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DOCKETED
July 22, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'88 JUL 28 A9:58

before the
ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF REGULATORY
DOCKETING AND SERVICE
BRANCH

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

APPLICANTS' MEMORANDUM IN SUPPORT OF
PERMITTING LOW POWER OPERATION
PRIOR TO RESOLUTION OF "COAXIAL CABLE" ISSUE

Introduction

Background

In an unpublished Order, dated June 29, 1988, the Nuclear Regulatory Commission directed this Licensing Board "to determine whether the remanded coaxial cable issue need be resolved before low-power operation." The Licensing Board responded on July 1, 1988 by issuing a scheduling order directing that the parties file briefs addressing the issue posed by the Commission. Applicants herein respond and demonstrate that the remanded coaxial cable issue does not need to be resolved prior to low-power operation because it is not relevant to low power operation.

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In addition to this memorandum, there are filed herewith a total of five affidavits, as follows:

1. Affidavit of Richard Bergeron,
2. Affidavit of Bruce E. Beuchel,
3. Affidavit of Thomas W. Glowacky,
4. Affidavit of Randy C. Jamison,
5. Affidavit of Peter S. Littlefield.

These affidavits will be referred to in some detail below. By way of initial background, the affidavits establish that there were originally a total of 126 RG-58 cables in Seabrook Station, and twelve of these, all located in a harsh environment, have been replaced by RG-59 cable. Glowacky Aff. Paras. 4-5.

The Law

Authorization to operate at low power should be granted under 10 CFR 50.57(c) where the pending contention is not relevant to the activity for which authorization is requested.¹ Indeed, this standard was addressed by the Appeal Board in this proceeding, and the Appeal Board stated, "it is not every contention that need be heard or decided

¹ 10 CFR 50.57(c); Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-83-27, 18 NRC 1146, 1149-50 (1983); Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-84-21, 20 NRC 1437, 1440 (1984) ("Simple logic and common sense indicate that some regulations should, by their own terms, have no application to fuel loading or some phases of low power operation.").

prior to the authorization of a low power license. Rather, in so many words, [50.57(c)] requires a hearing only on those contentions 'relevant to the activity to be authorized' -- here, operation at levels up to five percent of rated power."²

Issues to Be Resolved

In the present posture of the proceeding, there are two matters which must be resolved within the scope of the coaxial cable issue:

1. Whether RG-58 cable is, in fact, environmentally qualified?
2. Whether, in the twelve cases where RG-59 cable has been substituted for RG-58 cable, the RG-59 cable is a technically acceptable substitute for the RG-58?

ARGUMENT

- I. Resolution of the Technical Compatibility the Twelve RG-59 Cables is Unnecessary Before Low Power Operation

As set forth in the Beuchel Affidavit,³ there are two systems which contain the instrumentation necessary to provide for the automatic actions necessary for accident mitigation (The Reactor Trip System (RTS) and the Engineered Safety Features Actuation System (ESFAS)); in addition,

²Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2) ALAB-892, 27 NRC ____ (May 24, 1988) (slip op. at 10).

³Beuchel Aff., Paras. 6-9.

Category I Accident Monitoring Instrumentation (AMI) is the instrumentation necessary to achieve the required manual operator actions required to safely shut down the plant. The RTS, ESFAS and Category I AMI will hereinafter be referred to as the "Safe Shutdown Instrumentation" or "SSI." Assuming the availability of the SSI, then, in the event of the occurrence of the bounding design basis LOCA or Steam Generator Tube Rupture event during low power operation, no off-site dose requiring off-site protective actions would result.⁴ And indeed, the off-site doses which would result to the public would be extremely small percentages of those set forth in 10 CFR 100.⁵ This being the case, the issue of RG-59 compatibility would not adversely impact upon the public health and safety at 5% power operation and, therefore, need not be resolved before 5% power operation.⁶

None of the 126 coaxial cables at issue herein, including the 12 RG-59 cables, are connected to any of the devices included within the SSI.⁷ Inasmuch as none of the twelve RG-59 cables is attached to any of the devices included within the SSI, it is of no moment whether they are

⁴Littlefield Aff., passim.

⁵Littlefield Aff., Paras. 6, 17.

⁶Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), LBP-88-6, 27 NRC 245, 251 (1988), affirmed, ALAB-892, 27 NRC ____ (May 24, 1988). See also Commonwealth Edison Co. (Braidwood Nuclear Power Station, Units 1 and 2), LBP-86-31, 24 NRC 451, 456 (1986).

⁷Beuchel Aff. Para. 10.

an acceptable substitute for the RG-58 cable originally used because it is not necessary that they function in order to accomplish a safe shutdown of the reactor.

II. There is no Need to Resolve the Issue of the Environmental Qualification of RG-58 Cable Prior to Low Power Operation.

There is no need to resolve the issue of environmental qualification of RG-58 cable. As the Board is aware, the Applicants believe that all of the RG-58 cable which is located in a harsh environment has been replaced with RG-59. However, there remains the argument that an RG-58 cable which would be located in a harsh environment in the event of an accident either has been "missed" by the Applicants or has not been properly classified as being in a harsh environment. The Applicants have also addressed this problem in the Beuchel Affidavit.⁸ The analysis contained therein was based upon the assumption that there a hypothetical RG-58 cable could exist in any of the raceways of concern throughout the plant.⁹ It was further assumed that the failure of the cable would also result in the failure of all safety-related cables routed in the same raceway.¹⁰ Analysis has shown, that such an event would not compromise the SSI because: (1) some of the instruments are simply not required during low power

⁸Beuchel Aff., Paras. 11-15.

⁹Beuchel Aff., Para 11.

¹⁰Beuchel Aff., Para. 11.

operation;¹¹ (2) some of the instruments have no input from the raceways of interest;¹² and (3) with respect to all other instruments within the SSI, walkdowns have been performed to verify that the raceways of interest either (a) are in a mild environment, or (b) do not contain RG-58 cable in fact.¹³ In connection with the latter, it was also physically verified that, for those cables in a mild environment, active RG-58 cable does not cross the boundary from an area which could be subjected to a harsh environment into those areas.¹⁴ Thus, even if there is any remaining RG-58 cable located in a harsh environment and even if it failed, causing the failure of all safety related cable routed with it, the SSI would still be available.¹⁵

Finally, as noted earlier, the design basis accident doses to the public are small percentages of the doses set forth in 10 CFR 100 and, therefore, the safety concerns raised do not adversely impact on the public health and safety.¹⁶

¹¹Beuchel Aff., Para. 12.

¹²Beuchel Aff., Para. 13.

¹³Beuchel Aff., Para. 14.

¹⁴Beuchel Aff., Para. 14.

¹⁵Beuchel Aff., Para. 15.

¹⁶Supra, page 4, and authorities cited nn. 4-6.

III. There are Other Factors Which
Militate Against the Need to
Resolve the Coaxial Cable Issue
Before Operation at Low Power.

There are a number of other factors which militate against the need for resolution of the coaxial cable issue prior to low power operation. In the first place, the cables involved are all relatively new.¹⁷ Further, at the 5% testing levels, the resulting aging and accident environmental factors are much less severe than during full power operation.¹⁸ In addition, as the Board is aware from a communication sent to it and the parties on July 12, 1988,¹⁹ RG-58 cable has now been tested and found to be environmentally qualified.²⁰

Finally, the largest current which any of the cables will see is 400 milliamps.²¹ Tests were conducted with new unaged RG-58 cable and new unaged LOCA tested RG-58 cable to ascertain whether shorting to shield of these cables, while carrying currents of one amp and ten amps, would result in degradation of adjacent cables which had been bundled around them to simulate the conditions of an RG-58 cable located in

¹⁷Bergeron Aff., Para. 4.

¹⁸Bergeron Aff., Paras. 4-6.

¹⁹Letter, NYN-88095 to NRC from Ted C. Feigenbaum with attachment 1.

²⁰Bergeron Aff., Paras. 7-9.

²¹Glowacky Aff., Para. 7.

the middle of a cable tray.²² The results of these tests show that a failure cannot generate sufficient heat to cause damage or degradation to adjacent cables.²³

CONCLUSION

Low power operation should be permitted pending resolution of the coaxial cable issue.

Respectfully submitted,



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²²Jamison Aff., Paras. 3-5.

²³Jamison Aff., Paras. 6-9.