

JONATHAN M. BLOCK

ATTORNEY

AT

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USNRC

LAW

'99 MAY 18 P3:10

94 Main Street

P.O. Box 566

Putney, VT. 05346-0566

802-387-2646 (vox)

-2667 (fax)

OFFICE OF THE  
RULEMAKING  
ADJUDICATION STAFF

[jonb@sover.net](mailto:jonb@sover.net)

May 17, 1999

Office of Commission Appellate Adjudication  
(Mail Stop 0-16-C1)  
U.S. Nuclear Regulatory Commission  
1 White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738

RE: Yankee Nuclear Power Station, 50-029-LA-R

To Whom It May Concern:

Enclosed herein for filing as required by rule please find the original and two copies of "New England Coalition On Nuclear Pollution's Request For Permission To File Contentions And Contentions On The Inadequacy Of Nrc Staff's April 12, 1999 Environmental Assessment And Finding Of No Significant Impact Of Approval Of The Yankee Nuclear Power Company's License Termination Plan" and a Certificate of Service for same.

Thank you for your kind attention to this matter.

Sincerely,



Jonathan M. Block  
Attorney for NECNP

Enc./ as above

SECY-037

DS03

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

DOCKETED  
USNRC

'99 MAY 18 P3:10

Administrative Judges:  
Charles Bechhoefer, Chairman  
Dr. Thomas S. Elleman  
Thomas D. Murphy

OFFICE OF  
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ADJUDICATION STAFF

In the Matter of

YANKEE ATOMIC ELECTRIC COMPANY  
(Yankee Nuclear Power Station)

License Termination Plan

Docket No. 50-029-LA

ASLBP No. 99-754-01-LA-R

Served: May 17, 1999

**CERTIFICATE OF SERVICE FOR NEW ENGLAND COALITION ON NUCLEAR  
POLLUTION'S NEPA CONTENTIONS**

I, Jonathan M. Block, counsel for New England Coalition on Nuclear Pollution, Inc., certify, that on this 17th day of May, 1999, copies of the above document were served upon the parties below by mailing them U.S. Postal Service, Express Mail, postage pre-paid (except for listed persons denoted by '\*' who were served First Class mail):

Rulemakings and Adjudications Staff  
(Mail Stop 0-16-C1)  
U.S. Nuclear Regulatory Commission  
1 White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738  
(800) 368-5642

Office of Commission Appellate Adjudication  
(Mail Stop 0-16-C1)  
U.S. Nuclear Regulatory Commission  
1 White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738  
(800) 368-5642

Robert K. Gad III, Esq. and  
Thomas G. Dignan, Jr., Esq.  
Ropes & Gray  
One International Place  
Boston, MA 02110-2624  
(617) 951-7000

Deborah B. Katz, Executive Director  
Citizens Awareness Network, Inc.  
P.O. Box 3023  
Charlemont, MA 01339-3023  
(413) 339-5781

Charles Bechhoefer, Chairman, and  
Thomas Murphy, Administrative Judge  
Atomic Safety and Licensing Board  
(Mail Stop T-3 F23)  
U.S. Nuclear Regulatory Commission  
2 White Flint North  
11545 Rockville Pike  
Rockville, MD 20852-2738  
Tel. (800) 368-5642

Dr. Thomas S. Elleman  
Atomic Safety and Licensing Board  
704 Davidson Street  
Raleigh, NC 27609  
919-782-7975

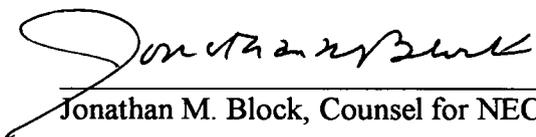
Diane Curran\*  
Harmon, Curran, Spielberg & Eisenberg  
1726 M Street, NW, Suite 600  
Washington, D.C. 20036

James L. Perkins, President\*  
New England Coalition on Nuclear Pollution  
P.O. Box 545  
Brattleboro, VT 05302

Samuel Lovejoy  
Franklin Regional Council of Governments  
425 Main Street  
Greenfield, MA 01301

Ann P. Hodgdon, Esq. and Marian L. Zobler, Esq.  
Office of General Counsel Mail Stop 0-15-B18  
United States Nuclear Regulatory Commission  
1 White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738  
(800) 368-5642

David Rothstein\*  
U.S. EPA Region I Suite 1100-RCA  
1 Congress Street  
Boston, MA 02114-2023

  
Jonathan M. Block, Counsel for NECNP

DATED: May 17, 1999

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

'99 MAY 18 P3:11

OFFICE OF THE SECRETARY  
RULES AND ADJUDICATIONS STAFF

Administrative Judges:  
Charles Bechhoefer, Chairman  
Dr. Thomas S. Elleman  
Thomas D. Murphy

In the Matter of

YANKEE ATOMIC ELECTRIC COMPANY  
(Yankee Nuclear Power Station)

License Termination Plan

Docket No. 50-029-LA

ASLBP No. 99-754-01-LA-R

Served: May 17, 1999

**NEW ENGLAND COALITION ON NUCLEAR POLLUTION'S REQUEST FOR  
PERMISSION TO FILE CONTENTIONS AND CONTENTIONS ON THE  
INADEQUACY OF NRC STAFF'S APRIL 12, 1999 ENVIRONMENTAL  
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT OF APPROVAL  
OF THE YANKEE NUCLEAR POWER COMPANY'S LICENSE  
TERMINATION PLAN**

New England Coalition on Nuclear Pollution [NECNP] hereby requests this Board to permit NECNP to file the within contentions concerning the inadequacy of the NRC Staff's Environmental Assessment [EA] of Yankee Atomic Electric Company's [YAEC's] License Termination Plan [LTP] in the above captioned proceeding. In support of this request, NECNP sets forth as follows:

**I. NECNP'S CONTENTIONS MEET LATE-FILING REQUIREMENTS**

According to NRC regulations, NECNP meets the five prong test for admissibility of its NEPA contentions as "late filed." 10 C.F.R. §2.714(a)(3) and (a)(1)(i)-(v). The five part test is:

- (i) Good cause, if any, for failure to file on time.
- (ii) The availability of other means whereby the petitioner's interest will be protected.
- (iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
- (iv) The extent to which the petitioner's interest will be represented by existing parties.
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

*Id.* at §2.714(a)(1)(i)-(v).

**A. NECNP has Good Cause for Filing Its Contentions at this Time.**

The contentions NECNP would submit at this time are based upon the NRC Staff's EA/FONSI published in the Federal Register on April 12, 1999.<sup>1</sup> This filing is made on May 17, 1999. That is thirty-five (35) days after the publication of the EA/FONSI. During this time, counsel for NECNP has had to bring the matter to the attention of the Board of Directors of his client, NECNP, obtain authorization to go forward with filing the contentions, obtain the review of his expert, Dr. Resnikoff, locate, and obtain the review of an expert in hydrogeology.

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<sup>1</sup> Doubtless, the Board will receive an answer to this filing request stating once again that the NRC Staff sent a pre-publication copy of the EA/FONSI to counsel for NECNP. Counsel for NECNP herein declares again that he did not receive any such mail from the NRC Staff. NRC Staff also have stated that a copy was sent to NECNP's office. While counsel's investigation, upon receiving the NRC Staff's reply, found this assertion to be true, there is no reasonable basis for finding that counsel received a copy of such filing or notice of such filing until April 12, 1999. The Board in this case asked NRC Staff counsel to serve the parties with a copy of the EA/FONSI when issued. *See* portion of the transcript of the Prehearing Conference cited in a letter from J.M. Block, counsel for NRCNP, to Charles Bechhoefer, Chairman, Atomic Safety and Licensing Board (April 25, 1999). Proper service, according to NRC regulations, consists of filing a certificate of service with the matter served, not simply placing a name on the "cc" list accompanying a document. 10 C.F.R. § 2.701(b); 2.712(f). Where there is controversy in such a case, publication in the Federal Register controls. That date is April 12, 1999. This filing, on May 15, 1999, is made thirty three days after the publication of the EA/FONSI.

Mr. Ross is the second hydrogeologist to review the materials. The initial candidate had to review the same materials Mr. Ross reviewed, then have discussions concerning the issues raised therein. Upon the initial candidate's decision to decline to become further involved in this process, another hydrogeologist had to be located. The material Mr. Ross reviewed is nearly one thousand pages (1,000) pages. Once this material was reviewed, discussion were necessary in order to prepare Mr. Ross's declaration. Similarly, although Dr. Resnikoff has already reviewed the materials Mr. Ross had to go through, it was still necessary to consult with him and assist in the preparation of his declaration in this matter.

An additional consideration relating to time is the availability of the material from some other source. First, NECNP contends that the material and conclusions of the EA/FONSI were not available until issued. By this, we contend that there was no way to know in advance what the NRC Staff would base its EA/FONSI upon. Nor was there any way to know whether YAEC would issue a supplement to its 1993 Environmental Report prior to the NRC's Staff's issuance of the EA/FONSI. Moreover, as inspection of the submitted NEPA contentions will reveal, many of the contentions deal with the legal inadequacy of the EA/FONSI. In this regard, it would be an elevation of form over substance (and a violation of NEPA) to reject on the basis of "lateness" consideration of contentions questioning the legality of the NRC Staff's EA/FONSI in this matter. Second, the important question, as always, is what the NRC Staff was going to do with the materials available. NECNP has (and had) no way of knowing what the NRC would reference in the EA/FONSI, and what conclusions it would attempt to draw from the data.

Finally, YAEC just announced to the Board that it is revising the Final Site Survey Plan to meet the MARSIM protocols. Board Notification (by fax transmission May 13, 1999, 7:13 p.m., and First Class mail on that date). This means that the NRC Staff's EA/FONSI on the LTP needs to be revised to the extent it relies upon information contained in the versions of the LTP submitted to the NRC Staff and reviewed for the EA/FONSI. The material portion which YAEC intends to substantially alter in terms of applicable methodology is more than 50 % of the total plan (excluding title pages and tables of contents and figures). Moreover, the complete revision of the Final Site Survey Plan calls into question all portions of the LTP which relied upon NUREG-5849. YAEC will very likely need to revised all such portions of the main text so that the body of the LTP justifies the projected methods and accomplishments of the methodologically revised Final Site Survey Plan.

NECNP contends that under such circumstance, its filing today, taking account of the these proposed major changes to the LTP, is timely, and for good cause. NECNP further contends that it is likely that the NRC Staff will need to redo and reissue its EA in this matter regardless of whether this Panel admits any of the contentions proffered herein. Once such a revision takes place, NECNP would have a basis for submitting additional contentions based upon the revised EA.

**B. No Other Means Exist To Protect NECNP's Interests.**

In the proceeding to date, the NRC Staff's interest has been nearly identical to that of the applicant, Yankee Atomic Electric Company--so identical an interest, that the NRC Staff and YAEC should be combined for purposes of economy in the proceeding.

Neither one has supported NECNP's admission to this proceeding. The Staff had put forward the EA/FONSI at issue in these contentions. The contentions oppose admission of the EA/FONSI. Hence, the NRC Staff will not be protecting NECNP's interest. YAEC's application is the issue before this Panel. YAEC would like to have its LTP approved. Hence, YAEC will not be supporting NECNP's interest in having the within NEPA contentions admitted. CAN is not submitting NEPA contentions of its own, so NECNP's interests in the admission of the contentions proffered within will not be represented by CAN. Finally, neither the contentions admitted to date, nor the limited participation of Franklin Regional Council of Government's Planning Board will protect the interests of NECNP advanced by admission of the proffered contentions. While NECNP does believe that the Panel in this case will act to assure that the interests of all parties are accorded due process under the NRC regulations, that is not the same as advancing the interests which the proffered contentions will advance. Finally, NECNP cannot take a direct appeal of its NEPA contentions to the Commission or the United States Court of Appeals. The proffered contentions must first be presented to this Panel for its ruling on their admissibility. Once this has taken place, NECNP may have subsequent courses of action open to protect its interests, but, at this stage, the way to protect these interests is by presenting them to this Panel. Therefore, at this time, only NECNP can advance its interests in this matter through the admission of the contentions proffered herein below.

**C. NECNP Will Make A Sound Contribution to the Record**

NECNP continues to contribute to the instant proceeding by providing the Atomic Safety and Licensing Board Panel ["Panel" or "Board"] in this case with expert opinion. NECNP provided the opinion and work of Dr. Marvin Resnikoff in the initial stage of this proceeding. Herein again, NECNP has provided the expert opinion of Dr. Resnikoff. NECNP has also obtained the services of a Certified Ground Water Professional, hydrogeologist Robert Ross. In this regard, NECNP endeavors to meet the requirements of 10 CFR 2.714 concerning late filed contentions which, according to the Board in this matter, govern the admissibility of the herein proposed contentions.

Significantly, NECNP's experts have provided opinion that is not available to the panel through other parties. The NRC Staff's EA and FONSI, which NECNP contends herein is defective, deficient, and inadequate under NRC regulations, the National Environmental Policy Act [NEPA], and Council on Environmental Quality regulations governing the implementation of NEPA, has been promulgated in this case. The NRC Staff will not likely offer the Board any expert opinion scrutinizing and criticizing the contents of its EA/FONSI. Plainly, the NRC's Staff will not be providing the Panel with opinion and judgments such as those NECNP has provided herein and attached hereto. Similarly, the party with whom the NRC Staff has thus far had nearly a complete identity of interest and position, the applicant for approval of the LTP, Yankee Atomic Electric Company, certainly cannot be expected to provide this Panel with an scientific and technical opinion undercutting its application. Hence, NECNP, by filing its contentions with attached expert declarations, is already providing this Board with

Dr. Marvin Resnikoff, Senior Associate at Radioactive Waste Management Associates, reviewed the EA and referenced documents, and Contentions herein submitted, and provided his professional opinion of the inadequacies in the EA to support certain NRC Staff conclusions concerning matters within Dr. Resnikoff's scientific and technical expertise and experience. *See Second Declaration of Dr. Marvin Resnikoff* (May 13, 1999), a copy of which is attached hereto. Dr. Resnikoff states in his declaration that the technical facts presented in the contentions are true and correct to the best of his knowledge, and the conclusions drawn from those facts are based upon his best professional judgment. *Id.*

Robert Ross, Ross Environmental Associates, Inc., also reviewed the EA, LTP, rev 0 and 1, and the other documents therein and the EA/FONSI at issue herein. He also reviewed YAEC's ER (December 1993) and the NRC Staff's EA based upon that ER (December 1994); the FSAR incorporating the Decommissioning Plan (June 1995); F X. Bellini and E.R. Cumming, YAEC-1924, "Summary Report of Site Characterization Activities" (September 1995); F.X. Bellini and E.R. Cumming, YAEC-1934, "Summary Report of Site Characterization Activities" (May 1996); and P. Hollenbeck memorandum to K. Heider, YAEC file no. RP-96-56, "Preliminary 1996 Characterization Results" (August 20, 1996); 10 C.F.R. 50.82(a)(9)-(11); the contentions thus far admitted to the proceeding, and the contention set forth herein, and the EPA's letter to the Panel and Office of the Secretary (January 26, 1999). *See Declaration of Robert Ross, CGWP, Concerning the NRC Staff's EA on YAEC's LTP, attached hereto.* The material Mr. Ross reviewed amounts to nearly one thousand (1000) pages of documents. Since his

declaration was filed, Mr. Ross has also had an opportunity to review Revision 0.0 of the YAEC Decommissioning Plan and some related documents.

Mr. Ross is a certified ground water professional (CGWP # 455) with over 14 years of experience in hydrogeologic and environmental consulting. *Id.* at Exhibit 'A'. His project experience includes: ground-water contaminant fate and transport studies; expert witness testimony; hydrogeologic investigations at petroleum release sites, industrial facilities, and landfills; design and implementation of contaminant remediation projects; air quality monitoring; CERCLA RI/FA investigations; DNAPL site characterization; ground water development studies; water resource evaluation; water-supply studies; and environmental assessments for real estate transactions. *Id.*

Through the use of Mr. Ross and Dr. Resnikoff, NECNP may make a sound contribution to the record in this case. The contentions proffered herein are within the relevant expertise of the two experts. Moreover, NECNP's counsel in this case has been litigating the case since 1994. He has, in that time, developed some expertise in the issues now before this Panel, and will use that expertise to advance the issues herein below presented through the contentions at issue. Wherefore, NECNP will make a sound contribution to the record in this proceeding.

**D. NECNP's interests in this proceeding and the contentions proffered herein will not be represented by existing parties.**

NECNP's interests, as indicated in argument to item 'B' above, can only be protected by NECNP. CAN will not represent NECNP's interests as set forth in the proffered contention. Nor, plainly, will YAEC or the NRC Staff, for the reasons set forth above. Neither will Franklin Regional Council of Government's limited appearance in

this matter represent NECNP's interests. Nor, again, will the Panel represent NECNP's interests. NECNP wishes to challenge, on what it views as a timely basis, the acceptance of the NRC Staff's EA/FONSI. No other party is challenging or poses the challenge to the EA/FONSI as NECNP sets forth herein. Hence, NECNP must have an opportunity to advance this interest for itself.

**E. Admission of NECNP's NEPA Contentions will neither broaden the issues admitted to date nor delay the proceeding.**

NECNP's NEPA contentions offered herein below are placed before this Panel only days after applicant YAEC filed its Board Notification which portends an alteration in the underlying methodology of the LTP and its Final Site Survey Plan. This change is so large as to throw into question the entire process of LTP approval before this Panel. What NECNP offers the Panel at this stage is disapproval of the NRC Staff's EA/FONSI, which EA/FONSI is based upon an application that is about to be altered by more than 50 % of its basis. NECNP's contentions provide this Panel with the basis for rejecting the EA and directing the NRC Staff to do a proper job in assessing the LTP as revised using the MARSIM protocols. Alternatively, the Panel could take up some of the proffered contentions insofar as they remain valid criticisms (and significant material disputes) over the basis for the LTP. In neither even will more delay be visited upon the process by NECNP's proffered contentions than potentially exists under YAEC's pending revision of more than 50 % of the LTP application.

Additionally, YAEC just asked for an agreement to at least a two (2) week extension in its discovery replies to NECNP's first set of interrogatories and requests to produce due to delays at YAEC from moving and working on the changes to the LTP. Hence, NECNP's contentions, if admitted, insofar as they address portions of the LTP which YAEC does not change, will not significantly affect the schedule in this matter. Several of the contentions address the environmental underpinnings of the methodological issues this Panel has already permitted. Allowing the proffered contentions will only permit NECNP to round out the substance of the subject matter already before the Panel.

Therefore, the proffered contentions should be admitted for consideration.

## **II. Contentions**

A. The EA/FONSI is defective and inadequate and should be rejected because it is moot due to YAEC's announcement of pending substantial alterations to the LTP. *See* YAEC's Board Notification (May 13, 1999). In the alternative, the Panel should set a schedule for the NRC Staff's completion of a draft supplemental EA based upon establishing a date certain for YAEC's submittal of a re-revised LTP. The draft EA will provide an opportunity for comment from the parties and agencies such as EPA. Moreover, the Panel should ascertain that NRC Staff involved in preparing a new EA for the LTP as revised under the MARSIM protocols have been trained in using the MARSIM protocols.

**BASIS**

The applicant, YAEC, announced at the end of last week that it is revising the Final Site Survey Plan. YAEC's Board Notification (May 13, 1999). This is no mere correction. Significantly, the proposed changes will completely alter over 50% of the LTP. Further, this is a complete change in the underlying methodology. YAEC's revision will use MARSIM. MARSIM's methodology is different from the NUREG-5849 methodology YAEC used throughout the LTP application currently pending before the Panel. YAEC states in its Board Notification to the panel that MARSIM will replace the NUREG-5849 methodology. *Id.* Additionally, and of equal import, it is not know if the NRC Staff who conducted the EA/FONSI were trained in using the MARSIM protocols. In order to have a meaningful evaluation of the LTP, NRC Staff conducting an EA on the re-revised LTP will need to be certified in using the MARSIM protocols.

As the plan submitted to the NRC staff will now be, in effect, withdrawn and resubmitted in a substantially altered condition, the NRC Staff's EA/FONSI must be redone once the revised LTP is before the Panel. Further, NECNP's experts have given consideration to the LTP as submitted. When YAEC submits the re-revised LTP, the Panel should allow the NRC Staff a reasonable period of time to evaluate it. After the evaluation, the NRC Staff should submit a draft EA for comment from the parties and sister agencies. This would also provide

NECNP and the other parties a reasonable time to evaluate YAEC's newest version of the LTP.

B. The EA/FONSI must be rejected because it violates minimum procedural requirements of the National Environmental Policy Act. In the alternative, the Panel should direct the staff to withdraw the EA/FONSI, redraft it upon receiving the new EA/FONSI, as suggested above, to deal with the major changes YAEC will make, and issue a draft EA for comment from the parties and sister agencies.

**BASIS**

There critical legal defects in the NRC Staff's process for issuing the EA/FONSI:

(1) NRC Staff failed to respond to a sister agency's (EPA's) comments on the LTP in the EA/FONSI. The EPA submitted a letter to the NRC on January 26, 1999, over two months prior to the NRC Staff's issuance of the EA/FONSI in this matter. Transcript of Prehearing Conference [evening session] (January 26, 1999) at 5-10 (Carl Dirkes, EPA Region I General Counsel, making a statement of EPA Region I position on the LTP approval), and John P. DeVillars, Regional Administrator, EPA letter to Judge Bechhoefer and the U.S. NRC Office of the Secretary (January 26, 1999) at 3 [EPA Letter] (suggesting that there are factors which favor preparation of an Environmental Impact Statement (EIS)), attached at

end of Transcript (evening session, January 26, 1999). In his letter, Mr. DeVillars states, in pertinent part:

EPA - New England suggests that an Environmental Impact Statement (EIS) is the appropriate vehicle for environmental review of decommissioning activities because it would allow for comprehensive site characterization and consideration of alternative clean-up scenarios and mitigation, as well as full public review and comment. NEPA also encourages public participation in the scoping process early in a federal agency's decisionmaking process. Especially in the case of Yankee Rowe, which was the first commercial plant to come off-line and be decommissioned, we are surprised that without much current environmental information, NRC issued an Environmental Assessment/Finding of No Significant Impact and relied to a great degree upon an outdated, 1988 Generic EIS, which contains no site-specific information, in approving the decommissioning plan. We also agree with petitioners that it appears that NRC has segmented the decommissioning process by allowing the temporary storage of spent fuel to be considered under a separate licensing scheme, the environmental review of which typically occurs after an LTP has been approved. By doing so, the impacts associated with Independent Spent Fuel Storage Installation (ISFSI) -- earth-moving, alterations to drainage and surface and groundwater flows, radiation releases -- which also affect the decommissioning of the site, remain unaddressed until the closing stages of license termination.

EPA Letter at 3. Both of NECNP's experts have stated that the NRC's failure to take into account and respond to the EPA's letter in this matter is not consistent with accepted practices in such matters. Second Declaration of Dr. Marvin Resnikoff at ¶ 3(b), (May 13, 1999), attached hereto; Declaration of Robert J. Ross, CGWP, Hydrogeologist at ¶ 3(b) (May 14, 1999), attached hereto. In this regard, the NRC Staff's EA/FONSI in this case is fatally flawed: it violates the basic procedural requirement of NEPA

concerning communication and cooperation among federal agencies, as well as consideration of the comments of sister agencies -- both principles are very well settled within the customary practice and jurisprudence concerning the bare minimum requirements of agencies' lawful NEPA practices. *See United States of America v. 27.09 Acres of Land*, 760 F.Supp. 345, 351 (S.D.N.Y. 1991) (citing *Sierra Club v. United States Army Corps of Engineers*, 701 F.2d 1011, 1030 (2<sup>nd</sup> Cir. 1983) (when responsible agency ignores conflicting views of other agencies having pertinent expertise, reviewing court may properly be skeptical about conclusions); *see also Sylva v. Lynn*, 482 F.2d 1282, 1285 (1<sup>st</sup> Cir. 1973) ("comments from responsible experts or sister agencies disclosing new or conflicting data or opinions ... may not simply be ignored. There must be good faith, reasoned analysis in response"); *County of Suffolk v. Secretary of Interior*, 562 F.2d 1368, 1383 (2d Cir. 1977), *cert.denied*. 434 U.S. 1064 (1978) ("where evidence presented to the preparing agency is ignored or otherwise inadequately dealt with, serious questions may arise about the author's efforts to compile a complete statement")) *see also I-291 Why? Association v. Burns*, 372 F. Supp. 223 (D.Conn. 1974) (circulation and review requirements are critical features of NEPA). NRC Staff's EA/FONSI fails to address EPA's comments and concerns; therefore it is flawed and should be rejected.

(2) NRC Staff failed to provide an opportunity for public comment and comment from the EPA, or to address the comments made prior to the issuance of the EA/FONSI in this case. The NRC Staff has not responded to public comments

(oral and written) about, and questions of, the LTP made in January 13, 1998, at the Public Meeting in Buckland, Massachusetts. The NRC Staff have not responded to the limited appearance statements made in this proceeding on January 26, 1999.

The NRC Staff's EA/FONSI in this case is, thus, fatally flawed, as it violates the basic procedural requirement of NEPA concerning provision of opportunity to engage in comment and response between interested members of the public and the agency submitting the EA. 42 U.S.C. 4332(C); 40 C.F.R. § 1500.2(d) (a key purpose of NEPA is "encouraging and facilitating public involvement in decisions which affect the quality of the human environment"); *see also* 40 C.F.R. §§ 1502.1, 1503.1, 1506.6, 1508.9; *United States of America v. 27.09 Acres of Land*, 760 F.Supp. 345, 353 (S.D.N.Y. 1991); *see also* *Commonwealth of Massachusetts v. Watt*, 716 F.2d 946, 951 (1<sup>st</sup> Cir. 1983); *Grazing Fields Farm v. Goldschmidt*, 626 F.2d 1068, 1073-74 (1<sup>st</sup> Cir. 1980); *Alaska v. Andrus*, 580 F.2d 465, 474 (D.C.Cir.1978); *I-291 Why Association v. Burns*, 517 F.2d 1077, 1081 (2d Cir. 1975); *Appalachian Mountain Club v. Brinegar*, 394 F.Supp. 105, 122 (D.Mass. 1975).

In light of the controversy surrounding the instant case--well known to the NRC Staff from the public meeting in Buckland on January 13, 1998 through the limited appearance statements at the Prehearing Conference on January 26, 1999--

failure to issue a draft EA in this matter or even begin to address in the NRC Staff's EA/FONSI the numerous public comments and questions which remain unanswered flagrantly violates the spirit and letter of NEPA. Similar considerations apply to the NRC Staff's failure, under these circumstances, to at least issue a "draft" EA/FONSI for comment.

(3) NRC Staff failed to obtain an updated Environmental Report [ER] upon which to base their conclusions. *See* Second Declaration of Dr. Marvin Resnikoff at ¶ 3(a), attached hereto; *see also* Declaration of Robert J. Ross, CGWP, Hydrogeologist at ¶ 3(a), attached hereto. Mr. Ross states:

The NRC Staff's EA/FONSI is not based upon a supplemented ER, and the one from 1993 is outdated and incomplete. So far as I am aware, Yankee Atomic Electric Company has not issued any update to the supplemental Environmental Report on the decommissioning of the Yankee Nuclear Power Station, Rowe, Massachusetts [YR] since it submitted the one issued in December, 1993. The NRC Staff's EA/FONSI is not based on a supplemental ER which identifies and evaluates the environmental impacts due to YAEC's use of the YR site to date. There is no documentation of the cumulative changes to the site and environmental impacts due to operation of the Yankee Nuclear Power Station. Importantly, there is no documentation of the environmental impacts and changes due to decommissioning and projected through final site remediation when there will no longer be any radioactive materials stored on the site. Lacking documents which would constitute a reasonable site assessment, which documents are not included in any of the documents I reviewed, including those referenced in the EA/FONSI, it is my professional opinion that the NRC Staff has no basis in fact for making any scientific judgment that the LTP and Final Site Survey will adequately assure that the health and safety of the public are protected from radioactive contamination at the YR site.

*Id.* There is also legal precedent for rejection of the EA/FONSI in this case as the NRC Staff's reliance on an old ER in support of the EA/FONSI is suspect. *Sierra Club v. NRC*, 862 F.2d 222, 229-230 (9<sup>th</sup> Cir. 1988) (citing *San Luis Obispo Mothers for Peace v. NRC*, 799 F.2d 1268, 1271 (9<sup>th</sup> Cir. 1986)). In the instant case, the NRC Staff relies upon an ER which YAEC authored in December of 1993. The purpose of YAEC's 1993 ER was to support approval of its yet-to-be-implemented decommissioning plan. The NRC Staff again rely on this 1993 document to support an EA/FONSI on the LTP in April of 1999, even though YAEC plainly did not prepare the ER to support approval and justify the environmental soundness of implementation of the LTP. YAEC's 1993 ER did not (and could not) account changes to the Yankee Rowe site which YAEC made during the decommissioning process. YAEC's ER did not (and could not) deal with changes YAEC's decommissioning process made to, for example, soil compaction, exposure of contaminants, accumulation of wastes, creation and dispersion of additional contamination, and drainage.

The fact is that there is no Environmental Report on which the NRC Staff based its EA/FONSI in this case. Hydrogeologist Robert J. Ross points out in his declaration, there are a number of serious questions about contamination at the Yankee Rowe site which are not addressed in the NRC Staff's EA/FONSI. Ross Declaration at ¶ 3(c)-(e). There is no hydrogeological component to the NRC

Staff's EA/FONSI, nor does the NRC Staff reference any documents which support the conclusion that the site is not leaking radioactive effluents into the groundwater. Mr. Ross states:

The NRC Staff's conclusion in the EA/FONSI that "[i]ssuance of the amendment approving the LTP will not have any significant effect on accident risk and probability of any other environmental impact is extremely remote" is not based upon an examination of significant hydrogeological issues at the Yankee Rowe site. It is my professional opinion that, in reaching this conclusion in the EA/FONSI, the NRC Staff had:

(i) No data apparent in any of the EA/FONSI referenced material or EA/FONSI itself regarding the identification of the extent of downgradient contamination based upon my study of the available ground-water analytical results.<sup>2</sup>

(ii) No data apparent in any of the EA/FONSI referenced material or EA/FONSI itself regarding vertical contaminant distribution in ground water; YAEC has apparently failed to evaluate this matter. Ground-water contaminant data from monitoring well B-1, which is screened between 39-49' below ground surface, shows some of the highest concentrations of tritium at the site. Other monitoring wells in this vicinity of the site with similar contaminant concentrations, CB-1 and CB-9, have well screens installed within 25 feet below ground surface. There does not appear to be any ground-water quality data for the deeper portions of the underlying ground-water formation; except for the data from B-1, which indicates the presence of contamination.<sup>3</sup>

(iii) No data in the EA/FONSI referenced material or EA/FONSI itself regarding vertical hydraulic gradients at the site. This is important to determine whether contamination identified in

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<sup>2</sup> See generally, documents referenced above in ¶2. None of the referenced documents appear to provide this necessary information.

<sup>3</sup> EA (1994) §3.4.2, ¶3 at 15; YAEC-1924 at Appendices 1 and 4; YAEC-1934 §2.3 at 2, and Appendix 3 [YAEC 1934]; YAEC RP-96-56.

the shallow ground water formation is potentially migrating to deeper portions of the formation. If there is downward flow and contaminant migration it is important to determine where it is going.<sup>4</sup>

(iv) No information in the EA/FONSI referenced material or EA/FONSI itself regarding the possible hydraulic connection/relationship between the Deerfield River and the underlying ground-water formation.<sup>5</sup>

(v) No information in the EA/FONSI referenced material or EA/FONSI itself assessing the extent of the fill deposits and their relationship to ground-water flow and recharge at the site; also the current assessment does not appear to take the site geologic setting into consideration. Soil boring logs for the soil borings/monitoring wells installed at the site indicate the presence of fill material overlying dense till deposits. Also, the till deposit appears to be a heterogeneous mixture of material ranging from clay to boulders. Ground water flow in this type of geologic setting can be quite complex.<sup>6</sup>

(vi) No information in the EA/FONSI referenced material or EA/FONSI itself correlating ground-water contaminant concentrations with water-table fluctuations. Often times contaminant concentrations will decrease or increase in direct relationship with the fluctuation of ground-water levels.<sup>7</sup>

Furthermore, the available hydrogeologic data is deficient in the following respects:

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<sup>4</sup> EA (1994) §3.4.2, ¶3 at 15, §2.1.4 at 8; YAEC-1924 at 3 and Appendix 3; YAEC-1934 at Appendix 2; YAEC RP-96-56.

<sup>5</sup> EA (1994) §2.1.4, ¶3 at 7-8; ER (1993) §3.4 at 3-19 and 3-20; YAEC-1924 §2.1.3 at 3; YAEC-1934 at Appendix 2.

<sup>6</sup> EA (1994) §2.1.5, ¶3 at 8 and 9; ER (1993) §3.5.5 at 3-24; YAEC-1924 §2.1.1 at 2 and Appendix 1.

<sup>7</sup> EA (1994) §2.4 at 15; ER (1993) §3.4.2 at 3-20; YAEC-1924 §2.1.3 at 3, §2.1.4 at 4, and Appendix 3; YAEC-1934 § 2.2 at 2, § 2.3 at 3; 4; *see generally*, Appendices 2 and 3.

(vii) Ground-water flow/contour diagram in Appendix 3 appears to inappropriately use water level data from B-1, which is screened in a deeper portion of the ground water formation. Technically, a ground water contour map should use only points that intercept the same zone/depth of the formation.<sup>8</sup>

(viii) Tritium concentrations in several of the wells are generally consistent over time, which suggests the source has not been identified or that residual contamination remains on-site. Tritium concentrations in CB-2, show a general decrease to non-detect then increases to concentrations similar to the original concentrations. There does not appear to be an attempt to explain this anomaly; this may be due to poor sampling technique, another release, or changes to the site that may have affected contaminant distribution.<sup>9</sup>

(ix) VC elevator shaft sampling in 1994 detected tritium, but a footnote to the table containing this information indicates that the area was dry during subsequent sampling events. There does not appear to be an attempt to explain this, nor any documentation of attempts to drill deeper to intercept ground water.<sup>10</sup>

(x) There does not appear to be any data, which correlates contaminant concentrations to seepage flow rate at Sherman Spring. Contaminant concentrations in the spring may be directly related to seepage flow rate.<sup>11</sup>

(xi) Sediment sampling should include more than just shallow grab samples. All referenced samples appear to be collected with a ponar grab sampler, which suggests only shallow top layer sediment samples were collected. There is no mention of deep cores samples in any of the documents reviewed. A proper sediment characterization should include deeper samples.<sup>12</sup>

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<sup>8</sup> YAEC-1924 at Appendix 1; YAEC-1934 at Appendix 3.

<sup>9</sup> YAEC-1924 at Appendix 4; YAEC-1934 §2.3 at 2, and Appendix 3; YAEC RP-96-56.

<sup>10</sup> YAEC-1934 at Appendix 3.

<sup>11</sup> EA (1994) §3.4.2, ¶2 at 15; ER (1993) §6.1.1 at 6-3; YAEC-1924 §2.3 at 2 and Appendix 3.

<sup>12</sup> YAEC-1934 §2.4 at 3 and Appendix 4.

(xii) No deeper sampling appears to have been completed to evaluate the vertical extent of subfoundation soil contamination. Subfoundation soils samples appear to be collected within the upper 40" or less. Many of the deepest samples listed on the Summary tables detected contamination.<sup>13</sup>

(xiii) No deeper sampling appears to have been completed to evaluate the vertical extent of subsurface soil contamination. Subsurface soil samples appear to be collected within the upper 16" or less. Several of the deepest samples collected still had detectable concentrations of contamination (TS-155, TS-171).<sup>14</sup>

(d) Based upon the above observations, it is also my professional opinion that the NRC Staff's conclusion in the EA/FONSI that "the proposed action does not increase the probability or consequences of any accidents" is not based upon an adequate or complete assessment of the hydrogeology of the Yankee Rowe site. The NRC Staff, therefore, has no basis for making such a statement without accounting for risks based upon the hydrogeological issues I have identified herein above. The NRC Staff also would need to have the kind of hydrogeological data I have found to be absent from the NRC Staff's EA/FONSI and referenced documents.

(e) Based upon the above observations, it is also my professional opinion that the NRC Staff's EA/FONSI conclusion that "no changes are being made in the types of any effluents that may be released offsite" is not based upon an adequate hydrogeological characterization of the Yankee Rowe site. Further, as the NRC Staff EA/FONSI provides no references to studies of the history of changes to the YR site, in my professional opinion there is no scientific basis for concluding that there will be no changes in the types of effluents released offsite due to actions stemming from approval of the LTP.

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<sup>13</sup> YAEC-1934 §2.5 at 4 and Appendix 5; YAEC RP-96-56.

<sup>14</sup> YAEC-1924 §2.2.3 at 8 and Appendix 10.

*Id.* Plainly, the NRC Staff's EA/FONSI in this case does not have the scientific basis to support the conclusions that the site is safe, at low risk, and not leaking radioactive waste off site. Thus, the NRC Staff's EA/FONSI must be rejected.

(4) The NRC Staff EA/FONSI is merely a self-serving justification for a decision prior to the issuance of the EA. As early as January 28, 1998, the NRC Staff indicated that it proposed to approve the LTP under No Significant Hazards Consideration. 63 Fed. Reg. 4308, 4328-4329 (January 28, 1998). This is evidence that the NRC Staff formed an opinion concerning the environmental soundness of approving the LTP fifteen (15) months before issuing the EA/FONSI. The EA/FONSI issued in this case should be compare with the Federal Register Notice proposing approval of the LTP under No Significant Hazards Consideration. It is evident that the EA/FONSI is little more than a justification for the decision to approve the LTP under NSHC. That is not correct NEPA procedure. *See, e.g., NRDC v. Callaway*, 389 F. Supp. 1263, 1276 (D.Conn. 1974) (agencies should bear in mind that the EA and EIS are intended as a means of assessing environmental impacts of proposed agency actions, not mere justification for decisions already made) (*citing* 40 C.F. R. § 1500.7(a); *Sierra Club v. Lynn*, 502 F.2d 43, 59-60 (5th Cir. 1974); *Environmental Defense Fund, Inc. v. Armstrong*, 352 F. Supp. 50, 55 (N.D. Cal. 1972), *aff'd*, 487 F.2d 814 (9th Cir. 1973); *Daly v. Volpe*, 350 F. Supp. 252, 259 (W.D. Wash. 1972)).

C. The EA/FONSI is inadequate and should not be approved because it draws conclusions about the probability of accidents which are not supported by calculations. Since conclusions concerning the probability of an accident must be based upon calculations of the probability of such an event, there is no scientific basis in the EA/FONSI or referenced documents for the NRC Staff's conclusions in this regard. Hence, the EA/FONSI should be disapproved.

### **BASIS**

In Dr. Resnikoff's Second Declaration he states:

The NRC Staff's conclusion in the EA that "[i]ssuance of the amendment approving the LTP will not have any significant effect on accident risk and probability of any other environmental impact is extremely remote" is not based upon any set of calculations provided in the EA itself or in the materials referenced in the EA. Hence, the NRC Staff has no basis for making a statement which must take into account the calculations necessary for a probabilistic risk assessment.

Id. at ¶ 3(c) (emphasis added). Lacking a basis for this statement, the support for a major premise in the NRC Staff's conclusion of the safety of LTP approval is lacking. Hence, the EA/FONSI is defective and should not be approved.

Similar considerations apply to the NRC Staff's generalization concerning risk insofar as it is not based on any complete hydrogeologic characterization of the Yankee Rowe site.

D. The NRC Staff's EA/FONSI in this case is defective and inadequate in that it fails to consider alternatives to approval of the LTP other than disapproval. There needs to be a discussion of alternatives to approval of the LTP

other than just "non approval." For example, there should be discussion of approval of a plan for restricted release of the site. Additionally, there should be discussion of approval of portions of the plan and directions that other parts of the plan be changed prior to implementation. Moreover, there should be examination and discussion of an alternative which includes approval of the plan conditioned on YAEC's conducting particular tests and studies (and in particular ways), and the results of such tests and studies falling within acceptable parameters for release of the YR site for general use.

### BASIS

The implementation of NEPA requires the consideration of alternatives to any federal agency's plan of action discussed in an EA or EIS. National Environmental Policy Act § 102(2)(e); 42 U.S.C. §4332(C); *see also* 40 C.F.R. 1500 *et. seq.*; 10 C.F.R. § 51.30(a)(ii). Failure to consider reasonable alternatives does not meet the minimum procedural requirements of NEPA. As Dr. Resnikoff states in his Second Declaration:

The NRC Staff mistakenly concludes that the "principal alternative" to approval of the LTP "would be to deny the action" and that "denial would result in no change in current environmental impacts." Plainly, among principal alternatives to approval of a plan for general release of the YR site would be approval of a plan for restricted release of the site. Additionally, there could be approval of portions of the plan and directions that other parts of the plan be changed prior to implementation. Moreover, there could be approval if particular tests and studies are done, and the results of such tests and studies are within acceptable parameters for release of the YR site for general use. In point of fact, the NRC Staff has, by failing to request comments upon the EA, failing to respond to comments already received through the extant hearing process and limited appearance statements, insulated its EA from the consideration of any alternatives. In my professional experience of the NEPA process, an agency such as the NRC has an obligation to solicit and consider

reasonable alternatives to its proposed course of action. In the instant case, it has not done so.

*Id.* at 3(f). Again, this conclusion is also supported by well-settled precedents in NEPA jurisprudence. *See, e.g., Commonwealth of Mass. v. Watt*, 716 F.2d 946, 948 (1<sup>st</sup> Cir. 1983); *Grazing Fields Farm v. Goldschmidt*, 626 F.2d 1068, 1074 (1<sup>st</sup> Cir. 1980); see also 40 C.F.R. §1508.9(b) (analysis in EA to include a brief discussion of the need for the proposal [and] of alternatives). Absent a “hard look” at alternatives to the LTP, the NRC Staff’s EA/FONSI in this matter is fatally defective and should be rejected.

E. The NRC Staff’s EA/FONSI is fatally flawed because the NRC Staff’s EA/FONSI conclusion that “no changes are being made in the types of any effluents that may be released offsite” is not based upon an adequate hydrogeological characterization of the Yankee Rowe site. Because the NRC Staff EA/FONSI provides no references to studies of the history of changes to the YR site, there is no scientific basis for concluding that there will be no changes in the types of effluents released offsite due to actions stemming from approval of the LTP. Further, there needs to be an adequate explanation provided for anomalies in data and inadequacies in YAEC’s sampling methodologies which seem to indicate the presence of inadequately accounted for radioactive contamination in soils and groundwater.

**BASIS**

Mr. Ross, NECNP's hydrogeological expert, examined the NRC Staff's EA/FONSI in this case and found that it was based neither upon an adequate hydrogeological characterization of the Yankee Rowe site, nor upon a history of the changes to the Yankee Rowe site. Ross Declaration at ¶ 3(e). Incorporating by reference herein the observation of Mr. Ross upon his review of the EA/FONSI and referenced material quoted above in Basis 3 supporting Contention B, it is quite plain that the NRC Staff's EA/FONSI is not based upon the necessary scientific data to assure with reasonable certainty that approval of the LTP will adequately protect the public from unanticipated releases of radioactive effluent. Ross Declaration. at ¶3(c)(i)-(xiii), (d), (e). Moreover, this NRC Staff's conclusion is not supported by an adequate explanation of the unexplained anomalies in data and inadequacies in YAEC's sampling methodologies which Mr. Ross notes in his review and declaration. *Id.* at ¶3(c)(vii)-(xiii). Hence, the NRC Staff's EA/FONSI should be rejected as inadequate, or approval of the EA/FONSI should be tabled until consideration of a contention, the substance of which is resolution of the anomalies in hydrogeologic data and inadequacies in hydrogeologic sampling methodologies which Mr. Ross attests to in his declaration.

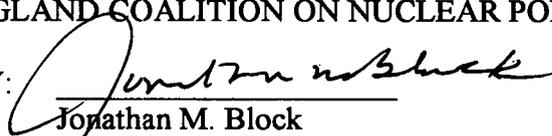
**CONCLUSION**

NECNP's NEPA contentions should be admitted and the relief herein above requested should be granted as requested or in the alternatives requested.

Respectfully submitted:

NEW ENGLAND COALITION ON NUCLEAR POLLUTION

BY:



Jonathan M. Block  
Attorney for NECNP  
94 Main Street  
P.O. Box 566  
Putney, VT 05346-0566  
802-387-2646

cc: Service List

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

Administrative Judges:

Charles Bechhoefer, Chariman  
Dr. Thomas S. Elleman  
Thomas D. Murphy

In the Matter of

YANKEE ATOMIC ELECTRIC COMPANY  
(Yankee Nuclear Power Station)

License Termination Plan

Docket No. 50-029-LA

ASLBP No. 99-754-01-LA-R

SECOND DECLARATION OF DR. MARVIN RESNIKOFF

I, Dr. Marvin Resnikoff, declare under penalty of perjury to the Atomic Safety and Licensing Board in the above captioned matter that:

1. I am the Senior Associate at Radioactive Waste Management Associates, a private consulting firm based in New York City. A statement of my qualifications and documents I previously reviewed in this matter are on file as attachment to my declaration supporting New England Coalition on Nuclear Pollution's initial contentions in this case.

2. I am familiar with the License Termination Plan [LTP] and the NRC Staff's Environmental Assessment [EA] on the LTP, 64 FR 17690 (April 12, 1999). I am also familiar with and have reviewed the documents which the NRC Staff referenced in the EA, and the letter from John P. DeVillars, EPA Regional Administrator, Region I, to Judge Charles Bechhoefer, Chairman, Atomic Safety and Licensing Board, and the Office of the Secretary, United States Nuclear Regulatory Commission (January 26, 1999), concerning the EPA's comments on environmental issues relative to the LTP.

3. In my professional judgement, the NRC Staff's EA of the LTP is deficient in the following respects and for the following reasons:

(a) The NRC Staff's EA is not based upon a supplemented Environmental Report. Between the time of the pre-hearing conference in this matter and the date of this declaration, so far as I am aware, Yankee Atomic Electric Company has not issued any

update to the supplemental Environmental Report on the decommissioning of the Yankee Nuclear Power Station, Rowe, Massachusetts [YR] which was issued in December, 1993, prior to commencement of decommissioning. The NRC Staff's EA in this case is neither based on a supplemental ER which considers and evaluates the environmental effects of the changes YAEC made to the YR site in the course of decommissioning, nor one which considers cumulative environmental impacts of the operational history of YR through the final site survey process. Therefore, as such material is not contained in any of the referenced documents or provided in the EA itself, in my professional opinion the NRC Staff has no basis in fact for making any scientific judgments that the LTP and Final Site Survey will assure that the health and safety of the public are adequately protected from radioactive contamination at the YR site.

(b) The NRC Staff's EA does not consider the comments which its sister organization, the Environmental Protection Agency [EPA] for Region I, provided to the NRC at the Prehearing Conference in January of this year. In my professional opinion, failure to take account of and discuss the opinions of the EPA in this matter is not consistent with standard practice in the preparation of Environmental Assessments under the National Environmental Policy Act [NEPA]. In my experience, not only should the preparing agency take account of, comment upon, and discuss opinions and facts offered by sister agencies, but it is customary, particularly where there is any controversy over the plan at issue, to offer a draft EA for comment prior to issuing a final EA and Finding of No Significant Hazards. The NRC Staff's failure to properly account for, comment upon, and discuss the opinions of the EPA concerning the LTP at issue make the EA incomplete and not consistent with any NEPA proceedings with which I have been involved.

(c) The NRC Staff's conclusion in the EA that "[i]ssuance of the amendment approving the LTP will not have any significant effect on accident risk and probability of any other environmental impact is extremely remote" is not based upon any set of calculations provided in the EA itself or in the materials referenced in the EA. Hence, the NRC Staff has no basis for making a statement which must take into account the calculations necessary for a probabilistic risk assessment.

(d) The NRC Staff's conclusion in the EA that "the proposed action does not increase the probability or consequences of any accidents" is not based upon any set of calculations provided in the EA itself or in the materials referenced in the EA. Hence, the NRC Staff has no apparent basis for making a statement which must take into account the calculations necessary for a probabilistic risk assessment.

(e) The NRC Staff's conclusions that "no changes are being made in the types of any effluents that may be released offsite" is not based upon any scientific study of the impacts upon the environment due to changes to the YR site during decommissioning, as there are no such studies referenced in the material upon which the NRC Staff has

*Second Declaration of Dr. Marvin Resnikoff*

supposedly based this opinion. Since the NRC Staff does not provide any reference to studies which show the history to date of changes to the YR site, including consideration of changes which will be implemented if the NRC approves the LTP, in my opinion there is no scientific basis for concluding that there will be no changes in the types of effluents released offsite due to the activities which will flow from approval of the LTP.

(f) The NRC Staff mistakenly concludes that the "principal alternative" to approval of the LTP "would be to deny the action" and that "denial would result in no change in current environmental impacts." Plainly, among principal alternatives to approval of a plan for general release of the YR site would be approval of a plan for restricted release of the site. Additionally, there could be approval of portions of the plan and directions that other parts of the plan be changed prior to implementation. Moreover, there could be approval if particular tests and studies are done, and the results of such tests and studies are within acceptable parameters for release of the YR site for general use. In point of fact, the NRC Staff has, by failing to request comments upon the EA, failing to respond to comments already received through the extant hearing process and limited appearance statements, insulated its EA from the consideration of any alternatives. In my professional experience of the NEPA process, an agency such as the NRC has an obligation to solicit and consider reasonable alternatives to its proposed course of action. In the instant case, it has not done so.

For the reasons set forth above, it is my professional opinion that the NRC Staff's EA on the LTP is defective and should either be rejected by the Board, or contentions questioning the basis of the EA should be admitted to the proceeding. I have reviewed the contentions based upon this declaration, and find them to be correct and accurate in technical detail to the best of my knowledge and belief. I am prepared to testify at hearing in support of the professional opinions I have expressed in this declaration.

DATED: This 13<sup>th</sup> day of May, 1999.



Dr. Marvin Resnikoff  
Senior Associate  
Radioactive Waste Management Associates  
526 W. 26<sup>th</sup> Street Room 517  
New York, NY 10010  
Tel. (212) 620-0526

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

Administrative Judges:

Charles Bechhoefer, Chariman  
Dr. Thomas S. Elleman  
Thomas D. Murphy

In the Matter of

YANKEE ATOMIC ELECTRIC COMPANY  
(Yankee Nuclear Power Station)

License Termination Plan

Docket No. 50-029-LA

ASLBP No. 99-754-01-LA-R

DECLARATION OF ROBERT J. ROSS, CGWP, HYDROGEOLOGIST

I, Robert J. Ross, declare under penalty of perjury to the Atomic Safety and Licensing Board in the above captioned matter that:

1. I am the principal hydrogeologist at Ross Environmental Associates, Inc., a private consulting firm based in Stowe, Vermont. A statement of my qualifications is attached hereto as Exhibit 'A'.

2. Having read and reviewed the documents in this case, I am now familiar with the NRC Staff's Environmental Assessment and Finding of No Significant Impact [EA/FONSI] on the License Termination Plan [LTP], 64 FR 17690 (April 12, 1999), Yankee Atomic Electric Company's [YAEC's] LTP, Rev 0 (May 1997) and Rev. 1 (December 1997), the other documents referenced in the EA/FONSI (YAEC correspondence with the NRC dated December 18, 1997 and January 23, 1998); and the letter from John P. DeVillars, EPA Regional Administrator, Region I, to Judge Charles Bechhoefer, Chairman, Atomic Safety and Licensing Board, and the Office of the Secretary, United States Nuclear Regulatory Commission (January 26, 1999), concerning EPA's comments on environmental matters related to the approval of the LTP. I also reviewed and am familiar with YAEC's ER

(December 1993) [ER] and the NRC Staff's EA based upon that ER (December 1994) [EA]; the FSAR incorporating the Decommissioning Plan (June 1995); F X. Bellini and E.R. Cumming, YAEC-1924, "Summary Report of Site Characterization Activities" (September 1995) [YAEC-1924]; F X. Bellini and E.R. Cumming, YAEC-1934, "Summary Report of Site Characterization Activities" (May 1996) [YAEC-1934]; P. Hollenbeck memorandum to K. Heider, YAEC file no. RP-96-56, "Preliminary 1996 Characterization Results" (August 20, 1996) [YAEC RP-96-56]; NRC regulations 10 C.F.R. 50.82(a)(9)-(11); the contentions thus far admitted to the proceeding, and the contentions which New England Coalition on Nuclear Pollution is submitting concerning the EA/FONSI at issue.

3. In my professional judgement, the NRC Staff's EA/FONSI of the LTP is deficient in the following respects and for the following reasons:

(a) The NRC Staff's EA/FONSI is not based upon a supplemented ER, and the one from 1993 is outdated and incomplete. So far as I am aware, Yankee Atomic Electric Company has not issued any update to the supplemental Environmental Report on the decommissioning of the Yankee Nuclear Power Station, Rowe, Massachusetts [YR] since it submitted the one issued in December, 1993. The NRC Staff's EA/FONSI is not based on a supplemental ER which identifies and evaluates the environmental impacts due to YAEC's use of the YR site to date. There is no documentation of the cumulative changes to the site and environmental impacts due to operation of the Yankee Nuclear Power Station. Importantly, there is no documentation of the environmental impacts and changes due to decommissioning and projected through final site remediation when there will no longer be any radioactive materials stored on the site. Lacking documents which would constitute a reasonable site assessment, which documents are not included in any of the documents I reviewed, including those referenced in the EA/FONSI, it is my professional opinion that the NRC Staff has no basis in fact for making any scientific judgment that the LTP and Final Site Survey will adequately assure that the health and safety of the public are protected from radioactive contamination at the YR site.

(b) The NRC Staff's EA/FONSI does not consider the comments of its sister organization, the Environmental Protection Agency [EPA] for Region I. In my professional opinion, failure to take account of and discuss the opinions of the EPA in this matter is not consistent with standard practice. The NRC Staff should discuss and explain the opinions and facts offered by a sister agency, particularly where there is controversy over approval of the plan.

(c) The NRC Staff's conclusion in the EA/FONSI that "[i]ssuance of the amendment approving the LTP will not have any significant effect on accident risk and probability of any other environmental impact is extremely remote" is not based upon an examination of significant hydrogeological issues at the Yankee Rowe site. It is my professional opinion that, in reaching this conclusion in the EA/FONSI, the NRC Staff had:

(i) No data apparent in any of the EA/FONSI referenced material or EA/FONSI itself regarding the identification of the extent of downgradient contamination based upon my study of the available ground-water analytical results.<sup>1</sup>

(ii) No data apparent in any of the EA/FONSI referenced material or EA/FONSI itself regarding vertical contaminant distribution in ground water; YAEC has apparently failed to evaluate this matter. Ground-water contaminant data from monitoring well B-1, which is screened between 39-49' below ground surface, shows some of the highest concentrations of tritium at the site. Other monitoring wells in this vicinity of the site with similar contaminant concentrations, CB-1 and CB-9, have well screens installed within 25 feet below ground surface. There does not appear to be any ground-water quality data for the deeper portions of the underlying ground-water formation; except for the data from B-1, which indicates the presence of contamination.<sup>2</sup>

(iii) No data in the EA/FONSI referenced material or EA/FONSI itself regarding vertical hydraulic gradients at the site. This is important to determine whether contamination identified in the shallow ground water formation is potentially migrating to deeper portions of the formation. If there is downward flow and contaminant migration it is important to determine where it is going.<sup>3</sup>

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<sup>1</sup> See generally, documents referenced above in ¶2. None of the referenced documents appear to provide this necessary information.

<sup>2</sup> EA (1994) §3.4.2, ¶3 at 15; YAEC-1924 at Appendices 1 and 4; YAEC-1934 §2.3 at 2, and Appendix 3 [YAEC 1934]; YAEC RP-96-56.

<sup>3</sup> EA (1994) §3.4.2, ¶3 at 15, §2.1.4 at 8; YAEC-1924 at 3 and Appendix 3; YAEC-1934 at Appendix 2; YAEC RP-96-56.

(iv) No information in the EA/FONSI referenced material or EA/FONSI itself regarding the possible hydraulic connection/relationship between the Deerfield River and the underlying ground-water formation.<sup>4</sup>

(v) No information in the EA/FONSI referenced material or EA/FONSI itself assessing the extent of the fill deposits and their relationship to ground-water flow and recharge at the site; also the current assessment does not appear to take the site geologic setting into consideration. Soil boring logs for the soil borings/monitoring wells installed at the site indicate the presence of fill material overlying dense till deposits. Also, the till deposit appears to be a heterogeneous mixture of material ranging from clay to boulders. Ground water flow in this type of geologic setting can be quite complex.<sup>5</sup>

(vi) No information in the EA/FONSI referenced material or EA/FONSI itself correlating ground-water contaminant concentrations with water-table fluctuations. Often times contaminant concentrations will decrease or increase in direct relationship with the fluctuation of ground-water levels.<sup>6</sup>

Furthermore, the available hydrogeologic data is deficient in the following respects:

(vii) Ground-water flow/contour diagram in Appendix 3 appears to inappropriately use water level data from B-1, which is screened in a deeper portion of the ground water formation. Technically, a ground water contour map should use only points that intercept the same zone/depth of the formation.<sup>7</sup>

(viii) Tritium concentrations in several of the wells are generally consistent over time, which suggests the source has not been identified or that residual contamination remains on-site. Tritium concentrations in CB-2, show a general decrease to non-detect then increases to concentrations similar to the original concentrations. There does not appear to be an attempt to explain this

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<sup>4</sup> EA (1994) §2.1.4, ¶3 at 7-8; ER (1993) §3.4 at 3-19 and 3-20; YAEC-1924 §2.1.3 at 3; YAEC-1934 at Appendix 2.

<sup>5</sup> EA (1994) §2.1.5, ¶3 at 8 and 9; ER (1993) §3.5.5 at 3-24; YAEC-1924 §2.1.1 at 2 and Appendix 1.

<sup>6</sup> EA (1994) §2.4 at 15; ER (1993) §3.4.2 at 3-20; YAEC-1924 §2.1.3 at 3, §2.1.4 at 4, and Appendix 3; YAEC-1934 § 2.2 at 2, § 2.3 at 3; 4; *see generally*, Appendices 2 and 3.

<sup>7</sup> YAEC-1924 at Appendix 1; YAEC-1934 at Appendix 3.

anomaly; this may be due to poor sampling technique, another release, or changes to the site that may have affected contaminant distribution.<sup>8</sup>

(ix) VC elevator shaft sampling in 1994 detected tritium, but a footnote to the table containing this information indicates that the area was dry during subsequent sampling events. There does not appear to be an attempt to explain this, nor any documentation of attempts to drill deeper to intercept ground water.<sup>9</sup>

(x) There does not appear to be any data, which correlates contaminant concentrations to seepage flow rate at Sherman Spring. Contaminant concentrations in the spring may be directly related to seepage flow rate.<sup>10</sup>

(xi) Sediment sampling should include more than just shallow grab samples. All referenced samples appear to be collected with a ponar grab sampler, which suggests only shallow top layer sediment samples were collected. There is no mention of deep cores samples in any of the documents reviewed. A proper sediment characterization should include deeper samples.<sup>11</sup>

(xii) No deeper sampling appears to have been completed to evaluate the vertical extent of subfoundation soil contamination. Subfoundation soils samples appear to be collected within the upper 40" or less. Many of the deepest samples listed on the Summary tables detected contamination.<sup>12</sup>

(xiii) No deeper sampling appears to have been completed to evaluate the vertical extent of subsurface soil contamination. Subsurface soil samples appear to be collected within the upper 16" or less. Several of the deepest samples collected still had detectable concentrations of contamination (TS-155, TS-171).<sup>13</sup>

(d) Based upon the above observations, it is also my professional opinion that the NRC Staff's conclusion in the EA/FONSI that "the proposed action does not increase the probability or consequences of any accidents" is not based upon

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<sup>8</sup> YAEC-1924 at Appendix 4; YAEC-1934 §2.3 at 2, and Appendix 3; YAEC RP-96-56.

<sup>9</sup> YAEC-1934 at Appendix 3.

<sup>10</sup> EA (1994) §3.4.2, ¶2 at 15; ER (1993) §6.1.1 at 6-3; YAEC-1924 §2.3 at 2 and Appendix 3.

<sup>11</sup> YAEC-1934 §2.4 at 3 and Appendix 4.

<sup>12</sup> YAEC-1934 §2.5 at 4 and Appendix 5; YAEC RP-96-56.

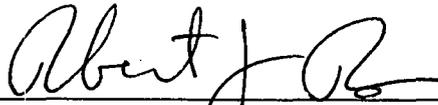
<sup>13</sup> YAEC-1924 §2.2.3 at 8 and Appendix 10.

an adequate or complete assessment of the hydrogeology of the Yankee Rowe site. The NRC Staff, therefore, has no basis for making such a statement without accounting for risks based upon the hydrogeological issues I have identified herein above. The NRC Staff also would need to have the kind of hydrogeological data I have found to be absent from the NRC Staff's EA/FONSI and referenced documents.

(e) Based upon the above observations, it is also my professional opinion that the NRC Staff's EA/FONSI conclusion that "no changes are being made in the types of any effluents that may be released offsite" is not based upon an adequate hydrogeological characterization of the Yankee Rowe site. Further, as the NRC Staff EA/FONSI provides no references to studies of the history of changes to the YR site, in my professional opinion there is no scientific basis for concluding that there will be no changes in the types of effluents released offsite due to actions stemming from approval of the LTP.

In my professional opinion, for the reasons stated above, the NRC Staff's EA/FONSI on the LTP should be rejected by the Board, or, in the alternative, contentions questioning the basis of the EA/FONSI should be admitted to the proceeding. I have also reviewed NECNP's contentions based upon this declaration, and find them to be correct and accurate in technical detail to the best of my knowledge and belief insofar as they relate to matters in my area of expertise and the substance of my declaration. I am prepared to testify at hearing in support of the professional opinions I have herein expressed.

DATED AT: Stowe, Vermont, this 14 day of May, 1999.



Robert J. Ross, CGWP  
Ross Environmental Associates, Inc.  
96 Tabor Hill Road  
P.O. Box 1533  
Stowe, VT 05672  
Tel. (802) 253-4280

Mr. Ross is a certified ground water professional (CGWP # 455) with over 14 years of experience in hydrogeologic and environmental consulting. His project experience includes: ground-water contaminant fate and transport studies; expert witness testimony; hydrogeologic investigations at petroleum release sites, industrial facilities, and landfills; design and implementation of contaminant remediation projects; air quality monitoring; CERCLA RI/FA investigations; DNAPL site characterization; ground water development studies; water resource evaluation; water-supply studies; and environmental assessments for real estate transactions.

#### **Education**

University of New Hampshire, B.S., Hydrology, 1983.  
University of Waterloo, Diagnosis & Remediation of DNAPL Sites, Short Course, 1993.  
University of Wisconsin, Water Well Hydraulics, Short Course, 1985.  
OSHA 29 CFR 1910.12040-Hour Hazardous Sites Safety Course, 1984, with current 8-hour refresher training.

#### **Representative Accomplishments**

##### ***Hydrogeologic Investigations***

Project manager for numerous hydrogeologic investigations in various geologic settings. Responsible for overall project planning, negotiations with State agencies, implementation of field investigations, and report preparation. Field programs involved: installation of multi-level monitor wells in overburden and bedrock formations, discrete interval ground water sampling, vertical profiling of soil vapors, seismic refraction, Ground Penetrating Radar (GPR), and borehole geophysical surveys, in-situ permeability testing, geochemical water quality characterization, and hydrologic budget analyses. Primary author and co-author for numerous technical reports detailing the findings of hydrogeologic site characterizations.

##### ***Landfill Studies***

Project manager for water quality and hydrogeologic studies at over 30 landfills located throughout Vermont. Many of the studies involved developing extensive water quality monitoring programs designed to meet State and Federal solid waste management regulations. Responsibilities included: project planning, negotiations with State agencies, implementation of field investigations, development of chemical Quality Control/Quality Assurance Plans, and report preparation. Developed comprehensive databases for historical water quality data with statistical analyses to meet provisions of RCRA Subtitle D.

##### ***Underground Storage Tank (UST) Closures and Assessments***

Directed numerous UST closure and hydrogeologic assessments to evaluate potential impacts to the subsurface environment. UST closures have involved removal and replacement of tanks as well as in-place closure beneath or adjacent to buildings. Hydrogeologic assessments at petroleum release sites have included soil vapor surveys, shallow and deep monitor well installation, collection of soil, surface water, indoor air and ground water samples, geologic characterization, and human health and environmental receptor evaluation.

##### ***Site Remediation and Restoration***

Experience includes remediating soil and ground water contaminated with petroleum products and chlorinated industrial solvents. Responsibilities include defining vertical and lateral extent of contaminant plumes, identifying sensitive receptors, evaluating remedial alternatives, and supervising pilot tests and evaluating pilot test data. Also, responsible for periodic remediation system operation and maintenance. Remediation activities have involved free product recovery, soil-vapor extraction, air sparging, vacuum-enhanced recovery, ground-water pump and treat, soil removal, landfarming, and replacement of impacted drinking water supplies.

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**Representative Accomplishments (cont.)*****Expert Testimony/Litigation Support***

Expert witness for cases involving contaminated water supplies, insurance claims, and contamination at industrial sites. Responsible for review and critique of third-party reports, independent assessment of project data, and litigation support for depositions and civil trials.

***Environmental Site Assessments and Due Diligence***

Responsible for conducting and managing environmental site assessments following ASTM guidelines for Transaction Screens, Phase I, and Phase II assessments. Representative projects have included: large residential subdivisions, State development projects, agricultural land, industrial facilities, and commercial properties.

***Superfund Remedial Investigations/Feasibility Studies***

Responsibilities included management of comprehensive field programs, supervision of subcontractors, and preparation of project reports for CERCLA sites in Massachusetts, Maine, New Hampshire and Vermont. Field investigation programs included overburden and bedrock monitor well installation, aquifer characterization, terrain conductivity, VLF, borehole, seismic refraction, and magnetometer geophysical surveys, test pit excavation, and extensive chemical characterization of ground water quality.

***Surface Water Studies***

Conducted various surface water related studies involving hydrologic budgets, seepage meter installation and flux determinations, surface water and sediment sampling, bathymetry surveys, and oversight of ecological assessments related to contaminant investigations. Field supervisor and primary diver for SCUBA diving reconnaissance and underwater characterization of submerged coal tar deposits in a short-nosed sturgeon spawning area of the Connecticut River.

***Water Supply Development and Water Resource Protection***

Ground-water resource development experience includes evaluation of hydrologic budgets, fracture trace analyses, geophysical exploration, and pump testing and aquifer analysis. Developed Source Protection Plans (SPPs) and delineated Well Head Protection Areas (WHPA) for various clients to insure protection of valuable ground water resources and to meet regulatory compliance. Projects have involved review and interpretation of water quality data, identification of potential sources of contamination, and evaluation site-specific hydrogeologic conditions. Various projects have also involved specific recommendations to safeguard future uses and protect ground water resources.

***Air Quality Impact Assessment and Remediation***

Evaluated potential threats to building interiors caused by migrating vapors from subsurface releases of volatile organic compounds. Designed and installed protective measures, including soil vapor extraction systems, to prevent vapor entry into the buildings and to clean up the contaminant source.

**Certifications**

Certified Ground Water Professional (CGWP), No. 455, 1993.  
NAUI SCUBA Diving Instructor, No. 14189, 1992.  
Class 3 Provisional Water Operator (Vermont), No. 2326

**Affiliations**

Association of Ground Water Scientists and Engineers (AGWSE)  
Green Mountain Water Environment Association (GMWEA)  
American Society of Testing and Materials (ASTM) – Member Committee D-18 on Soil and Rock  
National Association of Underwater Instructors (NAUI)