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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the  
ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
RULEMAKING AND  
ADJUDICATION STAFF

Before Administrative Judges:

James P. Gleason, Chairman  
Thomas D. Murphy  
Dr. Thomas S. Elleman

In the matter of	)	Docket No. 50-029-LA
	)	
YANKEE ATOMIC ELECTRIC COMPANY	)	ASLBP No. 98-736-01-LA
	)	
(Yankee Nuclear Power Station)	)	April 6, 1998
	)	

CITIZENS AWARENESS NETWORK, INC., AMENDED PETITION TO  
INTERVENE IN LICENSE AMENDMENT PROCEEDING FOR THE  
YANKEE NUCLEAR POWER STATION LICENSE TERMINATION PLAN

I. INTRODUCTION.

Pursuant to the Nuclear Regulatory Commission's [NRC] notice, 63 FR 4308-4330 (January 28, 1998), this Panel's Order directing the filing of amended petitions within seven days (March 25, 1998), and this Panel's granting a motion for enlargement of filing deadlines to include April 6, 1998 (April 1, 1998), petitioner Citizens Awareness Network, Inc., [CAN] hereby submits the following amended petition to intervene in pending proceeding on Yankee Atomic Electric Company's [YAEC] application to approve as an amendment to its 10 CFR Part 50 license the License Termination Plan [LTP] for the Yankee Nuclear Power Station, Rowe, Massachusetts [Yankee Rowe].

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## II. FACTUAL BACKGROUND.

A. On May 15, 1997, YAEC filed with the NRC an initial version of the LTP for Yankee Rowe.

B. In August, 1997, the NRC publicly acknowledged receiving the LTP. 62 FR 43559 (August 14, 1997).

C. On September 9, 1997, the NRC requested that YAEC supplement the LTP by responding to NRC Staff questions and comments. This request does not appear in the public docket, but is referenced in YAEC's response.

D. On November 5, 1997 and November 24, 1997, the NRC Staff conducted a teleconference with YAEC concerning comments and questions about the Yankee Rowe LTP. No transcript of these communications appears in the Public Docket, but the telcons are referenced in YAEC's transmittal of Revision 1 of the LTP.

E. On December 18, 1997, D.K. Davis, YAEC, provided responses to questions and comments of the NRC staff in response to the LTP.

F. On December 31, 1997, YAEC filed Revision 1 to the LTP.

G. At the beginning of January, 1998, the NRC published a notice of public meeting scheduled for January 13, 1998, in Buckland, Massachusetts, to present the LTP for public comment. 63 FR 275 (January 5, 1998)

H. On January 13, 1998, the NRC conducted a public meeting in Buckland, Massachusetts. Many CAN members

attended and put comments on the record indicating their concerns about the proposed LTP, as well as objecting to the lack of adequate notice for the meeting, the lack of the revised version of the LTP and other important documents, and their unhappiness with audience questions being cut off when there was time to take such questions. See generally, NRC, Transcript of Public Meeting at Buckland, Massachusetts (January 13, 1998).

I. The NRC published a notice fifteen days later which stated that the NRC staff had made a proposed determination granting the license amendment making effective the Yankee Rowe LTP under No Significant Hazards Consideration. 63 FR 4308-4330 (January 28, 1998). The notice provided the following directions to interested persons, ) in pertinent part, :

By February 27, 1998, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party must file a written request for a hearing and a petition for leave to intervene.

*Id.* at 4308.

J. CAN regarded this notice as conditioning the offer of an opportunity for a public hearing upon the licensee's request for a hearing. CAN wrote<sup>1</sup> to the NRC on

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<sup>1</sup> Within the same time-frame, New England Coalition on Nuclear Pollution, Inc., Brattleboro, Vermont, Nuclear

February 26, 1998, to request such a hearing and take note of several concerns: 1. That the NRC staff failed to exercise minimum due process standards: a) providing only eight days notice of the public meeting; b) not making available to the public the version of the LTP under discussion at the meeting; c) allowing public questioning to be cut-off even though there was time available to answer questions; d) failing to answer the questions and comments posed at the public meeting before issuing the notice of proposed approval of the license amendment under No Significant Hazards Consideration; and e) providing an ambiguous offer of hearing which seemed to be a solicitation of comments and offer of a hearing only if the licensee requested a hearing.

CAN also asked that, instead of letting the "proposed" No Significant Hazards Consideration approval of the license amendment application to go ahead, the Commission would order that a hearing be held near Yankee Rowe because: (1) the licensee's relied in the LTP upon outdated environmental data---a Generic Environmental Impact Study on Decommissioning nearly 10 years old with many predictions that have proven incorrect, change in the standard method for calculating transportation doses, and

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Information and Resource Service, Washington, D.C., and the Franklin Regional Planning Board, Greenfield, Massachusetts, filed similar comments and hearing requests.

financial projections for the costs of decommissioning that are off by at least a factor of ten; (2) the licensee's projected site release radiation above background (as high as 87 millirem/year above background) in relation to NRC and EPA limits (no more than 25 or 15 millirem above background), and (3) the licensee's failure to seek a 10 CFR Part 72 license for continuing on-site storage of high-level radioactive waste after removal of the fuel storage pool.

CAN also requested that, instead of allowing the "proposed" No Significant Hazards Consideration approval of the license amendment application to go forward, the Commission should direct that a 10 CFR Part 2, subpart G hearing on the LTP be held in the vicinity of the reactor site (Shelburne Falls or Greenfield), after the initial informational process has been done over again. This would permit interested persons to attend the public meeting upon adequate notice and information. Such notice and information would include 20 to 30 days notice of the public meeting, during which entire time the relevant documents at issue would be available through the Local Public Document Room. Following such a properly noticed meeting, the staff should answer the questions and comments filed at the meeting. A reasonable time thereafter, notice should be provided of the opportunity for a hearing. Notice should be unambiguous in its offer of a hearing (unlike the notice provided for this proceeding, which notice seemed to make

the provision of a hearing for interested persons contingent upon the licensee's request of a such a hearing). See generally, Deborah B. Katz, President, Citizens Awareness Network, Inc., and Jonathan M. Block, Attorney for CAN, Letter to NRC , re: NRC Notice, 63 FR 4308-4330 (January 28, 1998), Objecting to use of No Significant Hazards Consideration to approve Yankee Atomic Electric Company's License Termination Plan for the Yankee Nuclear Power Station, Rowe, Massachusetts, and requesting a 10 CFR 2, subpart G hearing on the plan," (February 26, 1998).

K. On March 11, 1998, the Secretary of the Commission referred the requests for a hearing to the Atomic Safety and Licensing Board.

L. On March 11, 1998, YAEC filed " Answers" to the requests for a hearing, characterizing the requests as " Requests for Hearing and Petitions to Intervene."

M. On March 16, 1998, the NRC staff filed its " Answers" the requests for a hearing, taking a position similar to YAEC's.

N. On March 25, 1998, in an apparent effort to eliminate confusion over the Panel's view of the hearing requests filed in this matter, the Panel issued an Order which referred to the persons requesting a hearing as " petitioners" and provided an opportunity to file amended petitions within seven (7) days (i.e., by April 1, 1998).

Order of Atomic Safety and Licensing Board Panel, ASLBP No. 98-736-01-LA (March 25, 1998).

O. On March 31, 1998, the Franklin County Regional Planning Board [FCRPB] filed with the Panel a motion for enlargement of filing deadlines through Monday, April 6, 1998, with other deadline conformed thereto. The Panel granted this motion on March 31, 1998. On the same day, CAN, joining NECNP, Inc.[NECNP], and Nuclear Information and Resource Service [NIRS], filed a motion for the same enlargement of time as the Panel extended to FCRPB.

P. On April 1, 1998, the Panel granted a motion for enlargement of time through April 6, 1998 for CAN, NECNP, and NIRS to file amended petitions.

### **III. CAN HAS STANDING TO INTERVENE IN THIS PROCEEDING.**

Section 189(a) of the Atomic Energy Act guarantees a hearing "to any person whose interests may be affected" by a proceeding for the issuance or amendment of an operating license for a nuclear facility." 42 U.S.C. § 2239(a).

Intervention as of right under Section 189(a) has been said to be governed by "contemporaneous judicial concepts of standing" which have been interpreted to require a petitioner to demonstrate that: " (1) it has suffered or will suffer a distinct and palpable injury that constitutes injury in fact within the zone of interests arguably protected by the governing statute [such as the Atomic

Energy Act [AEA] or National Environmental Policy Act[NEPA]]; (2) the injury is fairly traceable to the challenged action; and (3) the injury is likely to be redressed by a favorable decision." *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 68-70 (1996) . As CAN demonstrates below of the requirements of Section 189(a), CAN has standing to intervene in this matter.

**A. CAN Has Standing To Intervene On Behalf Of Members.**

" [W]hen...an organization...seeks to intervene on behalf of its members...that entity must show it has an individual member who can fulfill all the necessary elements and who has authorized the organization to represent his or her interests." *Id.* at 68; see also *General Public Utilities Nuclear Corporation* (Oyster Creek Nuclear Generating Station), LBP-96-23, 44 N.R.C. 143 (1996); *Vermont Yankee Nuclear Power Station* (Vermont Yankee Nuclear Power Station), LBP-90-6, 31 NRC 85, 89 (1990), citing *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 613-14 (1976). Under this standard, CAN is entitled to intervene in this proceeding on behalf of members who would be injured by an inadequate LTP or unsafe activities conducted during the process of implementing the LTP. *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-21, 43 NRC 61, 68-70 (1996).



Through the attached declaration of one of its members, Deborah B. Katz, CAN seeks to demonstrate its entitlement to standing in this proceeding.<sup>2</sup>

Ms. Katz has authorized CAN to represent her interests in this proceeding.<sup>3</sup> Because Ms. Katz has authorized CAN to represent her interests in this proceeding, CAN has provided an adequate basis upon which this Panel may recognize CAN's organizational standing to represent Ms. Katz's interests in this proceeding. Moreover, as Ms. Katz sets forth in her declaration, in the interest of protecting the environment and public from radiation-induced injuries, CAN would be pursuing, as possible outcomes to this proceeding, a denial or modification of the pending license amendment to assure such protections, which modification or denial are in the interest of Ms. Katz and CAN.<sup>4</sup> The NRC staff found the license amendment to contain no significant hazards. YAEC wants it approved as submitted. Only CAN can adequately represent Ms. Katz's interests in this proceeding.

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<sup>2</sup> See generally, Declaration of Deborah B. Katz, Exhibit 'A', attached hereto.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

**B. CAN Will Suffer Injury-In-Fact as A Result of the Proposed Licensing Amendment, Which Injury May Be Eliminated or Mitigated By CAN's Participation in the Proceeding.**

CAN has standing to intervene on behalf of members who suffer injury-in-fact from implementation of the proposed Yankee Rowe LTP. The LTP does not adequately protect CAN members' health and safety or the the environment.<sup>5</sup> CAN is a nonprofit educational association incorporated under the laws of the Commonwealth of Massachusetts. CAN's members live throughout New England. At least one member, Ms. Katz, who authorizes CAN to represent her in the proceeding, lives within six miles of the Yankee Rowe site.

CAN's purpose is to educate and inform public concerning the hazards of continued reliance upon the nuclear fuel chain for the generation of electricity. Since its inception in the early 1990s, CAN has participated in NRC rulemaking, licensing, and enforcement proceedings on the health and safety of nuclear reactors in New England and elsewhere, including Yankee Rowe. CAN participated in the pre-hearing on the Yankee Rowe decommissioning plan following CAN's successful litigation on the issue of getting suchy a hearing in the United States Court of Appeals. *CAN v. NRC*, 59 F.3d 284 (1st Cir. 1995).

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<sup>5</sup> See below, CAN's identification of specific aspects of the subject matter of the proceeding as to which it wishes to intervene, for an outline and description of LTP inadequacies.

The declaration of Debby Katz, a CAN member who has authorized the organization to represent her in this proceeding, discusses concerns that her health and safety, that of her children, and the quality of her environment and ability to appreciate it will be adversely affected by an unsafe or inadequate LTP for Yankee Rowe.<sup>6</sup> Ms. Katz lives within six miles of the Yankee Rowe site boundary. She may be precluded from continuing her life activities indefinitely if the LTP is inadequate and the license terminated with restricted public access to a radioactively contaminated site, or in the event, during implementation of the LTP, of an accident involving the irradiated fuel stored at the Yankee Rowe site.

Ms. Katz would like, for herself and her children, to freely enjoy the natural recreational pleasures of her neighborhood, and the aesthetic pleasures of the natural surroundings, but cannot do so because of the continuing threat posed by the presence of irradiated fuel on site and the vagaries of the LTP on how this fuel will be maintained, handled, secured, and stored.<sup>7</sup> As a mother of two children living within six miles of the Yankee Rowe site, Ms. Katz is concerned about any adverse health impact upon the local environment which she and her children inhabit. Were any

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<sup>6</sup> See generally, Declaration of Deborah B. Katz (CAN member and president of CAN) (March 26, 1998), Exhibit 'A' attached hereto.

<sup>7</sup> *Id.*

one of a number of credible accidents to occur at the Yankee Rowe site during the process of implementing the LTP, the health and safety of the environment Ms. Katz and her children live in would be jeopardized. Moreover, if the Yankee Rowe LTP is inadequate to fully remediate the site, Ms. Katz's ability to freely move about her neighborhood may be severely curtailed. Likewise, given her proximity to the Yankee Rowe site, Ms. Katz and her children would suffer adverse consequences due to the release of radiation from the site during and of the kinds of accidents Mr. Lochbaum describes.<sup>8</sup> Such releases of radiation would also interfere with Ms. Katz's and her children's ability to freely enjoy the natural beauty of the local environment. It is also extremely likely that any adverse consequences Ms. Katz may suffer--environmental, safety, and health--would be long-term problems due to the commonly acknowledged properties of the radioactive materials involved. The threat posed to Ms. Katz, which forms the basis of her concerns, is not merely speculative, and is supported by the declaration of David Lochbaum, nuclear safety engineer for the Union of Concerned Scientists.<sup>9</sup>

Mr. Lochbaum has provided a preliminary safety review of the site conditions prevailing under the Yankee Rowe LTP.

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<sup>8</sup> See generally Declaration of David Lochbaum (March 27, 1998), Exhibit 'B' attached hereto.

<sup>9</sup> See generally, *id.*

In conducting this review, Mr. Lochbaum examined the updated Final Safety Analysis Report (FSAR) for Yankee Rowe, the LTP, applicable federal regulations contained in Title 10 of the Code of Federal Regulations, NRC Information Notice No 84-73: " Gaps in Neutron-Absorbing Material in High-Density Spent Fuel Storage Racks," NRC Information Notice No. 93-70: " Degradation of Boraflex Neutron Absorber Coupons," and NRC Bulletin 94-01: " Potential Fuel Pool Draindown Caused By Inadequate Maintenance Practices At Dresden Unit 1."<sup>10</sup> Mr. Lochbaum concludes that, " there are significant safety concerns...for persons working at Yankee Nuclear Power Station and/or living within close proximity...." and "these significant safety concerns have not been addressed in the Yankee Nuclear Power Station [LTP]."<sup>11</sup> These concerns may be summarized as: (1) lack of control to adequately preclude damage to fuel storage racks and/or irradiated fuel contained therein, such that criticality margins may be compromised; (2) lack of adequate description of methods and safety considerations involved in moving irradiated fuel allowing for the potential for a 35 ton cask drop into the fuel pool; (3) LTP and FSAR lack definition of instrumentation and controls necessary to detect potential problems in the spent fuel pit leading to unobserved degraded conditions in the spent fuel pit, leading to

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<sup>10</sup> *Id.* at ¶ 6.

<sup>11</sup> *Id.* at 2-3.

potentially serious accidents due to water level drop or degradation of irradiated fuel cladding.<sup>12</sup> These concerns lead Mr. Lochbaum to conclude that the risks to persons on site and living near the facility are "real, not highly speculative, and should be taken very seriously."<sup>13</sup> Ms. Katz is a person living in close proximity to the risks Mr. Lochbaum describes. Ms. Katz qualifies as a person who is under threat of real, non-speculative harm. This harm may be eliminated or mitigated if this Panel allows CAN to represent Ms. Katz's concerns, and attempt to have the LTP modified to safeguard against the accidents Mr. Lochbaum describes.

**C. CAN's Concerns Fall Within the Zone of Interest Protected by the Atomic Energy Act and the National Environmental Policy Act.**

CAN's concerns---as stated in declaration of member Debby Katz, and as set forth below in the identification of specific aspects of the subject matter of the proceeding as to which CAN wishes to intervene---relate to health and safety, and to the condition of the human and natural environment. These concerns therefore fall within the "zones of interest" which Congress chose to protect through enactment of the Atomic Energy Act and National Environmental Policy Act.

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<sup>12</sup> *Id.* at 3-5, ¶ 8.

<sup>13</sup> *Id.* at 5, ¶ 9.

CAN's interest, through its representative member, will be affected by the outcome of this proceeding because the Panel may choose, based upon CAN's active participation in the proceeding, to modify or reject the LTP license application based upon health and safety considerations CAN raises. Potential damage to Ms. Katz's health, property value, and her ability to enjoy the local environment, would be "occasioned by the impact that the [agency action] would or might have upon the environment." *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), CLI-92-2, 35 NRC 47, 57 (1992) (quoting *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Units 1 and 2), ALAB-413, 5 NRC 1418, 1421 (1977), quoting *Long Island Lighting Co.* (Jamesport Nuclear Power Station, Units 1 and 2), ALAB-292, 2 NRC 631, 640 (1975)). Damage of this kind to the environment is the kind of harm that NEPA was designed to avoid, hence within its "zone of interests". *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), CLI-92-2, 35 NRC 47, 56-57 (1992). Moreover, the Atomic Energy Act protects similar interests, as it gives the NRC authority to protect the public from radiological injuries to property and health interests. Atomic Energy Act, §§ 103b, 161b, 42 U.S.C. §§ 2133(b), 2201(b); *Gulf States Utilities Company, et al.* (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 48 (1994). Ms. Katz's (hence

CAN's) interests in protecting her health and safety and the local environment from harm due to the accidental release of radiation from the Yankee Rowe site under to LTP or following it, are, thus, within the " zone of interests" protected by the Atomic Energy Act.

**D. CAN Has Standing To Appear As A Full Party In This Matter.**

CAN has provided an adequate declaration to support standing of its member representative member, Debby Katz. Ms. Katz has duly authorized CAN or its designated agent to represent her interests. The interests she describes form the basis for standing under the NRC's jurisprudence and that of a potential reviewing Court. Moreover, the harms described by Ms. Katz are supported by the declaration of an expert in nuclear safety issues, Mr. Lochbaum of Union of Concerned Scientists. Finally, it is plain from Ms. Katz's declaration that there are a number of outcomes to this proceeding which would mitigate or eliminate the harms she now suffers. Hence, CAN should be admitted to this proceeding to represent Ms. Katz's interests.

**III. Aspects of Proceeding On Which CAN Seeks to Intervene.**

NRC regulations at 10 CFR 2.714(a)(2) require a petitioner to set forth " the specific aspect or aspects of the subject matter of the proceeding as to which petitioner wishes to intervene." *Arizona Public Service Company, et al.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3),



LBP-91-4, 33 NRC 153, 159 (1991). CAN takes the position that the application for a license amendment, the LTP, all aspects of the LTP, the extent of compliance the the application and LTP with NRC regulations, and the extent of application and LTP compliance with the Atomic Energy Act, National Environmental Policy Act, Nuclear Waste Policy Act, and other relevant statutes, reasonably comprise the subject matter of the instant proceeding as noticed in the Federal Register. In this context, CAN offers the following in satisfaction of 10 CFR 2.714(a)(2):

**A. Outline Aspects of LTP Hearing in CAN Would Intervene.**

**1. Site characterization methodology or implementation in LTP:**

- a. Validity of procedures utilized to characterize the site:
  - i. Nature, sufficiency, adequacy of methodologies used;
  - ii. Choice of Methodologies:
    - (1) Reasonableness of choice;
    - (2) Scientific basis for choice;
    - (3) ALARA suitability of choice;
    - (4) Limitation of chosen methodology;
    - (5) Cost benefit analysis of chosen methodology.
- b. Nature and sufficiency of items included in the survey:

- i. Completeness;
  - ii. Adequacy of description;
  - iii. Adequacy of assay of contamination;
  - iv. Adequacy of assay of activation analysis.
- c. Nature and sufficiency of environmental surveys:
- i. Adequacy and sufficiency of determination of background radiation levels;
  - ii. Adequacy and sufficiency of soil and asphalt surveys;
  - iii. Adequacy and sufficiency of soil sampling and Gamma logging in open land areas;
  - iv. Adequacy and sufficiency of subfloor soil sampling;
  - v. Adequacy and sufficiency of groundwater sampling;
  - vi. Adequacy and sufficiency of surveys of Deerfield River and Sherman Pond sediment;
  - vii. Adequacy and sufficiency of surveys of leach fields;
  - viii. Adequacy and sufficiency of surveys of fill areas;
  - ix. Adequacy and sufficiency of surveys of garbage and other waste disposal practices during operational life of reactor, and how such have been treated or ignored in the LTP.
- d. Adequacy and sufficiency of supporting documentation and references for site characterization history, activities, procedures, choice of methodologies.

**2. Adequacy of Evaluation, Description and Discussion of Issues Involved in Dealing with Remaining Dismantlement (i.e. Decommissioning) Activities:**

- a. Adequacy, assumptions, sufficiency of description of systems, structures, components not required for spent fuel storage;
  - i Reasonableness of same;
  - ii. Cost/benefits involved;
- b. ALARA considerations (adequacy, assumptions);
- c. Considerations of non-radioactive hazardous materials;

**3. Adequacy, assumptions, sufficiency of description of systems, structures, components associated with storage of irradiated fuel in the irradiated fuel pool:**

- a. Reasonableness of same;
- b. Cost/benefits involved;
  - i. Fuel storage options;
  - ii. Long term planning;
  - iii. ALARA considerations (adequacy, assumptions);
  - iv. Nature of licenses used:
    - (1) Timing of license (Pt. 50 or Pt. 72);
    - (2) Requirements of license (Pt. 50 or 72);
- c. Nature, adequacy, sufficiency, of planning for final license termination;
- d. Nature, adequacy, sufficiency of references used to support licensee's choices concerning remaining dismantlement issues/activities.

**4. Adequacy of Site Remediation Aspects of LTP:**

- a. Adequacy, sufficiency, nature of licensee's approach;
- b. Adequacy, sufficiency, cost/benefit analysis, ALARA considerations nature of methodologies for remediation of:
  - i. Building and structure surfaces;
  - ii. Surface soils and asphalt;
  - iii. Sediment;
  - iv. Subfloor soils;
  - v. Groundwater;
  - vi. Underground water/aquifer;
  - vii. Fuel pit, pool;
  - viii. Ion exchange pit;
  - ix. Any other RCAs or release pathways.
- c. Adequacy, sufficiency of ALARA analysis for site remediation;
- d. Adequacy, sufficiency of supporting references for site remediation.

**5. Adequacy of Characterization of End Use of the Site:**

- a. Adequacy, sufficiency, nature of discussion in plan;
- b. Adequacy, sufficiency, nature of references used to support end use characterization.

**6. Adequacy of Estimate of Remaining Decommissioning Costs and Assurances of Funding:**

- a. Adequacy, sufficiency, nature of licensee's presentation; reasonableness of assumptions;
  - b. Adequacy sufficiency, nature of licensee's remaining cost estimate; reasonableness of assumptions;
  - c. Adequacy, sufficiency, nature of licensee's discussion of decommissioning funding; reasonableness of assumptions;
  - d. Adequacy, sufficiency, nature of references used to support licensee's discussion of decommissioning funding issues.
7. **Assay of Environmental changes Associated With License Termination Activities:**
- a. Adequacy, sufficiency, nature of licensee's discussion of these issues;
  - b. Adequacy, sufficiency, nature of references used to support licensee's discussion of these issues.
8. **Final Status Survey Plan:**
- a. Adequacy, sufficiency, nature of licensee's formulations, assumptions, and methodology for final status survey plan;
  - b. Adequacy, sufficiency, nature of ALARA consideration in final status survey plan;
  - c. Adequacy, sufficiency, nature of cost/benefit assumptions in final status survey plan;
  - d. Adequacy and sufficiency of references used to support final status survey plan.

CAN also intends to focus upon examination of the approach YAEC has adopted in relation to demonstrating compliance with 10 CFR Part 20, subpart E; Part 50, §

50.82(a)(9), raising, in this context, the plan's adequacy, sufficiency, assumptions, cost/benefit analyses, ALARA compliance, and compliance with NEPA , the AEA, and other relevant laws; and the adequacy of the LTP as a supplement to the FSAR/decommissioning plan.

The following is by way of further elucidation of aspects of the proceeding in which CAN would intervene. It is not intended in any way to limit the aspects set forth above:

**B. Descriptive Aspects of the Proceeding on the LTP in Which CAN Intends to Intervene:**

**1. Site release:**

The LTP as submitted violates 10 CFR S 20.1101 in that it fails to maintain occupational and public radiation doses as low as reasonably achievable. In LTP § 2.1, YAEAC states that site release criteria is 15 mrem/year above background radiation. YAEAC's calculations in actuality compute to between 43 and 87m/r per year above background on the site. NRC requirement for 15 mrem per year posits a family farm with a garden with 24 hr a day habitation. YAEAC's calculations for 15 mrem/ year above background require the family farm to be inhabited no more than 8 hours a day rather than the 24-hours per day, 365 days per year assumed in the underlying reference documents.

Under the Final Status Survey Overview, section 3.1, YAEAC states that the Total Effective Dose Equivalent

(TEDE) to the average member of the critical population groups from residual contamination must be below 15 mrem/year and that ALARA principles must be used to reduce the residual levels of radioactivity on-site commensurate with the total risk. CAN believes that the calculations YAEC used avoid the fact that in reality the site will have higher levels of radioactivity than allowable under NRC, EPA and State of Massachusetts standards (maximum site release at 25, 15, and 10 mrem/year above background, respectively).

2. Soil remediation:

Under 4.4.3 in Soil Remediation YAEC attempts to justify the removal of less soil based on the benefit gained in the equation of cost versus ALARA considerations to meet the 15 mrem/ yr. requirement. The licensee uses calculations based on a homogenous concentration of radionuclides  $(Population) \times (Initial\ Dose\ Rate) \times (Mean\ Life) = Total\ Collective\ Dose$ . The contamination on site is not homogenous. This model does not account for the serious and long standing leaks from the ion exchange pit which contaminated Sherman Pond or other leaks, spills, and dumping of contaminated soil, both documented and undocumented that comprise the site., Nor does it account for the hot particles that contaminated the site from the under water cutting of the million curie baffle during the Early Component Removal Project. NRR Project

Brian Grimes at an NRC meeting at Greenfield Community College stated that if a teaspoon of contaminated material remained on site, it had to be cleaned up. NRC stated that YAEC could not average out the activity that contaminated the site and stated that.

In addition YAEC states it will use a mean life of 26 years to bound the actual radionuclide distribution on site. It justifies this on the basis of Co-60 having a mean life of 8 years and it being the 75% of the dose. YAEC attempts a calculation based on 50% Co and 50% Cs. However Cs-137 has a half life of 30 years. YAEC uses this calculation to limit site remediation because the costs are higher than the \$2,000 per-person-rem value accepted by NRC. However YAEC does not calculate in the 500, 000 people a year who recreate on the Deerfield who could in fact traverse the site or the fact that this figure must include a 24 hr a day exposure.

Under 4.4.5 YAEC justifies less remediation of the site since further remediation is not proportionate to its costs for soil areas and structural surfaces with initial dose levels less than 15 mrem/yr. However this argument is faulty. Contamination may be greater below the surface as initial historical surface contamination migrated down to groundwater levels. Contamination in certain test wells was greater with depth. However the licensee is attempting to justify a lack of thoroughness with a cost



analysis. Ground water contamination of site and the migration to DRV are serious issue since 500,000 of the public recreate on the river each year.

3. NRC Oversight and abdication of authority

The proposed site release plan for YRNPS does not adequately describe YAEC's planned decommissioning activities or its controls and limits on procedures and equipment, in violation of 10 C.F.R. § 50.82 (b)

NRC staff asserts that concerns with accidents, leaks, problems with dry casks, or with the transfer of fuel from the fuel pool to dry cask storage are the responsibility of the Department of Energy. However, under NRC regulations , the agency is responsible for the GTCC waste and any ALARA considerations that could result in the unnecessary exposure of workers during transfer and casking of this waste and other irradiated waste in the fuel pool. In section 1.4 YAEC acknowledges that there are 21 canisters of GTCC waste (at least a million curies) stored in the irradiated fuel pool. This GTCC waste will require transfer out of the pool There is no disposition for the waste and no commitment from the DOE for a Pilot Project for the GTCC waste. In addition in section 1.4, YAEC assumes all spent fuel and GTCC will be shipped to the DOE in 2018, therefore YAEC is acknowledging that the GTCC may remain on site till 2018. The GTCC will remain NRC responsibility until it is transferred from the site. In addition the ion

exchange pit remains installed until the removal of the irradiated fuel and the baffle.

The NRC staff and YAEC violated the National Environmental Policy Act by failing to prepare a supplemental Environmental Impact Statement for the creation of the ISFSI under a Part 72 license.

By permitting YAEC to dry cask its fuel, potentially remove its fuel pool, and create an ISFSI under a Part 50 license rather than requiring YAEC to enter a Part 72 License, NRC staff is not interpreting or applying its regulations adequately and violating the National Environmental Policy Act. In section 1.4 YAEC asserts it will operate a dry cask storage facility under a part 50 license. All fuel will be transferred to the from the SFP when the dry cask storage facility is completed. The fuel will remain on site for 20 years.

All issues related to cask handling and leaking casks remain under the purview of NRC. Inadequate surveillance of the site. The removal of the pool is part of decommissioning since the leaking of the casks containing the GTCC waste remains NRC's responsibility.

#### 4. Security

YAEC in section 1.4 states its intention to remain in a Part 50 license to create and oversee an ISFSI. Part 50 was designed for operating reactors in which a highly trained and skilled workforce exists and where there is adequate regulatory oversight with resident inspectors and routine and regular inspections to oversee reactor operations. Under Part 72 environmental assessments are required since it is understood that regulatory oversight is curtailed after the installation of the ISFSI. The Site Release Plan does not detail how the licensee intends to protect the public from access to the ISFSI. It does not address the establishment of operational restrictions to meet ALARA for radioactive materials in effluents and direct radiation levels. It does not establish a control area or establish how the licensee intends to protect the public from exposures above 25 mrem to the whole body, 75 mrem to the thyroid, and 25 mrem to any other organ

Under § 1.4 of the LTP, May 1997 YAEC states that (although a final decision has not been made on long term storage method), it intends to dry cask its waste. It entered into an agreement with NAC to design and certification of dry cask storage is under way. The fuel will be transferred with the GTCC waste to a concrete pad. At this point, it is unlikely that YAEC will have to choose

between continued irradiated fuel storage in the irradiated fuel pit, or transfer to dry cask storage-only casks.

5. Monetary Security

By permitting YAEC to create and operate an ISFSI under a Part 50 license YAEC is relieved of the responsibilities for environmental assessments required under Part 72. It is also relieved of the monetary requirement that insures adequate oversight of the ISFSI. Over a 20 year period this requirement of \$243,000 per year in oversight revenue amounts (without considering lost interest) to \$4,860,000.00 in (present value) revenues lost to the agency Under 6.3, Decommissioning Funding, YAEC does not provide the cost estimates for going into a Part 72 license to create an ISFSI as opposed to remaining under a Part 50 license. YAEC also does not, under "Estimates of Remaining Decommissioning Costs, section 6, provide any comparison in cost estimates between leaving fuel in the pool until the DOE takes possession of it and the cost of removal of the irradiated fuel from the pool into dry cask storage and removal of the pool itself.

6. Waste Issues

The NRC staff violated the National Environmental Policy Act by failing to prepare a supplemental Environmental Impact Statement for the creation clean up of the site.

An EIS is required due to the existence of both documented and undocumented contamination on the Yankee Rowe site. The study is necessary to determine the sources, extent and the potential for plumes of contamination (including tritium) under the surface of the soil if the site is to be released for unrestricted use

Under 2.4.7 YAEC acknowledges two separate leaching fields Septic solids from the systems serving these fields have been documented to contain low levels of radioactivity. A specific EIS is required to investigate ground water contamination that interfaced with septic systems and the waste water systems since contamination and its sources are likely to be more pervasive than what had been determined in the testing of the septic leach field. YAEC's investigation appears to be limited to surface contamination rather than a root cause tracking of sources of ground water contamination.

#### 7. Investigation of Illegal Handling of Rad Waste

Since an undocumented number of incidents involving soil contamination have occurred evidenced by the tritium leak under 2.4.5 Groundwater and the radioactive fill under 2.4.8 Southeast Construction Fill Area, increase scrutiny of the site should occur to determine the extent of undocumented leaks and spills. to identify any and all plumes that may exist in the sub soil.

Descriptions in the LTP appear to describe what would be the illegal handling of radioactive waste in the form of fill, including illegal moving and dumping of undocumented radioactive fill on the Yankee Rowe site. Such moving and dumping would be illegal. YAEC neither had nor has a license to dump contaminated fill on its site.<sup>14</sup> An investigation is required of any instances of waste products being moved and dumped onsite without the use of authorized packaging and/or in the course of authorized shipment of radioactive waste.

Under LTP § 2.4.8, "Southeast Construction Fill Area," YAEC acknowledges that excavated fill from the Radiation Control Area was dumped in this area. YAEC, however, has no records of the dumping. They had a permit to move fill. YAEC claims that "all" it found was Cs-137, and attempts to attribute this to radioactive fall out from bomb testing. Since YAEC had poor record control, and radioactive fill was not permitted to be dumped on site, a thorough environmental assessment is required to determine

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<sup>14</sup> Moreover, even if the fill was not contaminated, movement of fill may implicate the National Environmental Policy Act, and require a site-specific EA or EIS be conducted concerning the disposition of the filled area(s). Issues of drainage, nature of area filled (e.g. wet lands, animal habitat, etc.) need to be taken into account in making a decision as to whether the area can be left as it. Depending on the nature and extent of the moving and dumping of fill, it may well be necessary to conduct such environmental studies before site release can be permitted, as remediation of the filled area could be required.

the extent of undocumented contamination to protect the health and safety of the public if site is to be released for unrestricted use. Other radionuclides may have decayed out (Co-60 half live 5.5 years), Cesium may be a "foot print" for reactor contamination, and indicate the need for a large-scale investigation of ground water contamination and underground contamination.

8. Waste Contamination Investigation:  
Groundwater, Soil, and River Sediment  
Contamination

Although there was a substantial tritium leak (and potentially other radionuclides) from the ion exchange pit in which at least 200 curies of tritium leaked into the ground water in the 1960's, no investigation to determine the potential for a plume of tritium to exist sub surface of the ground has been undertaken. The extent (breadth, depth and direction) of a tritium plume has never been assessed notwithstanding the existence of a plume is more than likely. There is an acknowledgment of residual tritium contamination on site in certain test wells. An investigation must be undertaken to determine an accurate environmental impact assessment of the plume and a description of the of the method used to determine the plume should be clearly identified.

At LTP § 2.4.5, under "Groundwater," seven (7) wells were found to contained tritium. The highest concentration measured was 8,000 pCi/l. This concentration

of tritium is present after approximately 25 years. Tritium has a half life of 12.5 years. It is likely this means that at the time of the leak the concentrations of tritium were over 20,000 pCi/l. As 20,000 pCi/l is above EPA limits, and raises legitimate concerns that there a wide dispersal along ground water pathways occurred. Many of ground water pathways empty into the Deerfield River beyond the site boundary. Such pathways exist in addition to the tritium contamination which was found to have migrated to Sherman Pond. Hence, the LTP should call for investigation of the historic tritium migration pathway to reconstruct the nature and extent of this contamination, and ascertain the existence and extent of any plume of radioactive contamination which may exist under some large portion of the reactor site.

In table 2-5, the sampling done to determine the Radiological Analysis of Sediment does not include tritium. The licensee acknowledges in its Decommissioning Plan that tritium contamination reached the ground water and was identified in Sherman Pond. Sampling for tritium contamination in Sediment must be done.



**V. CONCLUSION**

For the foregoing reasons. and upon the information provided in satisfaction of NRC regulations, CAN should be admitted to this proceeding with full party status.

Respectfully submitted:

A handwritten signature in cursive script, appearing to read "Deborah B. Katz", is written over a horizontal line.

Deborah B. Katz, President, CAN  
P.O. Box 3023  
Charlemont, MA 01339-3023  
413-339-5781

April 6, 1998

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket No. 50-029-LA
	)	ASLBP No. 98-736-01-LA
YANKEE ATOMIC ELECTRIC COMPANY	)	
	)	
(Yankee Nuclear Power Station)	)	March 26, 1998

DECLARATION OF DEBORAH KATZ, MEMBER OF CITIZENS AWARENESS  
NETWORK, INC., SUPPORTING ORGANIZATIONAL STANDING

I, Deborah Katz, President of Citizens Awareness Network, declare the following to be true and correct to the best of my ability:

1. My name is Deborah Katz. I reside at 80 Davenport Road, Rowe, Massachusetts. I live here with my family. I have lived here over twenty years.
2. My home is within six miles of the Yankee Nuclear Power Station site which is at issue in the above captioned proceeding.
3. I am a member of the Citizens Awareness Network, Inc.[CAN], and have authorized CAN, or any agent it chooses, to represent me in this matter.
4. Citizens Awareness Network, Inc. [CAN], the organization of which I am president, is dedicated to educating the public to the serious health and safety issues involved in the continuation of the nuclear fuel chain. CAN is particularly concerned with expanding avenues of democratic participation in pollution prevention and reduction, and

reduction, and issues of environmental justice. CAN was organized in the area around the Yankee reactor. This area qualifies as one of rural poverty. Franklin County is one of the poorest counties in the Commonwealth of Massachusetts.

5. CAN appeared before the Atomic Safety and Licensing Board Panel in the initial phases of the Yankee Rowe decommissioning plan approval process. At that time, the Panel found that CAN had standing to appear.

6. CAN has participated in NRC public meetings, hearings, and workshops. CAN has also filed numerous 10 C.F.R. 2.206 petitions, as well as engaging in successful litigation against the NRC concerning the failure to provide an adjudicatory hearing on the Yankee Nuclear Power Station Decommissioning Plan prior to approval of the plan. CAN has worked (and continues to work) with the Massachusetts Department of Health in an on-going investigation of health problems in the Deerfield River Valley. In the course of these activities, CAN has developed expertise of its own on nuclear fuel chain issues, and has developed broad contacts and relationships with experts on these issues in the United States and around the world.

7. CAN's experience provides a basis for making a contribution to this proceeding if the Panel chooses to give CAN an opportunity to participate fully, obtain discovery, present evidence, and cross-examine the evidence presented by other parties.

8. My interest in the current proceeding, as a citizen, member of CAN, and mother of two children who live with me and go to school each school day in nearby Heath, Massachusetts, stems from my concerns about the long-term environmental effects of low-level radiation. The entire chain of events involved in the operation, dismantlement,

site-clean-up, irradiated fuel storage, and eventual site release of the Yankee Nuclear Power Station continues to be a substantial part of my concerns in this regard.

9. CAN takes the position, which I endorse, that the current status of the reactor site is only apparently less dangerous than before. The appearance in fact belies the reality of site contamination, and the continued threat of a potential irradiated fuel accident which could well involve the release of large amounts of radiation. Because my family and I live so close to the reactor site boundary, the continued potential for such releases of radiation has a profound effect upon our lives.

10. Although I once innocently enjoyed walking, hiking and swimming in this area, my knowledge of the nearby contaminated and still dangerous reactor site interferes with such simple pleasures. It pains me, as a mother, to have to warn my children about the danger, and to stop them from freely and innocently enjoying the otherwise beautiful natural environment around us. The notion that the final site condition projected under the License Termination Plan will satisfy the NRC's criteria for general release is troublesome to me.

11. While the irradiated fuel remains to be transferred into dry cask storage (of a type and with a degree of safety assurance yet unspecified in the plan), there is a very serious potential for accidental releases of radiation into the local environment. Such accidents may occur as a result of several factors which are not considered in the plan, or to my knowledge in any supporting documentation with which I am familiar. Such problems include, but are not limited to:

A. Poor chemistry in the irradiated fuel pool which would cause degradation of the irradiated fuel bundles leading to local chain reactions in a bundle which would unexpectedly emit large quantities of radioactivity when moved out of the pool. As there is no filtering system for the irradiated fuel pool building, this would be a direct release into the local environment.

B. Loss of cooling due to any number of malfunctions would result in unplanned exposure and direct releases of radiation.

C. Loss of water in the irradiated fuel pool would result in a shielding loss. This accident condition, if there is a draw-down close to the irradiated fuel, would be lethal in seconds to any person at the irradiated fuel pool railing, and could be significantly damaging to persons at the site boundary.

12. I believe that CAN's participation in a hearing on the Yankee License Termination Plan will help to introduce a rational skepticism which is sorely lacking in the plan. I also believe that CAN's critical perspective will cause the Panel to engage in a close scrutiny and detailed analysis of the Plan. Such scrutiny and careful analysis by the Panel is likely to result in the licensee's modifications of the plan in ways that will lessen dangers and ensure lower residual levels of radiation on site at (and following) license termination. Were CAN given an opportunity to participate in the hearing process, CAN will focus attention on a number of aspects of the current plan which are of great concern to me.

13. I am particularly concerned that the current plan appears to permit release of the site for public use at levels of radioactive contamination much higher than our Massachusetts state standard of no more than 10 millirem per year above background.

14. I am also concerned that the plan is vague about the nature and extent of contamination and clean-up involved in eliminating the irradiated fuel pool and ion exchange pits. The plan contains no details about the environmental impacts involved in constructing a facility in which to place the irradiated fuel once it is removed from the pool.

15. I am also much concerned about the tritium contamination which I understand has migrated from the ion exchange pit to Sherman Pond. I believe that the plan does not call for an investigation of underground contamination that would likely be in the form of a plume under the reactor site.

16. CAN takes the position, to which I subscribe, that as long as the ion exchange pit and irradiated fuel pool remain on site, any activities connected with maintenance of the pool, removal of irradiated fuel and other above Class C radioactive waste (including the segmented million curie baffle), decontamination of the system, and complete cleanup are all part and parcel of NRC regulated activities under decommissioning. The plan seems to ignore this anomalous situation. As a near neighbor, however, I am deeply concerned that issues which are plainly not yet within the regulatory purview the Department of Energy seem to be outside the licensee's and NRC's discourse in this matter, yet, equally clearly, not outside the ambit of NRC regulation. The way that this process has been unfolding shuts out the public from any meaningful participation in

regards to these issues. CAN's participation will help to remedy this situation, and, I believe, would likely lead to public information that will help to eliminate the inconsistencies and inadequacies in this process and in the License Termination Plan for Yankee. This will provide reassurance to the community, and decrease the likelihood of an irradiated fuel accident that will harm me and my family.

17. My hope, and that of CAN, is to bring these and other relevant issues to light in a full and robust investigation by the Atomic Safety and Licensing Board Panel in this case so that the issues may be resolved in a rational, hence, safety-conscious, way. I view CAN's potential and actual role in this process as a positive one in which CAN will engage the NRC, the licensee, and the Panel in an investigation focused on such issues. This is absolutely necessary in order to assure that the community in which I and my family live will have the lowest possible radioactive contamination reasonably achievable once the NRC permits the Yankee license to be terminated.

I declare under penalty of perjury that the foregoing statements are true.

Executed on March 26, 1998

  
Deborah Katz

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the  
ATOMIC SAFETY AND LICENSING BOARD**

In the matter of	)	Docket No. 50-029-LA
	)	
YANKEE ATOMIC ELECTRIC COMPANY	)	ASLBP No. 98-736-01-LA
	)	
(Yankee Nuclear Power Station)	)	March 27, 1998

**DECLARATION OF DAVID A. LOCHBAUM, NUCLEAR SAFETY ENGINEER,  
UNION OF CONCERNED SCIENTISTS, CONCERNING TECHNICAL ISSUES  
AND SAFETY MATTERS INVOLVED IN THE APPROVAL OF THE  
YANKEE NUCLEAR POWER STATION LICENSE TERMINATION PLAN**

I, David A. Lochbaum, make the following declaration:

1. My name is David A. Lochbaum. I reside in the state of Maryland.
2. I am employed by the Union of Concerned Scientists as their nuclear safety engineer. I have been so employed since October 1996. I have the following responsibilities: a) direct and coordinate UCS's nuclear power program; b) monitor developments in nuclear industry to assess and respond to impact; c) serve as technical authority and spokesperson on nuclear issues; and d) initiate legal action to correct safety problems.
3. The Union of Concerned Scientists, with offices located at 1616 P Street NW Suite 310, Washington, DC 20036, is an independent nonprofit organization dedicated to advancing responsible public policies in areas where technology plays a critical role.



4. I have worked in the field of nuclear engineering since June 1979. I am a graduate of the University of Tennessee with a bachelor of science in nuclear engineering.

5. After receiving my nuclear engineering degree, I went to work for the Georgia Power Company as a junior engineer at their Edwin I. Hatch Nuclear Power Plant. I held various positions in the commercial nuclear power industry over the next 17 years prior to joining UCS. This experience is detailed in the resume attached hereto as Exhibit A.

6. At the request of Citizens Awareness Network, Inc., and attorney Jonathan M. Block, I have examined the Yankee Nuclear Power Station License Termination Plan dated May 1997, and the revised plan dated December 1997. I have also reviewed the updated Final Safety Analysis Report (FSAR) for the Yankee Nuclear Power Station. I am familiar with these documents and have relied upon them in formulating the opinions contained in this declaration. I have also examined and am familiar with, for the purposes of preparing this declaration, the applicable federal regulations contained in Title 10 of the Code of Federal Regulations, Nuclear Regulatory Commission (NRC) Information Notice No. 87-43: "Gaps In Neutron-Absorbing Material in High-Density Spent Fuel Storage Racks," NRC Information Notice No. 93-70: "Degradation Of Boraflex Neutron Absorber Coupons, " and NRC Bulletin 94-01: "Potential Fuel Pool Draindown Caused By Inadequate Maintenance Practices At Dresden Unit 1." I have also relied upon these documents in formulating my opinions as expressed in this declaration.

7. Having examined the relevant documents as mentioned above, it is my professional opinion that there are significant safety concerns which remain for persons

working at Yankee Nuclear Power Station and/or living within close proximity to the facility. It is also my professional opinion that these significant safety concerns have not been adequately considered in the Yankee Nuclear Power Station License Termination Plan. These concerns are set forth below along with my recommendation that they form the subject matter of issues to be considered by the Atomic Safety and Licensing Board in the above captioned proceeding.

8. It is my professional opinion that the following significant safety issues remain for persons living in close proximity to the Yankee Nuclear Power Station and/or persons working there:

(a) Controls do not appear to adequately preclude damage to the fuel storage racks and/or irradiated fuel contained therein such that criticality margins may be compromised. The racks in the spent fuel pit which contain irradiated fuel assemblies are "designed to maintain proper spacing and structural integrity after being impacted by a fuel assembly dropped onto any location from a height of six inches above the top of the racks" [FSAR Section 246.1]. The license termination plan relies on statements that the "detailed work planning excludes activities that could result in a drop of a heavy load onto or into the Spent Fuel Pit" and "Technical Specification 3.2 limits movement of loads over the Spent Fuel Pit to those less than 900 lb" [FSAR 408.3]. A fuel assembly, or any other load weighing more than a fuel assembly and up to 900 pounds, dropped from a height greater than six inches above the top of the storage racks represents a condition outside the design bases for the plant with the potential for causing criticality in the spent fuel pit.

(b) Section 3.3 of the License Termination Plan refers to actions taken after the irradiated fuel is removed from the spent fuel pit. Yet, neither the plan nor the FSAR describe how irradiated fuel can or will be safely removed from the spent fuel pit. To the contrary, "Movement of fuel from the Spent Fuel Pit to either an on-site or off-site fuel storage facility is not bounded" by the fuel handling event analysis [FSR 408.1]. Technical Specification 3.2 allows a shipping cask weighing up to 35 tons to be moved over the spent fuel pit [FSAR 408.3]. The fuel handling accident analysis involves the drop of an object weighing less than 900 pounds [FSAR 408.1 and 408.3]. Completion of Section 3.3 of the License Termination Plan thus requires lifting loads weighing in excess of 900 pounds and other activities which are presently outside the design and licensing bases of the facility. These activities are likely to represent greater risk to the public and to workers than from the event analyzed in the License Termination Plan and FSAR.

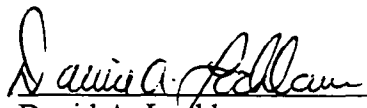
(c) The License Termination Plan and the complementary FSAR do not define the instrumentation and controls needed to detect potential problems in the spent fuel pit. For example, the loss of spent fuel cooling capability analysis indicates that more than four weeks are available to respond to this postulated event [FSAR 408.2]. As reported at another permanently shut down nuclear plant, instrumentation to detect rising spent fuel water temperature and dropping spent fuel water level is critical in being able to respond to events appropriately [NRC Bulletin 94-01]. The lack of adequate administrative controls for this critical instrumentation may delay or prevent timely detection of degraded conditions in the spent fuel pit. Untimely detection of dropping water level in the spent fuel pit can have serious radiological consequences [NRC Bulletin 94-01].

Control of the water chemistry in the spent fuel pit is also important in preventing degradation of the irradiated fuel cladding, yet these controls are not specified in the License Termination Plan or FSAR.

9. Because it is my professional opinion that the above safety concerns addressed in paragraph 8 remain at the Yankee Nuclear Power Station, I am also of the professional opinion, and do so state here, that persons working at the plant and/or living in close proximity to the facility are at a risk of suffering the effects of the potential accidents described above, and the risks and potential are real, not highly speculative, and should be taken very seriously.

I declare under penalty of perjury that the foregoing is true and correct.

Executed March 27, 1998

 03-27-98  
David A. Lochbaum

### Career Summary

Eighteen years experience in commercial nuclear power plant startup testing, operations, licensing, software development, training, and design engineering with a reputation for delivering high quality results on or ahead of schedule and within budget.

### Experience Summary

10/96 to date     *Nuclear Safety Engineer, Union of Concerned Scientists*

Responsible for coordinating UCS's nuclear power program, for monitoring developments in the commercial nuclear industry, and for identifying trends/actions which may reduce nuclear safety margins.

11/87 to 09/96     *Senior Engineer, Enercon Services, Inc.*

Responsible for documenting the station blackout design and licensing bases at Haddam Neck Plant.

Responsible for developing the design and licensing bases training module for the Design Engineering Section at the Perry Nuclear Power Plant.

Responsible for conducting licensing bases vertical slice assessments for the spent fuel pool cooling, fuel handling building ventilation and safety injection systems at the Salem Generating Station.

Responsible for preparing the Design Initiation Report for the Alternate Decay Heat Removal System at the Perry Nuclear Power Plant.

Responsible for revising/eliminating figures from the Updated Final Safety Analysis Report for the Brunswick Nuclear Plant.

Responsible for the verifying implementation of licensing basis commitments at the Salem Generating Station.

Responsible for surveillance test revisions, developing post-installation test procedures, and confirming the adequacy of the lubrication program for balance of plant systems at the Limerick Generating Station.

Responsible for developing the primary containment isolation devices design basis document, reviewing the emergency diesel generators design basis document, resolving design document open items, and updating design basis documents for the James A. FitzPatrick Nuclear Power Plant. Responsible for providing design engineers at FitzPatrick and Indian Point 3 with training on their design basis documents and on the associated configuration management responsibilities.

Responsible for the design review of balance of plant systems and generating engineering calculations to support the Power Uprate Program for the Susquehanna Steam Electric Station.

Responsible for developing the reactor engineer training program, revising reactor engineering technical and surveillance procedures and providing power maneuvering recommendations at the Hope Creek Generating Station.

Responsible for supporting the lead BWR/6 Technical Specification Improvement Program and preparing licensing submittals for the Grand Gulf Nuclear Station.

## Exhibit A: Resume of David A. Lochbaum

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### Experience Summary (continued)

03/87 to 08/87 *System Engineer, General Technical Services*

Responsible for reviewing the design of the condensate, feedwater and raw service systems for safe shutdown and restart capabilities for the Browns Ferry Nuclear Plant.

08/83 to 02/87 *Senior Engineer, Enercon Services, Inc.*

Responsible for performing startup and surveillance testing, developing core monitoring software, developing the reactor engineer training program, and supervising the reactor engineers and Shift Technical Advisors at the Grand Gulf Nuclear Station.

10/81 to 08/83 *Reactor Engineer / Shift Technical Advisor, Tennessee Valley Authority*

Responsible for performing core management functions, administering the nuclear engineer training program, maintaining ASME Section XI program for the core spray and CRD systems, and covering STA shifts at the Browns Ferry Nuclear Plant.

06/81 to 10/81 *BWR Instructor, General Electric Company*

Responsible for developing administrative procedures for the Independent Safety Engineering Group (ISEG) at the Grand Gulf Nuclear Station.

01/80 to 06/81 *Reactor Engineer / Shift Technical Advisor, Tennessee Valley Authority*

Responsible for directing refueling floor activities, performing core management functions, maintaining ASME Section XI program for the RHR system, providing power maneuvering recommendations and covering STA shifts at the Browns Ferry Nuclear Plant.

06/79 to 12/79 *Junior Engineer, Georgia Power Company*

Responsible for completing pre-operational testing of the radwaste solidification systems and developing design change packages for modifications to the liquid radwaste systems at the Edwin I. Hatch Nuclear Plant.

### Education

June 1979 Bachelor of Science in Nuclear Engineering, The University of Tennessee at Knoxville

May 1980 Certification, Interim Shift Technical Advisor, TVA Browns Ferry Nuclear Plant

April 1982 Certification, Shift Technical Advisor, TVA Browns Ferry Nuclear Plant

### Professional Affiliations

Member, American Nuclear Society (since 1978).

### Publications

*Nuclear Waste Disposal Crisis*, PennWell Books, Tulsa, OK, 1996.

DOCKETED  
USNRC

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION '98 APR -8 P4:08  
Before the  
ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

Before Administrative Judges:

James P. Gleason, Chairman  
Thomas D. Murphy  
Dr. Thomas Elleman

In the matter of	)	ASLBP No. 98-736-01-LA
	)	
YANKEE ATOMIC ELECTRIC COMPANY	)	Docket No. 50-029-LA
	)	
(Yankee Nuclear Power Station)	)	April 6, 1998

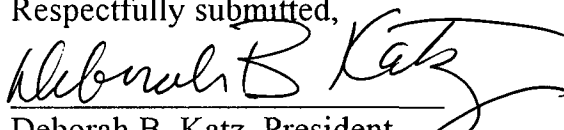
NOTICE OF APPEARANCE

Notice is hereby given that Deborah B. Katz, President, Citizens Awareness Network, Inc.[CAN], enters her appearance *pro se*, in the above captioned proceeding, on behalf of CAN.

Pursuant to 10 C.F.R. § 2.713(b), the following information is provided:

Name and Address:	Deborah B. Katz P.O. Box 3023 Charlemont, MA 01339-3023
Telephone Number:	413-339-5781
Name of Party:	Citizens Awareness Network, Inc. P.O. Box 3023 Charlemont, MA 01339-3023

Respectfully submitted,

  
Deborah B. Katz, President,  
Citizens Awareness Network, Inc.

DOCKETED  
USNRC

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the  
ATOMIC SAFETY AND LICENSING BOARD

'98 APR -8 P4:08

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the matter of )

ASLBP No. 98-785012A

YANKEE ATOMIC ELECTRIC COMPANY )

Docket No. 50-029-LA

(Yankee Nuclear Power Station) )

CERTIFICATE OF SERVICE

I, Deborah B. Katz, pro se representative of Citizens Awareness Network, Inc. hereby certify under penalty of perjury that copies of the within documents have on this 6 day of April, 1998, been served pursuant to 10 C.F.R. 2.701 upon the following persons:

James P. Gleason, Chairman  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Thomas D. Murphy  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dr. Thomas S. Elleman  
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Raleigh, NC 27609

Adjudications File  
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U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Office of the Secretary  
Rulemakings and Adjudications Staff  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Ann P. Hodgdon and Marian L. Zobler  
Office of General Counsel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

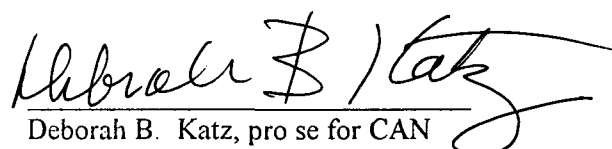
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Franklin Regional Planning Commission  
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Jonathan M Block, Attorney for  
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Office of Commission Appellate Adjudication  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

  
Deborah B. Katz, pro se for CAN