

WED-03/28/82-P:50266NRC.P37

UNITED STATES OF AMERICA

'82 MAR 31 10:21

NUCLEAR REGULATORY COMMISSION

*emp*Before the Atomic Safety and Licensing Board

Wisconsin Electric Power Company
POINT BEACH NUCLEAR PLANT UNITS 1 & 2
DOCKET NOS. 50-266 AND 50-301
Operating License Amendment
(Steam Generator Tube Sleaving Program)

DECADE'S MOTION TO COMPEL LICENSEE'S ANSWER TO
FIRST INTERROGATORIES RELATIVE TO FULL-SCALE SLEAVING

The Intervenor Wisconsin's Environmental Decade, Inc. ("Decade"), hereby moves the Atomic Safety and Licensing Board ("Board") in the above-captioned matter, pursuant to 10 C.F.R. §2.740(f), for an order compelling an answer by the Licensee to the questions propounded in the Decade's First Interrogatories and Request for Production of Documents to Licensee on the Full Scale Sleaving Program, dated February 10, 1982 ("Decade Interrogatories"), as is more specifically described and for the reasons set forth below.*

I

INTERROGATORIES 1 TO 4

Nature of Interrogatories

Interrogatories 1 to 4 sought facts from the Licensee related to the measures being taken to minimize reactor vessel

* This Motion supplants our earlier Motion to Compel, dated October 29, 1981.

embrittlement at Point Beach Nuclear Plant and any study being done as to the interrelationship between those measures and degrading steam generator tubes.

Description of the Objection

The Licensee's Response to Decade's First Interrogatories and Request for Production of Documents on the Full Scale Sleeving Program, dated March 1, 1982 ("Licensee's Answer"), objects to Interrogatories 1 to 4.

According to the Licensee, "reactor vessel embrittlement and thermal shock * * * is in no way related to the sleeving of steam generator tubes, and is thus totally beyond the scope of the proceeding." Licensee's Answer, at p. 2. The Licensee also contends that the Board "expressly rejected Decade's proposed reactor vessel embrittlement contention * * *." Licensee's Answer, at p. 3.

For the following reasons, both grounds for the Licensee's objection should be rejected and an answer compelled.

Reasons for Overruling Objection

Under the Commission's rules:

"Parties may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding [and are related] only to those matters in controversy which have been identified by the Commission or the presiding officer * * *.

"It is not ground for objection that the information sought will be inadmissible at the hearing if the information sought appears reasonably calculated to lead to the discovery of admissible evidence."

10 C.F.R. §2.740(b)(1) and (2).

The matters in controversy which "have been identified by the presiding officer" are:

"Wisconsin Electric Power Company has not demonstrated that its sleeving program for the Point Beach Nuclear Plant, Units 1 and 2, can be conducted without endangering the health and safety of the public and will be conducted in compliance with the Commission's regulations."

Transcript p. 164.

The Board went on to explain that this simplified contention "will provide Decade latitude for discovery in rational areas concerning safety effects." Memorandum and Order, dated October 13, 1981, at 9.

As a courtesy to the Staff, the Decade subsequently offered greater specificity as to those matters it considered in controversy, including:

"(9) Measures that may be taken to alleviate thermal shock or embrittlement of the reactor vessel, such as reracking of the core to place low burnup assemblies in the center, may exacerbate a loss-of-coolant-accident in terms of interactive effects caused by secondary-primary in-leakage. * * *"

Letter from P. Anderson(WED) to R. G. Bachmann(NRC), dated January 18, 1982, at p. 3.

Under the procedures established by the Board in this proceeding, there will be no further resolution as to which matters are in controversy, insofar as the full-scale sleeving phase of the proceeding is concerned, until the Board rules on Decade's Motion Concerning Litigable Issues that will be due within 14 days from the receipt of answers to the second round discovery requests. Transcript pp. 890 to 892.

Contrary to the Licensee's claim that the Board has already adversely ruled on the thermal shock issue, that ruling was in reference to the highly irregular and abbreviated phase of these proceedings dealing with the demonstration sleeving program.

Memorandum and Order Authorizing Issuance of a License Amendment Permitting Return to Power with Up to Six Degraded Tubes Sleeved Rather Than Plugged, dated November 1981. In this phase of the proceeding concerning full-scale sleeving, on the other hand, there has been no such ruling at this time.

Thus, the only question for the purpose of this Motion to Compel is whether there is a reasonable basis for assuming that evidence might be discovered showing a nexus between sleeving and vessel embrittlement under the wide latitude traditionally allotted in the discovery process.

Sleeving has been proposed in another attempt by the Licensee to cope with deteriorating steam generator tubes, a concern which implicates the "health and safety of the public".

Reputable, independent scientists have concluded that a loss-of-coolant-accident may cause degraded or impaired steam generator tubes in a pressurized water reactor to rupture, resulting in substantial in-leakage of heat energy from the secondary side to the depressurized primary side. This, in turn, may result in sufficiently serious steam binding as to "reduce the [reflood rates] to values so low that the core would not be adequately cooled." Report to the American Physical Society by the Study Group on Light Water Reactor Safety, 47 Review of Modern Physics(Supp. 1), Summer 1975, at p. S-91.

The American Physical Society Study Group goes on in its report to note that "the core thermal behavior in the reflood period represents a most critical problem area in the thermal history of the core." Id., at S-91. Not only are there serious questions of simple cooling problems due to inadequate reflood

rates, but also those low reflood rates may create "substantial thermal shocks" on the "structural behavior" of the core as well as from embrittled fuel cladding. *Id.*, at S-90. Those additional loadings may cause "brittle cladding failure." *Id.*, at S-91.

These safety problems with degrading steam generator tubes in general may be exacerbated by sleeving. In line with the overall broad contention set forth by the Board, Contentions 3, 4 and 5, as well as Contention 7, show that sleeving may impair the integrity of steam generator tubes, and do so to an extent worse than from plugging. Contention 6 shows that the flow of primary cooling water through sleeved tubes will be retarded. Petition of Wisconsin's Environmental Decade, dated July 20, 1981, at pp. 3 to 4.*

* Admittedly, the Licensee disputes all or part of these Contentions. But, at this juncture before the Board has ruled on which contentions are admitted and before a trial on the admitted contentions has been held, reliance on these perceived problems is appropriate for the limited purpose of ruling on discovery requests, especially in view of the fact that the intervenor's contentions are consistent with the Board's broad contention.

If the accident at Three Mile Island Nuclear Plant taught anything, it showed that major catastrophic events can be propagated by the interaction of widely separated components in a nuclear plant. Report of the President's Commission on the Accident at Three Mile Island, The Need for Change(1979), at p. 9. Thus, actions that may appear on the surface to be unrelated to steam generator tubes can play a major role in the safety of a nuclear plant, especially if, as here, they affect the cooling requirements of the core that tube failures can exacerbate.

One such potential interaction of concern relates to the thermal shock issue. It should first be noted that embrittlement of the reactor vessel wall is a concern to the "health and safety of the public":

"Because the possibility of failure of nuclear reactor pressure vessels * * * is remote, the design of nuclear facilities does not provide protection against reactor vessel failure. Prevention of reactor vessel failure depends primarily on maintaining the reactor vessel material fracture toughness at levels that will resist brittle fracture during plant operation. At service times and operating conditions typical of current operating plants, reactor vessel fracture toughness properties provide adequate margins of safety against vessel failure; however, as plants accumulate more and more service time, neutron irradiation reduces the material fracture toughness and initial safety margins."

Resolution of the Reactor Vessel Materials Toughness Safety Issue, NUREG-0744, at p. A-1.

In fact, several older reactors are experiencing difficulty maintaining safety margins. Point Beach Nuclear Plant is one of the 20 older pressurized water reactors in this country suffering from worrisome reactor vessel embrittlement. Memorandum from L. C. Shao(DOR) to D. G. Eisenhut(DOR), dated September 14, 1977, re

Reactor Vessels with Marginal Toughness Properties.

At least two actions being taken by the nuclear industry demonstrate that the thermal shock issue is intertwined with the tube degradation issue.

First, an amelorative measure being considered to retard embrittlement is "changing the core design to reduce the vessel fluence * * * i.e. lower the neutron production in elements nearest the pressure vessel wall * * *." Memorandum from T. J. Walker(DOE) to S. S. Pawlicki(DOE), dated April 7, 1981, re Minutes of PWR Owner's Group Meeting with NRC on March 31, 1981, at p. 2. That is to say, higher neutron emitting elements may be relocated away from the perimeter to the center of the core and visa-versa.

It appears from the Licensee's statements in other filings that these measures have been taken at Point Beach Unit since 1980:

"For Point Beach Unit 1, Cycles 1 through 7 (1970 through 1979), new fuel was located on the core periphery as was contemplated in the original design. Beginning with Cycle 8 (1980), core loading patterns employed a Low Leakage Loading Pattern (LLLP) design and assemblies with several previous cycles of burnup were positioned at certain locations on the core periphery. * * * Thus, the neutron exposure of the Unit 1 longitudinal welds for the last two years has been reduced below the fluence levels which have been predicted. The LLLP was also fully implemented for PBNP Unit 2 Cycle 7 (1980)."

Letter from C. W. Fay(WE) to H. R. Denton(NRC), dated January 15, 1982, at p. 3 of the attachment.

It necessarily follows that this reconfiguration of the core may result in greater heat and neutron bombardment in the center of the core incurred in an attempt to reduce irradiation of the outer wall of the reactor along the beltline and will result in

entirely different peaking characteristics that "contemplated in the original design". In turn, this implies that the cooling requirements in the center of the core will be higher, and, hence, lower reflood rates due to tube failures and sleeved tubes will be more severe in their consequences. It also implies that fuel cladding may be subject to greater embrittlement which can suffer from the thermal shock exacerbated by tube failures during LOCA.

Second, operator actions taken to ameliorate the consequences of steam generator tube ruptures (that may be exacerbated by sleeving) may have unintended adverse implications for the thermal shock problem. In fact, during the Ginna Nuclear Plant tube rupture on January 26, 1982, the plant operator delayed terminating high pressure injection when the pilot operated relief valve stuck open during depressurization during a best-effort attempt to equalize primary-secondary pressure. This was a reasonable operator response to a steam generator tube accident when the goal is to minimize primary water leaking into the environment through the pathway created by a ruptured tube, but it is directly contrary to the appropriate action for reducing thermal shock where high pressure injection during repressurization could rupture an embrittled vessel. Memorandum(Draft) from T. P. Speis(NRC) to R. Mattson(NRC), dated January 28, 1982, at p. 1.

Clearly, the interactive effects of tube degradation and embrittlement may contain the prescription for the nuclear industry's next major accident.

The Board ought not let legal pirouettes elevate form to substance by so narrowly defining the ambit of this proceeding as to exclude serious safety concerns from adjudication.

When the former Atomic Energy Commission first perpetrated such an abdication of its responsibilities in this regard, the American Physical Society was forced to conclude that "the potential for steam generator tube leakage appears to be a serious problem which was precluded from evaluation at the ECCS hearings [in 1972]." Report to the American Physical Society, supra, at S91. (Emphasis added.)

Even that criticism failed to shock the Commission into action. Later, after the near catastrophe at Three Mile Island, the Rogovin panel concluded in an analogous matter:

"The failure to heed these warnings and take action cannot be said to be an isolated example. We found that in the past the NRC and the industry have done almost nothing to evaluate systemically the operation of existing reactors, pinpoint potential safety problems, and eliminate them by requiring changes in design, operator procedures, or control logic. The lack of any such comprehensive program constitutes, in our view, an unacceptable situation that compromises safety and cannot be allowed to continue."

Nuclear Regulatory Commission Special Inquiry Group, Three Mile Island(1980), at p. 95. (Emphasis added.)

The Licensee should be compelled to answer Interrogatories 1 to 4.

II

INTERROGATORY 11

Nature of Interrogatory

Interrogatory 11 sought the names and other identifying factors of those individuals temporarily employed to conduct the demonstration sleeving program.

Description of the Objection

Licensee objects to answering this question on the grounds that it "would constitute an undue invasion of personal privacy", would "subject workers to harassment and intimidation" and would be "a fishing expedition". Licensee's Answer, at p. 10.

Reasons for Overruling Objection

It is of record in this proceeding that the necessity to employ transients to conduct the delicate installation of sleeves has resulted in severe quality assurance problems involving such things as drug usage. Letter from A. D. Johnson(NRC) to L. T. Papay(SCE), Docket 50-206, dated September 14, 1981.

To determine the adequacy of the Licensee's written procedures to overcome these limitations, it is necessary to perform an independent evaluation of the actual on-the-job experience. The first place to look to this is the individuals who were involved in the demonstration program.

A select number of structured interviews of such individuals would not rise to the level of an invasion of privacy in the context of this issue here. Because of the implications on public, health and safety, nuclear workers are already and properly subjected to a wide range of intrusions, including security checks, personality tests and pat down inspections, that might be considered unacceptably intrusive by the general populace. A voluntary, polite interview is actually significantly less violative of their privacy than that which they have already been subjected to as a condition of employment.

As to the Licensee's cry that the request is a fishing

expedition, the facts of the matter demonstrate that there is a serious concern that the answer might enlighten. In addition, the modern rule of law is that discovery requests are to be "accorded a broad and liberal treatment. No longer can the time honored cry of 'fishing expedition' serve to preclude a party from inquiring into the facts underlying his opponent's case." Hickman v. Taylor(1947), 329 U.S. 494, 507.

The Board should also compel the Licensee to answer Interrogatory 11, or, in the alternative, commission an independent investigator to interview a random sample of individuals who worked on the demonstration project.

III

INTERROGATORIES 15 TO 16

Nature of Interrogatories

Interrogatories 15 and 16 relate to the extent to which previously plugged tubes have experienced leakage.

Description of the Objection

The Licensee objects that the subject of leaking plugs is "in no way related to the sleeving of steam generator tubes, and is thus totally outside the scope of this proceeding." Licensee's Answer, at p. 24.

Reasons for Overruling Objection

As discussed in Part I, supra, the safety concerns from degrading steam generator tubes arises from possible secondary-to-primary in-leakage of heat energy during a LOCA. The extent of that in-leakage determines whether steam binding will prevent reflooding the core.

In the previous phase of this proceeding that commenced with

the filing of the Decade's 10 C.F.R. §2.206 Petition on November 14, 1979, the Staff concluded that the extent of the in-leakage through tube ruptures at Point Beach Nuclear Plant would be less than that needed to prevent reflood. Safety Evaluation Report on Point Beach Unit 1, dated November 30, 1979.

The Decade informed the Staff that another source of in-leakage than tube ruptures arose through faulty plugs that could rock loose under the stress of a LOCA, and asked that this factor be considered in its safety analysis. Decade Request for Hearing on Confirmatory Order, dated December 17, 1979.

To this serious safety question, the Staff responded by ignoring it, presumably because it was unable to conveniently explain the issue away.

Then, in this phase of the proceeding, the Decade included the problem of leaking plugs as part of its list of contentions. Letter from P. Anderson(WED) to R. G. Bachmann(NRC), dated January 18, 1982, at p. 2.

The rule of law does not compel the transmorgification of substance into form. At some point, administrative agencies charged with protecting the public health and safety have a moral obligation to cease the abuse of legal process that hampers the performance of their solemn duty.

Interrogatories 15 and 16 should also be answered.

DATED at Madison, Wisconsin, this 28th day of March, 1982.

WISCONSIN'S ENVIRONMENTAL DECADE, INC.

by


PETER ANDERSON
Director of Public Affairs

114 North Carroll Street
Suite 208
Madison, Wisconsin 53703
(608) 251-7020