6882

August 5, 1988

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

before the

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, et al.	Docket Nos. 50-443-OL-1 50-444-OL-1
(Seabrook Station, Units 1 and 2)	On-site Emergency Planning Issues

APPLICANTS' RESPONSE TO "NEW ENGLAND COALITION ON NUCLEAR POLLUTION'S THIRD SET OF INTERROGATORIES AND REQUEST FOR THE PRODUCTION OF DOCUMENTS TO APPLICANTS ON NECNP CONTENTION I.B.2" AND SUPPLEMENTAL ANSWER TO INTERROGATORY

Pursuant to 10 C.F.R. §§ 2.740b and 2.741, Applicants herein respond to "New England Coalition on Nuclear Pollution's Third Set of Interrogatories and Request for the Production of Documents to Applicants on NECNP Contention I.B.2."

GENERAL OBJECTIONS

Applicants object to the proposed definitions provided in paragraphs 2-4 of the instructions on the grounds that

DS03

such definitions are overbroad and burdensome. Applicants will "identify" drawings by number, and other documents by category or by title and date. Applicants will "identify" an individual by providing the individual's name, title, and business address.

INTERROGATORY NO. 1

For each of the four individuals identified in response to Interrogatory No. 1 of NECNP's first set of interrogatories, please describe the person's area of expertise and the particular substantive contribution that the person has made, both to the Applicants' review of the RG-58 coaxial cable issue, and to the answering of NECNP's first, second, and third sets of interrogatories.

RESPONSE

Applicants object to the interrogatory to the extent that it asks for a description of "the particular substantive contribution" by each person, on the ground that such a request is burdensome and seeks privileged information.

Without waiving the foregoing objection, Applicants state:

Attachments 1-1 through 1-4 provide the qualifications of the four named individuals.

Attachments 1-5 and 1-6 indicate which individual(s) were responsible for developing the technical response to NECNP's First and Second Set of Interrogatories. It should be understood that the individual(s) who developed a

technical response may have used information obtained from other individuals.

The individual(s) responsible for developing a response to the Third Set of Interrogatories is noted in the particular response. The individual's name, title and business address is provided in Attachment 1-7.

For all three sets of interrogatories Mr. Vargas reviewed and commented on the responses developed.

Finally, as to the review of the RG-58 coaxial cable issue, Mr. R. Bergeron and Mr. P. J. Tutinas generally dealt with issues related to environmental qualification while Mr. G. A. Kotkowski generally dealt with issues relating to Electrical Engineering (e.g., technical adequacy of RG-59). Mr. Vargas provided management supervision and review to all issues.

(Bergeron)

INTERROGATORY NO. 2

Please identify all witnesses and affiants you intend to use in hearings and summary disposition proceedings on RG-58 coaxial cable, and describe the substance of their affidavits and testimony.

RESPONSE

At present Applicants intend to use one or all of the following individuals as affiants for summary disposition concerning the RG-58 coaxial cable.

Richard Bergeron - Instrumentation and Controls Engineering Supervisor (NMY)

Thomas A. Glowacky	-	Senior Engineer, Seabrook Project Electrical Engineering Group (YAEC)
Gerald A. Kotkowski	-	Electrical Engineering Supervisor (NHY)
Peter J. Tutinas	-	Project Engineer Instrumentation and Controls (NHY)
Newell K. Woodward	-	Senior Project Manager (Tenera)

The substance of their affidavits will be that RG-58 coaxial is not used in safety-related/accident mitigating applications; that all RG-58 cable located in a harsh environment that would have been required to be environmentally qualified per 10 C.F.R. 50.49 has been replaced by RG-59 coaxial cable; that RG-59 coaxial cable is a technically acceptable substitute for the twelve (12) RG-58 applications and that RG-58 coaxial cable is environmentally qualified for use at Seabrook Station.

Applicants presently intend to use the affiants identified above as witnesses for hearings.

(Bergeron/Kotkowski/Vargas)

INTERROGATORY NO. 3

On May 27, 1988, you filed a revised "Suggestion of Mootness" which corrected your May 19, 1988, tabulation regarding the categorization of RG-58 cables in the Seabrook plant. How and when was this error discovered? To what do you attribute the error made in the May 19th filing? Was the review procedure described in the May 19 Bergeron affidavit inadequate to detect this error? If so, how? Was the review procedure described in the Bergeron affidavit improperly carried out? If so, how?

RESPONSE

The CASP system and electrical schematic drawing packages were used to initially identify the 126 RG-58 coaxial cable applications. This review is documented in Engineering Evaluation 87-028. The inconsistency in the number of spare cables referred to above was determined to be the result of a tabulation error by the Applicant: R. Bergeron. While tabulating the quantity of cables for each category he inadvertently categorized a cable as being mild when, in fact, the review had identified the cable not only as being in a mild environment, but also being a spare. The review procedures described in the May 19 Bergeron Affidavit were adequate. The inconsistentcy was not in the review process used to identify and categorize the 126 RG-58 coaxial cables, but rather in tabulating the results.

(Bergeron/Tutinas)

INTERROGATORY NO. 4

Does the June 16 Bergeron affidavit describe any review procedures for the identification and location of RG-58 cable that are not already described in the May 19 Bergeron affidavit? If so, please describe them, and explain why they were added.

RESPONSE

No. The June 16 Bergeron Affidavit provides further explanation of the review process.

(Bergeron)

INTERROGATORY NO. 5

In response to interrogatory 5 of NECNP's first set of interrogatories, you state that "subsequent review" has determined that cables No. FE2-FM4/2 and FE2-FM6/2 were spare cables. Please describe this "review" and state when it took place and by whom it was conducted. In what respects, if any, does it differ from the review described in the Bergeron affidavits of May 19 and June 16, 1988? Do you consider the procedures described in those affidavits to be inadequate in any way? If so, how? Please describe your reasons for conducting the "subsequent review."

RESPONSE

The "subsequent review" was performed by Mr. Thomas W. Glowacky in July, 1988. His review was an in-depth circuit review and analysis of the electrical schematic drawing packages for all the identified 126 RC-58 coaxial cable applications, including those 12 cables subsequently replaced with RG-59 coaxial cable. This review formed the basis of his failure mode and effects analysis documented in Engineering Evaluation 88-017 and in his Affidavit of July, 1988.

There are two differences between the reviews performed. First, the Glowacky review included only some of the documents that were included in the review described in the Bergeron Affidavits. Second, the end purpose for reviewing the specific document was markedly different. The Glowacky review was an in-depth review of each circuit, including the

components within each circuit, necessary for a failure mode and effects analysis. The review described in the Bergeron Affidavits was performed to identify RG-58 cable applications for qualification and to assist in categorization.

The reviews performed and the procedures used were and still are adequate to reach this conclusion because the Glowacky review did not identify any additional energized cables.

(Bergeron/Tutinas)

INTERROGATORY NO. 6

Do the electrical schematic drawings that you reviewed according to the procedures described in the Bergeron affidavits show that cables No. FE2-FM4/2 and FE2-FM6/2 are spare cables? If not, please describe the reason for the error and any efforts you have made to detect other errors in the electrical schematic drawings.

RESPONSE

Applicants object to the form of this question, on the grounds that it incorporates an assumption that has no basis in the record of these proceedings.

Without waiving the foregoing objection, Applicants state yes.

(Kotkowski)

INTERROGATORY NO. 7

Does the CASP show that cables No. FE2-FM4/2 and FE2-FM6/2 are spare cables? If not, please describe the reason for the error and any efforts you have made to detect other errors in the CASP.

RESPONSE

No. CASP does not identify cable nos. FE2-FM4/2 and FE2-FM6/2 as spares. This, however, is not considered an error. CASP has designated these cables for use in the Station Computer System and not for use as a general spare. Determining which of these cables were spares required a review of the schematic drawing packages, not CASP.

(Kotkowski)

INTERROGATORY NO. 8

Given the fact that you previously erred in calculating that some cables were energized when they were actually spare cables, do you believe it is possible that some cables which you believe are spare are actually energized? If not, why not?

RESPONSE

Applicants object to this interrogatory on the ground that, insofar as it asks about cables in general, it is overbroad.

Without waiving the foregoing objection, Applicants state that, with regard to the RG-58 coaxial cables at Seabrook Station, no. See Response to Interrogatory No. 9.

(Kotkowski)

INTERROGATORY NO. 9

Have you physically inspected all spare RG-58 coaxial cables to determine whether they are indeed not connected to any circuits? If so, when was the inspection performed and what were the results? If no, why not?

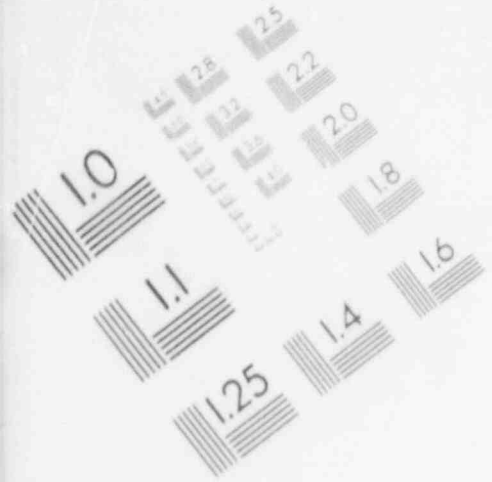
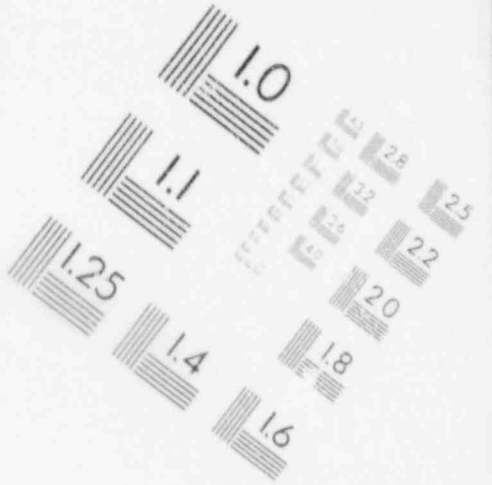
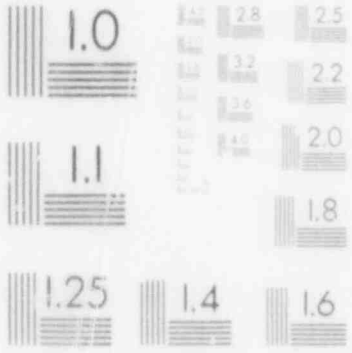
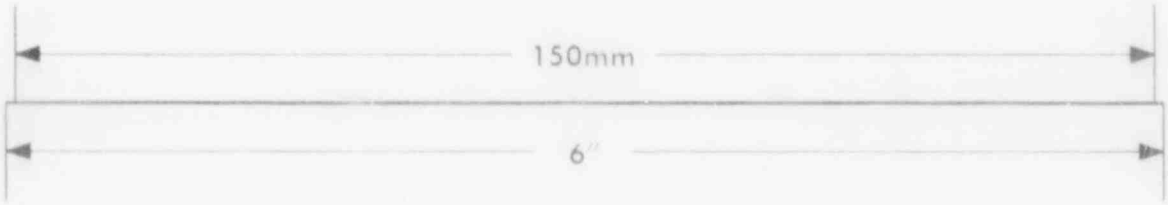
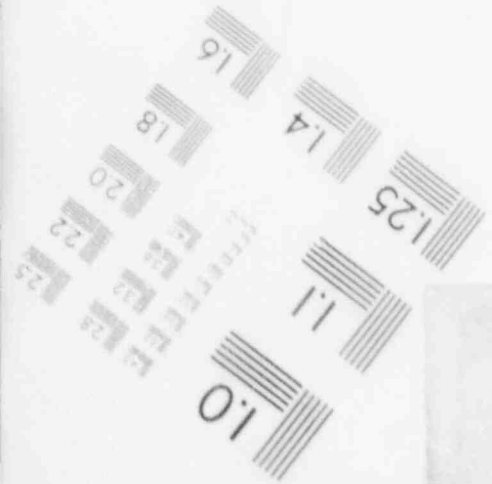


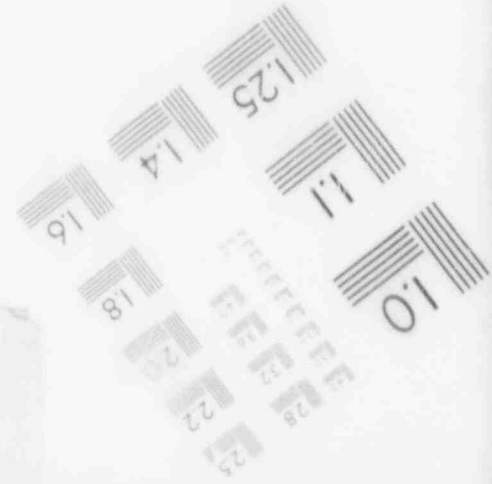
IMAGE EVALUATION
TEST TARGET (MT-3)











RESPONSE

Yes. On July 25, 1988 and July 26, 1988 the 21 spare RG-58 coaxial cables were physically inspected and all were found to be disconnected. Also, the 12 RG-58 cables which were replaced with RG-59 cables were physically verified as disconnected as part of the process of replacing those cables.

(Kotkowski)

INTERROGATORY NO. 10

Please describe the steps taken to account for the 502 feet of RG-58 cable that have not yet been accounted for. What are the results of your review to date? To what do you attribute your previous inability to account for this cable?

RESPONSE

To date the following have been reviewed: Electrical schematic packages, CASP, cable pull slips, historical CASP files, the Electrical Status Program and design change documents affecting Specification 9763-006-113-19 and CASP. This review has not accounted for the remaining 502 feet of RG-58 cable. We are confident that this cable does not need to be environmentally qualified because all active cables are identified on the electrical schematic packages and/or CASP.

(Kotkowski/Bergeron)

INTERROGATORY NO. 11

In response to interrogatory No. 7 of NECNP's first set of interrogatories, you state that 4,000 of the 12,000 pages of electrical schematic drawings contain cable schematics and cable tables. Did you review only those 4,000 pages, or did you also review the other

8,000 pages? What information did the 8,000 pages contain? If you did not review them, why not?

RESPONSE

All 12,000 pages of the electrical schematic drawing packages were reviewed. The 8,000 pages contain index sheets, revision lists, general notes, circuit schematics, reference drawings, front views, panel arrangements, auxiliary contact developments, legends, switch developments and three line diagrams.

(Kotkowski)

INTERROGATORY NO. 12

In response to interrogatory No. 12 of NECNP's first set of interrogatories, you state that Applicants physically verified the locations of the end points of each of the 12 replaced RG-58 cable [sic], as part of the process of disconnecting and replacing those cables. Have Applicants physically traced the route of those cables over their entire lengths? If so, how and when was this done? Did the physical review confirm your review of CASP and the plant drawings? Please identify all cables for which your physical review did not confirm what was in CASP and the drawings, describe the discrepancy, and state why you believe the discrepancy exists.

RESPONSE

No.

(Kotkowski)

INTERROGATORY NO. 13

Have Applicants physically verified the end points of any other of the 126 RG-58 coaxial cables? If so, which ones have you verified? How and when was this done? Did the physical review confirm your review of

CASP and the plant drawings? Please identify all cables for which your physical review did not confirm what was in CASP and the drawings, describe the discrepancy, and state why you believe the discrepancy exists.

RESPONSE

Yes. On July 25, 1988 and July 26, 1988 the 21 spare RG-58 coaxial cable endpoints were physically inspected. That inspection confirmed that each of these cable ends was precisely where CASP indicated it should be.

(Kotkowski)

INTERROGATORY NO. 14

Have you physically traced the routes of any of the remaining RG-58 coaxial cables over their entire lengths? If so, which ones were traced? Did the physical review confirm your review of CASP and the plant drawings? Please identify all cables for which your physical review did not confirm what was in CASP and the drawings, describe the discrepancy, and state why you believe the discrepancy exists.

RESPONSE

No. The routes of the remaining 114 RG-58 coaxial cable applications were not physically traced over their entire length.

(Kotkowski)

INTERROGATORY NO. 15

Please explain how procedure FEP-504 provided physical verification of the location of each RG-58 coaxial cable. Would that procedure also verify whether cables were energized or not? If so, why did it not show that some of the cables shown to be energized by CASP and/or plant drawings were not in fact energized?

RESPONSE

A prerequisite to Procedure FEP-504 provides that: "The latest approved revision of the design documents shall be used for construction and acceptance of all cable installations." CASP-generated cable pull slips or worksheets were used in the installation of cables. Upon completion of the cable pull, the slip/worksheet was signed to signify compliance with the design document. Procedure FEP-504 verified that the cable pull slip/worksheet agreed with the CASP Cable Schedule - Report A. Physical verification was provided because the installation document was generated by CASP and the installer attested to compliance with the design document by signing the pull slip.

Procedure FEP-504 does not verify whether cables are supposed to be energized or not.

(Kotkowski)

INTERROGATORY NO. 16

What is the source of and basis for the acceptance criteria described in Section 5.2 of Procedure No. 2483-38N. Attachment 1 to NYN-8905?

RESPONSE

The functional requirements of the RG-58 cable under accident conditions are very limited. The only requirement

is that the cable must not fail (i.e. short to ground). The acceptance criteria described in Section 5.2 of Procedure 24843-89N was selected only to establish a reference point, as is typically done during baseline functional tests.

(Bergeron/Tutinas)

INTERROGATORY NO. 17

Your response to interrogatory 16 of NECNP's first set of interrogatories appears to indicate that it is your position that the 12 circuits in which RG-59 coaxial cable is used will function properly regardless of how low the insulation resistance drops as long as the cable does not short to ground. Is that correct? If so, please explain your answer. If not, please explain why not. Is it your position that the circuits would continue to function during a direct short? If so, please explain your answer. If not, please explain why not?

RESPONSE

The functional requirement of the RG-59 cable used to replace the twelve RG-58 cables, under accident conditions, is that it not fail (i.e., short to ground). There are no requirements that these cables be capable of performing <u>any</u> signal transmission function during postulated accident conditions. Therefore, questions regarding circuit functionality are irrelevant.

(Bergeron/Kotkowski/Tutinas)

INTERROGATORY NO. 18

On what basis have you concluded that the functional performance of RG-59 coaxial cable in each of the 12 circuits makes it a technically acceptable substitute for RG-58 coaxial cable?

RESPONSE

As stated in Response to Interrogatory No. 17, the only environmental qualification related functional performance requirement is that the cable not fail (i.e., short to ground) under postulated accident conditions. The acceptability of the RG-59 cable as a substitute for the RG-58 cable from an environment qualification standpoint was based on a review of RG-59 test results documented in NECNP Exhibit 4, Reference 2. The test results demonstrated that the cable would not short to ground. See Response to Interrogatory No. 20 regarding the RG-59's technical acceptability for normal plant operations.

(Bergeron/Tutinas)

INTERROGATORY NO. 19

Is it correct to state that you do not know the minimum insulation resistance necessary for the proper functioning of each circuit where RG-59 coaxial cable has been substituted for RG-58 coaxial cable? Please explain your answer.

RESPONSE

Applicants reiterate that the only environmental qualification functional performance requirement is that the cable not fail (i.e., short to ground) under postulated accident conditions (see Response to Interrogatory No. 17).

As discussed in the Affidavits of Newell K. Woodward, dated July 27, 1988 and July 29, 1988, the electrical characteristic that demonstrates that a cable remains in tack is its ability to carry current and voltage under postulated environmental conditions and not fail. Therefore, questions regarding insulation resistance as it relates to circuit functionality are irrelevant.

(Bergeron/Tutinas/Kotkowski)

INTERROGATORY NO. 20

In response to NECNP's interrogatory No. 19, you state that "cable manufacturer data was reviewed and determined to be acceptable" for each substitute application of RG-59 coaxial cable. Precisely what information in the RG-58 or RG-59 coaxial cable manufacturer data led you to believe that RG-59 cable was an acceptable substitute for RG-58 cable? Please explain why you considered the data to be sufficient.

RESPONSE

As a preface, it should be understood that the quoted excerpt was in the context of the proper functioning of each

circuit during normal plant operations. In this light, the Applicants respond:

The manufacturer's data for characteristic impedence, attenuation and velocity of propagation were evaluated to determine if RG-59 coaxial cable was an acceptable substitute for RG-58 coaxial cable during normal, non-accident plant conditions. These are the primary specifications that determine the wave propagation characteristics of transmission lines.

(Kotkowski)

INTERROGATORY NO. 21

Is it correct to state that there is no minimum insulation resistance required for the successful functioning of the circuits in which RG-59 coaxial cable have [sic] been substituted for RG-58 coaxial cable? Please explain your answer.

RESPONSE

See Response to Interrogatory No. 19.

(Bergeron/Tutinas/Kotkowski)

INTERROGATORY NO. 22

Do you agree that degradation of signal due to insertion loss (attenuation) and variation in response time due to the change in the velocity of propagation are pertinent parameters for proper functioning of the 12 substitute RG-59 coaxial cables?

RESPONSE

For normal plant operation yes. Regarding operation under postulated accident conditions, see above Response to Interrogatory No. 17.

(Kotkowski/Bergeron)

INTERROGATORY NO. 23

Is it your position that decreases in the insulation resistance of the 12 substitute RG-59 coaxial cables would have no effect on the degradation of signal due to insertion loss (attenuation) and variation in response time due to the change in the velocity of propagation?

RESPONSE

No.

(Kotkowski)

INTERROGATORY NO. 24

Do you agree that the length of cable exposed to the accident environment is relevant to a determination of its insulation resistance? If not, why not?

RESPONSE

Applicants object to this interrogatory on the grounds that, insofar as it asks about cable in general, it is overbroad.

Without waiving the foregoing objection, Applicants state that, with regard to RG-58 coaxial cable in Seabrook Station, yes.

(Bergeron)

INTERROGATORY NO. 25

For each of the 12 cables exposed to a harsh environment, it is possible to measure the length of cable that is exposed to the harsh environment? If so, why have you not done so? If not, why not?

RESPONSE

Yes. The length of the portion of each cable exposed to a harsh environment is not critical to this particular case when the only environmentally related functional performance

requirement is simply that the cable must not fail under accident conditions. Therefore, cable length was not measured.

(Bergeron/Kotkowski)

REQUEST NO. 1

Please identify all documents relied on for purposes of answering the foregoing interrogatories or identified in response to the foregoing interrogatories.

RESPONSE

Applicants object to this request on the grounds that it overbroad. Applicants also object to identifying, and will not identify or produce, documents already filed on the record in these proceedings or otherwise publicly available.

Without waiving the foregoing objection, and with the exception noted above, Applicants state that all documents relied upon were identified in the response to the foregoing interrogatories.

REQUEST NO. 2

Within 14 days, please provide access to all documents identified in response to the immediately preceding request. No. 1.

RESPONSE

Applicants incorporate here their objections to Request No. 1 above. Without waiving the foregoing objections, and with the exception noted, Applicants will provide access all requested documents which are in their possession or control.

Documents will be accessible at the Seabrook Station and will be made available to NECNP or its representative for inspection and copying at a time between 8:00 a.m. and 4:00 p.m., Monday through Friday. Please contact Mr. William J. Daley at (603) 474-9521 ext. 2057 to arrange for document inspection.

REQUEST NO. 3

Please provide access to procedure FEP-504.

RESPONSE

See Response to Request No. 2.

REQUEST NO. 4

Please identify and provide access to all documentation of the manner in which the procedure FEP-504 provided verification of the location of RG-58 coaxial cable.

RESPONSE

To the extent that Applicants have documents responsive to this request, see Response to Request No. 2.

REQUEST NO. 5

Please provide access to the data sheets described in Attachment 2 to your answers to NECNP's first set of interrogatories, the July 5, 1988, letter from NTS to R. Bergeron/J. Vargas.

RESPONSE

See Response to Request No. 2.

REQUEST NO. 6

Unless already provided in response to the preceeding [sic] document request, please provide access to all other results of equipment qualification testing of RG-58 coaxial cable, including insulation resistance measurements.

RESPONSE

See Response to Request No. 2.

REQUEST NO. 7

Please provide access to the cable manufacturing data referred to in your answer to interrogatory 19 of NECNP's first set of interrogatories.

RESPONSE

See Response to Request No. 3.

SUPPLEMENTAL RESPONSE TO
INTERROGATORY 5 OF NECNP'S
FIRST SET OF INTERROGATORIES

Attachment C to the June 16, 1988 Bergeron Affidavit should contain reference to the Seabrook Station Electrical Schematic Drawing Packages. This information, which was inadvertantly excluded from Attachment C, is contained in Attachment B thereto.

As to Answers:

Ted C. Feigenbaum
Vice-President of Engineering,
Licensing, and Quality Programs
New Hampshire Yankee Division of
Public Service Company of
New Hampshire

August 5, 1988

Commonwealth of Massachusetts
Essex County, ss.

Then appeared before me the above subscribed Ted C. Feiganbaum and made oath that he is the Vice-President of Engineering, Licensing, and Quality Programs of New Hampshire Yankee Division, authorized to execute the foregoing response to interrogatories on behalf of the Applicants, that he made inquiry and believes that the foregoing answers accurately set forth information as is available to the Applicants.

Before me,

William James Daley Jr.
My Commission Expires July 3, 1992

As to objections:

Jay Bradford Smith

Thomas G. Dignan, Jr
Deborah S. Steenland
Jay Bradford Smith
Ropes & Gray
225 Franklin Street
Boston, MA 02110
(617) 423-6100

Counsel for Applicants

ATTACHMENT 1-1

RICHARD BERGERON

Instrumentation & Controls Engineering Supervisor

Education

BS Marine Engineering, Maine Maritime Academy, May 1969

Mr. Bergeron joined Public Service Company of New Hampshire in May 1982 as Senior I&C Engineer in the Engineering Services Department. His areas of responsiblity include coordination of I&C Engineering activities for the Station Staff, Construction and Startup interface activities, as well as, various special projects. Mr. Bergeron was recently appointed to the position of Instrumentation & Control Supervisor in the Engineering Department. For the past six years Mr. Bergeron has also been assigned as the Station Staff Representative on the Equipment Qualification Task Force. He has been responsible for the coordination and review of the Equipment Qualification Program, as well as, coordinating the implementation of the Station Equipment Qualification Program.

Mr. Bergeron came to Public Service Company of New Hampshire from Stone & Webster Engineering Corporation where he was employed from 1972-1982. He held the position of Principle Instrument Application Engineer responsible, for

specifying, purchasing and design review of electron and pneumatic instrumentation control systems. Mr. Bergeron is also experienced in the scheduling and preparation of Logic Diagrams and System Descriptions which define the functional control concepts. He was also assigned as a task member to assist in the development and preparation of the 79-01B equipment qualification submittal for Duquesne Light Company.

Between 1969 and 1972 was employed by Gulf Oil Corporation as an engineer in their Marine Engineering Division. There he was responsible for the operation and maintenance of Marine Power Plants.

ATTACHMENT 1-2

GERALD A. KOTKOWSKI

ELECTRICAL ENGINEERING SUPERVISOR

EDUCATION

BS Electrical Engineering, Northeastern University, June 1974. Mr. Kotkowski joined PSNH in June 1982 as a Senior Electrical Engineer in the Engineering Services Department. He was assigned to the Startup and Test Department as the System Test Engineer for the 13.8 KV, 4160 Volt, 125 Volt DC and Diesel Generator Electrical Systems and as the Lead Electrical Distribution Test Engineer. Specific accomplishments include the preparation and performance of the pre-operational acceptance tests for the DC Distribution and Diesel Generator Systems. Specific responsibilities included the review and approval of all design changes to the Distribution Systems and the subsequent implementation and testing of these changes.

WORK EXPERIENCE

In June 1986, Mr. Kotkowski was appointed to the position of Electrical Engineering Supervisor in the Engineering Department. His current responsibilities include the supervision of Electrical Engineering and Design activities and technical support of field/construction activities. He has overall responsibility for ensuring that

the electrical design of the plant complies with the codes and regulations specified in the Seabrook FSAR.

Mr. Kotkowski came to PSNH from Power Technical Services where he was employed from June 1981 - April 1982 and was assigned as a Project Engineer to Boston Edison Company. While in this position he had the overall responsibility for implementing an Emergency Response Facility program for the Pilgrim 1 Nuclear Station. This program was designed to ensure technical adequacy and licensing compliance to current regulatory requirements including NUREG-0696, NUREG-0700 and Regulatory Guide 1.97, Revision 2.

Between March 1978 and May 1981, Mr. Kotkowski was employed by Stone & Webster Engineering as an engineer in the Electrical Control Group. While at Stone & Webster Headquarters in Boston he was assigned to the Electrical Control Group on the Shoreham Nuclear Power Station Project as the engineer responsible for providing post accident instrumentation to meet the requirements of Regulatory Guide 1.97, Revision 2. He also was designated as the cognizant engineer responsible for all controls associated with the Nuclear Steam Supply Systems as well as several other major modifications to Balance of Plant Systems.

While on a field assignment he was the only site representative for the controls Division at the Shoreham Nuclear Power Station. He assumed complete responsibility

for the resolution of construction and startup problems on all instrumentation and controls associated with an 850 MW Boiling Water Reactor. Specific responsibilities included: medium and low voltage switchgear, motor control centers, protective relaying, control and relay panels, electronic analog instrumentation, pneumatic control loops and instrumentation tubing. Also designated as the Interface Engineer between Nuclear Steam Supplier and the Architect Engineer.

Between December 1974 and February 1978, he was employed by General Atomic Engineering company. While on a field assignment he participated in the rise to power program at the Fort St. Vrain Nuclear Power Station. Specific accomplishments include: tuning the major plant controllers, modifying the Plant Protective System and Overall Plant Control System as required to pass Reactor Scram and Turbine Trip testing, coordinating a task force to resolve the Nuclear Regulatory Commission's concerns on cable segregation, and eliminating spurious control room alarms.

While at General Atomic Headquarters in San Diego he was assigned to the Control and Electrical Department. He was responsible for the design of instrumentation and controls for systems associated with the operation of a nuclear power plant. He prepared control and instrumentation diagrams,

schematic diagrams, cable tabulations, and instrument specifications.

Between December 1970 and October 1974 he was employed by Stone & Webster on a student co-operative basis where he received various assignments in the Electrical Control Department.

In summary, Mr. Kotkowski has fourteen (14) years experience in the electrical design and testing of nuclear power plants.

ATTACHMENT 1-3

PETER J. TUTINAS

INSTRUMENTATION & CONTROL ENGINEER
ENVIRONMENTAL QUALIFICATION ENGINEER

EXPERIENCE SUMMARY

Project Engineer with over ten (10) years of experience in the Instrumentation Engineering and Environmental Qualification of Nuclear Power Plants. Responsibilities have included the specifying and procurement of instruments, instrument racks and cabinets, related hardware including valves, reviewing vendors' and project drawings, reviewing specifications, interface with vendors and client, and interviewing potential employees. Primary responsibilities have been in the areas of instrument and tubing supports, and tubing installation criteria.

Extensive knowledge of USNRC Regulatory Guides, IEEE Standards, ASME III Code, ANSI B31.1 Power Piping Code, and ASTM/ASME Material Specifications gained through applications of codes during development of instrument installation details and environmental qualification activities.

Construction experience consisting of a one (1) year assignment at Waterford Unit No. 3 providing construction engineering support to the instrument installation contractor, augmented by an assignment as interim ESSE Lead Instrument Engineer.

Served as instrumentation lead engineer on the WNP-3 project in the home office. Duties included budget, schedule and proposal preparation, along with completion and coordination of technical assignments.

Assignment to the Seabrook Project jobsite as a member of the client's Independent Review Team. Responsible for reviewing the major A/E's site and home office I&C design, engineering and construction activities, and providing recommendations for completing work expeditiously, resolving technical problems, increasing quality and reducing cost. Particular reviews included as-constructed verification, calibration facilities, design freeze, employee allegations, installation criteria, details, and supports. Conducted daily meetings to resolve open engineering and construction issues. Tracked and expedited various tasks to assure their completion. Responsible for addressing the concerns of outside reviewing agencies (Duke, INPO, NRC, etc.); provided litigation support to the Client; provided recommendations for training.

After completion of the Independent Review Team assignment, assumed duties in the A/E's I&C site organization. Activities included ASME III Code Case use program, developing quality assurance and hydrotesting requirements, coordinating "N" stamping activities, establishing ASME XI requirements and giving training in ASME XI. After completion of the I&C assignment, assumed duties in the station's Corporate Engineering group, responsible for preparing the Environmental Equipment Qualification program manual.

After joining New Hampshire Yankee, responsible for various Environmental Qualification (EQ) Program activities, including preparation of EQ file revision, development of maintenance requirements, preparation and review of design changes, resolution of EQ technical issues. Project representative in the Nuclear Utility Group to Environmental Qualification (NUGEQ).

REPRESENTATIVE EXPERIENCE

Client	Project	Size	Fuel	Position
Florida Power & Light Company	St. Lucie Unit No. 2	890 MWe	Nuclear	Support
Carolina Power & Light Company	Shearon-Harris NPP Unit 1 & 2	900 MWe	Nuclear	Support
Louisiana Power & Light Company	Waterford SES Unit No. 3	1165 MWe	Nuclear	Support
Washington Public Power Supply System	WNP-3	1300 MWe	Nuclear	Lead
Public Service Co. of New Hampshire	Seabrook Station	1190 MWe	Nuclear	Support

EMPLOYMENT HISTORY

New Hampshire Yankee
- Project Engineer 1986 - Present

Ebasco Services Incorporated 1977 - 1986

EDUCATION

Polytechnic Institute of Brooklyn - BSME - 1976

Brooklyn Technical High School - Mechanical Technology Diploma

Ebasco Courses including QA, Electrical Technology Seminar, Piping Training Seminar, Contruction Practices, and Interviewing Techniques.

Fisher Control Valve Seminar, Fisher Power Seminar

New Hampshire Yankee training including valve actuators, electrical terminations and EQ splices

ATTACHMENT 1-4

JOE M. VARGAS
MANAGER OF ENGINEERING

EDUCATION:

COLUMBIA UNIVERSITY
M.S. in Mech/Nuclear Engineering. Majored in Power Plant Engineering and Operations.

NEW YORK UNIVERSITY
B.S. in Nuclear Engineering. Recipient of the American Nuclear Society "Nuclear Engineering Award."

BRONX COMMUNITY COLLEGE
A.A.S. in Engineering Science. Recipient of the "Physics Medal" and the "Engineering Science Award" (highest G.P.A. for Physics, Math and Chemistry combined).

PROFESSIONAL LICENSE:

Registered Professional Engineer in the state of New York.
Registered Professional Engineer in the state of New Hampshire.

OPERATIONAL EDUCATION:

Completed advance course on W-PWR design at W Office in Pittsburgh.
Completed operator training course at Westinghouse Simulator Center in Illinois.
Completed Post-Graduate Waste Management Program at Georgia Tech.

EXPERIENCE SUMMARY:

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 1986 - Present

Manager of Engineering
Seabrook Nuclear Generating Station

Direct the activities of the multi-discipline Engineering Department to ensure that licensing, engineering, design and technical support for Seabrook Station is provided in a superior quality manner consistent with safety, applicable regulations, and good engineering practices.

Responsible for the technical and administrative performance of the Plant Engineering Department (which consists of Electrical, Instrumentation and Control, Structural, and Mechanical Engineering Groups) and the Engineering Services Department (which provides budgets, scheduling and administrative functions). Responsible for the technical adequacy of all plant design modifications, safety evaluations, engineering technical procedures and engineering programs.

EBASCO SERVICES, INCORPORATED 1978 - 1986

Supervising Engineer
Seabrook Nuclear Generating Station, Unit 1

Appointed to the Executive Review Team, as the Engineering Representative, which reported to the Senior Vice President. Responsible for monitoring overall engineering budget and schedule, and ensuring technical compliance with the applicable codes and standards. Responsible for all major engineering programs (including Fire Protection, Environmental Qualification, SQRT, etc.), as well as monitoring all day-to-day engineering production activities.

Supervisor Mechanical Engineer
St. Lucie 2 Nuclear Power Plant

1978-1984: Lead Mechanical Engineer directly responsible for supervision of all Mech/Nuclear safety-related systems studies that encompassed all areas of engineering and plant operations. Directed the efforts of many engineers, assistant engineers, and designers in these engineering studies and made appropriate presentations to the client. Supervised preparation of bidding documents, bid evaluations, and corresponding procurement recommendations.

Directly responsible for supervising of the Mech/Nuclear discipline scope required to engineer and compile the FSAR for St. Lucie 2. Generated and reviewed all FSAR sections to assure compliance with all applicable NRC Reg. Guides, Codes of Federal Regulation, ASME Codes, and Industry Standards.

POWER AUTHORITY OF THE STATE OF NEW YORK 1976 - 1978

Lead Mechanical/Nuclear Engineer
Indian Point 3 Nuclear Power Plant

Responsible for backfit engineering and design modifications of all the Mech and Nuclear systems, and nuclear-related facilities. Directed the efforts of various architectural engineering firms and NSSS vendors. Reviewed and approved all engineering requests received from Operations Department and Plant Staff. Established project positions and directed the efforts of various architectural engineering firms to effect the above.

STONE & WEBSTER ENGINEERING CORPORATION 1972 - 1976

Mechanical Engineer

Engineered and designed many Mech safety and nonsafety-related systems for the Greene County Nuclear Power Plant. Responsible for sizing and selection of all safety-related pumps, heat exchangers, valves, filters and associated piping for these systems. Prepared and issued System Flow Diagrams, Logic Diagrams, and System Description. Reviewed all piping and equipment diagrams for ISI per ASME XI. Prepared all PSAR sections (tables and figures), responses to NRC questions, and project position in accordance with 10CFR50, ASME III and ASME XI.

ATTACHMENT NO. 1-5

INDIVIDUALS RESPONSIBLE FOR DEVELOPING TECHNICAL RESPONSES TO NECNP'S FIRST SET OF INTERROGATORIES

INTERROGATORY NO.	RESPONSIBLE INDIVIDUAL(S)
1	Bergeron
2	Bergeron
3	Bergeron
4	Bergeron
5	Bergeron/Kotkowski
6	Bergeron
7	Kotkowski/Bergeron
8	Kotkowski
9	Kotkowski/Bergeron
10	Kotkowski
11	Kotkowski
12	Kotkowski
13	Kotkowski
14	Kotkowski
15	Bergeron/Tutinas
16	Bergeron/Tutinas
17	Bergeron/Tutinas
18	Kotkowski
19	Bergeron/Kotkowski
20	Bergeron
21	Tutinas/Kotkowski
22	Bergeron/Kotkowski
23	Bergeron/Kotkowski
24	Bergeron/Kotkowski
25	Bergeron/Tutinas
26	Bergeron/Kotkowski
27	

ATTACHMENT NO. 1-6

INDIVIDUALS RESPONSIBLE FOR DEVELOPING TECHNICAL RESPONSES TO NECNP'S SECOND SET OF INTERROGATORIES

INTERROGATORY NO.	RESPONSIBLE INDIVIDUAL(S)
1	Kotkowski
2	Kotkowski
3	Bergeron
4	Bergeron
5	Bergeron
6	Feigenbaum
7	Bergeron
8	Bergeron/Kotkowski
9	Feigenbaum

ATTACHMENT NO. 1-7

Ted C. Feigenbaum	-	Vice President of Engineering, Licensing and Quality Programs
Joe M. Vargas	-	Manager of Engineering
Richard Bergeron	-	Instrumentation and Controls Engineering Supervisor
Gerald A. Kotkowski	-	Electrical Engineering Supervisor
Peter J. Tutinas	-	Project Engineer, Instrumentation and Controls

The business address of each of these individuals is Seabrook Station, Seabrook, NH 03874.

CERTIFICATE OF SERVICE

I, Kathryn A. Selleck, one of the attorneys for the Applicants herein, hereby certify that on August 5, 1988, I made service of the within document by depositing copies thereof with Federal Express, prepaid, for delivery to (or where indicated, by depositing in the United States mail, first class postage paid, addressed to) the individuals listed below.

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U.S. Nuclear Regulatory Commission
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4350 East West Highway
Bethesda, MD 20814

Administrative Judge Emmeth A. Luebke
4515 Willard Avenue
Chevy Chase, MD 20815

Dr. Jerry Harbour
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
East West Towers Building
4350 East West Highway
Bethesda, MD 20814

Adjudicatory File
Atomic Safety and Licensing Board Panel Docket (2 copies)
U.S. Nuclear Regulatory Commission
East West Towers Building
4350 East West Highway
Bethesda, MD 20814

*Atomic Safety and Licensing Appeal Board Panel
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Washington, DC 20555

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Chairman, Board of Selectmen
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Washington, DC 20510
(Attn: Tom Burack)

*Senator Gordon J. Humphrey
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(Attn: Herb Boynton)

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Federal Emergency Management Agency
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Washington, DC 20472

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Holmes & Ells
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Hampton, NH 03841

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Newburyport, MA 01950

Mr. Peter J. Matthews
Mayor
City Hall
Newburyport, MA 01950

Mr. William S. Lord
Board of Selectmen
Town Hall - Friend Street
Amesbury, MA 01913

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Kathryn A. Selleck