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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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BEFORE THE SAFETY AND LICENSING APPEAL BOARD

OFFICE OF SECRETARY  
LICENSING & SERVICE  
BRANCH

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

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NRC STAFF RESPONSE TO MEMORANDUM OF LICENSING  
BOARD AND NEW ENGLAND COALITION ON NUCLEAR  
POLLUTION REGARDING ENVIRONMENTAL  
QUALIFICATION OF RG-58 COAXIAL CABLE

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December 11, 1987

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INTRODUCTION

In ALAB-875, the Appeal Board directed the Licensing Board to identify the portions of the record which support the Licensing Board's conclusion that "the dimensional differences between the RG59 and RG58 cables were of such little importance that the test results for the RG59 cable could serve to qualify the untested RG58 cable." Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-875, 6 NRC \_\_\_, slip op. at 39 (October 1, 1987). On October 16, 1987, the Licensing Board submitted a memorandum to the Appeal Board in which it stated that the dimensions of the cables involved "have little, if any, significance to environmental qualification of the cables, except that the dimensions reflect the different applications for which the cables are intended." Memorandum to Appeal Board at 2 (October 16, 1987) ("ASLB Memorandum"). According to the Licensing Board, "the differing requirements for insulation resistance (IR), provide a basis for justifying the similarity of the two cables whose primary insulation thickness differs

by a factor of approximately 1.5." Id. at 3. In a supplemental memorandum filed November 4, 1987, intervenor New England Coalition on Nuclear Pollution (NECNP) challenged these assertions. On November 6, 1987, the Appeal Board directed Applicants and the NRC Staff to respond to NECNP's arguments. Applicants filed their response on November 25, 1987. The Staff responds herein.

#### DISCUSSION

##### A. There Is No Merit To NECNP's Legal Arguments

As a threshold matter, NECNP maintains that it is entitled to an adjudicatory hearing on the issue of environmental qualification of the RG-58 coaxial cable. NECNP Memorandum at 2. There is no merit to this assertion. NECNP has already received a hearing on this issue. Further, the issue currently pending is whether the record and the exhibit which NECNP introduced into evidence supports the Licensing Board's conclusion that the RG-58 cable is sufficiently similar to RG-59 cable such that the qualification test results of the latter can serve to establish the environmental qualification of the former. Additional adjudicatory proceedings are unnecessary to resolve this issue. NECNP's argument that the Licensing Board erred in considering an exhibit offered by NECNP itself (without limitation) is patently specious. Id. It was not error for the Licensing Board to consider information received in an exhibit admitted in evidence. That is what it was there for.

The Appeal Board also should not consider further NECNP's assertion that "the test methods used to qualify the RG59 cable provide a questionable basis either for qualifying the RG59 cable[.]" Id. at 6. It is well settled that the Appeal Board will not entertain an issue or



argument on appeal that was not raised below. See e.g., Duke Power Company (Catawba Nuclear Station, Units 1 and 2), ALAB-813, 22 NRC 59, 82-83 (1985); Puerto Rico Electric Power Authority (North Coast Nuclear Power Plant, Unit 1), ALAB-648, 14 NRC 34, 37 (1981). Although it had both the opportunity and incentive to do so, NECNP failed to challenge the environmental qualification of RG-59 cable below. As the Appeal Board noted in ALAB-875, NECNP "does not dispute that the RG11 and RG59 coaxial cables were properly demonstrated to be environmentally qualified." ALAB-875, slip op. at 36. Accordingly, the Appeal Board should not now entertain NECNP's eleventh hour challenge to the environmental qualification of RG-59 cable.

B. The Record Supports The Conclusion That RG-58 Coaxial Cable Is Environmentally Qualified

The Staff agrees with the Licensing Board that the testing of the ITT Suprenant RG-59 coaxial cable and the documents submitted demonstrated that the similar ITT Suprenant RG-58 coaxial cable was environmentally qualified. Section 50.49(f)(2) of the Commission's regulations, 10 C.F.R., §50.49(f)(2), permits the environmental qualification of an item of electrical equipment on the basis of testing a "similar" item along with a supporting analysis. Although NECNP in its submission has pointed to some differences between the cables, these differences are not so significant as to undermine the conclusion that the test of the ITT Suprenant RG-59 coaxial cables showed similar ITT Suprenant RG-58 coaxial cable to be environmentally qualified.

The attached affidavit of Harold Walker, an NRC reactor engineer and an expert in this area shows that the differences between the subject RG-59 and the subject RG-58 coaxial cable are not material in judging the

environmental qualification of one cable from the other for the intended uses of the cable. Affidavit of Harold Walker, <sup>1/</sup> NECNP seems to maintain that the dimensional differences between the cables indicate that the cables are not similar. However, these dimensional differences only are a reflection of the different applications of the cable. Id. at Q&A4. Similarly, there is no requirement in the environmental qualification acceptance criteria or the environmental qualification tests themselves that depends upon the diameter or the cross-sectional area of the cables. Id. at Q&A5. One reason why the insulation thickness of RG-58 cable need not be the same as RG-59 cable is because RG-58 cable is only required "to remain intact, and is not required to mitigate an accident." Id. at Q&A6.

It is important to note, as Mr. Walker points out, that the term similar is not synonymous with "same" or "proportional." Id. at Q&A7. Rather, an item will be regarded as similar to another if it "alike in substance or in essential respects." Id. In the case of RG-58 and RG-59 cables, Mr. Walker concludes that the cables are similar within the meaning of 10 C.F.R. § 50.49(f)(2) because the cables are made from the same materials, are the same type of conductor, and are made by the same manufacturer. Id. at Q&A6. According to Mr. Walker, "all of these factors, collectively, provide a basis for justifying the similarity of the two cables whose primary insulation thickness differs by a factor of approximately 1.5." Id.

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<sup>1/</sup> It is noted that the technical statements in the NECNP memorandum are not supported by an affidavit of an expert in the field, and are thus entitled to little, if any, weight.

NECNP raises a number of technical objections to the conclusions set forth in the Licensing Board's memorandum. As Mr. Walker explains in his affidavit, however, none of these objections is substantial. See Id. at Q&A9-A12. For example, NECNP argues that "the Board's proportionality theory does not hold consistently" when applied to RG-11 cable. NECNP Memorandum at 4. As Mr. Walker notes, however, "proportional performance is neither required nor necessary in order for RG58 to perform its required function under accident conditions, nor is it necessary in order to demonstrate similarity." Walker Affidavit at Q&A7. In this connection, it bears repeating that the regulations require "similarity," not "proportionality." See 10 C.F.R. § 50.49(f)(2). As Mr. Walker points out, the "similarity" of coaxial cables may be determined by comparing the materials used in construction, the type of cables involved, the functional requirements and potential failure modes of the cables, and the manufacturer of the cables. Walker Affidavit at Q&A6. Thus, while it may be true that the Licensing Board's "proportionality theory" may not be consistently valid, this circumstance does not detract from its conclusion that the dimensional differences between RG-58 and RG-59 coaxial cable are not significant for environmental qualification purposes here involved in regard to the subject cables.

The Appeal Board also directed the Staff to discuss "whether in view of the specification that coaxial cable must pass an 'AC Voltage Withstand' test at 5000 volts, the Licensing Board erroneously relied upon the value of 80 volts per mil of insulation" as the applicable acceptance standard. November 6, 1987 Order at 2 (unpublished). It was not improper for the

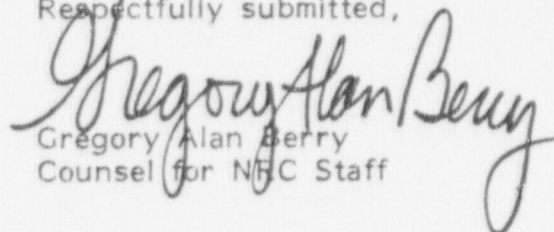


Licensing Board to rely upon the 80 mil standard. As Mr. Walker explains, "[t]he NRC acceptance criteria is 80 Volts AC per mil of insulation, as set forth by the Institute of Electrical and Electronics Engineers (IEEE) in the "IEEE Standard For Type Test Of Class 1E Electric Cable, Field Splices, And Connections For Nuclear Power Generating Stations." Walker Affidavit at Q&A8. This standard is endorsed by NUREG-0588 Rev. 1, "Interim Staff Position On Environmental Qualification Of Safety-Related Electrical Equipment." Id. The "5000 Volts AC Withstand" test standard is Applicants' own specification. Id.

#### CONCLUSION

For the reasons set forth herein and in the attached affidavit of Harold Walker, the record developed during the litigation of NECNP's environmental qualification contention supports the Licensing Board's conclusion that the dimensional differences between RG-58 and RG-59 coaxial cable are not significant and that the cables are sufficiently similar such that the environmental qualification test results for the RG-59 cable may serve to qualify the RG-58 cable. NECNP's appeal of this determination therefore should be rejected and the Licensing Board's conclusion on this issue should be affirmed.

Respectfully submitted,

  
Gregory Alan Berry  
Counsel for NRC Staff

Dated at Bethesda, Maryland  
this 11th day of December 1987