

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	Docket Nos. 50-443 OL-01
PUBLIC SERVICE COMPANY OF)	50-444 OL-01
NEW HAMPSHIRE, <u>et al.</u>)	On-site Emergency Planning
)	and Safety Issues
(Seabrook Station, Units 1 and 2))	

AFFIDAVIT OF HAROLD WALKER

I, Harold Walker, being first duly sworn, hereby affirm that the responses to the questions set forth herein are correct to the best of my knowledge and belief:

Q1: Mr. Walker, by whom and in what capacity are you employed?

A1: I am employed by the U.S. Nuclear Regulatory Commission as a Senior Reactor Systems Engineer in Section B of the Plant Systems Branch, Division of Engineering and Systems Technology, Office of the Nuclear Reactor Regulation.

Q2: Have you prepared a statement of your professional qualification?

A2: Yes, a statement of my professional qualifications is attached as an exhibit to this affidavit.

Q3: Mr. Walker, what is the purpose of this affidavit?

A3: This affidavit addresses the question whether remanded NECNP Contention I.B.2, relating to the environmental qualification of RG-58 coaxial cable raises issues which must be resolved prior to the

reauthorization of low power (5% rated power) operations at the Seabrook facility.

Q4: Mr. Walker, the Appeal Board has stated that "10 C.F.R. § 50.57(c) allows the authorization of low-power operation so long as no safety issues pertaining to such operation remain unresolved." Are any safety issues pertaining to low power operations presented by remanded NECNP Contention I.B.2?

A4: The Staff's position is that the requirements of 10 C.F.R. § 50.49 ("Environmental Qualification of Electrical Equipment Important To Safety For Nuclear Power Plants") apply during low power as well as full power operation. The basis for this position is that were an accident to occur at low-power (less than 5% rated power), there is the potential for failure of safety-related and nonsafety-related electrical equipment (as discussed in 10 C.F.R. § 50.49(b)) if subjected to a harsh environment. Such equipment is relied upon to remain functional during and following postulated events to ensure the integrity of the reactor coolant pressure boundary, to safely shut down the reactor and maintain it a safe shutdown condition, and to prevent or mitigate the consequences of accidents that could result in potential offsite exposure.

It should be noted that remanded NECNP Contention I.B.2 focuses not on electrical equipment in general but rather on a single type of electrical equipment: RG-58 coaxial. Accordingly, the Staff acknowledges the possibility that a review of the particular applications of RG-58 at the Seabrook Station may result in a determination that the environmental qualification of RG-58 cable is not essential for safe operation of the facility at low power. In making this evaluation, the Staff would conduct a review, similar to

that described in NRC Generic Letter 88-07, to determine whether failure of the subject RG-58 cables under accident conditions during low-power operation would result in significant degradation of any safety function or provide misleading information to plant operators. I note that on July 22, 1988, Applicants submitted information intended to demonstrate that the RG-58 coaxial cables installed at the Seabrook Station are not relevant to low-power operation; the Staff, however, has not reviewed or evaluated this information and, in view of the response to the following question, believes that a comprehensive review and evaluation of these materials is not necessary.

Q5: Mr. Walker, section 50.57(c) of the Commission's regulations provides that where a pending contention is relevant to low power operation, the Licensing Board must find that there is reasonable assurance that the concern raised by the contention will not threaten the public health and safety during low power operation. Do you have an opinion as whether such reasonable assurance exists?

A5: It is the Staff's position that Applicants have presented sufficient information to demonstrate that both RG-58 and RG-59 coaxial cables are environmentally qualified for use at the Seabrook Station. The Staff's conclusions are documented in a letter to Applicants dated April 10, 1986, NUREG-0896, Supplement No. 5, which was issued July 1986, and in my affidavit of December 11, 1987, which is attached to the "NRC Staff Response To Memorandum Of Licensing Board And New England Coalition On Nuclear Pollution Regarding Environmental Qualification Of RG-59 Coaxial Cable." Further, since Applicants have replaced those RG-58 cables which could be exposed to a harsh environment with RG-59 coaxial cable which previously has

that described in NRC Generic Letter 88-07, to determine whether failure of the subject RG-58 cables under accident conditions during low-power operation would result in significant degradation of any safety function or provide misleading information to plant operators. I note that on July 22, 1988, Applicants submitted information intended to demonstrate that the RG-58 coaxial cables installed at the Seabrook Station are not relevant to low-power operation; the Staff, however, has not reviewed or evaluated this information and, in view of the response to the following question, believes that a comprehensive review and evaluation of these materials is not necessary.

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been demonstrated by test to be environmentally qualified, the Staff concludes that remanded NECNP Contention I.B.2 does not present any unresolved safety issue pertaining to low power or full power operation. For these reasons, it is my opinion that there is sufficient basis for the Licensing Board to find reasonable assurance that the Seabrook Station can be operated at 5% rated power without endangering the health and safety of the public.

Q6: Mr. Walker, please explain in detail why you believe that RG-58 coaxial cable meets the environmental qualifications requirements of 10 C.F.R. § 50.49.

A6: The Staff's initial review of the environmental qualification of RG-58 coaxial cable installed at Seabrook occurred during an audit of the Seabrook environmental qualification program conducted February 24 through 27, 1986. The purpose of the audit was to determine if the documents in the environmental qualification files supported the qualification status assigned by Applicants. This audit included file No. 113-19-01 which is the qualification file for RG-58 coaxial cable. The audit did not identify any environmental qualification deficiencies related to RG-58 cable. The results of the audit are documented in an April 10, 1986 letter to Applicants and in Section 3.11.4 of NUREG-0896, Supplement No. 5, which was issued in July 1986. The Staff again reviewed environmental qualification file No. 113-19-01 as part of NECNP Exhibit 4 (NECNP Ex. 4 already has been received in evidence). In this review the Staff concluded that RG-58 coaxial cable is environmentally qualified in accordance with 10 C.F.R. § 50.49(f)(2) by virtue of its "similarity" to RG-59 coaxial cable.

The Staff's conclusion that RG-58 cable meets the environmental qualification requirements of 10 C.F.R. § 50.49 included a review of the test report for RG-59 cable (see NECNP Exhibit 4, Ref. 2). This test report demonstrates that RG-59 cable is environmentally qualified. See Gill/Walker Affidavit, attached to February 17, 1988 NRC Staff Response To NECNP Motion To Reopen Record. The Staff concluded that RG-58 cable is sufficiently similar to RG-59 for purposes of section 50.49(f)(2) because the cables' materials, construction, and manufacturer are the same, as is the cable type (i.e., both are single conductor). See NECNP Exhibit 4; Walker Affidavit, attached to December 11, 1988 NRC Staff's Response To Memorandum Of Licensing Board And New England Coalition On Nuclear Pollution Regarding Environmental Qualification Of RG-58 Coaxial Cable. It should be emphasized that "similarity" for purposes of section 50.49(f)(2) does not require that components, such as cables, be identical. Instead, it is the Staff's practice to review the environmental qualification files of components to determine whether there is reasonable assurance that the test results for one component, in this case RG-59 coaxial cable, will be representative of another component, in this case RG-58 coaxial cable. Consequently, as a result of reviewing Qualification File No. 113-19-01, the Staff concluded that RG-59 coaxial cable is environmentally qualified by test in accordance 10 C.F.R. § 50.49(f)(1) and that RG-58 coaxial cable is environmentally qualified by similarity in accordance with 10 C.F.R. § 50.49(f)(2).

In addition, Applicants recently conducted a review of its records relating to RG-58 coaxial cable which revealed that 126 RG-58 cables had been installed at the Seabrook Station. The Staff has reviewed and is satisfied with the methodology used by Applicants to identify these cable installations and thus has reasonable assurance that Applicants have succeeded in identifying and locating all of the installed RG-58 cables. The Staff has also reviewed and finds acceptable the methodology by which Applicants assigned each RG-58 cable to one of the five category groupings. Further, based upon a review of the information submitted by Applicants, the Staff is persuaded that of the 126 RG-58 coaxial cables, the requirements of 10 C.F.R. § 50.49 are inapplicable to 114 of them. See June 17 1988 Applicants' Reply To NRC Staff and NECNP's Response To Applicants' Suggestion Of Mootness, and Affidavit of Richard Bergeron (May 19 and 26, and June 17, 1988).

In this connection, the Staff agrees with Mr. Bergeron, Applicants' expert, that the 19 RG-58 cables used as spares need not be environmentally qualified because they are not "important to safety" as that phrase is defined in section 50.49(b). The Staff also agrees with Mr. Bergeron that the 76 RG-58 cables located in mild environments are not subject to the requirements of 10 C.F.R. § 50.49. Similarly, the Staff agrees with Mr. Bergeron that the nine RG-58 cables in mild environment within the nuclear island and routed with other non-safety related cables outside the nuclear island are not required to be environmentally qualified in accordance with 10 C.F.R. § 50.49. Last, the Staff agrees with Mr. Bergeron that the 10

RG-58 cables routed with other non-safety related cables outside the nuclear island are not required to be qualified in accordance with 10 C.F.R. § 50.49.

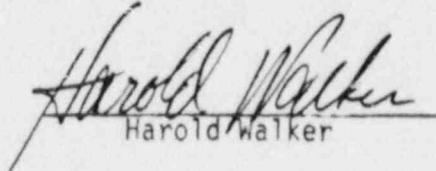
Applicants' review indicated that the balance of the installed RG-58 cables (12 in number) were located in a harsh environment and thus subject to the environmental qualification requirements of 10 C.F.R. § 50.49. (10 C.F.R. § 50.49(b)(2)). These cables, however, now have been replaced with environmentally qualified RG-59 coaxial cables. The Staff believes that the evaluation conducted by Applicants in determining whether RG-59 is a functionally acceptable replacement for RG-58 is adequate. This "functional acceptability" evaluation is described and explained in the Affidavit of Gerald A. Kotkowski, attached to Applicants' May 19, 1988 "Suggestion Of Mootness." It is also the Staff's position that Applicants now have adequately identified the specific uses of RG-58 coaxial cable at Seabrook. This position is based on the Staff's review of Applicants' method of identifying and tracking cable at Seabrook and a review of the service environmental charts. Both the method and the service environmental charts are attached to Applicants' June 17, 1988 Reply To NRC Staff and NECNP's Response To Applicants' Suggestion Of Mootness.

Based on all of the foregoing reasons, the Staff has concluded that Applicants have demonstrated compliance with the requirements for environmental qualification as outlined in 10 C.F.R. § 50.49 and thus have provided reasonable assurance that the health and safety of

the public will not be endangered during low-power or full-power operation of the Seabrook Station.

Q7: Mr. Walker, does this complete your affidavit?

A7: Yes it does.


Harold Walker

Sworn to and subscribed before me
this 27th day of July 1988:


My Commission expires: July 1, 1990

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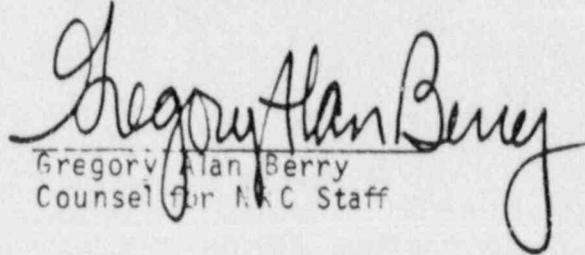
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