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OF COUNSEL
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June 18, 1998

FAX: (301)415-1672

Nuclear Regulatory Commission
ATTN: Secretary Hoyle
Rulemakings and Adjudication Staff
Washington, DC 20555-0001



RE: NAESCO License Exemption Request

Dear Mr. Hoyle:

Enclosed please find Supplemental and Amended Petition for Institution of Proceeding for Intervention pursuant to 10 CFR 2.714 on behalf of Seacoast Anti-Pollution League and the New England Coalition on Nuclear Pollution.

This is to advise that I would be prepared, should Judge Cotter or an appointed panel so desire, to furnish a legal brief on the standing issue, if standing is going to be contested by the Applicant NAESCO.

This will certify that I have, this date, sent this letter and the enclosed Petition by telefax to Lillian S. Cuoco, Esq., counsel for NAESCO [Fax (860)665-5504], and furnished copies by FAX to the Offices of Judge Cotter [Fax (301)415-5599, the Secretary of the Commission, and to the Office of General Counsel (Stephen Hom -Fax (301) 415-3721). This will also certify that I have also forwarded by postage prepaid, first class mail copies to the Secretary, General Counsel's Office, the Docketing and Service Section, and Counsel for NAESCO, and three copies directly to Judge Cotter.

Very truly yours,

Robert A. Backus

RAB/slr

SECY-EHD-008

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U.S. NUCLEAR REGULATORY COMMISSION

OFFICE OF THE SECRETARY

WASHINGTON, D.C. 20545

DATE: 6/19/98

RE: [Illegible]

BY: [Illegible]

FOR: [Illegible]

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20545
DATE: 6/19/98



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cc: Dave Lockbaum, Union of Concern Scientist
NECNP
SAPL

UNITED STATES OF AMERICA

BEFORE THE NUCLEAR REGULATORY COMMISSION



In the Matter of)
North Atlantic Energy)
Service Corporation)
Seabrook Station, Unit No. 1) Docket No. 50-443
Rockingham County, New Hampshire)

SUPPLEMENTAL AND AMENDED PETITION FOR
INSTITUTION OF PROCEEDING AND FOR
INTERVENTION PURSUANT TO 10 CFR 2.714
ON BEHALF OF THE SEACOAST ANTI-POLLUTION LEAGUE
AND THE NEW ENGLAND COALITION ON NUCLEAR POWER

NOW COMES the Seacoast Anti-Pollution League (SAPL) and the New England Coalition on Nuclear Pollution (NECNP), and having, through SAPL, sought a proceeding pursuant to the Atomic Energy Act, in regard to a May 6, 1998 license exemption requested by North Atlantic Energy Service Co. (NAESCO) by a letter to the Commission dated June 5, 1998, and now supplement the SAPL request and amend the request for a proceeding as follows:

1. As set forth in SAPL's June 5th letter, which is attached hereto and incorporated herein by reference, NAESCO has sought a relaxation of surveillance requirements found in the Technical Specifications for Seabrook Station to accommodate a 24 month fuel cycle.

2. SAPL, for reasons set forth in its June 5th letter, opposes the granting of the exemption and requested the institution of a proceeding under §189 of the Atomic Energy Act, 42 U.S.C. §2239.

3. SAPL is entitled to institution of a proceeding regarding the exemption and to be allowed to intervene in the proceeding, on the following grounds:

A. As required by 10 CFR 2.714(2), SAPL has an interest in the proceeding. SAPL is a duly organized New Hampshire non-profit citizen organization, with its office at 127 High Street, Portsmouth, New Hampshire 03802. SAPL's membership includes many citizens resident within the 10 mile Seabrook Emergency Planning Zone, including members resident within the Massachusetts portion of the zone. These individual members may be endangered by offsite releases of radioactivity as a result of an accident or transient at Seabrook. SAPL's standing as an intervener has been long established in proceedings before the Commission's adjudicatory boards and the Commission itself, in both the construction permit proceeding and the operating license proceeding for Seabrook. SAPL's interest in the proceeding would not be "proprietary or financial," but "other", to wit, in assuring the safe operation of Seabrook in order to minimize the risk, or consequences of, an accident at Seabrook. The risk and/or the consequences of an accident at Seabrook could be increased should the requested exemption be allowed.

B. As a party whose interests will be affected, SAPL has a right to intervene under §189 of the Atomic Energy Act, 42 U.S.C. §2239.

C. An Order entered in the proceeding which permitted the requested exemption will affect SAPL's interest in that, for

the reasons set forth SAPL's June 5th letter to the Commission, the exemption would create an increased risk of an accident or increased consequences of an accident at Seabrook that could have adverse offsite consequences to persons within the ten mile emergency planning zone, including SAPL's members, on the following bases:

i. Less Frequent Steam Generator Surveillance

Increasing by 25% the time between inspections of the steam generators, will increase the risk of failure of the steam generator tubes, which could provide a mechanism for a bypass of the containment, in the event of certain accident scenarios. A failure to promptly detect and remedy could result in degraded steam generator tubes, a condition which could constitute an increase in the nuclear hazard, with the potential for adverse offsite consequences.

ii. Fuel Barrier (Cladding) Degradation

A 24 month fuel cycle will require the use of more highly enriched fuel, and a higher burn up of the fuel, which will increase the stress on the fuel cladding, the first of three primary barriers against radioactive release at Seabrook. The exemption, if granted, would therefore increase the risk of adverse offsite consequences.

iii. Increased On Line Maintenance

Increasing the use of online maintenance, a practice which the NRC had formerly prohibited at Seabrook, and which, by definition, involves the intentional disabling of systems, structures and components important to safety, may

increase the danger that an accident will not be mitigated as planned, increasing the risk of adverse offsite consequences in the event of an accident.

iv. Decreased Safety Important Surveillance

Decreased opportunity for timely inspection and detection of deliberate mispositioning of valves or other control components, in the high radiation area, will increase the risk of an accident with offsite consequences, if as a result of failure to correct a mispositioned valve or other component a transient is initiated.

4. NECNP is entitled to a proceeding regarding the exemption to be allowed to intervene in the proceeding, on the following grounds:

A. As required by 10 CFR 2.714(2), NECNP has an interest in the proceeding. NECNP is a duly organized Vermont non-profit corporation, with its office at 83 Main Street, Brattleboro, Vermont. NECNP's membership includes persons resident within the Seabrook 10 mile emergency planning zone. NECNP, like SAPL, was an active intervener both in the construction and permanent operating license proceedings for Seabrook. NECNP's long standing concern for assuring the safe operation of nuclear power reactors in New England, consistent with all applicable rules and regulations, as the principal guarantee against the possibility of an accident involving adverse offsite consequences, is the reason NECNP is joining this petition.

A. As party whose interest will be affected, NECNP has a right to intervene under §189a(ii)(A) of the Atomic Energy Act 42 U.S.C.2239.

B. An Order to enter the proceeding which permitted the requested exemption will affect NECNP's interest for the same reasons applicable to SAPL.

5. As set forth in SAPL's June 5th letter, each of these potential areas as a result of a 24 month fuel cycle, should the exemption be granted, can increase the nuclear hazard and would constitute a "significant hazards consideration" within the meaning of 10 CFR §50.92.

6. Pursuant to Section 189a(2)(A) of the Atomic Energy Act and 10 C.F.R. 50.92(c), the NRC may not issue an operating license amendment before granting a public hearing unless it determines that the proposed amendment poses "no significant hazards consideration," i.e., that the amendment would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated;
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in the margin of safety.

In passing the enabling legislation for this regulatory provision, Congress recognized that:

issuing the order in advance of a hearing would as a practical matter, foreclose the public's right to have its views considered. In addition, the licensing board would often be unable to order any substantial relief as a result of an after-the-fact hearing.

Conf. Rep. No. 97-884, 97th Cong., 2d Sess., at 37-38 1982).

Thus, the conferees noted their intent that:

in determining whether a proposed license amendment involves no significant hazards consideration, the Commission should be especially sensitive to the issues proposed by license amendments that have irreversible consequences (such as those permitting an increase in the amount of effluents or radiation emitted from a facility or allowing a facility to operate for a period of time without full safety protections.)

Id. (Emphasis added)

In response to Congress' expression of concern, the Commission "made clear" in the preamble to §50.92 that

an amendment which allows a plant to operate at full power during which one or more safety systems are not operable would be treated in the same way as other examples considered likely to involve a significant hazards consideration.

Final Procedures and Standards on No Significant Hazards Considerations, 51 Fed. Reg. 7,744, 7,750, Col. 3 (March 6, 1986). In addition, the Commission "charge[d] the NRC staff to assure that doubtful or borderline cases are not found to involve no significant hazards consideration." 51 Fed. Reg. at 7,753, Cols. 2-3.

7. Since the requested exemption seeks authority for a 24 month fuel cycle, and the next scheduled refueling without the exemption will not occur until 1999, there is no "emergency" that would permit immediate action on the requested exemption. In addition, SAPL has been informed, through press accounts, that, despite the request, NAESCO is not planning immediate implementation of the two year refueling in any event.

Accordingly, the Commission has time to provide the proceeding and the full on-the-record exploration of the issues raised concerning expanding the operational run at Seabrook by 25%.

8. If necessary, both SAPL and NECNP are prepared to provide affidavits from members living within the ten mile zone verifying their membership in the respective organizations, and their agreement to have the organizations represent their interest in a proceeding regarding the May 6, 1998 license exemption request.

9. SAPL and NECNP state that, should a proceeding be granted, they are authorized to state that they would have available as an expert witness in support of the contention that the proposed exemption involves a significant hazard consideration, Mr. David Lockbaum, staff scientist at the Union of Concerned Scientists.

IN CONCLUSION

For the reasons stated, SAPL and NECNP submit that they have standing to seek a proceeding under the Atomic Energy Act regarding the NAESCO exemption request of May 6, 1998 and that the staff's preliminary determination that the exemption request involves "no significant hazards consideration will be found not to be consistent with the requirements of 10 CFR 50.92(c).

Respectfully submitted,
Campaign for Ratepayers' Rights

DATED: June 18, 1998

BY: _____



Robert A. Backus, President

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NANCY E. HART

June 5, 1998

Chief Rules and Directives Branch
Division of Administrative Services
Office Administration
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

ATTN: Secretary Hoyle

Re: May 6, 1998 NAESCO License Exemption Request

Dear Mr. Hoyle:

The purpose of this letter is to submit comments on a license exemption requested by North Atlantic Energy Service Corporation. The exemption request was published in Volume 62 of the Federal Register at page 25113 under date of May 6, 1998.

NAESCO, the requestor, is the operator of the Seabrook Nuclear Power Plant. The request seeks changes to the Technical Specifications to permit a 24 month refueling cycle at Seabrook. The staff, based upon the review of the licensee's application, has made a determination that the requested exemption involves no "significant hazards considerations."

This is to advise the Commission that the Seacoast Anti-Pollution League (SAPL), a concerned citizens organization, disagrees with the staff and believes that the Commission should either deny the exemption or institute a proceeding and grant a hearing on the exemption request. At the least, the Commission should afford the citizens in the Seabrook area an opportunity for a public hearing prior to granting the request.

SAPL's concerns about the exemption are based on four grounds: 1) the request will substantially lengthen the intervals between necessary surveillance of the steam generators; 2) the request will

provide additional stress on and increase the likelihood of the fuel assembly degradation; 3) the exemption request will inevitably lead to the performance of more online maintenance, and 4) the exemption request may delay the discovery of either inadvertent or deliberate mispositioning of valves or other components. Each of these factors can only result in an increase in the nuclear hazard and should therefore be held to involve a "significant hazards consideration."

For these reasons, discussed further below, SAPL believes the staff can not justify the granting of an exemption on the grounds that this action does not involve a significant hazards consideration.

1. Steam Generator Tube Degradation:

The staff, in recommending the exemption, discusses only the issue of less frequent steam generator surveillance, referencing Technical Specification 4.4.5.3. The staff states:

"While the proposed changes will lengthen the intervals between surveillances, the increased interval has been evaluated; and based on the reviews of the steam generator tube Eddy Current Tests (ECT) inspections, it is concluded that the real growth rate of the only active degradation mechanism (Anti-Vibration Bar) (AVB wear) identified to date at Seabrook Station is such that sufficient margin exists between the plugging criteria and structural limit such that no tubes are predicted to exceed the structural limit even with the longer surveillance interval."

Steam generator tube degradation is discussed, *inter alia*, in Inspection Report 97-03 which indicates, that, as of the date of the inspection, 36 tubes had been plugged. The report notes:

"Although the number of tubes requiring plugs is low, the inspector recognized that the operating life is less than seven years. Most steam generated degradation problems have been found only after longer periods of operation. The E/C results to date indicate wall thinning attributable to flow induced vibratory relative motion between the tube and its intended support."

Based on the foregoing, it appears unreasonable for the staff to rely on the past growth rate of degradation due to AVB wear and then to boot strap from this alleged growth rate into a conclusion that extending the surveillance intervals by six months does not present a safety concern, since, as the staff has stated, major tube degradation may only develop after approximately seven years of operation. Seabrook began commercial operation in August, 1990.

SAPL, whose membership includes citizens of the State of Maine, is well aware of the rapid growth of steam generator tube degradation at the Maine Yankee plant and believes it is

extremely unwise for the staff to conclude, with no supporting independent analysis, that increasing the interval for steam generator inspection at Seabrook by 25% is without safety significance.

SAPL is aware that extending the refueling intervals to 24 months is not in any way intended to enhance the safe operation of the plant, but only the economic viability of the plant on behalf of its utility owners, all of whom are facing competitive pressures. Given this circumstance, it is unacceptable for the staff to conclude that a major increase in the steam generator surveillance intervals, beyond that allowed by the current technical specifications, is acceptable.

2. Stress on Nuclear Fuel Cladding:

As the staff will be aware, at the time of original full power licensing, Seabrook was anticipated to have annual refuelings. Subsequently, the staff approved extending the refuelings to 18 months. If the present exemption is allowed, the refuelings will be double that anticipated when the plant went into operation.

It is SAPL's understanding that this increased operational period is achieved both by the use of more highly enriched fuel and an increase in the burn up of that fuel.

Both of these factors may cause additional stresses on fuel cladding, through the build up of gaseous by products near the end of the run. This potential has not been sufficiently evaluated by the Commission. The problem is addressed in a paper submitted by G. Rothwell and J. Russ "On the Optimal Life of Nuclear Power Plants." (1995). Rothwell and Russ acknowledge that "refueling durations are the most important factors limiting achievable availability factors." They add:

"One of the difficult problems confronting nuclear plant operators is to determine the optimal length of operating (or refueling) cycles. There is a primary trade off between (1) the potential improvement and capacity factor with longer operating cycles and (2) the potential increased risk of unplanned mid-cycle outages due to fuel and other failures... . The high energy released by fission has deleterious effects on the structure of fuel rods. Some fission products appear as gasses that eventually create pressure within the fuel rods. As a result, a fuel rod can swell, crack, and become physically distorted to such an extent that it is no longer usable. The loss in fuel reactivity due to gradual depletion of radioactive uranium and build up of fission products, combined with the effect of radiation-induced fuel swelling and distortion, are limiting factors determining how long an NPP (Nuclear Power Plant) can run between refuelings. Maximum safe duration between refuelings is a function of the initial level of enrichment of the uranium, the design

of the fuel rods, and the fuel management strategy adopted by the operator.”

With the 18 month fuel cycle currently in effect, Seabrook has already had fuel failure problems. As the result of detecting increases in noble gasses and iodine on December 10, 1996, it was determined that there were five failed fuel rods, in the first burned batch of Westinghouse Vantage ZH Zurlo clad fuel assemblies.

Inspection Report 97-03 states, at p. 20:

“The licensee root cause evaluation determined that a probable cause of the fuel failures was the combined effects of power history, core design and an operational strategy that resulted in interaction between the fuel pellets and the fuel cladding. The affected fuel assemblies apparently carried a very large load (produced high power) for all of the last cycle.”

Since the staff has already concluded that the “power history” played a role in a fuel rod failure, on an 18 month cycle, it is inconceivable to SAPL how the staff can fail to assess, or give consideration to an increased risk, from extending that power history by 25% to two years.

SAPL calls on the Commission to demonstrate that these additional stresses, resulting from the longer operational run, will not result in a loss of the safety capability of the first barrier of defense against radioactive releases, the fuel assemblies themselves.

3. Online Maintenance:

SAPL is aware, but regrets, that pursuant to a letter of August 22, 1996, from Richard W. Cooper, II, Director of Division of Reactors Projects, the NRC staff authorized the use of online maintenance at Seabrook Station as of July 19, 1996. Online maintenance, by definition, involves the intentional disabling of safety related structures and components (SSC's) “that could initiate or effect a transient accident...” Reg. Guide 1.160, Introduction, June, 1993. SAPL would point out that Mr. Cooper's Letter of Authorization fails to mention, much less explain, the fact that this constitutes a complete reversal of the position the staff took on this very issue in 1987. In an Inspection Report (87-16, 10/21/87), the staff stated as follows:

“Also, during this inspection period, the inspector confirmed with the station operations manager [New Hampshire Yankee, (the former Seabrook Station operator)] position that TS Limiting Condition for Operation (LCO) 3.0.0 is not intended for you as an operational convenience to permit redundant safety systems to be removed from service for a limited period of time. Based upon problems of interpretation of LCO 3.0.3 at other plants, the NRC

position is that voluntary entry into LCO 3.0.3 is unacceptable.”
(Emphasis added.)

SAPL has never been afforded an explanation of why the NRC changed its position from one that would not tolerate online maintenance, to one that permits online maintenance. Any claim that online maintenance is justified as a safety measure must be viewed with extreme scepticism given the obvious economic advantages of performing online maintenance, thereby shortening refueling outages, or now, under the proposed exemption, extending operational runs.

SAPL, in fact, believes that online maintenance is not properly authorized by 10 CFR 50.36(c)(2)(II). Nothing in the regulation authorizes voluntary, i.e., deliberate, disabling of the safety systems. This is documented by the fact that this requirement was part of the Commission's regulations prior to 1987, the time when the Commission's inspector advised Seabrook's former licensee that voluntary entry into the LCO's was not authorized. Furthermore, not one word on the regulatory analysis supporting the adoption of the Commission's maintenance rule, 10 CFR 50.65(A)(3), supports the use of online maintenance, and the environmental assessment fails to mention it.

NRC Inspection Manual 62706 illustrates methods for licensee compliance with the maintenance rule. This manual, which the staff cited when SAPL protested the use of online maintenance, states, at page 17C, "Assessment of Equipment Out of Service":

“In order to minimize outage time and reduce costs, many licensees are increasing the amount of preventive maintenance being performed during power operation. This can result in the simultaneous removal of multiple systems from service, which can result in significant increases in risk during these periods. The NRC is concerned that some licensees may not be adequately analyzing the risk or safety impact associated with these unavailabilities. The failure to adequately evaluate safety when planning and scheduling maintenance has lead to simultaneous unavailabilities of multiple redundant or diverse systems at some sites, possibly leading to unacceptable increases in risk despite the fact that such configurations may not be prohibited by technical specifications. Technical specifications for most sites were crafted for random failure; voluntary removal of multiple systems from service may not be bounded by worst case single failure assumptions and technical specifications. The NRC is concerned that risk is significantly increased during periods when multiple redundancy or diverse safety systems are unavailable due to preventive maintenance.” (Emphasis added.)

This Manual clearly sets forth a concern about the improper use of online maintenance, which will be exacerbated if the proposed exemption is granted.

Mr. Cooper's letter of August 22, 1996, although authorizing online maintenance, acknowledged a "small risk associated with the unavailability" of certain safety systems due to online maintenance. No basis for assessing the risk to be small was provided, either in Mr. Cooper's letter, or by any of the regulatory analysis underlying the maintenance rule, nor is any basis provided for believing that "online maintenance can show a high degree of reliability that the equipment will perform its function if required," as the Cooper letter asserts.

Since, by definition, the systems taken deliberately out of service are important to safety, online maintenance represents an increase of the nuclear hazard which may not be offset by the claimed benefits.

The extension of the operational run to two years, before a refueling outage, obviously increases the need for online maintenance, increasing the very hazards that the NRC staff in the position taken in 1987 thought sufficiently serious to prohibit the practice. The exemption request provides no discussion of the increased risk that would be caused by the additional online maintenance required by the proposed exemption. Therefore, the exemption should not be deemed without safety significance.

4. Inadequate Surveillance of Other Safety Items:

In addition to the steam generators, the technical specifications indicate that the hydrogen recombiner system is to be subject to verification "at least once per 18 months during shutdown." A similar requirement exists for portions of the Containment Enclosure Emergency Air Clean-up System and the emergency diesel generators.¹ These items illustrate that a previously deemed necessary interval of surveillance, during shutdown, of 18 months for important systems is now no longer considered important to safety. SAPL protests this change of position, for which no rationale is offered.

In addition, SAPL is advised, and believes, that a refueling outage is the best opportunity for a licensee to find misaligned valves, either inadvertently or otherwise, or other evidence of tampering as well as numerous other conditions which may be important to safe operation. Nothing in the staff's proposed approval of the exemption addresses this aspect of increased risk.

¹SAPL is aware that under a previous exemption request, which, SAPL also protested (see letter to the Commission's Secretary from Mr. Steve Haberman of May 22, 1998), that NAESCO has requested a waiver of the current required surveillance frequency for the emergency diesel generators.

CONCLUSION

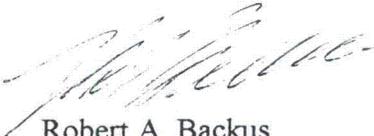
SAPL strongly protests the staff's preliminary conclusion that the licensee's request to extend Seabrook's run to two years between refuelings does not involve a significant hazards consideration. The staff has failed to evaluate many of the risks involved, and failed to properly justify its conclusion for the one risk it discusses, less frequent steam generator tube inspections.

In addition, the staff fails to acknowledge that, according to the last SALP report, performance at Seabrook is declining. As noted in Inspection Report 97-08, April 1, 1998, "Failure to correct these [3] conditions sooner indicates the decline in your performance with respect to analysis of root cause of problems as well as implementation of appropriate corrective action. This concern was previously highlighted in my January 23, 1998 letter transmitting the latest SALP report to you." (p.2.) A plant recently cited for four violations and considered to be in a state of declining performance should not be given the benefit of a 25% increase in its operational run without clear justification..

SAPL notes, finally, that NAESCO is a wholly owned subsidiary of Northeast Utilities, which through another wholly owned subsidiary, permitted the disastrous decline in the three Millstone Units, which has proved to be both costly for Northeast Utilities and embarrassing for the NRC. To suggest that the fourth, and currently only operating NU plant, should be given a "bonus" of permitting extended operation, with unresolved safety issues as a result, is unjustifiable.

We call on the Commission to reject the exemption request or, in the alternative, direct the institution of a proceeding under the Atomic Energy Act. We also request an opportunity to meet with the Commission concerning this issue.

Respectfully submitted,



Robert A. Backus

RAB/acw

cc: Governor Jeanne Shaheen
Congressman John Sununu
Senator Judd Gegg
Senator Bob Smith