

RELATED CORRESPONDENCE

November 20, 1987 DOCKETED
USNRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD '87 NOV 23 P2:13

In the Matter of)

Public Service Company of)
New Hampshire, et al.)

(Seabrook Station, Units 1 & 2))

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Docket No. 50-443 OL-1

ONSITE EMERGENCY
PLANNING & TECHNICAL
ISSUES

NEW ENGLAND COALITION ON NUCLEAR POLLUTION'S
FIRST SET OF INTERROGATORIES AND REQUEST FOR
THE PRODUCTION OF DOCUMENTS TO THE NRC STAFF
ON NECNP CONTENTIONS I.V. AND IV.

INSTRUCTIONS FOR USE

The following interrogatories are to be answered in writing and under oath by an employee, representative or agent of the Staff with personal knowledge of the facts or information requested in each interrogatory. We remind you of your obligation to supplement answers to interrogatories, under 10 C.F.R. § 2.740(e).

The following definitions shall apply to these interrogatories:

1) "Document" shall mean any written or graphic matter or communication, however produced or reproduced, and is intended to be comprehensive and include without limitation any and all correspondence, letters, telegrams, agreements, notes, contracts, instructions, reports, demands, memoranda, data, schedules, notices, work papers, recordings, whether electronic or by other means, computer data, computer printouts, photographs, microfilm,

microfiche, charts, analyses, intra-corporate or intra-office communications, notebooks, diaries, sketches, diagrams, forms, manuals, brochures, lists, publications, drafts, telephone minutes, minutes of meetings, statements, calendars, journals, orders, confirmations and all other written or graphic materials of any nature whatsoever.

2) "Identify" with respect to any document shall mean to state the following: the document's title, its date, the author of the document, the person to whom the document was sent, all persons who received or reviewed the document, the substance and nature of the document, and the present custodian of the document and of any and all copies of the document.

3) "Identify" with respect to any action or conduct shall mean state the following regarding any such action or conduct: the person or persons proposing and taking such action; the date such action was proposed and/or taken; all persons with knowledge or information about such action; the purpose or proposed effect of such action; and any document recording or documenting such action.

4) "Identify" with respect to an individual shall mean state the individual's name, address, employer, occupation, and title.

5) "Describe" with respect to any action, event or matter shall mean state the following regarding such action, event or matter: the date of such action, event, or matter; the substance

or nature of such action, event or matter; the persons participating in or having knowledge of such action, event or matter; the current and past business positions and addresses of such persons; and the existence and location of any and all documents relating to such action or matter.

6) "Describe" with respect to any piece of equipment shall mean the type, manufacturer, and model number of the equipment.

GENERAL INTERROGATORIES

1) Please identify all persons who participated in the preparation of answers to these interrogatories, and identify the portions of your response to which each person contributed.

STEAM GENERATOR TUBE INSPECTION

2) What is the Staff's position with respect to the adequacy of Applicants' program for inservice inspection of steam generator tubes?

3) Please identify and produce all documents on which you rely or intend to rely during this proceeding to support your position on NECNP contention I.V (steam generator tube inspection). This includes but is not limited to all documents used in answers to these interrogatories, summary disposition motions, testimony, and cross-examination of witnesses during hearings.

4) Please identify all persons on whose factual knowledge, opinions, or technical expertise you rely or intend to rely for your position on contention I.V.

5) Please identify all persons you may call as witnesses on contention I.V. Please describe the substance of their

testimony; and identify and describe any documents and the portions thereof that they may rely on for their testimony.

6) On November 9, 1987, according to the attached article from Nucleonics Week (November 12, 1987), the Staff and the Commissioners met to discuss the problem of steam generator tube breaks that are not detectable by eddy current testing or tube inspection. Please answer the following questions regarding the issues discussed in that meeting:

a) Describe the type and manufacturer of leakage detection equipment that the NRC considers may be inadequate to detect steam generator tube leaks.

b) Describe all changes to leakage detection equipment and procedures that are under consideration by the NRC Staff. In what regulations or guidance documents are these procedures and types of equipment referenced? Please identify all portions of NRC regulations and guidance documents for which changes are under consideration.

c) The Nucleonics Week article identifies five plants that are "susceptible" to the North Anna tube rupture failure mechanism. Please identify the 12 additional plants that the NRC considers may also be susceptible. What are the reasons for considering these plants to be potentially susceptible?

d) Has the Staff considered whether the Seabrook plant is also susceptible to steam generator tube rupture? If not, does the Staff plan to undertake such consideration?

e) If the Staff does not plan to evaluate the susceptibility of the Seabrook plant, what are the reasons for its decision?

f) If the Seabrook plant is considered susceptible, what are the reasons for this determination?

g) Please identify and provide copies of all documents relating to the Staff's evaluation of the need for additional equipment or procedures for the detection of steam generator tube leaks at nuclear power plants.

h) When did the Staff's evaluation begin? On what date did the Staff conclude that current equipment and/or procedures might not be adequate to detect steam generator tube leaks? When and how was this conclusion communicated to licensees and license applicants? When and how was it communicated to Applicants?

i) To what levels is the NRC considering lowering the limit on leaks inside steam generators? What are the reasons for considering this change?

7) Please identify and provide copies of all correspondence and records of contacts between the Staff and Applicants regarding testing of steam generator tubes at the Seabrook plant.

BLOCKAGE OF COOLANT FLOW RESULTING FROM BIOFOULING

8) What is the Staff's position with respect to the adequacy of Applicants' program for prevention of biofouling of cooling systems in the Seabrook nuclear power plant?

9) Please identify and produce all documents on which you rely or intend to rely during this proceeding to support your position on NECNP contention IV (biofouling of coolant systems). This includes but is not limited to all documents used in answers to these interrogatories, summary disposition motions, testimony, and cross-examination of witnesses during hearings.

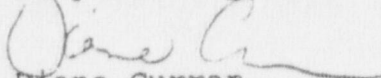
10) Please identify all persons on whose factual knowledge, opinions, or technical expertise you rely or intend to rely for your position on contention IV.

11) Please identify all persons you may call as witnesses on contention IV. Please describe the substance of their testimony; and identify and describe any documents and the portions thereof that they may rely on for their testimony.

12) Please identify and provide access to all studies, evaluations, reports, or other documents which describe and/or evaluate actual or potential biofouling conditions at Seabrook.

13) Please identify and provide access to documentation of all inspections of safety and non-safety related cooling systems that are affected by or are potentially affected by biofouling.

Respectfully submitted,

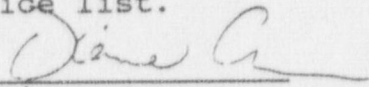


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November 20, 1987

I certify that on November 20, 1987, copies of the foregoing interrogatories were served by UPS Express mail on Applicants, by

hand on the NRC Staff, and by first-class mail on all other parties listed on the attached service list.


Diane Curran

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NRC, WESTINGHOUSE IDENTIFYING PLANTS SUSCEPTIBLE TO TUBE RUPTURES

NRC is scrutinizing Westinghouse PWRs for susceptibility to rapid failure steam generator tube breaks that are not detectable by eddy current testing or tube inspections, and the agency says at least five units could be vulnerable to sudden tube failures similar to the one that occurred at Virginia Power's North Anna-1 (NW, 15 Oct. 1).

NRC staffers also say that current equipment to detect leaks in steam generator tubes might not be sensitive enough to give plants warnings of an impending tube rupture involving the newly discovered failure mechanism.

The staff is also considering lowering the limit on leaks inside the steam generators because of the need to detect much smaller changes in primary side leak rates in steam generator tubes. Remarks by staff and commissioners at a November 9 meeting also indicate that NRC could consider requiring new

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NORTH ANNA TUBE RUPTURE COULD BE FIRST BUT NOT LAST (continued from page 1)

leak detection equipment and procedures for shutdown once an increase in the leak rate is detected.

"This is an open item—that's important to recognize," NRC Chairman Lando Zech said of the issue of detecting and responding to threats of rapid failure tube breaks.

NRC staffers said in a briefing on the North Anna tube rupture that 12 plants—in addition to five already named—might also be susceptible to the North Anna failure mechanism. Staffers said if tubes have been dented and are exposed to crossflow sufficient to induce excessive tube vibration, tubes can break as soon as 12 hours after a crack first appears. The North Anna rupture was a double-ended guillotine break, which also undermined previous assumptions about tube ruptures, staffers said.

"It's new—we had not anticipated it," one staffer told the commission. "Traditional nondestructive testing wouldn't have picked this up. If they had examined this tube just before restart, they probably wouldn't have seen any crack."

The five units identified as "susceptible" by Westinghouse are: New York Power Authority's Indian Point-3; Wisconsin Electric Power's Point Beach-2; Rochester Gas & Electric Corp.'s Ginna; Consolidated Edison's Indian Point-2; and Public Service Electric & Gas Co.'s Salem-1. Four of the five units are shut for refueling or maintenance, and staff said they see no immediate need to shut Indian Point-3—the only reactor now operating.

"The degree of susceptibility is highly uncertain and there may be other plants," said Jim Richardson of NRC's Office of Nuclear Reactor Regulation. "I'm not sure we've identified them all. What we have to rely on is leak detection (and) we're not sure it's adequate." Indian Point-3 and Point Beach-2 "are both challenging the Westinghouse analysis and don't believe they should be on this critical list," he said. "They believe their flow vibrations are low enough so they don't have the problem."

The 12 other units that might be susceptible were not named. One staffer said the 12 units seem to have crossflow in their steam generators that would be sufficient to cause failure if the tubes have been dented. "The 12 plants seem to have critical flow but no denting," the staffer said. "Prior inspections don't show symptoms of denting."

One industry representative said it is difficult for NRC to judge the generic implications of the issue because of plant-to-plant variations in steam generator flow and tubes damaged by denting. "I can see the staff using this to tweak a few small changes—perhaps looking for more sensitive (leak) monitoring equipment—but for some reason they (the staff) didn't want to make a big deal out of it," the industry representative said. "It probably won't be a big generic issue unless it happens again."

Meanwhile, NRC lifted the 50% power limit on North Anna-1 November 5 and the unit reached 100% power on November 7. Virginia Power has agreed to closely monitor the leak rate in the steam generator and bring the reactor back down to 50% power if any significant increase in tube leakage is detected.—Brian Jordan, Washington

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