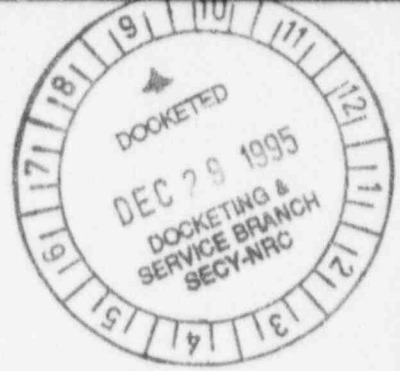

UNITED STATES OF AMERICA

Before the

NUCLEAR REGULATORY COMMISSION

Yankee Atomic Electric Company	)	
	)	Docket No. 50-029 -HP-9
(Yankee Rowe Nuclear Power Station)	)	Decommissioning

CITIZENS AWARENESS NETWORK'S AND NEW ENGLAND COALITION ON NUCLEAR POLLUTION'S REPLY TO LICENSEE'S AND NRC STAFF'S RESPONSES TO THEIR PETITION TO INTERVENE AND SUPPLEMENTAL PETITION TO INTERVENE

I. INTRODUCTION

Petitioners Citizens Awareness Network ("CAN") and the New England Coalition on Nuclear Pollution ("NECNP") hereby reply to Yankee Atomic Electric Company's ("YAEC's") and the Nuclear Regulatory Commission ("NRC" or "Commission") staff's responses to petitioners' petition to intervene and contentions regarding YAEC's decommissioning plan for the Yankee Rowe Nuclear Power Station ("YNRPS").[1] Although YAEC and the staff oppose petitioners' standing to raise occupational dose issues, they do not object to petitioners' standing in any other respect. However, they object to the admissibility of every single contention

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1 Licensee's Answer to Citizens Awareness Network's and New England Coalition on Nuclear Pollution's Petition to Intervene and Supplemental Petition to Intervene (December 15, 1995) (hereinafter "Licensee's Answer") and NRC Staff's Response to Petition to Intervene and Supplemental Petition to Intervene Filed by Citizens Awareness Network and New England Coalition on Nuclear Pollution (December 20, 1995) (hereinafter "NRC Staff's Response").

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filed by petitioners.[2] As discussed below, these objections are without merit.[3]

II. PETITIONERS HAVE STANDING TO RAISE OCCUPATIONAL SAFETY AND HEALTH ISSUES, OR IN THE ALTERNATIVE THEY SHOULD BE GRANTED DISCRETIONARY INTERVENTION ON THESE ISSUES.

A. Petitioners Have Standing to Present Evidence and Conduct Cross-Examination Regarding Occupational Doses to Workers.

YAEC and the NRC staff concede that petitioners have standing to raise contentions "that allege either a violation of NEPA [the National Environmental Policy Act] or a violation of the Atomic Energy Act that constitutes an actual or threatened injury to the health and safety of the public."[4] However, they contend

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2 YAEC and the staff also argue that petitioners have fatally erred by failing to use the words "request for hearing" in their petition to intervene, as prescribed by the Commission's hearing notice. Licensee's Answer at 2, NRC Staff's Response at 2-3. Petitioners should not be penalized for this inadvertent and minor procedural oversight, which petitioners hereby correct by requesting this tribunal to grant them a hearing. Virginia Electric & Power Co. (North Anna Power Station, Units 1 & 2), ALAB-146, 6 AEC 631 (1973). Petitioners also note that their failure to include a hearing request in their petition to intervene has not prejudiced or misled any party. In all other respects but the use of the three magic words "request for hearing," petitioners have made clear their wish for a hearing. Indeed, the NRC's denial of several previous hearing requests by CAN resulted in the litigation which led to the NRC's hearing notice. Citizens Awareness Network v. NRC, 59 F.3d 284 (1st Cir. 1995). To deny petitioners a hearing on the basis urged by the staff and YAEC would constitute an outrageous elevation of form over substance.

3 This Reply is supported by the affidavits of Dr. Marvin Resnikoff (Attachment 1), Dr. William W. Dougherty (Attachment 2), and Bruce Biewald (Attachment 3).

4 Licensee's Answer at 3, NRC Staff's Response at 6.

that petitioners "are without standing to litigate issues with respect to occupational doses," on the ground that "none of the individuals who have authorized CAN and NECNP to represent them in this proceeding are workers at YRNPS."[5] The cases cited by YAEC, Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989) and Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-93-1, 37 NRC 5, 12, 29 (1993), reject occupational safety-related contentions proferred by petitioners whose membership did not include a plant worker.

Petitioners respectfully submit that this analysis falls short of the constitutional standard for standing set forth by the Supreme Court and adopted by the Commission.[6] Under this standard, an organization may base its standing "on either immediate or threatened injury to its members."[7] The inadequacies in YAEC's decommissioning plan with respect to minimization of worker radiation doses threaten CAN and NECNP mem-

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5 Licensee's Answer at 2, NRC Staff's Response at 6.

6 Georgia Institute of Technology) (Georgia Tech Research Reactor), CLI-95-12, slip op. at 6 (October 12, 1995) (emphasis added), citing Warth v. Seldin, 422 U.S. 490, 511 (1975); Houston Lighting and Power Co. (South Texas, Units 1 and 2), ALAB-549, 9 NRC 644, 646-7 (1979).

7 Id. (emphasis added). In recognition of the "value" of public participation in licensing proceedings, the Commission also favors a "liberal construction of judicial standing tests" in determining entitlement to intervention as a matter of right. Portland General Electric Co., (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 616 (1976).

bers, because they may be exposed to radiation through contact with YRNPS workers, and because their membership consists mainly of people who live in the general vicinity of the YRNPS. These individuals may seek or obtain work at YRNPS during the next 23 years when YAEC expects to be decommissioning the plant. Accordingly, petitioners have standing to raise issues relating to occupational radiation exposures.

Petitioners also submit that with respect to Contentions A and E, the occupational safety and health issues raised by petitioners are so inextricably intertwined with public health and safety issues that to divorce them would deprive petitioners of any meaningful opportunity for a hearing. Contention A challenges YAEC's compliance with the NRC's requirement to maintain radiation doses as low as reasonably achievable ("ALARA") pursuant to 10 C.F.R. § 20.1101, and criticizes YAEC's comparison of the relative benefits and cost-effectiveness of the DECON and SAFSTOR alternatives. Similarly, Contention E calls for a supplemental Environmental Impact Statement ("EIS") pursuant to 10 C.F.R. § 51.92, to provide a renewed comparison of the relative costs and benefits of the DECON and SAFSTOR alternatives. It would be impossible to conduct a meaningful or valid ALARA or NEPA cost-benefit analysis that ignored one of the principal benefits of a proposed decommissioning measure, i.e., its dose savings for workers, while fully weighing the costs. Thus, if all reference to occupational doses is barred from this proceed-

ing, petitioners will not have a meaningful hearing on the ALARA or NEPA issues, on which their standing is not otherwise protested. Because petitioners have standing to raise an ALARA contention, the litigation of that contention must include all factors relevant to the ALARA standard, including the dose savings to workers achieved by decommissioning alternatives that YAEC has ignored.

B. In the Alternative, Petitioners Should be Granted Discretionary Intervention.

Even if this tribunal finds that the petitioners lack standing to address occupational doses as of right, petitioners should be granted discretionary standing. Discretionary standing is warranted in this case to ensure that serious safety issues related to the effect of YAEC's decommissioning plan on worker health and safety are fully addressed. As the Appeal Board has observed:

> adjudicatory boards may 'as a matter of discretion exercised according to guidelines furnished herein, grant intervention in domestic licensing proceedings to petitioners who are not entitled to intervention as a matter of right, but who may nevertheless make some contribution to the proceeding.'[8]

"Foremost" among the several factors to be considered in weighing a proposed discretionary intervention is "whether such

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8 Virginia Electric and Power Co. (North Anna Power Station, Units 1 and 2), ALAB-363, 4 NRC 631, 633 (1976), quoting Portland General Electric Co., supra, 4 NRC at 613.

participation would likely produce 'a valuable contribution . . . to our decision-making process.'"[9] The Appeal Board found that:

> 'Permission to intervene should prove more readily available where petitioners show significant ability to contribute on substantial issues of law or fact which will not otherwise be properly raised or presented, set forth these matters with suitable specificity to allow evaluation, and demonstrate their importance and immediacy, justifying the time necessary to consider them.'[10]

Petitioners meet this standard. They have already demonstrated that they have a substantial contribution to make on the issues of law and fact raised in Contentions A, B, D, and E with respect to the adequacy of YAEC's decommissioning plan, the GEIS, and the Environmental Assessment for the decommissioning of the YRNPS. These contentions are based on evaluations by experts with substantial experience in the fields of decommissioning, nuclear facility safety, and the economics of decommissioning costs.[11] Petitioners have retained these experts to assist them in the development and presentation of evidence in the case. Moreover, petitioners also have a substantial contribution to make on such significant legal issues as the applicability and interpretation of the Commission's ALARA standard, the need for measures to ensure protection of workers and the public from excessive radia-

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9 Id., quoting Portland General Electric Co., supra, 4 at 617.

10 Id., quoting Portland General Electric Co. at 617.

11 See Petition to Intervene at 6-7 and attached affidavits of Dr. Marvin Resnikoff, Dr. William F. Dougherty, and Mr. Bruce Biewald.

tion doses caused by the previous illegal decommissioning during the Component Removal Program ("CRP"), and the legal sufficiency of the 1988 Generic EIS and the 1994 EA.

Furthermore, petitioners' concerns regarding occupational doses caused by YAEC's decommissioning activities are "significant" as this term is understood in Portland General Electric Co., supra. This is one of the first proceedings to test the adequacy of a decommissioning plan to meet NRC safety and environmental standards. Thus, by its nature, this is an important case of first impression that should be fully litigated, without excluding one of the major issues raised by YAEC's decommissioning plan: its impact on YRNPS workers. Petitioners' concerns are also significant because they directly affect the health and safety of YRNPS workers. Clearly, unnecessary increased cancer and disease among YRNPS workers affects not only those workers but the entire surrounding community, including CAN and NECNP members.

Petitioners' concerns regarding occupational radiation doses are, moreover, inextricably tied to the public health-related issues raised by petitioners. In fact, as discussed above, admitting petitioners' ALARA and NEPA contentions without allowing them to fully address radiological impacts of YAEC's decommissioning plan and the relative costs and benefits to workers of various decommissioning alternatives would effectively render meaningless petitioners' participation on these issues.

Finally, unless petitioners are allowed to raise issues related to occupational exposures, those issues will not be heard. Although YRNPS workers have expressed concern to petitioners about their occupational radiation doses during decommissioning, they are unwilling to risk being fired or otherwise retaliated against for publicly airing their concerns.[12] Moreover, no other party has attempted to raise issues relating to occupational radiation doses. Accordingly, the Commission should exercise its discretion to grant petitioners standing to litigate all issues raised in their contentions, including issues related to occupational doses.

III. PETITIONERS' CONTENTIONS ARE ADMISSIBLE.

As YAEC acknowledges, to gain admission of a contention, the Commission requires a "minimal showing" that "material facts are in dispute, indicating that a further inquiry is appropriate."[13] Petitioners have met this standard by submitting a set of contentions, supported both by documents and expert affidavits, which challenge the assertions and assumptions made in YAEC's decommissioning plan. They need not prove their case at this point.[14]

A. Contention A Is Admissible.

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12 See attached Affidavit of Jonathan M. Block (December 21, 1995) (Attachment 4).

13 Licensee's Answer at 5, quoting Georgia Institute of Technology, CLI-95-12, 42 NRC __, slip op. at 11 (October 12, 1995).

14 Georgia Institute of Technology, slip op. at 13.

YAEC and the staff make numerous arguments against the admissibility of Contention A, which challenges YAEC's failure to maintain public and occupational radiation doses as low as reasonably achievable ("ALARA"). As discussed below, none of them has merit.

First, YAEC and the staff argue that petitioners should be precluded from litigating any issues relating to occupational exposures.[15] For the reasons discussed in Section II above, this argument should be rejected.

Second, YAEC and the staff argue that insofar as the contention relies on doses to the public resulting from transportation, the issue is governed by NRC transportation regulations in Part 71, which contain no ALARA provisions.[16] This argument misses the point of petitioners' contention. Contention A contains no challenge to the adequacy of YAEC's provisions for the transportation of nuclear waste. Rather, it contests YAEC's decision to dismantle and remove the LLRW from the site without allowing its radioactivity to decay significantly. This has everything to do with the adequacy of YAEC's decommissioning plan, which is subject to ALARA, and nothing to do with the NRC's transportation regulations. This distinction is recognized in the Commission's proposed rulemaking for decommissioning criteria, which states that:

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15 Licensee's Answer at 6, NRC Staff's Response at 11, note 7.

16 Licensee's Answer at 7, NRC Staff's Response at 15.

> When determining ALARA, the licensee shall consider all significant risks to humans and the environment resulting from the decommissioning process (<u>including transportation</u> and disposal of radioactive wastes generated in the process) and from residual radioactivity remaining at the site following termination of the license.[17]

Third, YAEC claims that 10 C.F.R. § 20.1101 applies only to the implementation of licensee programs and not to the design of activities to be licensed.[18] According to YAEC, by its own terms 10 C.F.R. § 20.1101 is inapplicable to petitioners' contentions because it governs licensee's "radiation protection program" and "procedures and engineering controls," matters which YAEC asserts are not the subject of petitioners' contention.[19] The regulation itself contains no support for this nearsighted interpretation. It is self-evident that an adequate "radiation protection program" must be based on a choice of methods and strategies that minimize doses in a cost-effective manner. Limiting the application of the ALARA principle to ministerial details and procedures would be akin to rearranging deck chairs on the Titanic. Moreover, nothing in YAEC's radiation protection program or any other

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17 Proposed Rule, Radiological Criteria for Decommissioning, 59 Fed. Reg. 43,200, 43,229 (proposed § 20.1403) (emphasis added). Petitioners cite the proposed rule for the purpose of demonstrating the Commission's general intent that the Part 71 transportation regulations do not preclude the application of ALARA considerations to the radiation doses caused by transportation of nuclear waste during the decommissioning process. Petitioners recognize that the proposed rule itself is not applicable to YRNPS unless and until it is promulgated as a final regulation.

18 Licensee's Answer at 7.

19 <u>Id</u>.

part of the FSAR acknowledges the applicability of ALARA principles to YAEC's plans for onsite dry storage of spent fuel.

Fourth, YAEC's claim that the ALARA provisions of 10 C.F.R. §§ 50.34a and 50.36a apply to YRNPS decommissioning is absurd on its face. By their own terms, these provisions set design objectives for radioactive effluent emissions during "normal reactor operations."[20] Standard emissions from a shut down nuclear power plant are many times lower than from an operating plant. Thus, the Commission's generic determination of what constitutes ALARA for an operating plant, referenced in 10 C.F.R. § 50.34a and 50.36a and set forth in 10 C.F.R. Part 50, Appendix I, is irrelevant to decommissioning. Indeed, Appendix I is not even mentioned as a standard applicable to decommissioning in the pending rulemaking for decommissioning criteria.[21] Instead, the Commission clarifies that currently, "[u]nder the ALARA concept, decommissioning activities are continued beyond meeting applicable risk/dose limits in efforts to reduce radiation exposures."[22] Thus, lower post-operating emissions should lead to much ower achievable levels of radiation exposure.

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20 10 C.F.R. §§ 50.34a(a), 50.36a(a). Moreover, at the time these regulations were promulgated in 1970 and 1975, decommissioning was barely contemplated, let alone regulated.

21 59 Fed. Reg. 43,200.

22 59 Fed. Reg. at 43,208. The Commission also proposed to codify a requirement for an ALARA analysis for the entire decommissioning process. See discussion at 9-10, above. If and when this proposed requirement is promulgated, it must be applied to the YRNPS decommissioning plan. Until that time, however, the requirements of 10 C.F.R. § 20.1101 must be applied to require an adequate ALARA evaluation for YAEC's decommissioning plan.

YAEC and the staff also argue that ALARA is not a requirement, but merely a "goal" or "objective."[23] This interpretation is not supported by the plain language of the regulation, which requires that:

> The licensee shall use, to the extent practicable, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).

10 C.F.R. § 20.1101 (emphasis added). The use of the word "shall" shows this to be a mandatory requirement, limited only by the practicability of compliance. Nor do the cases cited by YAEC and the staff controvert the language of § 2.1011. In In Re TMI, 67 F.3d 1193 (3rd Cir. 1995), the Third Circuit U.S. Court of Appeals held that the numerical ALARA guidelines in 10 C.F.R. Part 50, Appendix I, were not enforceable radiation protection standards. Thus, they could not be used to establish the "duty of care" in a tort suit by Three Mile Island area residents against the plant's licensee.[24] However, in no respect did the court's decision question or degrade the mandatory requirement in 10 C.F.R. § 50.34a(a) that operating license applicants shall identify the "design objectives" that are necessary to maintain radiation doses at levels consistent with the Appendix I criteria. Nor did the court hold non-mandatory the § 20.1101

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23 Licensee's Answer at 8, NRC Staff's Response at 11.

24 67 F.3d at 1114.

requirement that licensees must use, to the extent practicable, procedures and engineering principles that are necessary to maintain doses as low as reasonably achievable. Thus, In Re TMI is inapposite to this case. Similarly, General Electric Co. (Wilmington, North Carolina Facility), DD-86-11, 24 NRC 325 (1986), states that ALARA is a goal, and thus does not establish a standard that is capable of "breach."[25] More importantly, DD-86-11 affirms that there is "no question" of a licensee's obligation to "work toward the objective of maintaining exposures ALARA."[26] Here, the NRC has not established, nor do petitioners seek, numerical ALARA limits for decommissioning. Instead, petitioners challenge YAEC's utter failure to take ALARA goals into consideration in its choice of decommissioning strategies for the YRNPS.

The staff further contends that the ALARA concept is inapplicable to the consideration of alternatives because it is not explicitly required by NRC's Part 20 regulations.[27] The broad language of 10 C.F.R. § 20.1101, however, infers no such limitation on the manner in which the ALARA concept must be

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25 Id. at 341. Petitioners note that this decision was issued by the NRC staff, not an NRC adjudicatory body, and thus has little or no precedential value here.

26 Id. at 342.

27 NRC Staff's Response at 11.

applied.[28] Moreover, the only applicable case cited by the NRC staff held that the ALARA concept does apply to the consideration of alternatives.[29] Thus, petitioners have provided a valid regulatory basis for their contention that YAEC unlawfully failed to apply ALARA in the consideration of decommissioning alternatives.

In the basis of Contention A(1), petitioners challenged YAEC's four principal "reasons" for preferring the DECON alternative.[30] The first of these professed reasons was that the site would be remediated as soon as possible after cessation of operations, thus permitting release for unrestricted use. As demonstrated by petitioners, this reasoning is inapplicable to YRNPS because the spent fuel will remain onsite until at least 2018 if not longer, thus rendering the site unreleasable. YAEC and the staff protest that the portion of the site dedicated to spent fuel and high level waste is only a small portion of the site. Thus, they appear to imply that some portion of the site can be released for unrestricted use. But they neither describe that portion or refute the fact that at least some portion of the

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28 It is also notable that in the pending rulemaking for the establishment of decommissioning criteria, the Commission anticipates the application of ALARA criteria to decommissioning alternatives, such as transportation of radioactive waste. 59 Fed. Reg. at 43,208.

29 Duke Power Co. (Oconee/McGuire), LBP-80-28, 12 NRC 459 (1980), cited in NRC Staff's Response at 12, note 3.

30 Petition to Intervene at 9.

site must be restricted for a lengthy period of time. Moreover, the staff's assertion that removal of the LLRW will expedite the release of the site contradicts the decommissioning plan, which acknowledges that removal of spent fuel from the Spent Fuel Pit must precede completion of LLRW removal:

> Dismantlement activities are limited when spent fuel is stored in the Spent Fuel Pit. Activities cannot be pursued that could result in the loss of Spent Fuel Pit integrity or in physical damage to the fuel that would reduce subcriticality margin or cause a loss of a coolable geometry.[31]

Moreover, YAEC has indicated that it has no immediate plans to remove the spent fuel from the Spent Fuel Pit.[32] Accordingly, YAEC and the staff have failed to demonstrate that there are no significant material issues of fact in dispute regarding whether early site release is a benefit of DECON, as claimed by YAEC.

YAEC also disputes petitioners' assertion that YAEC's comparison of the DECON and SAFSTOR alternatives is inaccurate and misleading because it unreasonably ignores the time value of money.[33] YAEC argues that petitioners' claim is false "[o]n the face of the document cited," because the decommissioning cost figures provided by YAEC's consultant, TLG Services, Inc., are

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31 FSAR at 100-3. Unless the Spent Fuel Pit is substantially modified to protect it from damage during dismantlement and removal of LLRW, it must be emptied before removal of LLRW can be completed. Id.

32 Licensee's Answer at 15.

33 Licensee's Answer at 12.

stated to be in "1992 dollars."[34] According to YAEC, "[t]he statement of future expenditures in an earlier year's dollars axiomatically denotes a discounting to present value."[35] To the contrary, TLG's own assertions facially contradict YAEC's argument. In TLG's 1992 decommissioning cost estimate, under the heading "Assumptions and Key Inputs," TLG states that "[a]ll costs in this estimate are in 1992 dollars. These estimates exclude interest and escalation."[36] Moreover, in its 1994 study updating the 1992 cost study, TLG states that "[a]ll costs are given in January 1, 1994, dollars on a constant dollar basis."[37] The term "constant dollar basis" denotes that the time value of money is ignored when estimating the cost of a set of tasks that will be carried out over a period of years. Instead, the constant dollar unit cost for each task is multiplied by the number of times the task must be performed, regardless of when in time those tasks will be performed. Thus, YAEC's assertion that it

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34 Id.

35 In support of this claimed axiom, YAEC quotes a sentence from a concurring opinion in Fishman v. Estate of Wirtz, 807 F.2d 520, 584 (7th Cir. 1986). Licensee's Answer at 12, note 38. That sentence, however, contains no such axiom. Rather, it describes the manner in which a particular damages award was calculated. YAEC does not even provide an expert affidavit, or even a clarifying statement from TLG, to support its position.

36 TLG Services, Inc., Decommissioning Cost Study for the Yankee Rowe Nuclear Power Station at 23 (May 1992) (emphasis added).

37 TLG Services, Inc., Decommissioning Cost Study for the Yankee Rowe Nuclear Power Station, "Assumptions and Key Inputs" at 14 (October 24, 1994) (emphasis added).

considered the time value of money in estimating decommissioning costs is flatly wrong. At the very least, petitioners have demonstrated the existence of a material dispute regarding the manner in which the calculation was conducted.

Both YAEC and the staff also err in contending that petitioners provide no basis for using a discount rate of 9% to calculate the present value of decommissioning alternatives.[38] As stated by petitioners, and supported by the affidavits of economic experts Dougherty and Biewald, a discount rate of 9% is "typical."[39] In fact, it is virtually the same as the value of 9.2% that is recommended by Electric Power Research Institute for evaluating electric utility investments.[40] Thus, petitioners have provided adequate support for their contention that, using a discount rate that is commonly applied in ratemaking for the nuclear industry, the DECON alternative is more expensive than the SAFSTOR alternative.

YAEC also objects to the basis for Contention A(1). The contention asserts that YAEC's cost estimate fails to account for decommissioning cost savings yielded by waste volume reduction

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38 Licensee's Answer at 13 and note 40, NRC Staff's Response at 16. YAEC also misinterprets petitioners' contention, asserting that petitioners used an escalation factor of 3.5% and then added a discount rate of 9%. Id. As stated in the Petition to Intervene at 11, the typical discount rate advocated by petitioners includes an inflation rate of 3.5%.

39 Petition to Intervene at 11.

40 EPRI, Technical Assessment Guide at 6-7 (1993).

during an extended SAFSTOR period, which savings the GEIS shows to be 90% over a 50-year period.[41] YAEC contends that the GEIS provides no basis for the SAFSTOR period of 30 years advocated by petitioners. This argument is specious. Table 4.4-1 of the GEIS states quite plainly that waste volume decreases gradually over time. and that the only reason the waste volume decrease for a 30-year period is not indicated in the table is "for clarity of presentation." Moreover, the 30-year storage period advocated by petitioners is the minimum duration that the waste should be stored onsite. The actual duration should depend on a number of factors, including the timing of availability of an offsite facility for disposal of spent fuel.

YAEC and the staff also assert that in claiming that a lengthy SAFSTOR period would considerably reduce waste volumes and, therefore, disposal costs, petitioners erroneously assume that

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41 The staff, for its part, claims that since 99.5% of the non-fuel radioactive material has been removed from the YRNPS site or is stored in the spent fuel pool, petitioners fail to demonstrate how a 50 year SAFSTOR period would decrease the total costs of LLRW disposal. NRC Staff's Response at 17. Based on petitioners' review of the FSAR and other documents, it appears that only 0.5% of the radioactivity has been removed from the site. The remaining 99% is in the core baffle, which is now stored in the Spent Fuel Pit, and the other 0.5% is LLRW. The core baffle for a large PWR typically contains approximately 4 million curies at shutdown after an operating life of 40 years. For a smaller plant like YRNPS, even several years after shutdown, the radioactivity in the core baffle would still be greater than one million curies. Thus, the remaining 0.5% that constitutes LLRW has a significant level of radioactivity. This is borne out by YAEC's FSAR, which shows radiation doses of 160 person-rems for the already-completed CRP and 502 person-rems for remaining LLRW removal. FSAR at 507-15.

disposal costs will remain constant during that period when in fact they are likely to increase.[42] The staff also argues that petitioners ignore the costs of maintaining the site in SAFSTOR for 50 years.[43] These assertions are incorrect. Petitioners neither made such assumptions about the costs of waste disposal, nor ignored the pattern of increased costs. The extent to which these increased costs are offset by the cost savings from using a SAFSTOR alternative is an issue of fact that must be resolved in a hearing.[44]

B. Contention B Is Admissible.

Both YAEC and the NRC staff object to the admissibility of Contention B, which challenges the adequacy of YAEC's decommissioning plan's compliance with 10 C.F.R. § 50.82(b)(1) and (2). First, YAEC's general attempt to characterize petitioners' chal-

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42 Licensee's Answer at 14.

43 NRC Staff's Response at 17. The staff also claims that petitioners fail to provide a basis for their assertion that "the mere passage of time does not increase decommissioning costs." NRC Staff's Response at 17. Aside from the fact that this proposition is self-evident, it is supported by the expert affidavits of William Dougherty and Bruce Biewald.

44 It should be noted that, contrary to the staff's implication, petitioners have not presented their own quantitative cost estimate for SAFSTOR. Rather, petitiiners provide a qualitative analysis regarding the cost-savings of the SAFSTOR method. To the extent that petitioners do discuss quantitative figures, it is in the limited context of showing that YAEC's own calculations, when adjusted to take the time value of money into consideration, indicate that SAFSTOR is cheaper than DECON. Thus, that calculation relies on whatever assumptions YAEC used.

lenge as mere "disagreement" or "dislike"[45] is meritless. The issues raised by petitioners concern the reasonableness of YAEC's assertions and assumptions in its decommissioning plan, not their palatability. Petitioners have stated these concerns with specificity, and have supported them with factual and legal bases. Thus, they are admissible. Moreover, the very existence of factual disagreement between YAEC and petitioners demonstrates the existence of material factual disputes that are admissible for litigation under the Commission's standards in 10 C.F.R.§ 2.714(b).

As discussed below, YAEC's and the staff's objections to the individual bases of the contentions are also groundless.

1. Basis (1)

In Basis (1), petitioners contest the reasonableness of YAEC's assumption that a LLRW disposal facility will be available in Massachusetts by 2003.[46] YAEC's reply that petitioners' argument constitutes a mere "unsupported" "disagreement,"[47] simply ignores the factual evidence petitioners presented regarding the delays in siting a LLRW facility in Massachusetts.[48] It is telling that YAEC does not even attempt to defend this assumption against petitioners' evidence of its unreasonableness. Instead,

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45 Licensee's Answer at 16.

46 Petition to Intervene at 15.

47 Licensee's Answer at 16.

48 See Petition to Intervene at 15-16 and notes 30 and 31.

YAEC weakly argues that the need for a Massachusetts facility "may well be obviated" because "[l]imited access" to LLRW disposal facilities such as Barnwell "may also occur" during the safe storage period.[49] This equivocal argument merely serves to illustrate that a significant factual dispute exists regarding the availability of LLRW disposal capacity for the YRNPS LLRW, thus warranting admission of the contention.

YAEC's argument that petitioners' criticism "certainly does not equate to a failure by YAEC to describe 'planned activities or controls or limits on procedures and equipment'"[50] is also meritless. Obviously, the schedule for decommissioning is a central part of a licensee's "planned activities."[51] Moreover, by necessity, such a schedule is dependent upon the availability of waste disposal facilities. Thus, by proposing a decommissioning schedule that is based on an unrealistic time-frame for the availability of a LLRW disposal facility, YAEC's decommissioning plan fails to provide a reasonable description of its "planned activities."

The staff argues that YAEC's decommissioning plan "does not depend on the availability of a LLRW facility in Massachusetts

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49 Licensee's Answer at 17.

50 Licensee's Answer at 16.

51 As discussed at page 15, the schedules for LLRW disposal and HLW disposal are also integrally related. Without substantial modifications to the design of the Spent Fuel Pit, dismantlement and decommissioning of LLRW cannot be completed until the Spent Fuel Pit is emptied.

and does indeed provide for a delay in the availability of a LLRW facility, by providing for "the plant going into a SAFSTOR mode until a LLRW facility is available."[52] This incorrect assertion simply ignores the content of the decommissioning plan, which contains a decommissioning "schedule" that anticipates dismantlement and removal of LLRW by 2003.[53] The decommissioning plan fails to address the impact on YAEC's decommissioning program -- particularly its decommissioning cost estimates and plans for maintenance of the facility -- if a LLRW disposal facility is not available by 2003, and LLRW must be held onsite for a long time. Additionally, the decommissioning plan fails to address the costs and logistics involved if YAEC must transport the LLRW to a disposal facility that is a significant distance from YRNPS.[54] Thus, the staff's objection is meritless.

2. Basis (2)

In Basis (2), petitioners challenge a number of YAEC's assumptions about the onsite storage of spent fuel.[55] YAEC and the NRC staff proffer unsuccessful arguments that these concerns are inadmissible. First, in response to petitioners' argument that YAEC bases its decommissioning plan on an unrealistic sched-

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52 NRC Staff's Response at 19.

53 FSAR at 200-1 and Table 200.1.

54 See Petition to Intervene at 16, which notes that the proposed LLRW disposal facilities that are closest to being licensed are in Texas and California.

55 Petition to Intervene at 16.

ule for acceptance of HLW by the Department of Energy, YAEC protests that it was "forced" to make an estimate of something that was "beyond YAEC's direct control."[56] YAEC complains that it is "impossible" to "know" when DOE will take the spent fuel from YRNPS.[57] Obviously, it is impossible to predict the future with certainty. It is both possible and necessary, however, to provide a decommissioning plan that is based on reasonable estimates regarding the availability of waste disposal facilities. In this case, as documented by petitioners in their contention, YAEC has ignored plain evidence that a HLW repository will not be available in 2018, as YAEC predicts.[58] Thus, petitioners have stated an admissible contention that the decommissioning plan should contain a more reasonable schedule for

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56 Licensee's Answer at 17.

57 Id. See also NRC Staff's Response at 19.

58 YAEC attempts to dismiss the contention by characterizing it as a mere "disagreement" by petitioners with YAEC. Licensee's Answer at 17-18. As demonstrated by petitioners' contention, this "disagreement" in fact constitutes a dispute of material fact, substantiated by expert opinion and documentary evidence, which gives rise to an admissible contention.

YAEC also argues that petitioners' disagreement with YAEC "does not amount to an omission to describe 'planned activities . . . or controls or limits on procedures and equipment.'" This argument is devoid of merit. As discussed above at page 25, YAEC's schedule for decommissioning clearly is a central part of its "planned activities."

removal of HLW.[59]

Second, YAEC and the staff attempt to dismiss petitioners' concerns regarding the decommissioning plan's inadequate description of how YAEC plans to transfer spent fuel from the Spent Fuel Pit to dry casks. YAEC argues that no such information is required, because it has not yet committed to dry cask storage, nor is it required to.[60] Clearly, however, the NRC's regulations require YAEC to submit a plan that reasonably describes its proposed decommissioning measures. It is indisputable that the licensee's provisions for interim storage of spent fuel constitute a fundamentally important element of that plan. Not only is it important in its own right because of the high inventory of radioactivity in the spent fuel, but the disposition of the spent fuel affects the licensee's ability to decommission the rest of

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59 The staff attempts to dismiss this aspect of petitioners' contention on the ground that the Safety Evaluation Report ("SER") for the YRNPS decommissioning plan has determined that YAEC "could continue to store spent fuel in the spent fuel pool for an extended period of time." NRC Staff's Response at 19. This response flatly ignores the fact that YAEC has not planned for extended spent fuel pool storage at YRNPS. FSAR at 6, 100-1. The issue raised by petitioners' contention is whether the decommissioning plan, as proposed and described by YAEC, is reasonable -- not whether some other plan, not contemplated by YAEC, is reasonable. Moreover, if YAEC planned extended storage of spent fuel in the pool, its decommissioning plan would need to contain much more detailed information about such storage plans and how the plant could be decommissioned with irradiated fuel in the Spent Fuel Pit.

60 Licensee's Answer at 18.

the plant.[61] Moreover, YAEC has clearly stated its intention to use dry cask storage if it cannot remove spent fuel before 1999.[62] YAEC cannot have it both ways, describing dry cask storage in its decommissioning plan for purposes of satisfying NRC decommissioning planning requirements, while at the same time denying to this tribunal that it must meet NRC standards for a reasonable description of its plan.[63] Accordingly, YAEC's and

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61 See discussion above at page 15 and FSAR at 100-3. Unless the Spent Fuel Pit is substantially modified to protect it from damage during dismantlement and removal of LLRW, it must be emptied before removal of LLRW can be completed. Id.

62 FSAR at 6, 100-1. Clearly, 1999 is an extremely unrealistic date for spent fuel disposal. See Petition to Intervene at 16-17.

63 YAEC also argues that petitioners "incorrectly assume" that YAEC has elected to utilize an approach that involves transfer of spent fuel and Greater Than Class C ("GTCC") waste from storage casks to transportation casks. Licensee's Answer at 18. However, as petitioners demonstrated in the factual basis for Contention A(2) (which was incorporated by reference into Contention B), it remains unclear whether YAEC can realize its goal of using dual purpose casks suitable for both storage and transportation by 1999, when it intends to remove fuel from the Spent Fuel Pit. Petition to Intervene at 14-15. Thus, it is likely that YAEC will have to choose between continued spent fuel storage in the Spent Fuel Pit, or transfer to storage-only casks. Obviously, if YAEC is forced to use storage-only casks for interim storage, it will have to transfer the waste to transportation casks when it comes time to ship them.

In addition, YAEC erroneously states that petitioners imply that the "dry transfer method" is the only technology available. Licensee's Answer at 18. Petitioners correctly stated that the wet transfer method is the only method that currently is being used, although the Sacramento Municipal Utility District and the DOE are designing a dry transfer method. Petition to Intervene at 18.

the staff's objections should be rejected.[64]

Finally, YAEC and the staff object to the admission of Contention B to the extent that it challenges YAEC's failure to seek changes to its Technical Specifications or to perform a safety analysis, as necessary to permit the movement of dry storage casks over the Spent Fuel Pit.[65] According to YAEC, no such application is required by the NRC's decommissioning regulations. As discussed above, however, it is quite clear that YAEC plans to use dry cask storage if it cannot remove the spent fuel from the site by 1999.[66] Under these circumstances, it is necessary to describe the "activities involved" in the choice of this alternative, as well as the "controls and limits on procedures and equipment" necessary to achieve the alternative. 10 C.F.R. § 50.82(b)(1), (2). YAEC has not even attempted to demonstrate the measures necessary to achieve safe movement of dry casks over the Spent Fuel Pit.

C. Contention C Is Admissible.

YAEC and the NRC staff object to Contention C in its entirety. As discussed below their objections are baseless.

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64 YAEC and the staff also object that this contention should be rejected to the extent that it raises occupational dose issues. Licensee's Answer at 18, NRC Staff's Response at 18 note 11. These objections are discussed above in Section II.

65 Licensee's Answer at 19, NRC Staff's Response at 20.

66 In addition, as discussed above, YAEC's plans for completing removal and disposal of LLRW also depend on the closure or redesign of the Spent Fuel Pit.

YAEC begins by claiming that petitioners' challenge to five of the assumptions it makes in the decommissioning plan merely constitute differences of opinion among "reasonable people" regarding the "exact number, date or premise that should be used for each of the enumerated assumptions."[67] In the first place, petitioners' dispute is not with the exactitude of YAEC's assumptions, but their reasonableness. Moreover, as discussed in petitioners' contention, the effect of these assumptions is not de minimus, but has considerable significance for YAEC's decommissioning strategy and cost estimates. Finally, this argument fails entirely to address the question of whether petitioners have met NRC's standard for admissibility of contentions, i.e., whether they have challenged the reasonableness of YAEC's assumptions with specificity and basis. An examination of petitioners' contentions shows that their claims are fully supported by expert opinion and/or documentation.[68] As effectively conceded by YAEC, petitioners have raised a "genuine dispute" regarding the reasonableness of its assumptions, thus satisfying the NRC's standard for admissibility of the contention.[69]

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67 Licensee's Answer at 20. These assumptions are: that there will be a LLRW disposal site available in Massachusetts in 2003; that spent fuel will be transferred to a dry storage facility between 1997 and 2000; that DOE will pay for the casks; that spent fuel shipments will be completed by the end of 2018; and that the contingency factor for the estimate should be 12.3%. Id.

68 Petition to Intervene at 21-25, as supported by expert affidavits of Dr. Marvin Resnikoff, Dr. William Dougherty, and Mr. Bruce Biewald.

69 Georgia Institute of Technology, supra, slip op. at 13.

YAEC also seeks dismissal of petitioners' claim that the decommissioning plan unlawfully fails to include the costs of hazardous material abatement in its decommissioning estimate.[70] According to YAEC, this claim is "easily addressed" because NRC regulations require a cost estimate only for those activities that serve to reduce residual activity.[71] Contrary to YAEC's argument, the cost of nonradioactive cleanup is relevant and should be addressed in the decommissioning plan. The goal of decommissioning is release for unrestricted use. If a licensee only has sufficient funds to clean up the radioactive contamination on a site but not the nonradioactive contamination, that goal will not be realized. Moreover, disclosure of all cleanup costs is needed to determine whether the licensee can obtain sufficient funds to complete the entire cleanup, or whether it will be tempted or pressured to spend funds allocated for radioactive cleanup on nonradioactive cleanup.

YAEC asserts that petitioners' claims regarding YAEC's failure to adequately compare present funds with its cost estimate constitute mere statements of disbelief or unreasonable pleas for more detail.[72] It offers the decommissioning funding discussion

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70 Licensee's Answer at 19.

71 Id.

72 Licensee's Answer at 20. Those concerns, as stated by petitioners, are the following:

> Although YAEC provides an updated decommissioning cost estimate, it makes no attempt to compare that estimate with the amount of present funds available for decommissioning. The only information YAEC provides is a brief description of the FERC-approved settlement with YAEC's customers for $235 million. [footnote omitted] However, it is not

in the FSAR as proof that petitioners' claims are without foundation.[73] However, a review of the documentation proffered by YAEC only bolsters petitioners' concerns. First, YAEC argues that the Decommissioning Plan for YRNPS does disclose the amount of funding presently available.[74] However, the document relied on by YAEC, apparently Rev. 00 of YAEC's "Decommissioning Plan," does not constitute YAEC's formal license amendment application, which is contained in a revision to the FSAR.[75] This FSAR revision does not provide any information about the amount of money that YAEC has on hand.[76] Moreover, to the extent that the Decommissioning Plan can be relied on by YAEC, it is incomplete and outdated. At page 1.3-2 of the Decommissioning Plan, YAEC states that through June 30, 1993, it had accumulated $99.6 million in cash and anticipated tax credits. The Plan fails to state what

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(continued)

> clear whether YAEC has received that money, or what other funds YAEC currently has on hand for decommissioning funding. Moreover, although YAEC states that collections from the Power contracts are placed in an "independent and irrevocable" trust at a commercial bank [footnote omitted], it does not provide any information about the trust, including how much money is in it or whether all YAEC receipts go into that account.

Petition to Intervene at 25.

73 Id.

74 Licensee's Answer at 20, note 62.

75 See Petition to Intervene at 6.

76 Petition to Intervene at 25.

portion of this amount constitutes cash and what portion constitutes anticipated tax credits. In addition, it is obviously out of date. The Plan also states that in March 1993, FERC approved a settlement of $235 million. However, it does not state that YAEC possesses this money.

With respect to the other claimed deficiencies in the comparison between YAEC's cost estimate and present funds, YAEC maintains that it is enough to baldly assert that "the Plan calls for the funds to be segregated, the sources of funds are disclosed, and they are stated to be segregated."[77] No reasonable person could consider this a sufficient level of detail to support a finding of reasonable assurance that YAEC has or will obtain sufficient funds to meet its decommissioning cost estimate.[78]

YAEC and the staff also try to dismiss petitioners' criticisms of YAEC's decommissioning plan's failure to provide suffi-

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77 Licensee's Answer at 20.

78 Absurdly, YAEC also faults petitioners for failing to cite any document or fact "which traverses the statements with respect to funding sources in the Plan." Licensee's Answer at 21 and note 63. This argument misses the point of the contention, which is not that some other information contradicts YAEC's statements, but that YAEC has failed to provide a reasonable level of detail about its claimed funding sources. Moreover, contrary to YAEC's claim that this contention contains no "economic analysis" by petitioners' experts, id. at note 63, the contention is based on petitioners' experts' analysis of the license amendment application. This analysis reveals that the application provides insufficient information to allow a reasonable comparison between YAEC's decommissioning funding plan and YAEC's sources of decommissioning funding. In response, YAEC proffers only non-expert analysis by its lawyers.

cient information regarding its sources of decommissioning funding. They argue that YAEC's Power Contracts constitute an unassailable guarantee that YAEC's customers will pay the costs of decommissioning, whatever they may be.[79] This argument ignores a number of important considerations.

First, the Power Contracts are not the only source of funding identified by YAEC. YAEC also intends to rely on "earning realized from the investment of contributions" and "tax loss carrybacks."[80] The FSAR provides no information at all about these other sources of decommissioning funding. Second, while the contract provision cited by YAEC appears to obligate YAEC's shareholders to pay the full costs of decommissioning YRPNS, the mere existence of the contract does not conclusively establish the ability and willingness of the shareholders to pay all costs, regardless of how high or reasonable.[81] As YAEC has argued to the Federal Energy Regulatory Commission ("FERC"), the protection provided by the Power Contracts depends on the ability of the purchasers to make the payments required.[82] As discussed by YAEC, these purchasers have financial problems of their own which

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79 Licensee's Answer at 21, NRC Staff's Response at 21.

80 FSAR at 501-3, Petition to Intervene at 26.

81 For instance, if YAEC did not earn a reasonable return on its "investment of contributions," or manage its "tax loss carrybacks" adequately, its Power Contract customers reasonably could contest their obligation to make up for YAEC's losses.

82 40 FERC par. 62,198 (October 27, 1987).

may make prevent them from meeting their contractual obligations to buy power.[83] Their ability to pay on their obligations is of particular concern here, where YAEC has been unable to complete its own obligation under the Power Contracts to produce electricity from YRNPS for the full term of its anticipated operating life. YAEC's shareholders have not been able to fully reap revenues as a result of YRNPS's early shutdown, yet they remain obligated to pay for the full costs of YRNPS's decommissioning. The Washington Public Power Supply ("WPPS") fiasco, in which the Washington State Supreme Court ruled that local municipality and utility investors in WPPS did not have to fully honor contracts to pay off their bondholders, illustrates the devastating effect that cancellation of a project may have on nuclear facility financing contracts.[84] Thus, petitioners have presented an admissible contention that YAEC has submitted an inadequate and incomplete "plan for assuring the availability of adequate funds for completion of decommissioning" under 10 C.F.R. § 50.82(b)(4).

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83 Id. YAEC also questioned the willingness of other potential purchasers to take over the contracts in the event of default. Id. In this case, of course, no other private party would be willing to take over a contractual obligation to provide decommissioning costs should a shareholder default.

84 Nancy L. Ross, Default Lures Speculators to System Bonds, Washington Post (July 27, 1983). A similar situation existed during the well-known Public Service Company of New Hampshire ("PSNH") bankruptcy. It was up to the bankruptcy court, not PSNH, to determined whether contractual obligations would be honored.

D. Contention D Is Admissible.

YAEC and the NRC staff object on several grounds to this contention, which faults YAEC's decommissioning plan for failing to include measures necessary to ensure that workers and the public are adequately protected from health damage caused by excessive radiation received during the unlawful initial phase of decommissioning, the CRP.

First, they argue that petitioners have no standing to raise any issues on behalf of YRNPS workers.[85] This argument is addressed in Section II above.

Second, YAEC and the staff claim that the contention is outside the scope of this proceeding, which is limited to the issue of whether YAEC's decommissioning plan should be approved.[86] This argument is absurd. Contention D is no different from any of petitioners' other contentions which assert omissions or deficiencies in the YRNPS decommissioning plan that render it legally insufficient and thus unapprovable. Like petitioners' other contentions, it is well within the scope of the Commission's hearing notice.

Third, YAEC argues that petitioners have failed to cite any regulatory requirement for inclusion of such studies or funds as petitioners seek.[87] However, it is beyond dispute that the NRC

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85 Licensee's Answer at 23, NRC Staff's Response at 22, note 15.

86 Id.

87 Licensee's Answer at 23.

is responsible for ensuring the safety of all nuclear facility operations, including decommissioning. As discussed in the basis of Contention D, this responsibility includes ensuring that workers and the public are protected from the increased risks to their safety and health posed by the CRP, which increased their radiation exposures beyond necessary or lawfully authorized levels.[88] Petitioners contend that the minimum measures necessary to provide such protection consist of a health study and health treatment fund.[89]

Finally, YAEC's argument that petitioners fail to show that "anyone was injured" by the CRP[90] simply ignores petitioners' documented discussion of the increased cancers and adverse health effects caused by increased radiation exposures during the CRP.[91] The staff's argument that petitioners failed to show a violation of ALARA is also without merit. As discussed above with respect to Contention A, the staff's interpretation of the ALARA standard as it applies to YRNPS is incorrect. It is also irrelevant

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88 Regardless of whether the CRP was conducted "under color of law," as contended by the NRC staff [at 22], it was illegal. Citizens Awareness Network v. NRC, 59 F.3d 284 (1st Cir. 1995).

89 Contrary to the staff's assertion, petitioners do not seek a fund for "compensation," but rather for treatment of adverse health effects caused by the CRP.

90 Licensee's Answer at 24.

91 This discussion was also supported by the expert affidavit of Dr. Marvin Resnikoff.

whether YAEC violated the NRC's Part 20 standards.[92] As established with specificity and basis in Contention D, the CRP unlawfully and unnecessarily increased the risk of cancer and disease among workers, and thus measures must be taken to provide protection from this increased risk. Finally, the NRC staff's dispute with petitioners over what constituted the actual level of radiation exposures during the CRP does not establish the inadmissibility of the contention. Rather, it demonstrates that petitioners have raised a genuine dispute over a material issue of fact that should be admitted for litigation.[93]

E. Contention E Is Admissible.

Both YAEC and the staff object to all aspects of Contention E, which challenges the NRC's compliance with the National Environmental Policy Act ("NEPA").

In basis (1) of this contention, petitioners assert that the 1988 Generic Environmental Impact ("EIS") must be supplemented for YRNPS because the GEIS failed to consider the environmental impacts of potentially inadequate decommissioning financing for a prematurely shut-down reactor like YRNPS.[94] YAEC and the staff rely on their objections to Contention C to argue that this aspect of the contention is without basis.[95] Apparently, in

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92 NRC Staff's Response at 23.

93 10 C.F.R. § 2.714(b)(2)(iii), Georgia Institute of Technology, supra, slip op. at 11.

94 Petition to Intervene at 30.

95 Licensee's Answer at 24, NRC Staff's Response at 24.

their view, the Power Supply Contracts between YAEC and its customers obviate petitioners' concerns about YAEC's ability to pay the full decommissioning costs for YRNPS. As discussed above at pages 30-32, however, petitioners have raised significant questions, with specificity and basis, regarding the adequacy of these contracts and other YAEC funding sources to cover the decommissioning costs for YRNPS. Accordingly, this part of the contention should be admitted.

YAEC and the staff also contest petitioners' second basis, that the Environmental Assessment's ("EA's") assertion that YAEC's occupational dose estimate is within the range evaluated and found acceptable in the GEIS is based on the erroneous failure to scale doses to the size of the plant.[96] They argue that the NRC's failure to scale doses for the size of the YRNPS is irrelevant because the "real" acceptability criterion in the GEIS was whether annual decommissioning doses are substantially smaller than annual operating doses.[97] This is incorrect.[98] Although the GEIS compares annual operating doses and decommissioning doses at page 4-7, this comparison contains no judgment

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96 Licensee's Answer at 24, NRC Staff's Response at 24-25.

97 Licensee's Answer at 25.

98 In addition, YAEC's assertion that the environmental impacts of the proposed decommissioning can be adequately evaluated by determining an "annual" dose is scientifically invalid. The total number of cancers and diseases caused by radiation exposure during decommissioning is determined by the total radiation dose, not the annual dose.

about the "acceptability" of the doses. Rather, that judgment is made in the context of comparing DECON and SAFSTOR in section 4.5. There, the NRC finds that both alternatives are reasonable in the sense that they both involve major benefits and tradeoffs: DECON gains early site release in exchange for higher doses, while SAFSTOR saves on doses in exchange for an extended period when the site cannot be released.[99] Moreover, neither YAEC nor the staff refute petitioners' assertion that in the studies supporting the GEIS, the NRC did not anticipate that radiation doses from decommissioning YRNPS would be as high as they are now projected for YRNPS. Thus, 10 C.F.R. § 51.92 requires a supplemental EIS to evaluate these unforeseen impacts.[100]

YAEC also argues incorrectly that no supplemental EIS is required to evaluate a potential dry cask drop accident because YAEC has not applied for a license amendment permitting it to use dry casks.[101] NEPA, however, requires the NRC to evaluate all

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99 GEIS at 4-17.

100 The NRC argues that this basis for Contention E is inadmissible because ALARA does not apply in this case. NRC Staff's Response at 26. As set forth in petitioners' contention, however, the standard that applies here is NEPA's requirement for an assessment of the relative costs and benefits of alternatives, as well as its requirement for the mitigation of environmental impacts. Petition to Intervene at 35-36.

101 Licensee's Answer at 26.

reasonably foreseeable consequences of a proposed decision.[102] Here, the NRC proposes to approve a license amendment application that specifically lists dry cask storage as part of the licensee's decommissioning plan. Thus, a supplemental EIS should be prepared to evaluate reasonably foreseeable impacts of that part of YAEC's plan, including dry cask drop accidents.[103]

YAEC further argues that the transportation accident posited by petitioners is one that could happen whether or not the decommissioning plan is approved, and thus it is not capable of being remedied by the denial of approval.[104] To the contrary, because the choice of the SAFSTOR alternative would substantially reduce the quantity of LLRW that has to be transported, this accident scenario is relevant to the approval of the decommissioning plan. YAEC also cites language in the Sandia report relied on by petitioners, which states that existing regulations "are sufficient to prevent excessive external radiation exposure to an

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102 The Council on Environmental Quality ("CEQ"), an agency within the Executive Office of the President, has promulgated regulations implementing NEPA [40 C.F.R. §§ 1500-1517], which the Supreme Court has held are entitled to "substantial deference." Andrus v. Sierra Club, 442 U.S. 347, 358 (1979). The NRC has also announced that it adheres to the CEQ regulations "subject to certain conditions." 10 C.F.R. § 51.10(a). The CEQ regulations provide that an EIS must address all "direct" impacts "which are caused by the action and occur at the same time and place," and all "indirect" impacts "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1506.8.

103 10 C.F.R. § 51.92.

104 Licensee's Answer at 26.

individual following a severe transportation accident" and that a burning ion exchange resin accident is considered to have "a very low probability."[105] It is well-established, however, that mere compliance with NRC safety regulations does not relieve NRC of its separate and independent obligation under NEPA to evaluate and mitigate reasonably foreseeable accident risks.[106] These risks must be considered for all reasonably foreseeable accidents, unless their probability is so low as to be remote and speculative.[107] Indeed, the NRC has previously evaluated transportation accidents of similarly low probability in an EIS.[108]

Petitioners argue in the last basis for this contention that the unavailability of a HLW disposal site makes early release for unrestricted use highly unlikely. This factor drastically alters the equivalence that the GEIS found to exist between the DECOM and SAFSTOR options. Accordingly, 10 C.F.R. § 51.92 requires that the GEIS' comparison of the two alternatives must be revisited.[109] YAEC responds with the frivolous argument that

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105 Licensee's Answer at 26-27.

106 Limerick Ecology Action v. NRC, 869 F.2d 719, 729-34 (3rd Cir. 1989). Thus, the staff's argument that this contention constitutes a challenge to NRC regulations is also without merit. NRC Staff's Response at 26.

107 Vermont Yankee Nuclear Power Co. (Vermont Yankee Nuclear Power Station), ALAB-876, 26 NRC 277, 282 (1987).

108 NUREG-0170, Vol. 1, Final Environmental Statement on the Transportation of Radioactive Material By Air and Other Modes (December 1977). However, this EIS does not evaluate the accident described in petitioners' contention.

109 Petition to Intervene at 35-36.

spent fuel disposal is not within the scope of this proceeding, according to NRC regulations.[110] First, petitioners are not contesting YAEC's plans for the ultimate disposition of spent fuel. Rather, petitioners contest the reasonableness of YAEC's estimate regarding the length of time that the YRNPS site will be occupied with spent fuel storage. This is transparently a matter which bears upon the adequacy of YAEC's decommissioning plan, and, thus, well within the scope of this proceeding. Second, a licensee's ability to release its site for unrestricted use was a key consideration in the 1988 GEIS.[111] Neither YAEC nor the NRC may lawfully rely on that 1988 determination to support the adequacy of the EA, while at the same time denying petitioners' right to challenge its continuing validity. Accordingly, YAEC's objection should be soundly rejected.

YAEC's argument that the NRC should apply an "obviously superior" standard to the selection of decommissioning alternatives is also entirely without merit.[112] The Commission created

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110 Licensee's Answer at 28.

111 GEIS at 4-17.

112 Licensee's Answer at 30. YAEC's claim that petitioners are completely barred from challenging its choice of alternatives under NRC safety regulations and NEPA is even more absurd. Licensee's Answer at 29. The litigability of alternatives under ALARA is fully addressed above with respect to Contention A. The consideration of alternatives is a fundamental aspect of an EIS, and is required by 10 C.F.R. § 51.71(d) and § 51.95. As discussed in the Petition to Intervene, an EIS must be supplemented if there are, inter alia, "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." As discussed above and in the basis for Contention E, petitioners have demonstrated the existence of significant new circumstances warranting the preparation of a supplemental EIS for YRNPS.

the "obviously superior" doctrine for the very narrow and unusual circumstances involving comparison of alternative sites in nuclear power plant construction permit proceedings. See Public Service Company of New Hampshire, LI-77-8, 5 NRC 503, 528-30 (1977). YAEC has suggested no basis, other than its apparent wish to broaden the "obviously superior" doctrine, to apply it in this case. To do so without a compelling reason would eviscerate NEPA's fundamental purpose of requiring the full consideration of alternatives.[113]

Finally, YAEC argues that some kind of laches applies to petitioners' failure to request a hearing when the NRC issued the EA for the decommissioning plan under review in this proceeding.[114] This argument is utterly devoid of merit. Petitioners had no obligation to request a hearing they had no hope of receiving. During the two years preceding the issuance of the EA, the NRC had repeatedly denied CAN's and other petitioners' requests for hearings on YAEC's decommissioning plan.[115] The

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113 YAEC's claim that the dose savings to the public are de minimus "when properly viewed" is also groundless, as discussed above in note 41.

114 Licensee's Answer at 28.

115 The history of CAN's failed attempts to obtain a hearing on NEPA and safety issues raised by the YAEC decomissioning plan is chronicled in Citizens Awareness Network v. NRC, 59 F.3d 284, 288-290. Other petitioners also requested and were denied a hearing. Yankee Atomic Electric Co. (Yankee Rowe Nuclear Power Station, Units 1 and 2), CLI-94-03, 39 NRC 95 (1994) (petition of Environmentalist, Inc.).

agency remained firmly resistant to CAN's plea throughout CAN's appeals to the Federal District Court, Citizens Awareness Network v. NRC, 854 F. Supp. 16 (1994), and the U.S. Court of Appeals, Citizens Awareness Network v. NRC, 59 F.3d 284. Given the NRC's unequivocal and repeated refusal to grant a public hearing on the YAEC decommissioning plan, it would have been futile to request a hearing when the EA was issued in December of 1994. Thus, petitioners were not obliged to waste their resources filing yet another futile hearing request.[116] Petitioners timely filed their petition to intervene after their hearing right was vindicated by the Court of Appeals in July of 1995 and the Commission responded by publishing a notice opportunity for a hearing.

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116 Pihl v. Massachusetts Department of Education, 9 F.3d 184, 190-91 (1st Cir. 1993). See also Coit Independent Joint Venture v. Federal Savings & Loan, 489 U.S. 561, 587- 588 (1989), citing Green v. United States, 376 U.S. 149, 163 (1964); Smith v. Illinois Bell Telephone Co., 270 U.S. 587, 591-92 (1926).

IV. CONCLUSION

For the foregoing reasons, YAEC's and the NRC's staff's objections to petitioners' intervention and contentions are without merit. Petitioners should be admitted to this proceeding, and the admissibility of their contentions should be approved.

Respectfully submitted,

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