" of the larger project. Id. at 477. It should be of interest that the court cited Kleppe v. Sierra Club, 427 U.S. 390 (1976), in support of its decision.[42/] In response to BPA's characterization of future projects in furtherance of the long-term policy as "mere contingency," the court noted that BPA's policy in favor of the program was settled. Under these circumstances, "the assessment should occur at an early stage when alternative courses of action are still possible and environmental damage can be mitigated." 595 F.2d at 478.

Finally, BPA argued that the particular contract in question had no environmental impact, as Duke and the Staff argue that this shipment has no significant impact. In essence, the court held that once the scope of the "federal action" was found to be greater than that considered by the government, the obligation shifted to BPA to assess the long term program and its alternatives.[43/] This is consistent

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41/ Like the Staff and Duke, the defendants in Port of Astoria argued that the project was "private" and thus not covered by NEPA. 595 F.2d at 478-79.

42/ See also, NRDC v. Hodel, 4[illegible]5 F.Supp. 390 (D. Ore. 1977).

43/ "Whether or not [this contract] will have a proportionally large or small effect on Phase II remains to be explored in the EIS." Port of Astoria, supra, 595 F.2d at 479.

with the basic principle that it is the independent duty of the agency to develop the information and perform the analyses necessary to carry out NEPA's charge.[44/]

> At a minimum, it [the agency] must provide a detailed, thoughtful analysis drawn from adequate data so that a reviewing body can decide whether the agency fairly assessed other courses of action which might realistically be substituted for the one proposed.
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> Boston Edison Co. et. al., (Pilgrim Nuclear Generating Station, Unit 2) ALAB-479, 7 NRC 774, 779 (1978).

When, as in this case, it is clear that the "action" under consideration was artificially narrowed in scope, the duty of the NRC Staff to take a "hard look"[45/] at the action and its alternatives cannot be satisfied by post hoc rationalizations made in the absence of data on the potential impacts associated with the cascade and other solutions to the Duke spent fuel problem and an informed, objective comparison of the available courses of action.

This principle was recognized in Boston Edison, supra, where the NRC Staff contended that its failure to identify and assess actual alternative sites could be excused on the ground that it had made a "threshold" determination (never

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44/ Calvert Cliffs Coordinating Comm. v. AEC, 449 F.2d 412 (D.C. Cir. 1971).

45/ Boston Edison, supra, 7 NRC at 779. See also NRDC v. Callaway, 524 F.2d 79, 92-93 (2d. Cir., 1975); Monroe County Conservation Society, Inc. v. Volpe, 472 F.2d 693, 697-698 (2d Cir. 1972); Appalachian Mountain Club v. Brinegar, 394 F.Supp. 105 (D.N.H. 1975).

explicitly disclosed in the FES) that no other site could be superior to the chosen one given the existence of one plant already there. This was rejected by the Appeal Board:

> . . . [W]e wish to emphasize that until all the relevant factors have been perused it is premature to declare that the 'best' place for a new nuclear plant is alongside an old one. 7 NRC at 789.

Both Duke and the Staff place heavy reliance on Kleppe v. Sierra Club, 427 U.S. 390 (1976) for two propositions: first, that the cascade plan is a private and not a federal action and hence not subject to NEPA's reach, and second, that the Licensing Board was incorrect in finding that a plan "exists" beyond the request for shipment of 300 fuel assemblies from Oconee to McGuire. The two arguments are analytically inseparable; they are closely-related aspects of the question of whether it is premature at this time to perform an NEPA assessment of Duke's longer-term options. Since the Appeal Board is fully cognizant of the facts and the holding in Kleppe, and the Licensing Board devoted particular attention to the application of the Kleppe holding to these facts,[46/] we will not repeat them.

The first argument -- that Duke's plans for spent fuel storage are "private" rather than "federal action" -- may be easily disposed of. If, as the Board found, this is the first step in a larger plan, then federal approval of this

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46/ I.D. at 10-15.

step essentially "federalizes" the broader action. Port of Astoria v. Hodel 595 F.2d 467, 477 (9th Cir. 1979); National Forest Preservation Group v. Butz, 485 F.2d 408 (9th Cir. 1976); Scottsdale Mall v. Indiana, 549 F.2d 481 (7th Cir. 1977). In other words, the issue of whether the action is private or "federal" has no independent significance apart from the larger question discussed above of whether this application and its approval would set a predictable and as yet unreviewed course of action into motion. In this connection, the Licensing Board's factual findings with respect to the Kleppe standard are particularly important since it cannot be disputed that in deciding questions of the scope of NEPA review, each case presents unique facts that ultimately dictate the legal conclusion.

Indeed, we find the Staff's emphasis on the "public vs. private" argument remarkable. The area of nuclear power is probably more pervasively regulated than any other in this country. Virtually no action can be taken by an applicant or a licensee without NRC approval. The case chiefly cited by the staff, Atlanta Coalition v. Atlanta Regional Commission, 597 F.2d 1333 (5th Cir., 1979), is therefore inapposite. In distinguishing Kleppe, the Atlanta Coalition court stated:

> In Kleppe, the plan (had there been one) would have been a federal plan, whereas here the plan was prepared by state and local authorities without substantive federal supervision or control, will never be reviewed or approved by a federal agency, to any action, now or in the future. 599 F.2d at 1343 (emphasis added).

In contrast, the federal agency is now approving, or the Staff seeks to approve, 300 spent fuel shipments. There is no question that it would have to approve further shipments or other actions to alleviate the spent fuel storage problem at Duke. The only question is whether, in evaluating a concededly "federal action" -- approval of shipment of 300 spent fuel assemblies -- the Staff must include consideration of its foreseeable consequences, the cascade, and the range of alternatives to multiple transshipment. Similarly, NEPA review of a spent fuel pool expansion application cannot ignore the environmental issues associated with indefinite-term spent fuel storage, even though licensing of the plant does not commit the federal government or the licensee to any particular course of action. Minnesota v. NRC, 602 F.2d 412 (D.C. Cir., 1979).

The Kleppe holding was correctly interpreted by the Appeal Board in Northern States Power (Prairie Island Nuclear Generating Plant, Units 1 and 2), Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Station), ALAB-455, 7 NRC 41 (1978):

> Thus, insofar as it is of any possible relevance to the cases before us, Kleppe stands for no more than that, under the plain terms of NEPA, the environmental assessment of a particular proposed Federal action coming within the statutory reach may be confined to that action together with, inter alia, its unavoidable consequences. As such, that decision is of no assistance to the applicants and the staff if there is a sufficient basis in fact for assuming, in the assessment of

> proposals to enlarge the capacity of spent fuel pools, that offsite spent fuel repositories would be unavailable at the end of the operating license term. It is to whether such basis exists that we now must turn.
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> 7 NRC at 48 (Emphasis added).

In answering the question of whether there "is a sufficient basis in fact for assuming" that offsite spent fuel repositories would be available, this Board turned to the established NEPA law holding that the "rule of reason" extends NEPA's reach "to effects which are shown to have some likelihood of occurring,"while permitting exclusion of the "theoretically possible." 7 NRC at 48. The Board noted the judicial interpretations of NEPA which impose "the obligation to make reasonable forecasts of the future." 7 NRC at 49.[47/] Thus, as in Prairie Island/Vermont Yankee, the "appropriate inquiry" here is "whether it is reasonably probable"[48/] that Duke's proposal is the first of multiple transshipments. The Licensing Board so found, and the record in this case more than justifies an affirmative response.

C. The Proposed Action Would Tend to Foreclose Alternatives.

It should be noted at the outset that when the evidence is strong that an actual plan exists for further actions

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47/ Citing, inter alia, NRDC v. NRC, 547 F.2d 633, 639 (D.C. Cir., 1976); Scientists Institute for Public Information v. AEC, 481 F.2d 1079, 1092 (D.C. Cir. 1973). See also Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2), ALAB-262, 1 NRC 163, 183 (1975).

48/ 7 NRC at 49.

beyond those disclosed by the agency in its environmental assessment, there is support for the proposition that one need go no further with the segmentation inquiry,[49/] since the obligation is clearly on the agency to take a "hard look" at the full action and its alternatives in the context of an EIA or an EIS.

This is analogous to the issue presented in Hanly v. Mitchell, 460 F.2d 640 (2d Cir. 1972), where the court remanded the equivalent of an environmental "appraisal" because it failed to identify and consider certain environmental effects associated with construction of a jail, although the government attempted to cure this at trial by submitting affidavits purporting to consider these effects and concluding that they were insignificant. The Court required the government to redo its assessment:

> Nor do we regard the remand as pure ritual because of the probability that GSA will reach the same conclusion as before. Preservation of 'the integrity' of the new Act is an important consideration [citation omitted] lest the Act's 'lofty declarations' amount to no more than that.
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> Hanly v. Mitchell, supra, 460 F.2d at 648.

In Appalachian Mountain Club v. Brinegar, 394 F.Supp. 105 (D.N.H. 1975), defendants argued that segmentation would be nonprejudicial because the environmental impacts not expressly

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49/ Port of Astoria v. Hodel 595 F.2d 467, 479 (9th Cir. 1979); City of Rochester v. U.S., 541 F.2d 967, 973-974 (2d Cir. 1976). See discussion, supra, p. [illegible].

assessed were negligible. The Court rejected this approach:

> This dispute underscores the cardinal deficiency in the EIS. The question whether the completion of the Littleton route would generate an increase in traffic, causing environmental harm, is to be answered by the traffic experts in the environmental impact statement and not by judges in a court of law. It is beyond this court's competence to assess the adequacy of traffic data and the conclusions drawn therefrom. Congress wisely placed this responsibility with the agencies which have the proper expertise to conduct a comprehensive review and analysis. Plaintiff AMC correctly assessed the legal situation when it stated: "Plaintiffs thus need not prove that traffic will increase in Franconia Notch, or that construction will be coerced there. They need only show that these consequences were not studied." I add to this that plaintiffs must also establish that it was unreasonable for the defendants not to consider the incidental effects.
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> 394 F.Supp. at 115.

The threshold showing referred to in the last sentence was met by demonstrating that the segment of highway in question was a portion of a larger highway plan.

In Maryland-National Capital Park and Planning Comm'n. v. U.S. Postal Service, 487 F.2d 1029 (D.C. Cir., 1973), the court was presented with an environmental assessment concluding that no significant impact would result from construction of a bulk mail center in an area already containing significant industrial development. The court found that the agency bears a stiff burden when it seeks on such grounds to avoid preparing a "detailed statement:"

> We believe that an "assessment statement" must provide convincing reasons why a construction project with "arguably" potentially significant environmental impact does not require a detailed impact statement. 487 F.2d at 1039.
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> . . . [I]n cases involving genuine issues as to health and environmental resources, there is a relatively low threshold for impact statements, and. . . an agency that relies on an "assessment" to dispense with an impact statement may well run risks not warranted by any countervailing benefits. 487 F.2d at 1040.

The court noted that "the policies of NEPA partly rest on informing Congress and the public about potential effects as well as exploring alternatives" which might have less environmental impact. 487 F.2d at 1041. These considerations argue strongly that when an EIA is based on an unreasonably restricted scope of analysis and when it is based on outdated and discredited assumptions, it cannot be justified by latter-day arguments to the effect that segmentation is nonprejudicial. If appropriate at all, such arguments can only be made after the NRC Staff has reviewed the Duke spent fuel program and alternatives in their proper scope and context and made its data and analyses publicly available pursuant to NEPA.

In any case, the Licensing Board did look to the indicia frequently used by courts to determine whether the scope of NEPA review has been unreasonably constricted. These include, inter alia, whether the proposed action would tend to foreclose alternatives or to overlook potential cumulative

impacts.[50/] The Licensing Board below made detailed findings on each of these issues.

For reasons stated in some detail above,[51/] the Board found as a matter of fact that approval of the cascade plan would foreclose alternatives.[52/] Adoption of the "quick fix" at the latest possible decision date forecloses alternatives which take a longer time to implement, which are, in this case, all alternatives. This effect is not a matter of conjecture; it is established by the testimony of Duke and by the Staff 's EIA.[53/] Moreover, as the Staff's EIA clearly demonstrates, this tactic had the real effect of dictating the results of the Staff's review by leading it to reject all alternatives which would take more than a few months to accomplish.[54/]

Duke and the Staff defined the problem as follows: what are the solutions available by mid-1979 to maintain full core reserve at Oconee? In addition to "precluding" even the short-term reracking alternatives for Oconee, the effect of this narrow inquiry was to completely foreclose

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50/ Scientists Institute for Public Information, Inc. v. AEC 481 F.2d 1079 (D.C. Cir. 1973); NRDC v. Callaway, supra, Swain v. Brinegar, 542 F.2d 364 (7th Cir. 1976).

51/ Supra, pp. 3-7.

52/ I.D. at 36-40

53/ Id. at 37-38, Tr. 520-531.

54/ EIA at 53-56. See also, EIA at 1: "Based on predicted fuel burnup rates at Oconee, by mid-1979 spent fuel will have to be shipped offsite in order to maintain a reserve for retaining full core discharge capability."

objective review of more comprehensive actions available to provide storage space for the nuclear plants now on its system and those to be operational in the coming years.[55/]

NRDC v. Callaway, 524 F.2d 79 (2d Cir. 1975) is a central case and has been discussed above in some detail. Foreclosure of alternatives was found there to flow directly from the "piecemealing" of review. That is, by looking at each dumping proposal as a separate entity, fair consideration is never given to more comprehensive alternatives which only become viable when the true scale of the longer-term problem is acknowledged. That reasoning is extraordinarily applicable to this record.

In addition, the court noted that alternatives can be foreclosed by operation of the "bandwagon" effect identified in Scientists Institute for Public Information v. AEC 481 F.2d 1079, 1089-90 (D.C. Cir. 1973). In this connection, the Licensing Board specifically found that based upon the past history of Duke's decisions, if this application were approved, Duke would pursue the cascade plan to the exclusion of all alternatives.[56]

55/ The record shows that, even if the cascade had been taken to its ultimate end, involving Oconee, McGuire, Catawba, Cherokee and Perkins, and based on highly optimistic assumptions, the cascade would come to a forced halt by 1994. That is the latest date at which full core reserve could be maintained. Testimony of Arthur R. Tamplin, Ph.D., Post Tr. 2370.

56/ I.D. at 40.

Swain v. Brinegar 542 F.2d 364 (7th Cir. 1976) teaches that a "pragmatic and realistic view of the scope of the action being contemplated" is appropriate, rather than a mechanistic approach. 542 F.2d at 369. In that highway segmentation case, the court looked to the facts and found that the "history of this project" showed that construction of one segment "would effectively limit choices for building" successive portions. 542 F.2d at 370. We believe that the record in this case is at least equally compelling; as a practical matter, approval of the cascade would quite certainly relegate other options to the realm of the hypothetical.

Both Duke and the Staff cite segmentation cases where courts have found separate review of individual portions of a plan to be permissible. Duke relies particularly on Sierra Club v. Froehlke, 534 F.2d 1289 (8th Cir. 1976) hereafter Froehlke), Trout Unlimited v. Morton, 509 F.2d 1276 (9th Cir. 1974) (hereafter Trout Unlimited) and Indian Lookout Alliance v. Volpe, 484 F.2d 11 (8th Cir. 1973)(hereafter Indian Lookout Alliance), although it fails to discuss the underlying facts in any of those cases or to compare them to the situation now before the Board. When those cases are examined, that failure is not surprising.

Froehlke and Trout Unlimited both involved challenges to the scope of environmental impact statements involving dam construction. In Froehlke, the plaintiffs argued that the EIS should examine an entire Basin Plan of which the dam

in question was one part, while in Trout Unlimited, they argued that the EIS should encompass a Phase II proposal that would follow from construction of the Teton Dam and reservoir. In both cases, the courts found, in essence, that the dams were substantially independent of any later work that might be contemplated, that each had its own independent utility, and that there was no reason to believe that any further development would necessarily follow from the proposed construction.

Those facts stand in stark contrast to Duke's need to find a solution to its spent fuel storage problem over the coming years. While it was possible that no further action of any sort would be taken after the Froehlke and Trout Unlimited dams were constructed, the same cannot be said here. As a result of prior Federal approval, the Oconee plants are producing spent fuel for which storage space must be found, and they will continue to do so. Future actions will be required to solve the spent fuel storage problem. The continuing production of spent fuel constitutes a driving force that impels future action. Such a force was missing in both Froehlke and Trout Unlimited.[57/] In addition, there

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57/ The same is true of Kleppe v. Sierra Club, 427 US 390 (1976), Conservation Society of Southern Vermont v. Secretary of Transportation, 531 F.2d 637 (2d. Cir. 1976), and Atlanta Coalition on the Transportation Crisis v. Atlanta Regional Commission, 599 F.2d 1333 (5th Cir. 1979). Although all three of those hinged on the absence of a firm plan, in each instance there was no driving force that in any way would require further action on any aspect of the alleged plan.

appears to have been no reason to believe that examination of the particular dams would in any way hinder essential examination of broader issues or the choice of other alternatives, as is the case here.[58/]

Duke's reliance on Indian Lookout Alliance is particularly misplaced. The issue before the court was whether an environmental impact statement should cover a 1,878 mile state highway plan, a 7 mile segment to nowhere, or a 14 mile highway between two logical termini. Not surprisingly, the court chose the 14 mile portion. The 1,878 mile plan, although it existed, was simply too "visionary" and subject to extensive modification, while the 7 mile segment had no independent utility. By contrast, the cascade plan can hardly be characterized as "visionary."

Duke attempts to manipulate the "logical termini" reference to its advantage through the curious argument that shipping between two points, presumably Oconee and McGuire, is the major objective of its proposal.[59/] If the question were whether a road should be built from Oconee to McGuire, treating them as two logical termini would be relevant to this case. Determining "logical termini" is merely a way of establishing the "major objective" in a highway segmentation case. It is the major objective that determines what must be examined in the EIS.[60/] The major objective here, of

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58/ Supra, pp. 3-7, 31.

59/ Duke Brief at 73.

60/ Indian Lookout Alliance, 484 F.2d at 18.

course, is not sending 300 spent fuel assemblies on a trip, but providing storage capacity for spent fuel from Duke's reactors.

Finally, Duke and the Staff cite Minnesota v. NRC, 602 F.2d 412, 416 n. 5 (D.C. Cir. 1979) for the proposition that spent fuel handling license amendments have, in effect, been determined not to require environmental impact statements or any examination beyond the particular pool expansion or, in this case, transshipment. On the contrary, in Minnesota, the court specifically relied on the finding that on-site spent fuel pool expansion would not foreclose any alternatives or commit the NRC to take any further action. That is precisely the opposite of this case, where the record demonstrates, and the Licensing Board has held, that examining the transshipment alternative in isolation serves to foreclose any alternatives and to prevent an intelligent examination of the impacts of alternative solutions to the problem of handling spent fuel in the Duke system.[61/]

D. The Staff's Review Gave No Consideration Whatever to Potential Cumulative Impacts Associated with the Cascade.

Another factor sometimes considered by the courts in determining whether NEPA review has been illegally fragmented is whether evaluation by the agency of isolated pieces of a larger project might tend to overlook potential cumulative

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61/ See discussion, supra, p.3-7.

impacts.[62/] This is also the third of the factors which the Commission directed Licensing Boards to consider in judging whether approval should be given to individual actions intended to "ameliorate" a possible shortage of spent fuel storage capacity.[63/] As the Commission stated the issue, approval of individual action is permissible if, inter alia,

> it is likely that any environmental impacts associated with any individual action of this type would be such that they could be adequately assessed within the context of the individual licensing application without overlooking any cumulative impacts. 40 Fed. Reg. at 42802.

The Licensing Board's approach was logical and straightforward: Since the Staff has made no review whatever of the cascade plan but has strictly limited its assessment to the shipment of 300 spent fuel assemblies from Oconee to McGuire, it is self-evident that it cannot have addressed any potential impacts which may be associated with the cascade plan. The Staff has not even identified the potential scope or impacts of the cascade; perforce, it cannot argue that such impacts will not be overlooked through piecemealing of review.

One example may assist in illustrating this point. The record establishes that even if the cascade had proceeded from Oconee to McGuire to Catawba, full core reserve would

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62/ NRDC v. Callaway, 524 F.2d 79, 88 (D.C. Cir. 1975).

63/ This is the context in which the Licensing Board evaluated the issue. I.D. at 40-41.

have been maintained only through 1991.[64/] All seven reactors would require transshipment in 1992.[65/] At that point, if the preferred or only available alternative were construction by Duke of an independent spent fuel storage facility, the impacts would include both those associated with construction and those associated with transshipping the fuel assemblies once again. Thus, not only must all of the intermediate "cascade" shipments be considered, but they must also be added to the shipment to the storage facility.

Both Duke and the Staff argue that it was the Board's obligation to indicate what cumulative impacts might be overlooked by failure to consider the cascade program. This is contrary to the basic principle that it is the NRC's independent duty to gather, review and analyze the data necessary to take a hard look at this proposal and its alternatives.[66/] In the first instance, this requires the Staff to examine Duke's proposal in the context of the cascade program, to identify the cumulative impacts that might be involved and then to address the question of whether they can be fully examined on a "segmented" basis.[67/] That

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64/ Testimony of Arthur P. Tamplin, post Tr. 2370.

65/ Id., p. 3.

66/ Boston Edison Co. et. al. (Pilgrim Nuclear Generating Station, Unit 2) ALAB-479, 7 NRC 774, 779 (1978); Calvert Cliffs Coordinating Comm. v. AEC, 449 F.2d 1109 (D.C. Cir. 1971).

67/ Appalachian Mountain Club v. Brinegar, 394 F.Supp. 105, 115-116 (D.N.H. 1975).

burden is not the Board's. It correctly ruled that the Staff failed to address a question clearly posed to it by the Commission.

The staff argues, in addition, that it has "enveloped" potential cumulative impacts in generic studies[68/] and that those studies should be officially noticed by the Appeal Board.[69/] Not one of these reports was put into the record of this proceeding by the Staff. Indeed, the GEIS was not even completed at the time. Now the Staff apparently seeks to have this Board take official notice of them as establishing the factual proposition that there are, a priori, no environmental impacts associated with the cascade plan, however broadly it is defined and however many transshipments are required.[70/]

68/ These include WASH-1238, prepared in 1972; NUREG-0170, "Final Statement on the Transportation of Radioactive Materials by Air and other Modes (December, 1977); and NUREG-0572, the GEIS on spent fuel handling and storage (August, 1979). See Staff Brief, pp. 52-53.

69/ Staff Brief, n. 47 at 52.

70/ The Staff cites only two pages of the GEIS which are purported to support this conclusion. Staff Brief at 53. The following is the sum total of the material on those pages dealing with transshipment:

> The time needed to provide the required AFR storage capacity has become short. Consequently, unless some use is made of existing licensed AFR storage capacity in combination with intra-utility transshipment, it is possible that individual reactor shutdowns due to shortfalls in spent fuel storage capacity at reactor storage pools will occur. GEIS, p. 8-2.

Page ES-6, not cited by the Staff, does contain a brief discussion of transhipment, which concludes only that it might delay the need for an AFR by 3-4 years.

While 10 CFR §2.743(1) provides that official notice may be taken of facts judicially noticeable or within the "expert knowledge" of the Commission,[71] it hardly permits this Board to take official notice of the conclusion, purportedly justified in three non-record volumes, that there are no environmental impacts associated with the cascade plan. First, that is a conclusion, not a scientific or technical fact nor a matter of common knowledge. Second, the Administrative Procedure Act provides that when an agency decision rests on offical notice, parties shall be given an opportunity to demonstrate the contrary. 5 USC §1006(d).[72] In addition, the Staff has utterly failed to demonstrate how the contents of these extra-record documents relate to Duke's cascade plan, other than in the most conclusory fashion. They cannot be used now to prove that the cascade program has no impacts, when the Staff refused to address the cascade on the record when it had the opportunity.

Finally, the Staff makes the argument that it was "surprised" by the Board's decision in this respect and was therefore denied the opportunity to address this issue.[73]

71/ Duke Power Co. (Catawba Nuclear Station, Units 1 and 2) LBP-74-22, 7 AEC 659, 667-668 (1974).

72/ See Glendenning v. Ribicoff, 213 F.Supp. 301 (1962); Seacoast Anti-Pollution League v. Costle, 572 F.2d 872 (1st Cir. 1978).

73/ Staff Brief at 69.

This is specious. The Board spent an entire day hearing testimony on whether evidence concerning the cascade plan would be admissible and ruled as follows: "[W]e will permit the introduction of evidence as to the nature, extent, ramifications, and impacts of the so-called cascade plan in whole or part, which may be addressed by all parties. . ." Tr. 594. Staff Counsel was warned, particularly with respect to the "cumulative impact" issue, that the Board would not necessarily be bound by the Staff's narrow definition of the scope of the action under consideration. Tr. 186-188. The Board stated:

> "We cautioned you this matter could well come up. I don't know why you presumed the Board would overrule all contentions that relate to an evidentiary matter relating to the so-called Cascade Plan. I don't know why the Staff assumed the Board would adopt the Staff's limited position throughout this hearing. If you did so, I think the Staff is wrong." Tr. 188

The Staff took the calculated risk of approaching this proceeding on a theory rejected by the Board. It was given more than adequate opportunity to broaden the scope of its testimony but failed to do so. Blame for that failure cannot be placed on the Board.

III. Section 102(2)(E) of NEPA Imposes An Independent Obligation On The NRC To Study, Develop, And Describe Alternatives; That Obligation Has Not Been Met In This Case

Despite assertions by the licensee and Staff to the contrary, the Commission is obligated to consider and make a choice among alternatives, regardless of whether the proposal

is a "major Federal action. . ." requiring an EIS. While §102(2)(C) of NEPA requires any environmental impact statement to consider, _inter alia_, alternatives, 42 U.S.C. §4332(2)(C)-(iii), Section 102(2)(E) of that statute also requires an agency to

> "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. §4332(2)(E).

This requirement has been held to be "independent of and of wider scope than the duty to file the EIS." _Natural Resources Defense Council, Inc_ v. _Callaway_, 524 F.2d 79, 93 (D.C. Cir. 1975). _Accord._, _Hanley_ v. _Kleindienst_, 471 F.2d 823, 834-35 (2d Cir. 1972); _Trinity Episcopal School Corporation_ v. _Romney_, 523 F.2d 88, 93 (2d Cir. 1975).

In _Trinity Episcopal School Corp._ v. _Romney_, _supra_, the Court warned against accepting without scrutiny self-serving statements concerning the lack of alternatives from those with an interest in the project. 523 F.2d at 93. It described the agency's obligation as follows:

> Although this language [§102(2)(E)] might conceivably encompass an almost limitless range, we need not define its outer limits, since we are satisfied that _where (as here) the objective of a major federal project can be achieved in one or two or more ways that will have differing effects on the environment, the responsible agency is required to study, develop and describe each_ alternative for appropriate consideration.
>
> 523 F.2d at 93. (Emphasis added).

The Licensing Board discussed the analysis of alternatives required by §102(2)(E) in its opinion in Dairyland Power Cooperative (La Crosse Boiling Water Reactor), 11 NRC 44 (1980), ALAB LBP-80-2. In that case, the Board held that §102(2)(E) and relevant caselaw required the NRC to consider the need for power (or "no action") in a proceeding considering spent fuel pool expansion, even though it also held that the proposed spent fuel pool expansion was not a "major federal action." 11 NRC at 72.

> These courts have treated the obligations under Section 102(2)(C)(iii) and current Section 102(2)(E) to be entirely separate. The latter requirement is said to "ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit balance." Calvert Cliffs, supra, 449 F.2d at 1114. In appropriate circumstances, the Section 102(2)(E) discussion may be incorporated into an impact statement. E.g., Environmental Defense Fund v. Corps of Engineers, supra, 470 F.2d at 296. But again, the obligations imposed by the two sections are separate and distinct, and Section 102(2)(E) comes into play irrespective of the magnitude of environmental impacts in question and irrespective of whether an impact statement must be prepared. 11 NRC at 73. (emphasis added).

The Board did recognize that in order for the §102(2)(E) alternatives analysis to be required, there must be a "proposal which involves unresolved conflicts concerning alternative uses of available resources." 11 NRC at 93. The Board found that the proposal in Dairyland Power, to expand a fuel pool, easily met this threshold:

> Although we need not establish a boundary for the applicability of that section [§102-(2)(E)] it seems clearly to come into play in a situation where, as here, we are presented with a construction project costing over a million dollars and involving environmental impacts which, even though not sufficient to require preparation of an impact statement, are manifestly different from those resulting from "doing nothing" (e.g., the potential purchase of needed power, the differing impacts which would then be incurred, or the possibility that LACBWR power would not be needed and, if that were so, the avoidance of impacts of reactor operation). 11 NRC at 73, 74.

The obligation to consider reasonable alternatives in an environmental assessment is also specifically recognized in the Council on Environmental Quality's regulations implementing NEPA, at 40 C.F.R. §1508.9(b). Moreover, those regulations require the assessment to discuss the environmental impacts of the proposal and each alternative. Ibid. These impacts include "indirect effects" and those related impacts which are "reasonably foreseeable," 40 C.F.R. §1508.8(b)), as well as the "cumulative impact" of relatively minor actions, which may be "collectively significant." §1508.7.

Thus, the Board was correct in its ruling in this case that the staff assessment was legally deficient in failing to discuss the differing environmental impacts of the various alternatives to the Cascade Plan. The language in Dairyland Power, supra, is directly relevant to this case. There, the Board was faced with the question of whether it should consider alternatives to an application to expand a spent fuel pool. Even though the Board in Dairyland found the

environmental impacts of the action to be minor, it recognized that the impacts of the proposal and the alternatives would most definitely be "different" and therefore must be analyzed. 11 NRC at 73-74.

The only relevant distinctions between Dairyland Power and this case underline the requirement to analyze and compare the alternatives to the cascade plan. Unlike that case, the applicants here seek to utilize another reactor's spent fuel pool. Moreover, the Board found that this proposed move to McGuire was but the first step in a plan that would have different, cumulative environmental effects on several reactors in the Duke system. Even if Duke and the Staff were correct in their argument that the effects of the cascade plan and its different alternatives are not significant, Section 102(2)(E) of NEPA, the relevant case law, Dairyland Power, and the CEQ regulations unite to require a comparison of the different reasonably foreseeable environmental impacts of the several alternatives. In the decision under review, the Board performed that analysis and comparison and concluded that NEPA, the Atomic Energy Act, and the public interest required evaluation of alternatives which have impacts different[74/] from the proposed transshipment.

74/ Even where an Environmental Impact Statement is not required, "where the objective of a major federal project can be achieved in one of two or more ways that will have differing impacts on the environment, the responsible agency is required to study, develop and describe each alternative for appropriate consideration" pursuant to section 102(2)(E). Trinity Episcopal Church v. Romney, 523 F.2d 88, 93 (2d. Cir. 1975).

Finally, it is important to understand the public policy underpinnings of Dairyland Power. NEPA, and the evaluations it mandates, should not be treated as obstacles in the path of expediency, to be avoided whenever technically possible, but used in a manner sensitive to the deep public interest in the matters regulated by the NRC. That Board recognized the real value of NEPA:

> Faced with such strongly held differences of opinion, it is important to resolve the questions in a public forum, unless clearly prohibited by applicable rules.
>
> * * *
>
> [NRC's public hearing] provides a unique vehicle for obtaining answers in public to controversial questions. In doing so, it provides an effective method for implementing the 'full disclosure' goals of NEPA. . . [t]o have permitted them to avoid these questions altogether would scarcely have answered the outstanding questions. Nuclear power is sufficiently controversial that its problems or apparent problems must be dealt with and resolved on the merits in full view of the public. The Atomic Energy Act and NEPA demand no less.
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> 11 NRC at 77.

IV. The Licensing Board Properly Balanced The Five Factors Relevant To Whether Individual Licensing Actions Should Be Deferred

A. The Board Had an Obligation to Weigh the Five Factors

In 1975, the Commission announced its intent to prepare a generic environmental impact statement (GEIS) to examine in a national context the extent of the spent fuel storage shortage and to review the various alternatives for increasing storage capacity. 40 Fed. Reg. 42801 (September 16, 1975).

Recognizing that the absence of such a review might call into question the legality of individual licensing actions, the Commission enumerated five factors which it directed each Licensing Board to weigh and balance in order to determine whether to permit or to defer the individual proposal in question.[75/] These are as follows:

(1) It is likely that each individual licensing action of this type would have a utility that is independent of the utility of other licensing actions of this type;

(2) It is not likely that the taking of any particular licensing action of this type during the time frame under consideration would constitute a commitment of resources that would tend to significantly foreclose the alternatives available with respect to any other individual licensing action of this type;

(3) It is likely that any environmental impacts associated with any individual licensing action of this type would be such that they could adequately be addressed within the context of the individual license application without overlooking any cumulative environmental impacts;

75/ To the extent that the Staff seems to argue that the Commission notice constitutes a generic finding that individual licensing actions are in all cases to be permitted, it is clearly wrong. Licensing Boards were explicitly direct to "apply" "weigh" and "balance" these factors on the basis of an EIA or EIS "tailored to the facts of the case." 42 Fed. Reg. at 42802.

(4) It is likely that any technical issues that may arise in the course of a review of an individual license application can be resolved within that context; and

(5) A deferral or severe restriction on licensing actions of this type would result in substantial harm to the public interest. As indicated, such a restriction or deferral could result in reactor shutdowns as existing spent fuel pools become filled. It now appears that the spent fuel pools of as many as ten reactors could be filled by mid-1978. These ten reactors represent a total of about 6 million kilowatts of electrical energy generating capacity. The removal of these reactors from service could reduce the utilities' service margins to a point where reliable service would be in jeopardy, or force the utilities to rely more heavily on less economical or more polluting forms of generation that would impose economic penalties on consumers and increase environmental impacts.

The Licensing Board performed the weighing and balancing mandated by the Commission and concluded that consideration of these factors militated against approval of Duke's proposal. 76/ Both Duke and the Staff argue as a preliminary matter that

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76/ I.D. at 24-44.

since the GEIS announced by the Commission has now been completed by the Staff, the obligation to consider the five factors, derived primarily from NEPA law on "segmentation," has lapsed. However, as the Board noted, the GEIS has been submitted to the Commission for its consideration and no action from the Commission has been forthcoming. Moreover, if the Commission intended Licensing Boards to cease weighing and balancing the five factors, the Commission would presumably have issued a Policy Statement rescinding or modifying its Notice of September 16, 1975.

Finally, the GEIS is not part of the record in this proceeding, neither the Staff's EIA nor the evidence in the record address how the GEIS relates to the issues posed by Duke's cascade plan and no party had an opportunity to address to what extent the analyses in the GEIS may be applicable or inapplicable to the Duke proposal. This is particularly significant since the scope of the cascade goes well beyond anything considered by the Staff in its EIA. It is totally inappropriate for the Staff to seek to have this Board now take "judicial notice" of the contents of the GEIS to resolve the disputed issues in this case.[77/]

The Board was manifestly correct in its balancing of the five factors. Two of those factors, foreclosure of alternatives and potential for cumulative impacts, have been

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77/ See discussion, *supra*, p. 38-40.

discussed above[78/] and will not be repeated. The remainder will be treated briefly.

B. The Cascade Program Has No Independent Utility.

Consideration of this issue requires the Board to determine whether the proposal, defined by the Board as the cascade program, has independent utility. In holding that transshipment does not have independent utility, the Board considered two factors paramount. First, while multiple transshipment may temporarily free space at Oconee, it does so only at the expense of prematurely using up equivalent space at McGuire, and then Catawba, and possibly Perkins and Cherokee.[79/] Storage capacity is not expanded; the day of crisis is simply delayed. Second, the cascade plan is centered on the assumption that a government AFR will become available before the final crisis.[80/] It is also significant that the cascade plan has the intentional effect of creating an artificial demand for a government AFR. Since the Department of Energy calculates "need" for an AFR on a site-by-site review of available storage, failure to expand storage capacity in favor of transshipment has the effect of inflating the "need" for an AFR.[81/]

78/ Supra, p. 27-40.

79/ I.D. at 34.

80/ I.D. at 35.

81/ Testimony of Dimitri Rotow, NRDC Exh. 13A, Post Tr. 1229.

The Board reasoned that based on the facts in this case, the cascade does not have independent utility because it sanctions precisely the kind of fait accompli that the Commission was careful to proscribe when it expressed its concern that the "generic impact statement should not serve as a justification for a fait accompli."[82/]

Both Duke and the Staff argue that the Board has misapprehended the meaning of "independent utility." They note that storage of spent fuel at other reactors is mentioned in the Commission's statement as one alternative which Boards may consider. The Staff, in particular, argues that the Board's ruling would generically disqualify all transshipment and is therefore contrary to the Commission's intent. These arguments misconstrue both the Board's decision and the Commission's statement and direction to Boards.

First, the Board did not find that any shipment of spent fuel to another reactor would necessarily lack independent utility. On the contrary, it found that the cascade of multiple transshipment would do so because, based upon the facts found in this case, it would tend to foreclose alternatives over the long term that would expand storage capacity. Thus, multiple transshipments, extending by definition into the future, would constitute the fait accompli which the Commission desired to avoid.

82/ 40 Fed. Reg. at 42802; I.D. at 33.

By contrast, one can postulate circumstances under which one-time transshipment could legitimately be found to have independent utility, such as when a genuine emergency exists or when the transshipment is found to be needed in order to rerack or otherwise modify an existing pool.[83/] This is the purport of the Licensing Board's discussion of the EPICOR-II decision.[84/] There, both an emergency was found to exist, justifying immediate action, and the activity in question -- decontamination of water in the TMI-2 auxiliary building -- was required regardless of whatever future actions were taken to complete the clean-up of TMI-2. Neither of those factors is present here.[85/] While the EPICOR-II decision may not establish the outer bounds of the concept of independent utility, it is highly significant that neither of the circumstances particularly found by the Commission to constitute

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83/ Although Duke makes the argument that further modification of the Oconee 3 pool cannot be accomplished without removal of the fuel, the Board found that this could be done without transshipment. I.D. at 43. In any case, there is no dispute that all Oconee units can now be operated without losing full core reserve until November, 1986 and without total loss of storage capacity until September, 1987.

84/ I.D. at 28-31, 36.

85/ It should be noted that the Commission's action in the EPICOR-II matter are now before the federal courts on the issue of whether NEPA review was illegally fragmented. Susquehanna Valley Alliance v. Three Mile Island, 619 F.2d 231 (3d Cir. 1980).

independent utility in that case can be found in the instant situation. Nor has Duke or the Staff pointed to any other indicia of independent utility present on the facts; they merely reiterate that transshipment would provide two years of additional time for the Oconee units. That, of course, was the stated purpose of the first shipment. To say that it will accomplish that purpose is not to establish independent utility. If it were, the concept of independent utility would be stripped of meaning.

C. The Shipment of 300 Assemblies Is Not Necessary to Prevent Reactor Shutdowns.

The last of the factors enumerated by the Commission directs Licensing Boards to consider the consequences to the "public interest" of the reactor shutdowns that could result from loss of spent fuel storage capacity. As we have noted above, completed and nearly-completed rerackings at the Oconee 1 and 2 storage pool have extended the capacity of that pool until 1982 and mid-1987, respectively. The installation of poison racks in the Oconee 3 pool would extend full core reserve capacity to 1991 and forestall total loss of capacity to some time beyond that date.[86/] Thus, this factor weighs heavily, we would argue dispositively, against authorizing transshipment. In view of the other findings of the Licensing Board concerning the ramifications of approval of this proposal and the failure of Duke or the NRC Staff to

86/ I.D. at 43-44.

objectively identify and appraise alternatives, approval of this action could be justified only upon a finding of the most dire consequences flowing from disapproval. In fact, transshipment is quite obviously not needed.

V. The Board Did Not Establish A "Zero Risk" Standard For Spent Fuel Transportation

Both the licensee and the Staff assert that the Board improperly "established a zero risk requirement for this alternative [transshipment]."87/ They argue that since the Board concluded that "the evidence. . . was not persuasive in proving. . . that serious spent fuel transporation accidents or malevolent conduct could not occur," I.D. at 59, the Board has created a "risk free" standard of transshipment of waste, in the face of case law that acknowledges that a certain level of risk is acceptable in NEPA decisionmaking.88/ The Staff also argues that the Board was arbitrary in applying this "zero-risk" standard to transhipment, and not to other alternatives preferred by the Board.89/

However, a more careful reading of the Initial Decision demonstrates that the Board's statements concerning the risks of transshipment were made in the context of its consideration of alternatives.90/ The Board did not rule

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87/ Duke Brief at 108, Staff Brief at 24, 25.

88/ Duke Brief at 109.

89/ Staff Brief at 25.

90/ The section discussing the risks of transportation is entitled "Comparison of Alternatives." I.D. at 57-62.

that transshipment must meet a "zero-risk" standard; rather, the Board held that, in comparing transshipment with alternatives requiring no transportation, the Staff had failed to properly acknowledge and weigh the disadvantages of shipment, which include the risk of serious accidents and sabotage. Such accidents can occur and "[t]he evidence in this proceeding was not persuasive in proving, by statistical analyses or engineering studies, that serious spent fuel transportation accidents or malevolent conduct could not occur." [91] Therefore, in comparing alternatives, this risk must be acknowledged and assessed.

This assessment, mandated by NEPA, cannot be avoided on the grounds that the shipments will meet safety regulations. Citizens for Safe Power v. NRC, 524 F.2d 1291, 1299 (D.C. Cir. 1975). NEPA requires individualized balancing of costs against benefits and even small risks may be "unacceptable in view of the absence of justification for their being taken in view of special circumstances." 524 F.2d at 1300. In this case, the Board found not only that the Staff had failed to acknowledge the risks associated with transshipment, but also that the record supports the conclusion that other alternatives available to Duke which do not require transportation, such as reracking or construction of a new pool, are preferable. [92] That is quite clearly not the same as holding

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91/ I.D. at 59.

92/ I.D. at 62.

that transshipment, if needed and otherwise justified, could not be approved. Thus, the "zero risk" argument is little more than rhetorical gamesmanship.

There is ample evidence in the record to support the Board's conclusion that the risk to the public from severe accidents is not incredible. While the Board acknowledges that the risk from routine doses associated with transshipment is "within acceptable limits, if transshipment is necessary and if there are no preferable alternatives" (I.D. at 74), transshipment on the scale permitted by the license amendment introduces risks not associated with other alternatives. First, the Board recognized that the license amendment proposed by the Staff would permit 300 spent fuel shipments in one year, or twenty-five in each month.[93/] The Board noted:

> At the rate of 300 spent fuel shipments in one year, the Oconee to McGuire transportation alone would be greater than the annual total of all such shipments in the entire country. It would also be almost 10 per cent of all 1972. It is likely that such an unusual con-

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93/ Staff and the licensee take issue with the Board's assumption that the 300 shipments would take place in one year. Duke Br. at 90-94; Staff Br. at 28. While Duke appears to dispute this shipment schedule now, it does not offer any evidence as to what a more likely schedule would be. If Duke had believed that the 300/year schedule was improper, it should have objected to the repeated Staff analyses of radiation exposure premised on that schedule. The fact is that the Board was faced with a license amendment that permitted 300 shipments in one year, numerous staff analyses based on 300 shipments in one year, and no correction in the record from the licensee. In this situation, an assumption that the 300 shipments would indeed be made in one year is not unreasonable.

> centration of shipments in a period of one year might or could intensify some of the risks and problems associated with the transportation of high-level radioactive waste or spent fuel. However, the EIA does not even identify this unusually intensive use of the public highways in North and South Carolina, let alone analyze it or evaluate its ramifications in relation to possible environmental or safety impacts. I.D. at 47 (footnote omitted).

Obviously, it is not the Board which must determine exactly what the risks are to such a shipment schedule -- that is the obligation of the environmental impact statement (or assessment). The Board merely recognized that a shipment schedule that envisioned the passage of spent nuclear fuel on the same roads and through the same communities on a daily basis would obviously have greater risks and dangers than one shipment per year. The increased risk of, for example, accident due to careless performance of a routine job, or of community controversy[94/] over use of their neighborhoods for almost daily nuclear fuel shipment routes, are certainly reasonable and appropriate to be weighed in NEPA's alternatives analysis.

Second, the Board recognized that the casks intended to be used in the Duke transshipment proposal had not been subjected to the series of physical tests at the Sandia Laboratories. I.D. at 78. Indeed, the casks actually tested were

94/ Social or political effects of an action are required to be included in environmental impact statements or assessments, under Council on Environmental Quality regulations. 40 C.F.R. §1508.8(b). As the Board noted, this application has engendered an extraordinary degree of opposition by the local and county governments with jurisdiction over portions of the route. I.D. at 49-50.

different in design and dimension from the type of casks proposed to be used by Duke. Id. While the regulations do not require that this particular cask design be subjected to thise physical tests, the Board is certainly permitted to consider the possible environmental risk of lack of physical testing in its comparison of alternatives.

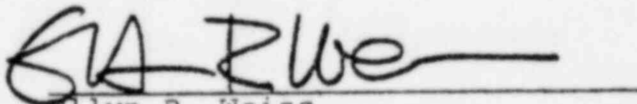
Therefore, the record shows that the Board concluded that the risk of a serious accident from transshipment was not incredible, and that this risk was not present in other alternatives, such as reracking. Contrary to the assertions of the Staff and licensee, the Board was merely comparing the costs and benefits of each alternative, and the cascade plan was judged to have inherently more risk of accident than other alternatives. This "balancing of factors," including the various elements of nuclear safety, is precisely the job of the Board. Nader v. Ray, 363 F.Supp. 946, 954 (D.D.C. 1973). There is substantial evidence to support its decision, and the decision should therefore be sustained.

CONCLUSION

This case presents one clear and central question: will the Commission permit NEPA to be subverted at the threshold by denying the predictable consequences of actions which it authorizes? The facts here are uniquely compelling because they demonstrate a positive intention to keep the full scope of planned transshipment from the public. The fact that these efforts were not successful was due entirely to the efforts of intervenors; the NRC Staff was fully willing to accede the evidence that there are available a variety of alternatives to transshipment, all of which were dismissed at least partly on the spurious grounds that they would not solve Duke's "immediate" problem, strengthens the case for requiring open and objective review now. Finally, in the face of this evidence, Duke seeks to have the Appeal Board authorize transshipment when there is without question no present need for it. No Duke facility will face the threat of shutdown for over six years; there is more than sufficient time for the NRC to take the required "hard look" at the full scope of transshipment and alternatives.

The Natural Resources Defense Council urges the Appeal Board to affirm the decision below.

Respectfully submitted,



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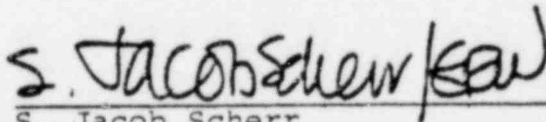

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*/ We wish to acknowledge the valuable assistance of our law clerk, Diane J. Curran.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of DUKE POWER COMPANY (Amendment to Materials License SNM-1773 for Oconee Nuclear Station Spent Fuel Transportation and Storage At McGuire Nuclear Station	)))))))))	Docket No. 70-2623

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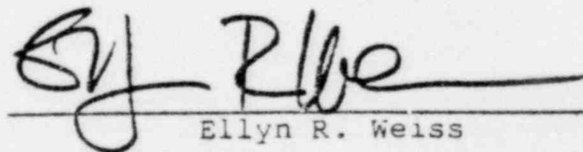

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