North Atlantic
Energy Service Corporation

P.O. Box 300
Seabrook, NH 03874
Telephone (603) 474-9521
Facsimile (603) 474-2987

Ted C. Feigenbaum
Senior Vice President and
Chief Nuclear Officer

NYN-92093

July 2, 1992

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

References: (a) Facility Operating License No. NPF-86, Docket No. 50-443

(b) USNRC Generic Letter 92-01, Revision 1 dated March 6, 1992, "Reactor Vessel Structural Integrity, 10 CFR 50.54(f)"

Subject: Response to Generic Letter 92-01

Gentlemen:

Generic Letter 92-01 reviewed the regulatory requirements for reactor vessel design with respect to material fracture toughness and surveillance. The generic letter requested information pursuant to 10 CFR 50.54(f) about reactor vessel design including applicable codes and standards, the reactor vessel material surveillance program and commitments made in response to Generic Letter 88-11 (Radiation Embrittlement of Reactor Vessel Materials).

The Seabrook Station reactor vessel material surveillance program is described in the Updated FSAR (UFSAR), Section 5.3.1.6. The specific information requested by Generic Letter 92-01 applicable to Seabrook Station is provided in Enclosure 1 to this letter.

Should you have any questions on this matter, please contact Mr. James M. Peschel, Regulatory Compliance Manager at (603) 474-9521 extension 3772.

Very truly yours,

Ted C. Feigenbaum

Ted C. Feigenbaum

Enclosure

TCF:GK/act

A078 1/1

STATE OF NEW HAMPSHIRE

Rockingham, ss. July 2, 1992

Then personally appeared before me, the above-named Ted C. Feigenbaum, being duly sworn, did state that he is Senior Vice President and Chief Nuclear Officer of the North Atlantic Energy Service Corporation, that he is duly authorized to execute and file the foregoing information in the name and on the behalf of North Atlantic Energy Service Corporation and that the statements therein are true to the best of his knowledge and belief.

Tracy A. DeCredico 7/2/92

Tracy A. DeCredico, Notary Public
My Commission Expires: October 3, 1995

cc: Mr. Thomas T. Martin
Regional Administrator
U. S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Mr. Gordon E. Edison, Sr. Project Manager
Project Directorate I-3
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Noel Dudley
NRC Senior Resident Inspector
P.O. Box 1149
Seabrook, NH 03874

Mr. Kurt Cozens
Nuclear Management & Resources Council
1776 Eye Street, Suite 300
Washington, DC 20006-2496

North Atlantic
July 2, 1992

ENCLOSURE 1 TO NYN-92093

RESPONSES TO THE SPECIFIC QUESTIONS OF GENERIC LETTER 92-01

Question No. 1:

Certain addressees are requested to provide the following information regarding Appendix H to CFR Part 50:

Addressees who do not have a surveillance program meeting ASTM E 185-73, -79, or -82 and who do not have an integrated surveillance program approved by the NRC (see Enclosure 2), are requested to describe actions taken or to be taken to ensure compliance with Appendix H to 10 CFR Part 50. Addressees who plan to revise the surveillance program to meet Appendix H to 10 CFR Part 50 are requested to indicate when the revised program will be submitted to the NRC staff for review. If the surveillance program is not to be revised to meet Appendix H to 10 CFR Part 50, addressees are requested to indicate when they plan to request an exemption from Appendix H to 10 CFR Part 50 under 10 CFR 50.60(b).

North Atlantic Response to Question No. 1:

The UFSAR, Section 5.3.1.6 states that the Seabrook Station reactor vessel material surveillance program will conform with ASTM E185-79, "Recommended Practice for Surveillance Tests for Nuclear Reactor Vessels" and 10 CFR 50, Appendix H. The Seabrook Station reactor vessel material surveillance program actually exceeds the programmatic requirements of ASTM E185-79. The program uses six specimen capsules. Each capsule contains reactor vessel steel specimens, oriented both longitudinally and transversely to the principal rolling direction of the limiting base material located in the core region of the reactor vessel and associated weld material and weld heat-affected zone material. Each capsule includes nine tensile test specimens, twelve compact tensile test specimens and sixty Charpy V-notch test specimens, fifteen for each of four specimen types.

Question No. 2.:

Certain addressees are requested to provide the following information regarding Appendix G to 10 CFR Part 50:

a. Addressees of plants for which the Charpy upper shelf energy is predicted to be less than 50 foot-pounds at the end of their licenses using the guidance in Paragraphs C.1.2 or C.2.2 in Regulatory Guide 1.99, Revision 2, are requested to provide to the NRC the Charpy upper shelf energy predicted for December 16, 1991, and for the end of their current license for the limiting beltline weld and the plate or forging and are requested to describe the actions taken pursuant to Paragraphs IV.A.1 or V.C of Appendix G to 10 CFR Part 50.

b. Addressees whose reactor vessels were constructed to an ASME Code earlier than the Summer 1972 Addenda of the 1971 Edition are requested to describe the consideration given to the following material properties in their evaluations performed pursuant to 10 CFR 50.61 and Paragraph III.A of 10 CFR Part 50, Appendix G:

1) the results from all Charpy and drop weight tests for all unirradiated beltline materials, the unirradiated reference temperature for each beltline material, and the method of determining the unirradiated reference temperature from the Charpy and drop weight test;

2) the heat treatment received by all beltline and surveillance materials;

3) the heat number for each beltline plate or forgoing and the heat number of wire and flux lot number used to fabricate each beltline weld;

4) the heat number for each surveillance plate or forgoing and the heat number of wire and flux lot number used to fabricate the surveillance weld;

5) the chemical composition, in particular the weight in percent of copper, nickel, phosphorous, and sulfur for each beltline and surveillance material; and

6) the heat number of the wire used for determining the weld metal chemical composition if different than Item (3) above.

North Atlantic Response To Question No. 2.a.:

The limiting beltline material (weld or plate) for the Seabrook Station reactor vessel is the lower shell plate, Code No. R1808-3. The initial (unirradiated) Charpy V-notch average upper shelf fracture energy levels for this limiting material is listed in the UFSAR Table 5.3-3 as 78 ft-lbs. Applying the methodology of USNRC Regulatory Guide 1.99, Revision 2 results in a predicted Charpy upper-shelf energy of 58 ft-lbs for this material at the time of expiration of the operating license. This prediction is consistent with the initial test results of specimens for this material from surveillance Capsule U which was removed from the reactor vessel in August 1991 during first refueling outage. The average upper shelf energy for transversely oriented specimens from lower shell plate R1808-3 decreased to 72 ft-lbs after irradiation to the fluence of 3.11×10^{18} n/CM^2. Therefore, the limiting beltline material exhibits adequate upper shelf energy for continued safe plant operation and is predicted to maintain the upper shelf energy above 50 ft-lbs throughout vessel life as required by 10CFR50 Appendix G.

North Atlantic Response to Question No. 2.b.:

The Seabrook Station reactor vessel was designed and fabricated in accordance with the 1971 Version of the ASME Boiler and Pressure Vessel Code (the Code), Section III, Class 1 requirements with application of all Addenda through and including the Winter 1972 Addendum. As such, the fracture toughness of the reactor vessel material meets the requirements of the Code, Paragraph NB-2300. Therefore, the information requested by this question is not applicable to Seabrook Station.

Question No. 3.:

Addressees are requested to provide the following information regarding commitments made to respond to GL. 88-11:

a. How the embrittlement effects of operating at an irradiation temperature (cold leg or recirculation suction temperature) below 525 °F were considered. In particular licensees are requested to describe consideration given to determining the effect of lower irradiation temperature on the reference temperature and on the Charpy upper shelf energy.

b. How their surveillance results on the predicted amount of embrittlement were considered.

c. If a measured increase in reference temperature exceeds the mean-plus-two standard deviations predicted by Regulatory Guide 1.99, Revision 2, or if a measured decrease in Charpy upper shelf energy exceeds the value predicted using the guidance in Paragraph C.1.2 in Regulatory Guide 1.99, Revision 2, the licensee is requested to report the information and describe the effect of the surveillance results on the adjusted reference temperature and Charpy upper shelf energy for each beltline material as predicted for December 16, 1991, and for the end of its current license.

North Atlantic Response to Question No. 3.a.:

Seabrook Station operating procedures require that, during power operation, the reactor coolant average temperature (Tavg) be maintained within four degrees F of the programmed Tavg. As a result of this operating procedure requirement, the reactor coolant inlet temperature is maintained above 553 degrees F at all power levels. Technical Specification 3.1.1.4. limits power operation at Tavg less than 551 degrees F to a maximum of fifteen minutes. Under these limiting conditions, reactor coolant inlet temperature would be at or above 521 degrees F. To date, Seabrook Station has experienced no significant operating time with reactor coolant inlet temperature less than 525 degrees F. Therefore, the temperature effects of operating at an irradiation temperature below 525 degrees F have not been considered.

North Atlantic Response to Question No. 3.b.:

The first surveillance capsule (Capsule U) was withdrawn from the Seabrook Station reactor vessel in August 1991, during the first refueling outage. The results of tests conducted on material specimens from this capsule are being analyzed in accordance with the methods prescribed in ASTM E-185-82 and USNRC Regulatory Guide 1.99, Revision 2. Since only one set of credible surveillance data (as defined by Regulatory Guide 1.99, Revision 2) is available, the calculation of neutron radiation embrittlement of the reactor vessel beltline materials will be performed in accordance with the procedures described in Regulatory Guide 1.99, Revision 2, Paragraph C.1. (Regulatory Position). The results of these calculations will be submitted to the NRC by August 11, 1992.

North Atlantic Response to Question No. 3.c.:

Preliminary analysis results indicate that no test data from the tests of specimens from Capsule U exceed the mean-plus-two standard deviation limit predicted by Regulatory Guide 1.99, Revision 2 and that Charpy upper shelf energies have not fallen below the values predicted in Paragraph C.1.2. of Regulatory Guide 1.99, Revision 2. Therefore, the information requested by this question is not applicable to Seabrook Station.

North Atlantic
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Telephone (603) 474-9521
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Ted C. Feigenbaum
Senior Vice President and
Chief Nuclear Officer

NYN-92094

July 2, 1992

United States Nuclear Regulatory Commission
Nuclear Materials Safety Section B
475 Allendale Road
King of Prussia, PA 19406

Attention: Mr. John Kinnerman

References: (a) Facility Operating License No. NPF-86, Docket No. 50-443

(b) Amendment 10 to Facility Operating License No. NPF-86-Seabrook Station Unit No. 1 (TAC No. M79077) dated May 29, 1992

(c) Amendment 11 to Facility Operating License No. NPF-86-Seabrook Station Unit No. 1 (TAC No. M79076) dated May 29, 1992

Subject: Amendment to NRC By-Product Materials License No. 28-28098-01

Dear Mr. Kinnerman:

Enclosed please find two copies of an application (NRC Form 313) to amend the subject material license which authorizes New Hampshire Yankee (NHY) to transport reactor or other system components containing low level radioactivity offsite for special inspection, repair or testing. Under its terms, once these activities are completed, the components must be returned to Seabrook Station.

The amendment application enclosed herein requests that the license be changed to reflect the transfer of managing agent responsibilities from NHY to the North Atlantic Energy Service Corporation (NAESCO) that took place on June 29, 1992. This transfer was authorized by Amendment 10 to the Seabrook Station Facility Operating License [Reference (b)]. The amendment application also includes other minor changes to the radiation safety organization that have taken place since the original application was filed.

At the time of transfer, NHY employees became NAESCO employees. Plant programs and personnel that support the conduct of operations involving radioactive materials encompassed by this license are not affected by the transfer.

In addition, as of June 5, 1992, PSNH's 35.6% share in Seabrook Station was transferred to the North Atlantic Energy Corporation (NAEC), a wholly owned subsidiary of Northeast Utilities (NU). This transfer was authorized by and in conformance with, Amendment 11 to the Seabrook Station Facility Operating License [Reference (c)].

If you have any questions on this matter, please call Mr. James M. Peschel, Regulatory Compliance Manager, at (603) 474-9521 extension 3772.

Very truly yours,

Ted C. Feigenbaum

TCF:JBH/ss/act

Enclosure

cc: Mr. Thomas T. Martin
Regional Administrator
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Mr. Gordon E. Edison, Sr. Project Manager
Project Directorate I-3
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Noel Dudley
NRC Senior Resident Inspector
P.O. Box 1149
Seabrook, NH 03874

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

NRC FORM 313
(10-87)
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires: 4-30-90

APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATIONS FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS. IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIALS SAFETY SECTION B
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
NUCEAR MATERIALS SAFETY SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
NUCLEAR MATERIALS SAFETY SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- [ ] A. NEW LICENSE
- [X] B. AMENDMENT TO LICENSE NUMBER 28-28098-01
- [ ] C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include Zip Code)*

North Atlantic Energy Service Corporation
Seabrook Station
Route 1, Lafayette Road
P.O. Box 300
Seabrook NH 03874

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.

North Atlantic Energy Service Corporation
Seabrook Station
Route 1, Lafayette Road
P.O. Box 300
Seabrook NH 03874

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION | TELEPHONE NUMBER

Mr. James M. Peschel, Regulatory Compliance Manager | 603-474-9521 ext. 3772

SUBMIT ITEMS 5 THROUGH 11 ON 8½ x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.
7. INDIVIDUAL (S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.
9. FACILITIES AND EQUIPMENT.	10. RADIATION SAFETY PROGRAM.
11. WASTE MANAGEMENT.	12. LICENSEE FEES *(See 10 CFR 170 and Section 170.31)* FEE CATEGORY | AMOUNT ENCLOSED $

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFIES THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE–CERTIFYING OFFICER	TYPED/PRINTED NAME	TITLE	DATE
Ted C. Feigenbaum	Ted C. Feigenbaum	Senior Vice President and Chief Nuclear Officer	07/02/92

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS	APPROVED BY
AMOUNT RECEIVED	CHECK NUMBER			DATE

ATTACHMENT A
TO NRC FORM 313

ITEMS 5-11

NOTE: All changes relative to the original application contained in NHY's letter to the NRC's Region 1 Nuclear Materials and Safeguards Branch, dated August 28, 1987 (NYN-87102), are in bold print.

ATTACHMENT A

Item 5 Radioactive Material

(a) Any radioactive material with atomic numbers (1-96).

(b) Mixed corrosion and/or fission products and/or source material fixed upon surface and/or contained with reactor system and components.

(c) Total activity will not exceed an average smearable contamination level of 50,000 DPM/100 cm^2 with a maximum smearable contamination level of ninety thousand DPM/100 cm^2. The average dose rate shall not exceed 50 mr/hr at one inch from the surface with a maximum dose rate of 100 mr/hr at one inch from the surface.

Item 6 Purpose(s) for Which Licensed Material will be Used

The by-product material license will establish a mechanism whereby North Atlantic Energy Service Corporation (NAESCO) may transport reactor or other system components containing low level ~~fixed~~ radioactivity to vendor facilities for special inspection, repair and/or testing, and then transport the components back to Seabrook Station upon completion of the special inspections, repairs and/or testing.

Item 7 Individual(s) Responsible for Radiation Safety and their Training and Experience

Radioactive materials are to be used by or under direct supervision of individuals designated by the Radiation Safety Committee (RSC). Attachment B provides information concerning the RSC, the Health Physics Department, and resumes of key staff personnel.

Item 8 Training for Individuals Working in or Frequenting Restricted Areas

Personnel working with radioactive material are trained in the proper use and handling commensurate with their work responsibilities. The objective of the training is to provide information to help minimize personnel exposure, in keeping with As Low As Reasonably Achievable (ALARA) principles, and to prevent misuse of sources. Topics covered in the training will include as necessary:

- Safe handling of radioactive materials,
- Techniques of radiation and contamination surveys,
- Use and calibration requirements of radiation detection instruments,

ATTACHMENT A

Item 8
(cont'd)

- Posting requirements of radiation areas,
- Exposure control,
- Dosimetry devices,
- ALARA considerations,
- Biological effects of ionizing radiation, and
- Response to emergency events.

Training may be conducted by Health Physics Department personnel or a health physics training instructor. Retraining is conducted on an annual basis for those individuals performing activities under this program. Training will be documented.

Item 9 Facilities and Equipment

Shipment of radioactive by-product material to and from the vendor's facility shall be in accordance with all applicable federal and state regulations and NAESCO's administrative policies. Before work begins at a vendor's facility, a Health Physics Supervisor or Health Physics Technician evaluates the facility to ensure that the work to be done can be accomplished in a radiologically safe manner and that proper controls can be established. A Radiation Control Area (RCA) shall be established at each field location for the purpose of radiation protection. The RCA shall encompass that area of a vendor's facility in which the radioactive by-product material is handled. Access to the RCA shall be limited to those persons specifically assigned to the activity, and shall be by written permit. Prior to beginning work on the radioactive by-product material, consideration shall be given to the following to control the spread of radioactive contamination:

a. Cover non-involved equipment inside the RCA.

b. Contain the work area inside a ventilated "tent" or equivalent.

c. Cover floors, benches, etc.

ATTACHMENT A

Item 9
(cont'd)

The RCA and areas within the RCA as necessary, shall be posted in accordance with the applicable sections of 10CFR19 and 20. Protective clothing to be worn inside the RCA shall be specified in writing on the radiation work permit for the work activity. All protective clothing shall be supplied by NAESCO. Air monitoring within the RCA will be conducted by a Health Physics Technician and, when necessary, respiratory protection equipment will be based on the results of the monitoring. Every precaution will be taken to keep airborne contamination to a minimum through the use of proper ventilation and prior decontamination of equipment and work areas. All respiratory protection equipment will be supplied by NHY.

The following is a partial list of instruments that may be used at the contractor's facility:

RADIATION PROTECTION INSTRUMENTS

Type of Instrument	Number Avail.	Radiation Detected	Sensitivity Range	Window Thickness	Monitor Survey Etc.
Eberline E-520 Geiger Counter with HP-270 External Probe	2	Beta/Gamma	0.02 to 2000 mR/hr	30 mg/cm^2	Area surveys, posting boundaries
Ludlum 2200 Scaler	2	Beta/Gamma	1x10^6 counts	7 mg/cm^2	Smear counting
Eberline RM-14 with HP-210 Probe	2	Beta	100 to 5x10^4 cpm	7 mg/cm^2	Personnel contamination monitoring
Eberline RO-2	2	Beta/Gamma	0.2 to 5000 mR/hr	3.5 gm/cm^2	Area surveys, posting boundaries
Eberline RO-2A	1	Beta/Gamma	2 to 5x10^4 mR/hr	3.5 gm/cm^2	Area surveys, posting boundaries
Ludlum Model 12 with Model 43-2 Detector	1	Alpha	20 to 5 x 10^5 cpm	1 mg/cm^2	Smear counting
RADECO	4	N/A	N/A	N/A	Air sampler
Lapel Air Sampler	1	N/A	N/A	N/A	Air Sampler
RADECO H809B2 Battery Powered Air Sampler	2	N/A	N/A	N/A	Air Sampler

ATTACHMENT A

Item 9
(cont'd)

(d) Air sampling will be done in the work area when ventilated work tents are used or as appropriate.

(e) It is the intent of NAESCO to utilize respirators in conjunction with other pertinent elements of respiratory protection to ensure that personnel are protected from airborne radioactive materials that might be encountered during certain operations.

Item 10 Radiation Safety Program

a. The Radiation Protection personnel identified in Attachment B are directly responsible for ensuring that activities at a vendor's facility are conducted in accordance with the specific conditions of the by-product material license. A Health Physics Supervisor will maintain contact with the Health Physics personnel assigned to the job at the vendor facility to ensure that effective health physics controls are established and maintained.

Health Physics Department personnel implement the radiological protection program at the vendor's facility and enforce all applicable regulations. They provide radiological training to vendor personnel consistent within the scope of the job to be done. They perform surveys, post areas, issue personnel monitoring devices, monitor personnel radiation exposures and keep records of all activities related to radiological protection.

b. All vendor company employees shall receive radiation protection orientation, prior to their assignment of work in any RCA established by NAESCO for the purpose of radiation protection. The orientation will cover all pertinent radiation protection practices and procedures to a degree sufficient to allow an employee to perform his assignment without incurring unnecessary radiation exposure. This training will also ensure that these employees comprehend radiation protection requirements and the potential health effects from exposure to radiation. These individuals will be given the practical abilities to function safely in a radiological environment. This training will also include an indoctrination on the types of protective clothing (PC's) that will be used within the established RCA and the established requirements for their use.

ATTACHMENT A

Item 1C
(cont'd)

c. All shipments of NAESCO equipment containing radioactive material shall be appropriately packaged, surveyed and labeled in accordance with applicable NRC and DOT regulations governing the transportation of radioactive materials.

d. An RCA shall be established at each field location for the purpose of radiation protection. The RCA shall encompass that area of a vendor's facility in which the access shall be limited to those persons specifically assigned to the activity, and shall be by written permit. Health Physics personnel, through the Radiation Work Permit (RWP) process, will establish the proper controls for worker access and egress of the RCA. These controls which include respiratory protection and the use of protective clothing will help ensure that personnel exposure limits are maintained and that contamination is controlled. Personnel contamination, if it occurs, would be reduced to a minimum of 5000 dpm/100cm^2 Beta/Gamma (approximately 100cpm net with a Geiger-Muller type instrument). The spread of contamination to outside the RCA will be controlled administratively and through the use of passive and preventive measures as are employed at Seabrook Station.

e. Prior to beginning work on contaminated equipment, consideration shall be given to control the spread of radioactive contamination such as: covering non-involved equipment inside the RCA or containing the work area inside a ventilated tent, covering floors, benches, etc. At all times the radiation protection activities shall be conducted in accordance with the requirements of 10CFR20, "Standards for Protection Against Radiation."

f. Radiation surveys and air and contamination surveys shall be performed at the vendor's facility consistent with the amount of radioactive material present and the scope of the work being performed. When applicable, air sampling is done as close to an individuals breathing zone as possible. All radiation surveillance will be done on a routine and non-routine basis. Routine surveillance is based upon the type of work to be done in the established RCA. The results of the routine surveillance will be evaluated by Health Physics personnel. Non-routine surveys will be done when there are changes in radiological conditions or in activities within the established RCA or at the discretion of Health Physics personnel. Radiation exposure to vendor personnel shall be kept within limits specified in 10CFR20.

ATTACHMENT A

Item 10
(cont'd)

g. A thorough radiation and contamination survey of the area previously designated as the RCA and adjacent areas shall be conducted. Decontamination, if necessary, shall be conducted as a result of surveys done in accordance with 10CFR20.201.

New Hampshire Yankee shall maintain records of licensee activities conducted at temporary field locations. These records shall include:

a. The transfer of radioactive materials to and from the temporary field locations.

b. Radiation surveys.

c. Personnel radiation exposure.

Personnel exposure monitoring shall be performed for each individual as required by 10CFR20.202. The need to wear dosimetry devices is determined by a health physics supervisor through evaluation of the potential for exposure on a case by case basis.

Thermoluminescent dosimeters (TLDs) and/or self reading pocket dosimeters (SPRDs) are used to monitor personnel exposure to ionizing radiation. The dosimetry is provided by an on site dosimetry system operated by the Radiological Services Department. This system may be supplemented by contracted services if required. The TLDs are normally changed on a quarterly basis. SRPDs are normally read at the end of each day for exposure tracking purposes. The SRPDs are calibrated periodically (six month intervals). They are leak tested to check that leakage current is less than 5% of full scale after 48 hours and accuracy is checked to within ± 10% of known values.

Previous occupational exposure records (as required by 10CFR 20.102) and current occupational exposure records are maintained by the Radiological Services Department. Current exposure records are normally updated monthly but not less than quarterly in accordance with 10CFR 20.401.

Reports of exposure to individuals will be generated when requested by the vendor employee in accordance with 10 CFR 19.13, when required by 10CFR 20.409 for worker termination and reports to the Commission.

ATTACHMENT A

Item 11 Waste Management

All radioactive waste materials shall be appropriately packaged, surveyed and labeled in accordance with applicable NRC and DOT regulations governing the transport of radioactive materials. All disposal of radioactive waste material from a temporary field location shall be through one of the following methods:

a. The radioactive waste shall be appropriately packaged, surveyed and labeled and returned to Seabrook Station for ultimate disposal through a licensed contractor, or

b. The radioactive waste shall be appropriately packaged, surveyed and labeled and directly transferred to a licensed waste disposal contractor from the temporary field locations.

North Atlantic Energy Service Corporation
July 2, 1992

ATTACHMENT B
TO NRC FORM 313

RADIATION PROTECTION ORGANIZATION

NOTE: All changes relative to the original application contained in NHY's letter to the NRC's Region I Nuclear Materials and Safeguards Branch, dated August 28, 1987 (NYN-87102), are in bold print.

ATTACHMENT B

Radiation Protection Organization

Radiation Safety Committee

The Radiation Protection Program establishes a Station Radiation Safety Committee (RSC) charged with the responsibility of administering, interpreting, and enforcing sound radiological protection practices in conformance with NRC regulations and industry standards. The RSC is ultimately responsible for providing the administrative controls, operational procedures and management review necessary to assure safe operation of the program.

Membership on the committee consists of the Station Manager, the Health Physics Department Supervisor, the NAESCO Senior Environmental Scientist the ALARA Health Physicist and other managers from NAESCO.

The RSC meets as necessary, but at least quarterly. A minimum of four members including the RSC Chairman are necessary to meet the quorum. Committee decisions, authorizations and other matters of record are documented in meeting minutes.

Health Physics Department Organization

The Health Physics Department Supervisor is assigned the day to day administrative authority and responsibility for control and supervision of licensed byproduct material. He is designated as the radiation safety officer for Seabrook Station. He has the administrative authority and responsibility to review, audit and approve the procedures, locations, and users of licensed by-product material. He delegates, in his absence, this authority and responsibility to a Health Physics Supervisor.

The Health Physics Supervisors report to the Health Physics Department Supervisor. The HP supervisors are responsible for supervising the day to day operations of the program including performance of surveys, generation of records, control of licensed radioactive material, and dosimetry issue.

Only individuals authorized to use licensed by-product material will be allowed to do so. Authorization is granted when there is need to use radioactive material and when users are trained in safe use and handling.

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RESUME

JOSEPH J. RAFALOWSKI

POSITION: Health Physics Department Supervisor
(Radiation Protection Manager)

SUMMARY OF QUALIFICATIONS: Over twenty years total nuclear power experience in the fields of radiation protection, health physics, primary and secondary chemistry, and Nuclear Plant mechanical equipment operation, maintenance and repair. Twenty of these years have been in commercial nuclear power plants and over fifteen years have involved various levels of supervisory experience. Certified by the National Registry of Radiation Protection Technologists.

EXPERIENCE:

December 1978 to Present

SEABROOK STATION, Public Service Company of New Hampshire

Position: Health Physics Department Supervisor

Brief Summary: Thirteen years service on the Seabrook Station Staff as Health Physics Department Supervisor (Radiation Protection Manager) during which time the Health Physics personnel have been assembled, the organization established and the station Radiation Protection Program Manual and its implementing policies and detailed Procedures have been prepared under his direct supervision.

Some Specifics: Development, implementation, and maintenance of the Station Radiological Protection Program in compliance with Federal Regulations, national standards, and other applicable requirements.

Planning, scheduling, and directing all radiological safety activities which ensure detection and control of radiation and radioactivity in the station and its systems to maintain personnel exposures As Low As Reasonably Achievable (ALARA). This includes the specific and detailed review of plant systems and radiation shielding installation.

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Recruiting, staffing, and supervising a complement of twenty-six (26) health physics personnel including Health Physics Supervisors, Health Physicists, Health Physics Working Foremen, and Health Physics Technicians. Review and approval of technical training of all personnel and direct supervision of their professional growth.

Administrative Responsibilities: Preparation of all required records and reports; evaluation of personnel, preparation of department budget, purchase requisitions, and equipment specifications.

July 1971 to
Dec 1978 Maine Yankee Atomic Power Company

Position: Health Physics "Team Leader" and Chemistry Technician

Brief summary: Seven and one half years service at Maine Yankee nuclear power station (PWR) as a Health Physics "Team Leader" (supervisor) and Technician during initial fuel load, normal operations, maintenance and four major refueling outages during which extensive modification and repair work was conducted on the primary systems. Directed and supervised the radiation protection activities of other plant health physics technicians, and of the numerous (10.20) additional contracted health physics personnel, in the performance of their assignments in-plant and also throughout the surrounding environment.

Some Specifics: Program development. In preparation for initial fuel load and start of plant operations:

Reviewed and recommended necessary technical and professional revisions in the development and drafting of the Maine Yankee Radiation Protection Program Manual and implementing procedures.

Established the initial Health Physics Control Point, including equipment layout.

Designated monitoring points throughout the Plant.

Performed initial setup and calibration of radiation detection instrumentation.

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Established survey techniques and counting methods.

Defined and assembled contents of emergency kits.

Performed source inventory and leak tests.

Performed required surveillance on receipt of new fuel.

Developed survey maps and analysis record forms.

Reviewed and analyzed installation of plant systems and recommended to upper management changes needed to reduce radiation exposure.

As additional training for operational phase served as Senior Health Physics Technician and direct assistant to the RPM during a refueling and major maintenance outage at Yankee Rowe Nuclear Power Station.

Program implementation. Upon start of initial fuel load, and during plant testing and operation:

Performed or supervised and assisted assigned personnel in the continuous monitoring of all radiological activities within the plant and its systems, including the surrounding environment to ensure maximum safety and radiation exposure ALARA at all times.

During first refueling and maintenance outage, similarly performed all phases of radiological monitoring and control.

During the three subsequent refueling outage all with major maintenance workloads, as Lead (Supervisory) H.P. Technician assigned, supervised and coordinated the health physics activities of other station Health Physics Technicians and 10-20 contracted Health Physics personnel.

Chemistry Laboratory Technician. Performed all phases of water chemistry and radiochemistry tasks required for operation of a PWR. Ensured proper quality control relative to corrosion, radioactive waste disposal and potential radiological hazards.

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July 1969 to
July 1971

United Aircraft Research Laboratory, East Hartford, Connecticut

Position: Senior Instrument Technician

Radioisotope Laboratory:

Performed radioactive gaseous diffusion research and development centered on physical heating of aircraft engine hardware and mapping of the radioactive content of this hardware to determine material defects.

Responsible for radiological monitoring of work environment to ensure maximum safety at all times.

Chemical Science Laboratory:

Responsible for operation and maintenance of research Bio-Mass energy conversion systems.

May 1962 to
June 1969

U.S. Navy, First Class Petty Officer (Machinist Mate)

Position: Leading (Supervisory) Engineering Laboratory Technician

Brief Summary: Seven years service in naval nuclear power program which culminated in three and one half years duty as a supervisor of radiation protection, health physics and chemistry (analysis and control in both primary and secondary systems) of a PWR. This service included normal nuclear power plant operation, maintenance and repair and also a complete refueling cycle.

Some Specifics: Performed, supervised and assigned Personnel to perform continuous monitoring of both radioactivity and radiation levels of vessel's environment and surrounding atmosphere and environment to ensure maximum Safety at all times.

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Trained and supervised a crew of five (5) Engineering laboratory technicians in Radiation Protection, Radiological Methods and Procedures and Water Chemistry Control in accordance with bureau of ships guidance and shipboard directives.

Responsible for all phases of radiological, health physics and chemistry control and for management of radioactive wastes, including discharges from the vessel. Analyzed and documented all discharges.

(amount released, curie content, etc.). Solid radioactive waste management included generation, packaging, handling, storage and disposal.

Supervised mechanical, radiological, health physics and water chemistry personnel during refueling of the S2C reactor.

Performed radiological and chemistry training of other engineering department personnel including prospective Engineering watch officers.

Prepared and documented all required records and reports; lesson plans and training programs; requisition and inventory of all spare parts requirements.

As a Mechanical Technician/Operator since 1963), was concurrently responsible for maintenance, repairs and operation of all primary and secondary systems and components.

EDUCATION: Continuing education at Northern Essex Community College. Courses completed include college algebra, trigonometry and statistics.

Biological Effects of Ionizing Radiation, Harvard School of Public Health, (24 hours), 1983.

Radiological Health Physics, University of Lowell, (2 weeks), 1982.

PSNH Middle Management Development Program, (5 day resident course at UNH), 1982.

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Air Pollution Meteorology, Northrup services, (40 hours), 1981.

Applied Health Physics, Oak Ridge Associated Universities, (5 weeks), 1981.

Planning for Nuclear Emergencies, Harvard School of Public Health, (40 hours), 1980.

Internal Radiation Dosimetry, University of Lowell, (40 hours), 1980.

Assessment of Environmental Releases of Radioactivity, University of Washington, (40 hours), 1980.

EPRI.DOE Facility Decontamination Workshop, Hershey,PA, (16 hours), 1979.

Westinghouse PWR Information Course, (60 hours), 1979.

Balance of plant course (PSNH), (60 hours), 1979.

Management and supervision courses, (PSNH), (145 hours), 1979.

Basic Radiological Health Course, University of Lowell, 40 hours) 1976.

Basic Electronics, (40 hours), 1969.

U. S. Navy Engineering Laboratory Technician School, 1965.

Other U. S. Navy Service Schools; Machinist Mate (A), 1962; Steam Component, 1968; Hydraulic, 1968; CO2 Scrubber and H2 Burner School, 1967.

Graduate: South Vocational High School, Pittsburgh, PA, 1961.

ATTACHMENT B

RESUME

WILLIAM A. DIPROFIO

POSITION: Station Manager

SUMMARY: Joined Public Service Company of New Hampshire in 1971 as a Cadet Engineer. Progressed to present position of Station Manager-Seabrook. Prior to employment with PSNH, had six years experience in the U.S. Navy in operation, maintenance and testing of nuclear power plants and the training and supervision of operator-instructors. Graduate of the U.S. Naval Academy, B.S. in Engineering-1965 and graduate of the University of New Hampshire, MBA-1976. INPO Senior Nuclear Management Program-May 1987.

EXPERIENCE: Station Manager-Seabrook-PSNH

1992- Responsible for all aspects of station operation, maintenance and technical support including budgets and personnel matters for the 500 member Seabrook Station Staff.

1978-1992 Assistant Station Manager-Seabrook-PSNH

Responsible for initial development and implementation of staffing and training plans including interviewing and recommendation to hire of initial Key Staff Positions. Developed initial detailed position specifications including requirements for compliance with EEO, medical and other personnel policies. Responsible for directing operations, maintenance and training activities and development of station budgets. Obtained NRC Senior Reactor Operator License (SOP-10232) and Shift Technical Advisor qualification by participation in the Seabrook Station Cold License Program. In 1983 assumed responsibility for office services, inventory and document control functions. In 1985 assigned responsibility for post construction planning and scheduling for the station staff and direction of the technical staff of Reactor and Technical Support engineers. Final responsibilities were for budgeting, planning, scheduling and outage management, material requirements programs and day to day operation of the station.

Worked at Maine Yankee during the 1979 refueling outage and subsequent testing, startup and power escalation. Worked for one year at the Westboro offices of Yankee Nuclear Services Division under the direction of the Manager of Operations.

1974-1978 Assistant Station Superintendent-Newington Station-PSNH

Participated in the initial hiring, training and direction of station staff for the startup and transfer from construction to operation of this 400MW oil fired station. After startup, responsible for all phases of station performance.

1971-1974 Cadet Engineer promoted to Assistant Engineer-PSNH Production Division Staff

Project Engineer-engineering and installation projects at various generating stations in the PSNH system under the direction of a Senior Staff Engineer. Assignments included: monitoring contractor performance of major turbine overhauls, steel smoke stack installations, redesign and installation of an air preheating system.

1965-1971 U.S. Navy-Discharged honorably as Lieutenant

Eighteen months as on shift leading Navy supervisor of an operating nuclear power plant prototype (S3G) at West Milton, NY. Responsible for operation and maintenance of the power plant under the direction of civilian management. Responsible for implementation of the training program in operation, maintenance and testing of the plant for 30-70 students comprised of Navy enlisted and officer personnel and civilian engineers. Supervised 25 operator instructors in the performance of the above responsibilities under the direction of the senior navel officer assigned to the facility.

Thirty months aboard Fleet Ballistic Missile Submarine, USS Theodore Roosevelt. Supervised officer and enlisted personnel in operation and maintenance of the power plant including rotation through division officer of each of the engineering divisions. Supervised and performed operation, maintenance and testing for nine months in a shipyard maintenance and major repair period.

Qualified as senior watch officer on the following reactors: S5W (Westinghouse), D1G (General Electric) and S3G (General Electric)

EDUCATION AND TRAINING:

One year University of Massachusetts-Engineering
Graduate U.S. Naval Academy-1965 B.S. Engineering
Graduate U.S. Navel Nuclear Power School and Prototype Training Program
Graduate University of New Hampshire-1976 MBA
Senior Nuclear Plant Management Program conducted by INPO-May 1987
Numerous technical and management training programs conducted by PSNH

OTHER:

Ten years on the town Planning Board. Researched and wrote initial master plan and completed second revision. Elected Town Selectman-1989, 1992. Charter member of local Knight's of Columbus Council.

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RESUME

STEPHEN L. DODGE III

EDUCATION:

Lowell Technological Institute, Lowell, MA
B.S., Radiological Health Physics, 1973

New Hampshire College, Manchester, NH
Masters of Business Administration, In-Progress

EXPERIENCE:

1991-Present

Radiological Services Department Supervisor
New Hampshire Yankee
Seabrook Station, Seabrook, NH 03874

Responsibilities include: Managing the Radiological Services Department and its principal purpose of providing required support for the implementation of the Station Radiation and Respiratory Protection Programs. Support functions include: Providing and processing NVLAP accredited dosimetry devices, conducting direct and indirect bioassays, calibration of radiation protection instrumentation, administering the radiation exposure records management program, sponsorship of the comprehensive Radiation Protection Management computer system, maintaining all respiratory protection equipment and conducting environmental monitoring surveillance activities.

1979-1991

Health Physics Supervisor

Responsibilities included: Supervising the Radiological Support group of the Health Physics Department and the principal functions of radiation protection instrumentation development, calibration and maintenance, respiratory protection program implementation and equipment maintenance, Health Physics count room operations, radiation exposure records management and environmental surveillance and sampling.

1977-1979

Assistant to the Radiological and Environmental Services Superintendent
New York Power Authority
Indian Point No. 3, Buchanan, NY 10511

Responsibilities included: Coordinating all on-site emergency planning activities, administering bioassay program activities, managing site radiation exposure records, supervising health physics program implementation during maintenance and refueling outages and developing 10CFR50 Appendix I submittals.

1973-1977

Radiological Engineer
General Dynamics Corp./Electric Boat Division
Groton, CT 06340

Responsibilities included: Development and conduct of compliance audits and appraisals of the shipyard radiological controls programs, planning and directing extensive temporary shielding applications in support of nuclear propulsion plant overhauls, evaluating planned maintenance work packages to establish exposure allocations and tracking and developing solutions for persistent shipyard radiologically relate problems.