

6729

DOCKETED
USNRC

'88 JUL 14 P5:40

July 13, 1988

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

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.)
)
(Seabrook Station, Units 1 and 2))
_____)

Docket Nos. 50-443-OL-1
50-444-OL-1
On-site Emergency
Planning Issues

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

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

GENERAL OBJECTIONS

Applicant's object to the proposed definitions provided in paragraphs 2-4 of the instructions on the grounds that such definitions are overbroad and burdensome. Applicant's will "identify" drawings by number, and other documents by category or by title and date. Applicants will identify an

8807200055 880713
PDR ADDOCK 05000443
G PDR

D503

individual by providing the individual's name, title, and business address.

INTERROGATORY NO. 1

For each separate interrogatory below, identify each person who participated in any way in the development or preparation of answers thereto, and describe the information or ideas contributed by that person.

RESPONSE

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

Applicants further object to the interrogatory on the grounds that it is burdensome, as well as irrelevant, to identify every person who participated "in any way" in the development or preparation of answers.

Without waiving the foregoing objections, Applicants state that the following persons materially participated in answering the interrogatories:

Joe M. Vargas - Manager of Engineering
Richard Bergeron - Instrumentation and Controls
Engineering Supervisor;
Gerald A. Kotkowski - Electrical Engineering Supervisor;
Peter Tutinas - Project Engineer, Instrumentation and
Controls

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

INTERROGATORY NO. 2

What is your position with respect to NECNP Contention I.B.2?

RESPONSE

Applicants object to this interrogatory on the ground that NECNP Contention I.B.2 is no longer the issue in litigation in these proceedings.

Without waiving the foregoing objection Applicants state their position to be that NECNP Contention I.B.2 is now moot.

INTERROGATORY NO. 3

Please identify all individuals whom you intend to call as witnesses to support your position during the proceedings regarding Contention I.B.2, and describe the substance of their testimony.

RESPONSE

Applicants object to this interrogatory on the ground that NECNP Contention I.B.2 is no longer the issue in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that witnesses have not yet been selected.

INTERROGATORY NO. 4

Please identify all individuals whose affidavits you intend to submit in summary disposition proceedings regarding Contention I.B.2, and describe the substance of their affidavits.

RESPONSE

Applicants object to this interrogatory on the ground that NECNP Contention I.B.2 is no longer the issue in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that affiants have not yet been selected.

INTERROGATORY NO. 5

Do you continue to assert the facts and opinions expressed in the affidavits you have filed before the Licensing and Appeal Board Board [sic] following the issuance of ALAB-891? If any of these facts and opinions have changed, please identify them and describe the reasons for the changes.

RESPONSE

Subsequent review has determined that two cables (Cable No. FE2-FM4/2 and FE2-FM6/2) previously indicated as being in a mild environment and energized are in fact located in a mild environment but are spare. Therefore, there are 74 RG-58 cables located in mild environments and 21 cables designated as spares. It should be noted that this change does not alter the total number of RG-58 cables indicated (i.e., 126).

Also, the replacement of the 12 RG-58 cables has been completed. No other facts or opinions have changed.

INTERROGATORY NO. 6

Identify all individuals on whose knowledge or opinions you relied in each of the filings before the Licensing Board

and Appeal Board since the issuance of ALAB-891. For each of those individuals, describe that portion of the filing for which you relied on that individual.

RESPONSE

Applicants object to this interrogatory on the ground that it seeks privileged information.

Without waiving the foregoing objection, Applicants state that each affidavit was based upon the knowledge of the person making the affidavit, and that each pleading was based upon the opinions of law of the attorneys signing the pleading.

INTERROGATORY NO. 7

Please describe how the "electrical schematic drawing package review" described in paragraphs 6 through 8 of the Bergeron Affidavit was conducted. Did this review include examination of all 124 packages of 12,000 drawings? If so, please identify the individuals who participated in the review of the drawings, describe how long the review took, and on what dates it took place. If not, please describe the procedure by which you determined which of the 12,000 drawings should be reviewed, and identify the drawings that were reviewed.

RESPONSE

The electrical schematic drawing packages were reviewed by identifying those pages which contained the cable schematics and cable tables (approximately 4,000 of the total 12,000 pages). The cable schematics and cable tables were then examined to identify each application where cable code TA6Y or coaxial cable was specified. The review did include examination of all 124 packages of 12,000 drawings.

The individuals who participated in the review were:

Nirmal K. Bhowmik - Electrical Engineer;
Neil F. Flanagan - Senior Electrical Designer;
Edward J. Kotkowski - Instrumentation and Controls
Engineer;
Jane L. McCullough - Senior Electrical Designer;
Thomas P. Nagle - Lead Electrical Designer;
Trevor J. Pannell - Senior Electrical Designer;
Vasant C. Patel - Electrical Engineer.

The business address of Thomas Nagle is Seabrook Station, Seabrook NH 03874. The business address of each of the other six is United Engineers & Constructors, Inc., 30 South 17th Street, P.O. Box 8223, Philadelphia, PA 19101.

The review took place during the last week of April, 1988. The total time for the collection of each drawing and the associated review process was not recorded.

INTERROGATORY NO. 8

How many cable raceway drawings exist for the Seabrook plant?

RESPONSE

Four hundred and forty.

INTERROGATORY NO. 9

In determining the route of each RG-58 cable, did you review all cable raceway drawings? If not, how many and which drawings did you review? By what criteria did you select those drawings?

RESPONSE

No. Because CASP had identified all of the raceway locations through which the 126 RG-58 cable runs were routed, it was only necessary to review 45 of the 180 cable raceway

drawings. Those 45 drawings contained all the information necessary to trace the cable routes. The 45 drawings reviewed are listed below.

301254	310476
301257	310478
301286	310479
301287	310496
301288	310497
301289	310498
301290	310499
301291	310500
301292	310501
301293	310688
309859	310691
310298	310694
310329	310744
310335	310746
310366	310796
310367	310797
310368	310798
310369	310799
310370	310800
310371	310801
310442	310802
310444	310803
310450	

INTERROGATORY NO. 10

Are you able to account for all 60,000 feet of RG-58 cable purchased under P.O. 9763-006-113-19-01? If so, how is this accounting done, and what is the source of the data?

RESPONSE

Applicants object to this interrogatory on the ground that it is irrelevant to the issues properly in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that 67,506 feet out of the 68,008 feet delivered are presently accounted for. The amount of cable delivered was

verified through receipt documents and/or field inspections. Cable footage markers on the cable itself were used to track the amount of cable cut for use in the plant. Actual usage of the amount of cable cut from the cable reels was then verified by a combination of cable pull slips, construction records and field verifications. A review to account for the final 502 feet is still in process.

INTERROGATORY NO. 11

If your answer to the preceeding [sic] interrogatory is yes, please describe the length of each used, unused, and spare cable.

RESPONSE

Applicants object to this interrogatory on the grounds that it is irrelevant to the issues properly in litigation in these proceedings. Without waiving the foregoing objection, Applicants state that the lengths are provided in Attachment 1.

INTERROGATORY NO. 12

Have Applicants performed any physical inspection of the Seabrook plant to determine the actual location of each RG-58 cable? If so, when was this done? What were the results?

RESPONSE

Yes. Applicants physically verified the locations of the end points of each of the 12 replaced RG-58 cable, as part of the process of disconnecting and replacing those cables. That physical inspection confirmed that each of these cable ends was precisely where CASP indicated it should

be.

INTERROGATORY NO. 13

Have Applicants performed any physical inspection of the Seabrook plant in order to verify the information yielded by the CASP data base regarding the location of each RG-58 cable? If so, when was this done? What were the results?

RESPONSE

Yes. See the response to Interrogatory No. 12. In addition, the procedure (FEP-504) used for the installation of cables during the construction phase of the project provided physical verification for the CASP Data Base regarding the location of each RG-58 cable. This procedure applied to the installation of safety, nonsafety and associated cables as specified on the CASP System. The purpose of this procedure was to define and provide the requirements and instructions for the installation and inspection of cable.

INTERROGATORY NO. 14

Is the CASP data based [sic] derived from electrical schematic drawings? If so, please describe the manner in which it is derived.

RESPONSE

The portions of CASP regarding cable code, circuit code, system, schematic drawing number, origin and destination were derived from drawings and tables in the electrical schematic drawing packages. The CASP designer then used all this information to generate a cable number and raceway routing.

INTERROGATORY NO. 15

Is there a common source of input to the electrical schematic drawings and the CASP data base? If so, what is it?

RESPONSE

Those portions of the CASP data base that were derived from the electrical schematic drawing packages have the same source as the electrical schematic drawings. The principal documents which are a source of input to the electrical schematic drawing packages are the logic diagrams, P & ID's, design base calculations, vendor requirements, loop diagrams, one-line diagrams, NRC regulatory guides, Westinghouse functional diagrams, and the FSAR.

INTERROGATORY NO. 16

To your knowledge, has RG-58 coaxial cable ever been submitted to environmental qualification or other performance testing? If so, please describe the date, parameters, and results of each such test.

RESPONSE

Applicants object to this interrogatory on the grounds that it is irrelevant to the issues properly in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that, to their knowledge, other than the standard factory tests for compliance with specification performed by the manufacturer prior to shipment, the only environmental qualification testing performed on RG-58 cable was conducted

by National Technical Systems at the request of the New Hampshire Yankee Division of Public Service Company of New Hampshire. National Technical Systems performed IEEE 383-1974 environmental qualification tests, which testing began on May 6, 1988 and was completed on June 30, 1988. Attachment 2 hereto is National Technical Systems' letter of July 5, 1988 documenting the preliminary test results. Attachment 3 hereto is PSNH letter (NYN-88095), dated July 12, 1988, "Environmental Qualification of RG-58 Coaxial Cable," Ted C. Feigenbaum to the United States Nuclear Regulatory Commission, containing test parameters.

INTERROGATORY NO. 17

In deciding whether a cable is environmentally qualified, do you agree that you must take into consideration the functional performance requirements of that cable in its particular functional application? For example, do you agree that the magnitude of leakage current permissible for a cable used in a power circuit could be significantly larger than the leakage current permissible for a cable used in an instrumentation circuit?

RESPONSE

Applicants object to this interrogatory on the grounds that it is irrelevant to the issues properly in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that the functional performance of a cable is only considered in determining the acceptability of that cable for a particular functional application. Differing applications

may require different cable performance. Therefore, a cable functional performance is not a criteria in determining whether a cable is environmentally qualified, but is only used to determine the acceptability of that cable for a specific application.

The leakage current for an instrumentation circuit is more significant than for power cable applications. This is due to the fact that the circuit current for instrumentation applications are generally 4-20 milliamps.

INTERROGATORY NO. 18

Did you evaluate the functional performance of RG-59 cable when exposed to the harsh environment in the twelve circuits where it will be used to replace the RG-58 cable? If so, what were the results of your evaluation? If not, why not?

RESPONSE

Applicant's object to this interrogatory on the ground that it is irrelevant to the issues properly in litigation in these proceedings. Without waiving the foregoing objection, Applicant's state that the functional performance results of the RG-59 cable were reviewed and found acceptable for the twelve instrument circuits exposed to a harsh environment (i.e., the results demonstrated that the cable would not short to ground). The functional performance results are documented in NECNP Exhibit 4, Reference 2.

INTERROGATORY NO. 19

What are the lengths of the twelve cables that you

intend to replace w/ RG-59? How much of each cable length could be exposed to the harsh environment? What are the specifications for the minimum insulation resistance necessary for proper functioning of each circuit?

RESPONSE

The lengths of the twelve cables that have been replaced by RG-59 are tabulated below. The length of cable exposed to the harsh environment is unavailable. However, the length in the harsh environment is irrelevant because the entire cable length was replaced.

<u>Cable No.</u>	<u>Approximate Cable Length</u>
FM3-JW5	502 ft.
FM3-JW5/1	502 ft.
FM6-JW5	492 ft.
FM6-JW5/1	489 ft.
FM4-JX1	424 ft.
FM4-JX1/1	422 ft.
FM7-JX1	448 ft.
FM7-JX1/1	446 ft.
GU4-Y59/2	232 ft.
GU4-Y59/3	232 ft.
GU4-Y59/4	238 ft.
GU4-Y59/5	232 ft.

The minimum insulation resistance necessary for the proper functioning of each circuit during normal plant operation was not specified. However, cable manufacturer data was reviewed and determined to be acceptable for each of these applications. See Affidavit of Gerald A. Kotkowski, served May 19, 1988, regarding the pertinent parameters for proper functioning of these circuits.

INTERROGATORY NO. 20

For each of the 126 RG-58 cables that you have identified, you have provided broad information regarding the function of that cable. See Attachment D to the Bergeron Affidavit. However, these functions are not described in sufficient detail to allow an independent judgment as to whether they are safety or non-safety related. Please provide all additional information that is necessary for the evaluation of the specific functions served by the RG-58 cable, including what specific information is carried by each circuit. For example, please describe whether the cable carries instructions to a printer, instrument readings (including the specific instrument whose measurements are being conveyed, and the parameters that are reported), or other signals, and the significance of those signals. Please describe the source and the destination of the signals.

RESPONSE

Applicants object to this interrogatory to the extent it suggests that the Bergeron Affidavit is in any way insufficient. Applicants further object to this interrogatory on the ground that the term "all additional information that is necessary for the evaluation of the specific functions served" is too vague.

Without waiving the foregoing objections, in regards to the significance of the signals transmitted, Applicants state that each signal provides information that is helpful to plant operation but not essential for safe shutdown or accident mitigation. See Attachment 4.

INTERROGATORY NO. 21

For each RG-58 cable, what was the source material for the determination that functions were non-safety related? Please provide access to that material.

RESPONSE

The "source material" for identifying which RG-58 cables are non-safety related is described in Richard Bergeron's Affidavit of June 16, 1988 and the Attachments thereto, a copy of which has been served on NECNP.

Applicant's object to the request for "access to that material", on the ground that the request is inappropriate in an interrogatory. Without waiving the foregoing objection, Applicant's will produce the material requested.

INTERROGATORY NO. 22

Was any attempt made to determine whether P.O. 9763-006-113-19-01 is the only purchase order that included RG-58 coaxial cable? If so, please describe what was done.

RESPONSE

Applicants object to this interrogatory on the grounds that it is irrelevant to the issues properly in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that a review of Seabrook Station cable specifications verified that RG-58 coaxial cable was only received pursuant to P.O. 9763-006-113-19. Another purchase order had specified RG-58 coaxial cable but was subsequently canceled. No RG-58 cable is on site from that purchase order.

INTERROGATORY NO. 23

What measures, if any, do you intend to implement to ensure that at no time during plant life will the spare RG-58 cables inadvertently become energized, for example, by

technician error or equipment malfunction? Please provide documentation of any measures you describe.

RESPONSE

The ends of the spare cables are physically disconnected. Reconnection of any of these cables would require the issuance of a work request in accordance with applicable Seabrook Station procedures. Thus the Seabrook Station Work Control and Design Control Programs serve to prevent the cables from inadvertently becoming energized.

Applicants object to the interrogatory to the extent that it asks Applicants to "provide documentation", on the ground that such a request is inappropriate in an interrogatory. Without waiving the foregoing objection, Applicants will produce the material requested.

INTERROGATORY NO. 24

What is your basis for claiming that the ten cables outside the nuclear island are routed only with non-safety cables?

RESPONSE

In conjunction with tracing the route of an identified RG-58 cable, a review was performed to identify the cable(s) routed with RG-58 cable(s). This was done by means of using CASP to identify other cables sharing the raceway with the RG-58 cable(s). CASP was also used to determine whether the other cable was safety-related (i.e., Class 1E) or nonsafety-related (i.e., Non-Class 1E). A review of this information verified that only non-safety cables shared these raceways.

INTERROGATORY NO. 25

What, if any, review was done of the plant emergency procedures to determine whether all the emergency procedures can be carried out as instructed, assuming the failure of all RG-58 cables and the failure of all unqualified cables routed with RG-58 cables. Describe any such review(s). If no such review was carried out, explain the basis for deciding no such review was necessary.

RESPONSE

Applicants object to this interrogatory on the grounds that it is irrelevant to the issues properly in litigation in these proceedings.

Without waiving the foregoing objection, Applicants state that, as to that portion of the interrogatory inquiring into an emergency procedure review "assuming . . . the failure of all unqualified cables routed with RG-58 cables", no review was performed because there are no unqualified cables routed with RG-58 cables. As to that portion of the interrogatory inquiring into an emergency procedure review "assuming the failure of all RG-58 cables", no such review was performed or required because:

- . all ITT Suprenaut RG-58 coaxial cable applications are nonsafety-related (i.e., they do not perform an accident-mitigating function);
- . failure of spare RG-58 coaxial cable need not be postulated;
- . failure of RG-58 coaxial cables located in a mild environment need not be postulated;

- . for RG-58 cables located outside the nuclear island see response to Interrogatory No. 26;
- . failure of the twelve coaxial cables located in harsh environments within the nuclear island need not be postulated since the RG-59 cable is environmentally qualified.

INTERROGATORY NO. 26

In deciding that RG-58 cable exposed to a harsh environment did not need to be either qualified or replaced with a qualified cable, did you assume that all these RG-58 cables plus all cables routed w/ RG-58 cable will fail during an accident?

RESPONSE

No. Applicants' position is and always has been that all RG-58 cable is qualified. However, RG-58 cables outside the nuclear island were not replaced because no applications were identified where a safety-related cable was being routed along with the RG-58 coaxial cable outside the nuclear island. Thus, the postulated failure of an ITT Suprenant RG-58 coaxial cable cannot prevent satisfactory accomplishment of safety functions by safety-related equipment since none of the cables it comes in contact with outside the nuclear island are safety-related (i.e., the failure could only affect another nonsafety-related cable). Therefore, the RG-58 coaxial cable outside the nuclear island is not "important to safety", the qualification requirements of 10 C.F.R. § 50.49 are not applicable and further inquiry is not required.

INTERROGATORY NO. 27

Did you review the emergency procedures to verify that none of the functions served by the RG-58 cables are relied on in those procedures? If so, how was that review conducted and what were the results? If not, why not?

RESPONSE

See Response to Interrogatory No. 25.

REQUEST NO. 1

Please identify all documents on which you rely to support your position with respect to contention I.B2 [sic].

RESPONSE

Applicants object to this interrogatory on the ground that NECNP Contention I.B.2 is no longer the issue in litigation in these proceedings. Without waiving the foregoing objection, Applicants state that they rely upon the pleadings that they have filed in connection with this matter, the affidavits and other materials filed with those pleadings, and all documents referenced in those pleadings, affidavits and materials.

REQUEST NO. 2

Please identify all documents which discuss or refer to whether environmental qualification is required for RG-58 cable; why it is or is not environmentally qualified; why it does or does not need to be environmentally qualified; what environmental qualification specifications, if any, have been required or considered for RG-58 cable; whether RG-59 cable meets qualification specifications or other specifications for RG-58 cable; the location of RG-58 cable in the Seabrook plant; the functions served by RG-58 cable; and whether or not those functions are considered important to safety.

RESPONSE

Applicants object to this interrogatory on the grounds that it is irrelevant to the issues properly in litigation in these proceedings. Without waiving the foregoing objection, Applicants state that these questions are discussed or referred to in the pleadings, affidavits and rulings filed in these proceedings. In addition, see documents identified in Attachment 5.

REQUEST NO. 3

Please identify all documents relied on for purposes of answering the foregoing interrogatories.

RESPONSE

See responses to Requests No. 1 and No. 2, and the documents referenced in the responses to the interrogatories. See also Attachment 6.

REQUEST NO. 4

Within 14 days, please produce the documents identified in response to the preceding requests for the identification of documents. In addition, if they are not already covered by the preceding document request, please produce the following:

- a) CASP program and data referred to in the Bergeron Affidavit, dated June 16, 1988;
- b) electrical schematic drawing packages referred to in paragraph 7 of the Bergeron Affidavit;
- c) All Seabrook Station Cable Raceway Drawings.
- d) NECNP understands that due to the volume and bulk of the documents requested, it will be necessary to examine most of the documents at the Seabrook plant. However, in order to

prepare for our inspection of the documents at the plant, it would greatly assist us to be able to review several documents in advance. Hence, we ask you to provide us, at the office of Harmon & Weiss, with the following: a) one package of raceway drawings and associated diagrams for any one of the 12 RG-58 cables that is to be replaced; and b) Service Environment Design Basis Calculation, Calculation Set No. 6.01.00.00, dated February 2, 1987 (see Attachment C to Bergeron Aff.)[.]

RESPONSE

Applicants object to this request on the ground that exceeds the scope of the issues properly in litigation in these proceedings. Applicants also object to the production of, and will not produce, any and all documents previously served on NECNP, and any and all documents that otherwise are publicly available.

Without waiving the foregoing objections, and with the exception noted above, Applicants will produce all requested documents which are in their possession or control. Documents will be produced at the Seabrook Station and will be made available to NECNP or its representatives 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 Extension 2057 to arrange for document inspection.

REQUEST FOR ENTRY ON LAND

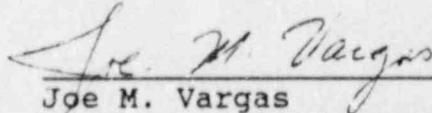
Please provide access to the Seabrook plant for the purpose of examining all cable raceways.

RESPONSE

Applicants object, on relevance grounds, to affording NECNP unrestricted access to the more than 16 miles of cable raceways and 6 million feet of cable in the Seabrook Station.

If NECNP identifies specific parts of specific accessible raceways, Applicants will allow a properly qualified representative of NECNP to view such areas, under the supervision of New Hampshire Yankee employees and at NECNP's expense. No NECNP representative will be allowed to handle or otherwise interfere with the raceways or the cables contained therein, but may request that New Hampshire Yankee employees take reasonable steps to afford the representative a view of the location or material specified by NECNP.

As to Answers:



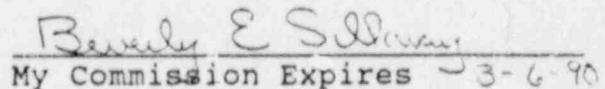
Joe M. Vargas
Manager of Engineering
New Hampshire Yankee Division of
Public Service Company of
New Hampshire

July 13, 1988

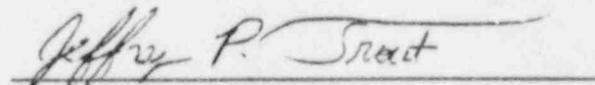
State of New Hampshire
Rockingham County, ss.

Then appeared before me the above subscribed Joe M. Vargas and made oath that he is the Manager of Engineering of New Hampshire Yankee Division, authorized to execute the foregoing responses 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,


My Commission Expires 3-6-90

As to objections:


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

Counsel for Applicants

<u>NO.</u>	<u>SPARE CABLE NO.</u>	<u>CUT LENGTH FOOTAGE (4)</u>
1.	FM4-JX1/2	462
2.	FM7-JX1/2	522
3.	FM3-JW5/2	532
4.	FM6-JW5/2	544
5.	FM6-JX5/2	496
6.	FM4-JX5/2	486
7.	FM7-GY4/2	274
8.	FM4-GY4/2	286
9.	FE7-FM6/2	140
10.	FM6-GY6/2	296
11.	FM4-GY6/2	300
12.	FM3-FP1/2	78
13.	FM7-FP1/2	100
14.	FE7-FM4/2	144
15.	FM3-GY0/2	550
16.	FM7-GY0/2	570
17.	F86-G13	462
18.	FMS-GY9/2	596
19.	FM6-GY9/2	552
20.	FE2-FM4/2	128
21.	FE2-FM6/2	<u>134</u>
TOTAL SPAPE FOOTAGE		7,652

<u>NO.</u>	<u>ACTIVE CABLE NO.</u>	<u>CUT LENGTH FOOTAGE (4)</u>
1.	FM4-JX1	462
2.	FM7-JX1	520
3.	FM4-JX1/1	462
4.	FM7-JX1/1	518
5.	GU4-Y59/2	306
6.	GU4-Y59/4	318
7.	GU4-Y59/3	314
8.	GU4-Y59/5	308
9.	FM3-JW5	532
10.	FM3-JW5/1	530
11.	FM6-JW5/1	524
12.	FM6-JW5	
13.	FM4-JX5	460
14.	FM6-JX5/1	500
15.	FM6-JX5	482
16.	FM4-JX5/1	484
17.	FE2-FM4/1	132
18.	F52-FN1/3	212
19.	F52-FN5/3	256
20.	F72-FN5/2	270
21.	FM6-GY6/1	294
22.	F52-FN1/4	212
23.	F52-FN5/4	274
24.	FM6-GY6	318
25.	F52-FN1/5	212
26.	F52-FN5/5	260

<u>NO.</u>	<u>ACTIVE CABLE NO.</u>	<u>CUT LENGTH FOOTAGE (4)</u>
27.	FMO-FT5	220
28.	FM4-GY6/1	298
29.	FMO-FT5/1	220
30.	F52-FN1/6	248
31.	W4H-W4J	(55) Note 1
32.	F52-FN5/6	266
33.	F52-FN1/7	218
34.	F52-FN5/7	264
35.	FN4-W4H/3	140
36.	F81-FN4	276
37.	FM3-FP1	100
38.	FN4-W4H/2	140
39.	FM7-FP1	100
40.	FM3-FP1/1	100
41.	FM7-FP1/1	100
42.	F90-FN4/2	312
43.	F10-FMO	340
44.	F90-FN4/1	314
45.	F52-FN5	276
46.	F72-FN5	268
47.	F52-FN1	220
48.	F31-FN1	344
49.	F31-FN5	294
50.	FE7-FM6	122
51.	FM4-GY4	296
52.	FE2-FM6	138

<u>NO.</u>	<u>ACTIVE CABLE NO.</u>	<u>CUT LENGTH FOOTAGE (4)</u>
53.	FM7-GY4	272
54.	FE7-FM6/1	122
55.	FE2-FM6/1	124
56.	F61-FN1/1	278
57.	FM7-GY4/1	274
58.	F61-FN1/3	278
59.	F61-FN1/2	.)
60.	F40-FN5/1	312
61.	FN4-W4H	150
62.	F40-FN5/2	314
63.	FM4-GY4/1	288
64.	FN4-W4H/1	150
65.	FMO-FT5/2	220
66.	W4H-W4J/2	(55) Note 1
67.	FMO-FT5/3	222
68.	W4H-W4J/1	(55) Note 1
69.	F70-FN4	310
70.	W4H-W4J/3	(55) Note 1
71.	F10-FMO/1	342
72.	F40-FN5	310
73.	F10-FMO/2	342
74.	F52-FN1/1	220
75.	F52-FN5/1	274
76.	F31-FN1/1	346
77.	F61-FN1	250
78.	FM4-GY6	296

<u>NO.</u>	<u>ACTIVE CABLE NO.</u>	<u>CUT LENGTH FOOTAGE (4)</u>
79.	F10-FM0/3	342
80.	F27-FM4	144
81.	F52-FN1/2	212
82.	F52-FN5/2	276
83.	FE2-FM4	136
84.	F72-FN5/1	270
85.	F31-FN1/2	348
86.	FE7-FM4/1	128
87.	G7S-R3J/1	115
88.	G7S-R3G	115
89.	G7S-R3J	115
90.	G7S-R3L/1	75 (5)
91.	G67-ZM3/2	192
92.	G67-ZM3/3	192
93.	G67-ZM3/4	192
94.	G67-ZM3/5	192
95.	G7S-R3G/1	115
96.	G7S-R3L	115
97.	FM3-GY9	606
98.	FM3-GY9/1	598
99.	FM6-GY9/1	552
100.	FM6-GY9	554
101.	FM3-GY0	548
102.	FM7-GY0	574
103.	FM3-GY0/1	552

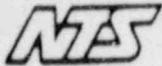
<u>NO.</u>	<u>ACTIVE CABLE NO.</u>	<u>CUT LENGTH FOOTAGE (4)</u>
104.	FM7-GYO/1	570
105.	F86-S3W	<u>486</u>
TOTAL ACTIVE FOOTAGE		29,614

SUMMARY:

TOTAL SPARE FOOTAGE	7,652	
TOTAL ACTIVE FOOTAGE	29,614	
TOTAL UNUSED FOOTAGE	30,240	Note 2
TOTAL FOOTAGE UNACCOUNTED FOR	<u>502</u>	Note 3
TOTAL FOOTAGE DELIVERED	68,008	

NOTES:

- Lengths provided for cables W4H-W4J, W4H-W4J/1, W4H-W4J/2 and W4H-W4J/3 are computed by DCR-87-229 which has not been implemented. Lengths are not included in totals.
- Total unused footage includes cable returned to vendor, unused reels in stock, cut allowances, cuts scrapped during construction, cable used as test samples, etc.
- Unaccounted footage represents one 238' length and one 264' length. An ongoing search of construction records may account for these lengths.
- Cut length footage represents the amount of cable cut from the cable reels and includes the excess footage on the cable ends which is removed at the time of termination.
- Actual cable length from field verification.



National
Technical
Systems

Acton Division
533 Main Street
Acton, MA 01720
617/263-2933

July 5, 1988

New Hampshire Yankee
A Division of Public Service of New Hampshire
Route 1, Lafayette Road
General Office Building
Seabrook Station
Seabrook, NH 03874

Attention: Richard Bergeron
Joseph Vargas

Reference: Environmental Qualification Testing of RG56
Coaxial Instrument Cables, NTS/Acton Job No.
24843-89N

Gentlemen:

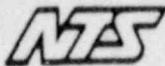
The purpose of this letter is to provide a summary of the Qualification Test Program for RG58 Cable samples for New Hampshire Yankee. A comprehensive report shall be submitted in addition to this letter. The agreed submittal due date is July 8, 1988.

Ten cable samples were submitted to NTS/Acton for qualification testing in accordance with IEEE 383-1974, and a previously conducted test program documented in Franklin Research Test Report No. F-A5550-8. The ten samples were designated as follows:

Group One: Two aged samples and two unaged samples
Group Two: Two aged samples and two unaged samples
Group Three: Two aged spares

One group of two aged and two unaged samples was subjected to the following tests:

Receiving Inspection & Baseline Functional Test
Thermal Aging
Post-thermal Functional Test
irradiation
Post-Irradiation Functional Test
15-Day LOCA Test
Post-LOCA Functional Test



New Hampshire Yankee
R. Bergeron/J. Vargas

July 5, 1988
Page 2 of 3

The other group of two aged and two unaged samples was subjected to a 30-day LOCA test instead of the 15-Day LOCA test. Testing on this group is not discussed in this letter as testing is still in progress.

Receiving/Inspection and Baseline Functional Test:

Each cable sample was logged in and labeled with a unique identification number. The identification numbers for this sample group are:

1, 2	Aged Samples
7, 8	Unaged Samples

The samples were then subjected to continuity checks and insulation resistance measurements. The results are on the attached data sheets.

Thermal Aging:

Two of the samples (1, 2) were placed in a temperature chamber at 302°F for 168 hours, simulating a 40-year service life.

Post-Thermal Aging Functional Test:

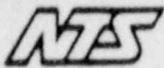
The samples were again subjected to continuity checks and insulation resistance measurements.

Irradiation:

Two of the samples (1, 2) were subjected to gamma radiation exposure at Isomedix, New Jersey. The radiation dose was specified as 220 megarads at a rate not to exceed one megarad per hour.

Post-Irradiation Functional Test:

The samples were subjected to continuity checks and insulation resistance measurements.



New Hampshire Yankee
R. Bergeron/J. Vargas

July 5, 1988
Page 3 of 3

15-Day LOCA Test:

The samples were placed in the NTS/Acton System One LOCA chamber and subjected to a margin transient (with chemical spray) followed by a 15-day LOCA exposure as required by NTS/Acton Test Procedure No. 24843-89N and the Franklin Research Report previously noted. During LOCA testing, daily insulation resistance measurements were recorded. The sample carried one amp continuously throughout the LOCA test.

Post-LOCA Functional Test:

Following the 15-day LOCA exposure, each sample was subjected to insulation resistance measurements and a voltage withstand test at 3200 VAC.

Results:

All results were acceptable. Some embrittlement of the outer jacket material was observed during the test program, however, the cable samples carried a continuous one amp load during LOCA and withstood the 3200 VAC Hipot Test. All results are included in the attached data sheets.

Conclusions:

The RG58 cable is acceptable for use under environmental and accident conditions specified in NTS/Acton Test Procedure No. 24843-89N.

If you should have any questions concerning the test program, please do not hesitate to contact me.

Sincerely,

NTS/Acton

Keith G. Whittles
Engineering Manager



Ted C. Feigenbaum
Vice President

Public Service of New Hampshire

NYN-88095

New Hampshire Yankee Division

July 12, 1988

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

Reference: (a) Facility Operating License NPF-56, Docket No.
50-443

Subject: Environmental Qualification of RG-58 Coaxial Cable

Gentlemen:

The issue of environmental qualification of RG-58 coaxial cable at Seabrook Station has been in litigation for an extended period of time. In attempting to resolve this issue, several solutions have been pursued in parallel. In May 1988, New Hampshire Yankee management decided to replace the RG-58 cable in controversy to avoid further unnecessary litigation and licensing delays. This was followed up with a motion to the Licensing Board to moot the issue, which was subsequently denied by the Board. In parallel, NHY has proceeded with a test program to demonstrate that the subject cable is fully qualified for use at Seabrook Station. The results of this test program were received in early July 1988.

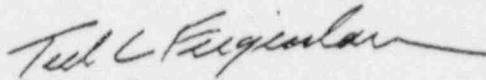
Attached please find the test plan (Attachment 1) and results of the environmental qualification testing (Attachment 2) recently completed by National Technical Systems/ Acton Division on RG-58 coaxial cable manufactured by ITT Surprenant. The test profile envelopes Seabrook Station's inside containment conditions (even though no RG-58 cables are installed inside the containment).

The data of the testing fully support the conclusion that RG-58 cable meets all 10CFR50.49 requirements and is environmentally qualified for Seabrook Station applications.

This data is being submitted for your information and use. Since it provides information that is relevant to an issue under litigation, we are providing same to the interested parties, the Licensing Board and the Appeals Board. A copy of the detailed test report and supporting documentation will be placed in our environmental qualification files.

We hope that the test results and conclusions provided herein will facilitate resolution of this issue.

Very truly yours,


Ted C. Feigenbaum

Attachment

cc: Atomic Safety and Licensing Board Service List

Mr. Victor Nerses, Project Manager
Project Directorate I-3
Division of Reactor Projects
United States Nuclear Regulatory Commission
Washington, DC 20555

Mr. William T. Russell
Regional Administrator
United States Nuclear Regulatory Commission
Region I
425 Allendale Road
King of Prussia, PA 19406

Mr. Antone C. Cerne
NRC Senior Resident Inspector
Seabrook Station
Seabrook, NH 03874

ATOMIC SAFETY LICENSING BOARD SERVICE LIST

Lando W. Zech, Jr. Chairman
U. S. Nuclear Regulatory Commission
Washington, D/C 20555

Kenneth Rogers, Commissioner
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Kenneth M. Carr, Commissioner
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Thomas M. Roberts, Commissioner
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Frederick M. Bernthal, Commissioner
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Alan S. Rosenthal, Chairman
Atomic Safety and Licensing Appeal Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Howard A. Wilber
Atomic Safety and Licensing Appeal Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Thomas S. Moore
Atomic Safety and Licensing Appeal Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Ivan W. Smith, Chairman
Atomic Safety and Licensing Board Panel
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge Sheldon J. Wolfe
Esq., Chairman
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Samuel J. Chilk, Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge Emmeth A. Luebke
Atomic Safety and Licensing Board Panel
5500 Friendship Boulevard
Apartment 1923N
Chevy Chase, MD 20815

Gustave A. Linenberger
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Jerry Harbour
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Adjudicatory File*
Atomic Safety and Licensing Board
Panel Docket
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing Appeal
Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

William C. Parler, Esq. General Counsel
Office of the General Counsel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Sherwin E. Turk, Esquire
Office of General Counsel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

H. Joseph Flynn, Esq.
Office of General Counsel
Federal Emergency Management Agency
500 C Street, SW
Washington, DC 20472

Senator Gordon J. Humphrey**
U. S. Senate
Washington, DC 20510
(ATTN: Tom Burack)

Senator Gordon J. Humphrey**
1 Pillsbury Street
Concord, NH 03301
(ATTN: Herb Boynton)

Mr. Ed Thomas
FEMA Region I
442 John W. McCormack PO & Courthouse
Boston, MA 02109

ATOMIC SAFETY LICENSING BOARD SERVICE LIST
(continued)

Diane Curran, Esq.
Andrea C. Ferster, Esq.
Harmon & Weiss
Suite 430
2001 S. Street, NW
Washington, DC 20009

Carol S. Sneider, Esq.
Assistant Attorney General
Department of the Attorney General
One Ashburton Place, 19th Floor
Boston, MA 02108

Paul McEachern, Esq.
Matthew T. Brock, Esq.
Shaines & McEachern
25 Maplewood Avenue
P. O. Box 360
Portsmouth, NH 03801

Brentwood Board of Selectmen
RFD Dalton Road
Brentwood, NH 03833

Richard A. Hampe, Esq.
Hampe and McNicholas
35 Pleasant Street
Concord, NH 03301

Robert A. Backus, Esq.
116 Lowell Street
P. O. Box 516
Manchester, NH 03105

Philip Ahrens, Esq.
Assistant Attorney General
Department of the Attorney General
Statehouse Station #6
Augusta, ME 04333

Judith H. Mizner
Silvergate, Gertner, Baker, Fine,
Good & Mizner
88 Broad Street
Boston, MA 02110

Stephen E. Merrill, Esq.
Attorney General
George Dana Bisbee, Esq.
Assistant Attorney General
25 Capitol Street
Concord, NH 03301-6397

Mr. George Olson
Town Manager
Town of Exeter
10 Front Street
Exeter, NH 03833

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

Calvin A. Canney
City Manager
City Hall
126 Daniel Street
Portsmouth, NH 03801

Leonard Kopelman, Esquire
Kopelman and Paige, P.C.
77 Franklin Street
Boston, MA 02110

Mrs. Sandra Gavutis
Chairman, Board of Selectmen
RFD 1 - Box 1154
Kensington, NH 03827

Charles P. Graham, Esquire
Murphy and Graham
33 Low Street
Newburyport, MA 01950

Ashod N. Amirian, Esquire
Assistant City Solicitor
City of Haverhill
Haverhill, MA 01830

Mr. J. P. Nadeau
Selectmen's Office
10 Central Road
Rye, NH 03870

Gary W. Holmes, Esq.
Holmes & Ells
47 Winnacunnet Road
Hampton, NH 03842

Robert Carrigg
Town Office
Atlantic Avenue
North Hampton, NH 03862

R. Scott Hill-Whilton
Legoulis, Clark, Hill-Whilton & McGuire
79 State Street
Newburyport, MA 01950

* Two copies
** Letter of Transmittal Only

ATTACHMENT 4

The station computer application for the following cables is a data link between the Intelligent Remote Terminal Unit (IRTU) and the computer mainframe.

FM4-JX1	FM6-JX5	FM4-GY4/1	FM3-GYO/1
FM7-JX1	FM4-JX5/1	FM4-GY6	FE7-FM4
FM4-JX1/1	FE2-FM4/1	FE2-FM4	FM3-FP1/1
FM7-JX1/1	FM6-GY6/1	FE7-FM4/1	FM7-FP1/1
FM3-JW5	FM6-GY6	FM3-GY9	FE7-FM6
FM3-JW5/1	FM4-GY6/1	FM3-GY9/1	FM4-GY4
FM6-JW5/1	FM3-FP1	FM6-GY9/1	FE2-FM6
FM6-JW5	FM7-FP1	FM6-GY9	FM7-GY4
FM4-JX5	FE7-FM6/1	FM3-GYO	FM7-GY4/1
FM6-JX5/1	FE2-FM6/1	FM7-GYO	FM7-GYO/1

The station computer application for the following cables is a data link between the CRT and the computer mainframe.

F52-FN1/3	F90-FN4/2	FN4-W4H/1	F52-FN1/1
F52-FN5/3	F10-FMO	FMO-FT5/2	F52-FN5/1
F72-FN5/2	F90-FN4/1	W4H-W4J/2	F31-FN1/1
F52-FN1/4	F52-FN5	FMO-FT5/3	F61-FN1
F52-FN5/4	F72-FN5	W4H-W4J/1	F52-FN1/2
F52-FN1/5	F52-FN1	F90-FN4	F52-FN5/2
F52-FN5/5	F31-FN1	W4H-W4J/3	F72-FN5/1
FMO-FT5/1	F61-FN1/1	F10-FMO/1	F31-FN1/2
FN4-W4H/3	F61-FN1/2	F40-FN5	F40-FN5/1
FN4-W4H/2	F40-FN5/2	F10-FMO/2	

The station computer application for the following cables is a data link between the keyboard logic and the computer mainframe.

FMO-FT5	F81-FN4	F61-FN1/3	F10-FMO/3
W4H-W4J	F31-FN5	FN4-W4H	F52-FN5/7
F52-FN1/6	F52-FN5/6	F52-FN1/7	

The following cables provide the data link between the Letdown Degasifier level element CS-LE-1-1 and the Letdown Degasifier Panel CS-CP-126 for local level indication.

GU4-Y59/2	GU4-Y59/3	GU4-Y59/4	GU4-Y59/5
-----------	-----------	-----------	-----------

The following cables provide the data link between the Waste Feed Tanks (WS-TK-198A & B) and Concentrate Bottoms Tank WS-TK-200 to instrument rack WS-IR-95 for local level indication on waste management control panel MM-CP-464A.

G67-ZM3/2
G67-ZM3/4

G67-ZM3/3
G67-ZM3/5

The following cable provides the data link between the turbine generator and the main control board for temperature indication.

F86-S3W

The remaining cables are spare and therefore do not perform a function.

ATTACHMENT 5

1. Specification for Specialty Cable, No. 9763-006-113-19.
2. Purchase Order No. 9763-006-113-19 with ITT Surprenant and all change orders thereto.
3. EQ File 113-19-01.
4. EQ File 113-20-01.
5. Computerized Conduit & Cable Schedule Program (CASP).
6. CASP Design Guide.
7. (FSAR) Final Safety Analysis Report.
8. 300000 Series Raceway Drawings.
9. Service Environment Chart Calculations - Design Basis 6.01.00.00.
10. Service Environment Chart 300219.
11. Electrical Schematics.
12. Class 1E Equipment List 505300.
13. Harsh Environment Equipment List 300218.
14. Design Coordination Reports DCR-88-079 and DCR-87-229.
15. Engineering Evaluation Number 87-018, Environmental Qualification of ITT Surprenant RG-58 and RG-59 Coaxial Cables.
16. Engineering Evaluation Number 87-028, Review of ITT Surprenant RG-58 Coaxial Cable Applications.
17. Engineering Evaluation Number 88-014, Replacement of Coaxial Cable Type RG-58 by RG-59.
18. Engineering Evaluation Number 88-017, Failure Modes and Effects Analysis for RG-58 Coaxial Cable.
19. Memorandum, dated May 25, 1988, T. P. Nagle to J. M. Vargas.
20. Franklin Institute Research Laboratory Final Report F-A5550-11, "Qualification Tests of Electrical Cables in

a Simulated Steam-Line Break and Loss of Coolant
Accident Environment: 100-Day Duration 1/C and 2/C #20
AWG Thermocouple Cable."

21. PSNH Letter (NYN-88095), dated July 12, 1988,
"Environmental Qualification of RG-58 Coaxial Cable,"
Ted C. Feigenbaum to the USNRC.

ATTACHMENT 6

1. Site Data Packages. *
2. Cable Purchase Orders and Change Orders.
3. Construction Phase Change Documents (e.g., ECAs, NCRs). *
4. Work Requests. *
5. Material Receiving Report. *
6. Document Distribution System.
7. Foreign Prints. *
8. Electrical Status Program.
9. Cable Specifications.

* All items identified were specifically related to the RG-58 coaxial cable supplied by ITT Surprenant under Purchase Order No. 9763-006-113-19.

CERTIFICATE OF SERVICE

I, Jeffrey P. Trout, one of the attorneys for the Applicants herein, hereby certify that on July 13, 1988, I made service of the within document by depositing copies thereof with Federal Express, prepaid, for delivery to where indicated, by depositing in the United States mail, first class postage paid, addressed to) the individuals listed below.

Administrative Judge Sheldon J. Wolfe, Esq., Chairman, Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
East West Towers Building
4350 East West Highway
Bethesda, MD 20814

Robert Carrigg, Chairman
Board of Selectmen
Town Office
Atlantic Avenue
North Hampton, NH 03862

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

Diane Curran, Esquire
Andrea C. Ferster, Esquire
Harmon & Weiss
Suite 430
2001 S Street, N.W.
Washington, DC 20009

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

Stephen E. Merrill
Attorney General
George Dana Bisbee
Assistant Attorney General
Office of the Attorney General
25 Capitol Street
Concord, NH 03301-6397

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

Sherwin E. Turk, Esquire
Office of General Counsel
U.S. Nuclear Regulatory Commission
One White Flint North, 15th Fl.
11555 Rockville Pike
Rockville, MD 20852

*Atomic Safety and Licensing Appeal Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Robert A. Backus, Esquire
Backus, Meyer & Solomon
116 Lowell Street
P.O. Box 516
Manchester, NH 03105

OFFICE OF SECRETARY
OF LICENSING & SERVICE
BRANCH

'88 JUL 14 P5:39

Philip Ahrens, Esquire
Assistant Attorney General
Department of the Attorney
General
Augusta, ME 04333

Paul McEachern, Esquire
Matthew T. Brock, Esquire
Shaines & McEachern
25 Maplewood Avenue
P.O. Box 360
Portsmouth, NH 03801

Mrs. Sandra Gavutis
Chairman, Board of Selectmen
RFD 1 - Box 1154
Route 107
Kensington, NH 03827

*Senator Gordon J. Humphrey
U.S. Senate
Washington, DC 20510
(Attn: Tom Burack)

*Senator Gordon J. Humphrey
One Eagle Square, Suite 507
Concord, NH 03301
(Attn: Herb Boynton)

Mr. Thomas F. Powers, III
Town Manager
Town of Exeter
10 Front Street
Exeter, NH 03833

H. Joseph Flynn, Esquire
Office of General Counsel
Federal Emergency Management
Agency
500 C Street, S.W.
Washington, DC 20472

Gary W. Holmes, Esquire
Holmes & Ells
47 Winnacunnet Road
Hampton, NH 03841

Mr. J. P. Nadeau
Selectmen's Office
10 Central Road
Rye, NH 03870

Carol S. Sneider, Esquire
Assistant Attorney General
Department of the Attorney General
One Ashburton Place, 19th Floor
Boston, MA 02108

Mr. Calvin A. Canney
City Manager
City Hall
126 Daniel Street
Portsmouth, NH 03801

R. Scott Hill-Whilton, Esquire
Lagoulis, Clark, Hill-Whilton &
McQuire
79 State Street
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

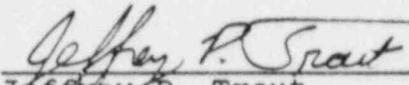
Brentwood Board of Selectmen
RFD Dalton Road
Brentwood, NH 03833

Richard A. Hampe, Esquire
Hampe and McNicholas
35 Pleasant Street
Concord, NH 03301

Mr. Ed Thomas
FEMA, Region I
442 John W. McCormack Post
Office and Court House
Post Office Square
Boston, MA 02109

Charles P. Graham, Esquire
Murphy and Graham
33 Low Street
Newburyport, MA 01950

Judith H. Mizner, Esquire
79 State Street, 2nd Floor
Newburyport, MA 01950



Jeffrey P. Trout