

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

ATOMIC SAFETY AND LICENSING BOARD

'82 OCT -1 P4:33

Before Administrative Judges:
Peter B. Bloch, Chairman
Jerry R. Kline
Hugh C. Paxton

SERVED OCT 4 1982

In the Matter of

WISCONSIN ELECTRIC POWER COMPANY

Docket Nos. 50-266-OLA
50-301-OLA

(Point Beach Nuclear Plant, Units 1 and 2)

October 1, 1982

MEMORANDUM AND ORDER
(Concerning Summary Disposition Issues)

This decision addresses summary disposition issues arising in the context of a special motion, provided for by the Atomic Safety and Licensing Board (Board), called a Motion for Litigable Issues. In that Motion, which Wisconsin's Environmental Decade (Decade) filed on July 21, 1982 at the direction of the Board, Decade attempted to show the existence of genuine issues of fact that require a hearing in this case. Both Wisconsin Electric Power Company (applicant) and the Staff of the Nuclear Regulatory Commission (staff) filed procedural and substantive comments on Decade's motion, and Decade replied. Then, on September 9, 1982, the Board held an on-the-record telephone conference in which the parties presented oral argument related to the Motion.

It is our conclusion, for reasons stated in this memorandum, that summary disposition should be granted with respect to all issues raised by Decade except for a portion of one issue. The one genuine issue we find is the following:

That the license amendment should be denied or conditioned because applicant has not demonstrated that eddy current testing is adequate to detect serious stress corrosion cracking or intergranular attack, in excess of the technical specification prohibiting more than 40 percent degradation of the sleeve wall, in sleeves that would be inserted within steam generator tubes.

The admitted issue, which will be set for hearing after consultation with the parties, includes our concerns about the appropriate remedy, if any, if the eddy current testing does have problems within the sleeved area. Were we to find that eddy current testing of sleeves is inadequate, we would be unable to assess the significance of that finding unless we are informed about the relationship of the inadequacy to the probability of occurrence of events of differing degrees of seriousness. Obviously, no system of measurement is perfect. Errors of measurement are to be expected. The significance of errors of measurement must be assessed in relationship to the resulting risks.

We expect the hearing to address questions concerning the reliability of eddy current testing for detecting stress corrosion cracking in sleeved and unsleeved tubes (this latter evidence is relevant to our developing an adequate understanding of the ability to detect flaws in the sleeved tubes), the reliability with which rates of corrosion may be predicted within the tube-sleeve assemblies and the changing probability, over time, of undetected defects leading to a rupture of one or more sleeved steam generator tubes that: (a) will cause one or more leaks whose combined effect is not a serious safety problem, or (b) will cause one or more leaks whose combined effect is serious either because of the accompanying risk of release of radiation or because it would cause a serious risk of leading to a full or partial core melt condition. We are interested in expert opinion on these questions and in exploring the reasons for these opinions.

I BACKGROUND

This proceeding concerns an application to amend the operating license for the Pt. Beach Nuclear Plant, Units 1 & 2, to repair corroded steam generator tubes by inserting within them "sleeves" that span the corroded area and reinforce the tube. A fuller description of the proposed sleeving process and of the early proceedings in this case may be found in LBP-81-55, 14 NRC 1017 (1981) at 1019-1021 (demonstration program decision). In that

demonstration program decision, we authorized the use of the sleeving process in six tubes of the Unit 1 steam generator.

A. Changes in Applicant's Plans

Since the demonstration program was conducted, a few significant changes have occurred in applicant's approach to its sleeving repair project. First, applicant's experience with the demonstration program led it to abandon its plan to sleeve tubes which had previously been explosively plugged. Second, although applicant has not abandoned its request for permission to sleeve Unit 1's steam generator, it tells us that it does not plan to sleeve that generator and it has filed an independent request for an amendment to use an alternate repair technique on that generator, replacing all of its steam generator tubes. Third, applicant had planned to use two ways of joining sleeves to tubes; however, in part because of questions raised by staff concerning the safety of sleeve-tube joints which are brazed, applicant has abandoned all plans for use of brazing and will rely instead on mechanical joints, which also were described in its application.

B. What is a "Motion for Litigable Issues"?

The Motion for Litigable Issues, required by the Board, is intended to parallel the Motion for Summary Disposition provided for in 10 CFR §2.749 in all but one respect, that intervenor was required to file first and to come forward with evidence indicating the existence of genuine issues of fact before applicant had to file a summary disposition motion. LBP-82-10, 15 NRC 341 (1982) at 344-345. See also Tr. 1182-1204 (discussion of the relationship between Motion for Litigable Issues and summary disposition). Applicant retains the burden of proof of demonstrating the absence of genuine issues of fact, just as it would if it originated the summary disposition process by its own motion.

The need for this special procedure arose as a corollary of another procedural measure the Board took in order to expedite its decision on the

request for a demonstration program. Id. That earlier procedural measure, which provided an advantage to Decade, was to admit a broad contention into the proceeding in order to avoid serial motions for the admission of new contentions and the accompanying Board obligation to decide those motions. However, the effect of admitting that single broad contention was that it made it difficult for applicant to determine which issues were in dispute and to prepare a motion for summary disposition until after intervenors were required to document genuine issues of fact that were in dispute. The vehicle for requiring this document was the required Motion for Litigable Issues. (Note that the Board restricted the broad latitude for filing contentions as soon as it became aware that applicant would not sleeve Unit 1 and that the previous time pressures on the proceeding were therefore alleviated. Id. at 346.)

Decade did not object to the procedure involving the Motion for Litigable Issues, which gave it every opportunity to present arguments about summary disposition. As part of that procedure, Decade exercised its right to respond to staff and applicant filings, and it could have buttressed its evidentiary support for its genuine issues of fact in that response.

C. Procedural Objections

Applicant and staff have attempted to show that Decade's Motion for Litigable Issues should fail for several reasons. We consider their first reason, that Decade has failed to demonstrate that its contentions have basis, to be irrelevant. In our decision of October 13, 1981, we found that several of Decade's contentions had bases. We then explained, pursuant to the authority granted to us in 10 CFR §2.751a(d) (to identify key issues and adopt a schedule for the proceeding), why we were simplifying and consolidating these contentions into a single broad contention about the safety of the sleeving project. LBP-81-45, 14 NRC 852 (1981); see also 10 CFR §2.752 (a)(1) (authority after a prehearing conference to simplify, clarify and spe-

cify issues). From that time until February 19, 1982, that single, broad contention defined the scope of this proceeding.

In our decision of February 19, we narrowed the single contention, limiting Decade to questions it had previously raised. Our reason for returning to more ordinary principles of procedural practice was that applicant had discontinued its plans for immediate work on Unit 1 and that special, expedient procedures were no longer appropriate. LBP-82-10, 15 NRC 341 (1982) at 346.

Having reached the legal conclusion that Decade need not at this stage of the proceeding show that it has a basis for contentions raised before February 19, we are confident that our conclusion has very little impact on this proceeding. The standard for admitting contentions is not overly difficult to meet. It is a standard which governs whether or not an issue shall be subject to discovery. However, the period of discovery has expired. Now we are concerned with whether issues shall be admitted to trial. So we apply the more rigorous, evidentiary standard of whether genuine issues of fact shall be set for trial. Cleveland Electric Illuminating Company, et al. (Perry Nuclear Power Plant Units 1 & 2), ALAB- 443, 6 NRC 741 (1977) at 753-54. We believe that any issue that meets the "genuine issue" test necessarily would meet the basis test and that we do not, therefore, need to give separate consideration to the basis requirement.

D. Filing of Genuine Issues of Fact

Another procedural point raised by applicant is that Decade has not met the formal requirements that it file a separate statement of genuine issues of fact and that it also meet the requirement that each genuine issue of fact be demonstrated through admissible evidence. See 10 CFR §2.749. However, as the decision in Perry indicates, even if these deficiencies were found to exist, the appropriate remedy is far from clear. In Perry, applicant was given an opportunity to cure the noted procedural defects. Perry at 757.

We regret that Decade did not comply to the letter with the requirement that it provide us with a separate, distinct statement of genuine issues of fact. Such a statement would have clarified its case, simplified the tasks of the other parties and the Board, and focused our attention on the points Decade seeks most to make. However, applicant had an opportunity during the September 9, 1982 telephone conference to obtain clarification of the issues. Furthermore, applicant informed us at the conclusion of the telephone conference that it did not require any further opportunity to reply to Decade's allegations. Tr. 1204, 1336-1337. Hence, we conclude that however unclear Decade's statement may have been that applicant and staff have not been prejudiced.

We are therefore able to advance to square one of our consideration of the substantive issues raised by the Motion for Litigable Issues. We will address other pending procedural points, if relevant, only after considering the substantive concerns of the parties.

E. Applicable Regulations

Although none of the parties has informed us which regulations are applicable to this proceeding, we have investigated this matter and informed ourselves of the correct legal context in which to decide the pending issues. We find that 10 CFR §50.40 and §50.55a (particularly §50.55a(b)(2) (iii), (d) and (g)) and 10 CFR Appendix A, Criterion 14, are relevant. We consider Criterion 14 controlling, requiring that:

The reactor coolant pressure boundary shall be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture.

Under this standard, which applied to the original steam generator tubes and should apply to the sleeving repair, we must deny the summary disposition of any genuine issue of fact concerning whether the sleeving procedure complies with the three criteria to which the phrase "extremely low probability" applies.

This decision does not address the effect on this proceeding of specific sections of codes and standards. We will require briefs on that subject, primarily because applicable sections may affect our consideration of the relationship between testing and the actual risks of tube failure.

II THE "CONTENTIONS"

Under the procedure we adopted, Decade was free to pursue issues raised by it prior to October 13, 1981. Decade also was under a continuing obligation to keep applicant informed of the basis for its contentions, since applicant had served on it an interrogatory requesting the basis for contentions. Tr. 890. Under the circumstances, it would have been helpful for Decade to have argued its Motion for Litigable Issues by employing language previously used by it in framing contentions and issues and then to have explained which genuine issues of fact allegedly exist under each contention. This is the ordinary way parties approach summary disposition, but it is not the way Decade approached that stage of our proceeding. Instead, Decade chose to reframe many of its contentions, using new language drafted by it for its Motion for Litigable Issues. In this section, we will adopt Decade's usage without first deciding whether each issue had been properly raised. We assume, for the sake of argument (and consideration) that each point Decade raises has been raised legitimately; and we discuss whether a genuine issue of fact has been raised under each of the allegedly litigable issues.

A. Irrelevant Issues

Decade's allegedly litigable issues 1, 2, and 4, and its "alternative litigable issue" do not relate to the safety of tube sleeving and are irrelevant to an application for a license amendment concerning steam generator tube sleeving. These alleged issues are relevant to tube sleeving only if tube weakening is assumed to have occurred. Issue 1 states that degradation of but one to ten steam generator tubes could exacerbate a loss-of-cool-

ant accident (LOCA). Issue 2 states that tube ruptures could lead to impermissible radiation releases. Issue 4 states that pre-existing explosive plugs, that have been used to seal partially degraded steam generator tubes in order to comply with technical specifications imposed by the NRC, could rock loose in a LOCA (although they never have before, see Tr. 1318-19) and could exacerbate tube-failure incidents. See Tr. 1320 (Decade admits lack of direct relevance of this contention). The "alternative litigable issue", concerning reactor vessel embrittlement, was previously excluded by us as irrelevant. LBP-82-33, 15 NRC 887 (1982) at 890-91.

This is not an application to build or operate a nuclear power reactor. In an amendment proceeding, the relationship of steam generators to the remainder of the plant is not germane. In this case, applicant already has an operating license, granted after the safety of its reactor was considered. We do not think it appropriate to permit an intervenor to question the original design of the reactor or the systems not directly involved in this application, on the unexplained premise that they are somehow related to the steam generator. LBP-81-45, 14 NRC 853, 858 (1981)(rejecting a previous version of contention 1 as irrelevant to the proceeding because it is an allegation of the consequences of tube failure which may be litigated only if a mechanism for tube failure is shown to exist). The test of relevance we have applied is to ask whether an issue is relevant to "how the sleeving program would cause problems" or whether it reflects "unfavorably on the safety of sleeving." [Emphasis in original.] See LBP-82-33, 15 NRC 887 (1982) at 890-891; LBP-81- 55, 14 NRC 1017 (1981) at 1026 (citing Tr. 598).

B. Third Litigable Issue

Decade's third litigable issue contains five listed reasons that Decade believes:

The process of sleeving steam generator tubes increases the probability of tube failures generally, and, of even greater significance, it

substantially increases the risk of failures in the unconstrained free standing region of the steam generator. . . .

Thus, in the preface to this issue, Decade recognizes the criterion that we have asserted must be met in order to demonstrate relevance to an amendment authorizing a tube sleeving repair project.

We note that applicant seems to have suffered confusion about the meaning of "unconstrained free standing region" in this contention. Licensee's response at 26-27. However, the Board has never had difficulty understanding Decade's use of this language. In the sleeving demonstration decision, we interpreted Decade to be alleging:

that there is a new potential for a problem of tube rupture because the sleeve spans an area above the tubesheet and if the sleeved tube were to collapse there would be no constraining effect from the tubesheet. Tr. 408-409.

LBP-81-55, 14 NRC 1017 (1981) at 1027. This is the meaning Decade continues to intend. Tr. 1236-37, 1250. It is concerned that in the present configuration, degradation of steam generator tubes occurs primarily within the tubesheet, although there may be some degradation through corrosion in the sludge area above the tubesheet. Staff's Safety Evaluation, July 8, 1982 (SER) at 22; Statement of W.D. Fletcher, attached to Licensee's Response (Fletcher affidavit) at 10-11. Furthermore, intergranular attack (IGA) apparently has occurred in the similar San Onofre steam generator in the region of the upper sleeve-expansion joint, which is substantially above the tubesheet. See Affidavit of Emmett L. Murphy, attached to NRC Staff Response to Decade's Amendment to Motion Concerning Litigable Issues, September 3, 1982, at 2; see also Licensee's Response to Decade's Amendment to Motion Concerning Litigable Issues, August 24, 1982 at 8-9.

To the extent that corrosion occurs beneath the top of the tubesheet, a ruptured tube would be constrained by the tubesheet, thus limiting leakage. Fletcher affidavit at 3. However, were a rupture to occur through undetected corrosion or intergranular attack in the sleeved area that is above

the tubesheet, an unconstrained break--with greater leakage than would otherwise be expected--could occur.

In the remainder of this portion of our memorandum we will consider the subissues on which Decade relies to establish a genuine issue within this contention.

1. Inspectability and Corrosion

a. The Contention

Decade has alleged that there are a variety of reasons that eddy current inspection of the tube/sleeve assembly will be more difficult than eddy current inspection of existing tubes. It also has alleged, in a matter that is so intimately interrelated that we will analyze it together with the inspectability allegations, that there will be unacceptable corrosion in the tube-sleeve annulus, including corrosion above the tubesheet, where a potential rupture would not be leak-limiting because the tube would not be constrained by the tubesheet. It states that:

Present inspection methods [understood to be limited to eddy current testing, Tr. 1237-38] in unsleeved tubes have been shown to be inadequate to detect defects, and the complicating presence of the sleeve inside the tube will make the detection of degradation, especially at the joints, even more difficult. Over time, the detection capability will continue to degrade. Scaling will occur on the outer surface of the sleeve inside those tubes with through-wall defects because the all-volatile water chemistry treatment used in lieu of phosphate chemistry can no longer maintain the secondary water completely free of solids. In the narrow confines of the crevice-like annulus, the rate of scaling will be accelerated by concentration effects beyond any scaling on the outside of the tubes in the free standing region where there is no crevice. Combined with the scaling will be other conductive impurities from the feedwater train and elsewhere that are also an unintended byproduct of all-volatile treatment and that will further degrade and confuse the eddy current signal. The inability to adequately detect defects that can lead to primary-to-secondary or secondary-to-primary pathways for leakage will exacerbate the problems indicated in [the other subissues in this allegedly litigable issue]

* * *

The annulus between the original tube and the sleeve may give rise to a corrosive environment in the unconstrained free standing region of

the steam generator [i.e., the region above the tubesheet. Tr. 1249-1250] in cases where the original tube is or may be suffering in the future from a through-wall crack permitting secondary water impurities (including copper and iron oxides from the feedwater heaters that are an unintended byproduct of the conversion to all volatile treatment) to seep into the narrow space and concentrate to eventually corrode the sleeve as well.

We present these two Decade contentions in their entirety to indicate their general flavor. Although Decade has never clearly related each portion of this text to specific evidentiary support, there is substantial detail in these allegations. Furthermore, the subcontention is followed in its motion by some quotations of primary sources which are not overly long, thereby permitting the parties to be on notice of Decade's evidentiary support. We have found this form of filing to be more difficult to analyze than we would like, but we do not think that staff or applicant were unfairly kept in the dark about what was being alleged.

b. Conclusion

Each of our conclusions is for the purpose of summary disposition only. Conclusions indicate that there is a genuine issue of fact and do not indicate our views concerning the preponderance of evidence.

We find that corrosion continues to be a problem within the Point Beach steam generators. Although the corrosion problem has been reduced by the conversion of secondary-side chemistry to all-volatile treatment, this has not eliminated the corrosion problem. Staff's Safety Evaluation, July 8, 1982 (SER) at 22. See also Decade Attachment IIID: Letter of February 2, 1982, from G.H. Neils, General Manager, Headquarters Nuclear Group. Northern States Power Company to Mr. Sol Burstein, Executive Vice President, Wisconsin Electric Power Co. (Neils Letter). (We note that the Neils letter, without authentication, could not be admitted into evidence; but applicant, purportedly its recipient, has not challenged its authenticity so we are willing to accept it in support of the existence of a genuine issue of fact.

Decade will need further basis to have the letter admitted in evidence at the hearing.)

Because corrosion is a problem, non-destructive testing is a helpful way of detecting corrosion before it exceeds the 40 percent through-wall corrosion plugging-limit found in the technical specifications. For this purpose, an important test relied on by the nuclear power industry is eddy current testing. However, Decade offers a relevant letter from D.K. Porter, whom applicant called to testify at an earlier stage of this proceeding, LBP-81-55 (1981) at 1026, and applicant does not question the authenticity of that letter. Tr. 1184-1185; see also 10 CFR §2.749 (the answer to a motion for summary disposition may be served "with or without affidavits").

The Porter letter, Decade Attachment IIB, is addressed to Mr. Peter Anderson, of Decade, and is dated February 28, 1980. The letter indicates that neither in-plant nor laboratory eddy current testing was effective in detecting stress corrosion within the tubesheet region of up to 33 percent of the wall of a particular tube (Tube 20-73). Compare SER at 31 (in the tubesheet region, Westinghouse believes that a more favorable signal-to-noise ratio for sleeved tubes will provide a higher degree of inspectability than for non-sleeved tubes.)

The Porter letter explains that eddy current testing is not effective in detecting stress corrosion that occurs in unsleeved tubes within the tubesheet because in that region forces external to the tube keep it from expanding under internal pressure and keep the metal grains that have been affected by the corrosion in physical and electrical contact with each other. Id. at 2. There is a genuine issue of fact concerning the validity of this rationale or its applicability to the sleeve-tube annulus. There is no evidence in the record concerning the ability of eddy current testing to detect stress corrosion or stress corrosion cracking in the sleeve. Applicant's counsel has suggested that the annulus between the sleeve and tube would permit expansion, thus causing separation of grain boundaries and making detection of stress corrosion cracking in the sleeve analagous to detec-

tion in an unsleeved tube, where internal pressure would permit the metal grains to separate, physically and electrically. (Tr. 1282-83.) However, we do not know of any expert testimony concerning the likelihood that the tube would press on the sleeve in enough locations--such as when passing through the tubesheet, in areas where corrosion may accumulate in the annulus, or at the upper and lower joints--to prevent the separation of metal grains in one or more areas of the sleeve. This problem also may apply both to stress corrosion cracking and to intergranular attack. See SER at 26.

We are also concerned that even if the sleeve is as inspectable as any unsleeved tube, the staff's conclusion concerning the effectiveness of eddy current testing is based on calibration notches and not on tests using samples containing stress corrosion cracks or intergranular attack. SER at 31. Hence, we have no direct evidence on the reliability with which eddy current testing can detect these small volume defects. Furthermore, there are no data (other than unsupported opinions) in the record concerning the reliability with which eddy current testing can be used in conditions comparable to field conditions, by trained operators, to detect stress corrosion cracking, intergranular attack, or other kinds of defects even in unsleeved tubes. All the data relate to the capability of the technique under laboratory conditions and there is, therefore, a genuine issue of fact about whether the technique may reliably be used to detect flaws of varying depth and differing types, possibly leading to single or multiple tube failures in either sleeved or unsleeved tubes. SER at 33-34; Timothy Colburn, staff manager for Point Beach, at Tr. 1268-71, see also Tr. 1272-1280, SER at 6 (the source of a small leak on the non-sleeved side could not be identified with eddy current testing). Compare Fletcher Affidavit at 11.

That we consider the reliability of eddy current testing to be a genuine issue of fact is not idle curiosity. There is a technical specification imposed on Pt. Beach, that would be applicable as well to sleeved tubes, that tubes (or sleeves) suffering through-wall degradation of 40 percent or more must be plugged. SER at 21. Compare ASME Boiler & Pressure

Vessel Code, Section XI, Division 1, IWB-3521.1, IWA-2233 and Appendix IV. These limits have been set after considering the strength of the partially degraded tubes, and there is no evidence in our record concerning the reliability of eddy current testing (or any other test that is employed) to detect 40 percent through-wall degradation. Tr. 1281- 1284. See also NRC IE Information Notice No. 82-39, "Service Degradation of Thick Wall Stainless Steel Recirculating System Piping at a BWR Plant" (serious degradation of thick wall pipes was not previously detected by an inservice inspection program that apparently exceeded ASME code requirements).

A possible defense to these testing difficulties is applicant's argument that tubes of thermally treated Inconel 600, which is the material used for the sleeves, are so much more resistant to corrosion than were the original steam generator tubes that reliable testing is not necessary. SER at 23. In addition, it may be that corrosion of the tube will be retarded by sleeving because of reduced heat transfer at the sleeve location. Murphy Affidavit (attached to Staff Response) at 4. However, we do not know whether applicant or staff is prepared to argue that adequate non-destructive testing is not necessary, under the regulations, for the safety of the sleeved tubes; and there is no analysis or empirical evidence in the record concerning the expected rate of corrosion and the expected variance in that rate. Consequently, we do not know the amount of time which may safely be expected to pass before corrosion of sleeves may become a safety problem or may cause one or more tubes to approach the 40 percent plugging limit. See Fletcher affidavit at 8 (eddy current inspections are not necessary).

The result of a fish-mouth or circumferential rupture in the sleeve, if it occurred above the top of the tubesheet, could be serious, particularly if other tubes ruptured simultaneously. Ruptures above the tubesheet would not be constrained or limited by surrounding structures, as might ruptures below the top of the tubesheet or defects in the upper mechanical joint. If a sleeve ruptures, the surrounding tube cannot be

counted on to constrain the ruptured sleeve because the tube suffered serious corrosion even before the insertion of the sleeve and would be further degraded by the time a sleeve might rupture. In the case of a circumferential rupture, the damaged tube might even cause mechanical weakening of surrounding tubes, contributing to their failure.

On the other hand, we find the defense that leaks are self-limiting to be satisfactory when applied to potential problems of corrosion in the area of the upper joint. Were corrosion to occur in that area, Decade has said that eddy current testing would have some difficulty in detecting it, citing the SER at 32. However, staff has responded by stating (without contradiction from Decade) that the sleeve extends far enough beyond the upper joint to constrain any rupture at the joint so that there would be a leak of no more than 12.5 gallons per minute, which is far less than the leakage that might cause critical overheating of fuel. Murphy Affidavit at 4. Consequently, we find that there is no genuine issue of fact concerning the inspectability of the upper mechanical joint.

Staff also relies on leak limits to detect flaws before ruptures occur. Id. at 3. However, leaks occurring due to stress corrosion cracking may result when only a single portion of an extensive crack penetrates through the tube wall. There is a genuine issue of fact about whether leak detection will provide protection from ruptures caused by rapid crack propagation along a weakness created by stress corrosion cracking, originating at or near the site of a small leak. Because through-wall leaks are a problem caused by a progressive condition, corrosion, we are not satisfied by staff's assurance that past experience with operating steam generators provides empirical support for the proposition that leaks will reliably precede cracks. Generically, the frequency of stress corrosion, through-wall cracks may be expected to increase with the amount of operating experience with steam generator tubes that are exposed to corrosion and, consequently, past experience may be a poor indicator of the potentially increasing magnitude of this problem.

We conclude that there are genuine issues of fact concerning the adequacy of eddy current testing in the sleeved region. This issue was raised by Decade in a timely fashion. Letter from Peter Anderson to Mr. Richard G. Bachman, January 18, 1982 at 2 (¶ (5)); see also LBP-81-44, 14 NRC 850 (1981) at 857-858. Since the fact relied on by Decade consisted of a letter written by a reliable professional employee of the applicant, presumably with applicant's knowledge, we do not think that applicant was unduly prejudiced because Decade did not update its answer to applicant's interrogatories before filing its Motion for Litigable Issues. Additionally, we see no reason to believe that the failure to update answers was willful. Decade has told us that almost all its work on this case has been done by Peter Anderson, who wrote its Motion for Litigable Issues in the couple of days before it was submitted. We know of no reason to believe that Mr. Anderson had previously decided to rely on the Porter letter, which now is crucial, but had accidentally or intentionally concealed this decision.

Although there are genuine issues of fact within this contention, we see no basis in fact for several other portions of this contention. There is no reason to believe that there will be "concentration effects" in the tube-sleeve annulus (see Colburn Affidavit at 6), that sleeving "increases the probability of tube failures generally" or that "other conductive impurities from the feedwater train . . . will further degrade and confuse the eddy current signal." Consequently, we find that these are not genuine issues of fact and exclude them from consideration at the hearing.

Our concern is limited to possible deficiencies in the use of eddy current testing to assure the integrity of sleeves. A discussion of the specific issues to be tried may be found in the introductory portion of this memorandum.

2. Quality Assurance and Expansion of Sleeve in Tube

Decade raised questions about the adequacy of quality assurance

with respect to the sleeving demonstration program. LBP-81-55, 14 NRC 1017 (1981), 1030-1032. We found that these questions were without merit.

Now applicant has filed extensive evidence concerning the way the sleeving tasks will be accomplished and how the work will be inspected before the steam generator is returned to service. Fletcher Affidavit at 14-22. In addition, Decade had the opportunity to attempt to uncover damaging information about the way in which the sleeving demonstration program was conducted. LBP-82-33, 15 NRC 887 (1982) at 891-892. Nevertheless, Decade continues to rely on alleged deficiencies in the San Onofre sleeving project.

We do not consider the evidence on the San Onofre project to be sufficient to raise a genuine issue of fact about either quality assurance or the under- or over-expansion of sleeves within tubes.

C. Loose Parts From Steam Generator Repair

Decade has alleged that loose parts left behind from steam generator repair work may cause dangerous steam generator tube ruptures. (Fifth Litigable Issue.) However, applicant assures us (without contradiction from Decade) that none of the planned work will take place on the secondary side of the steam generator, where loose parts might be left. Furthermore, we are assured by applicant, on the record, that the application describes the sleeving process in detail and that under no circumstances could any secondary side work be performed under this application. Tr. 1328-29. Consequently, there is no way that approval of this amendment could lead to loose parts being left in the steam generator and there is no genuine factual dispute about this issue. If secondary side work were done, it would appear to increase the probability of occurrence of an accident or malfunction that has not been evaluated in the safety evaluation report; hence, prior Commission approval would appear to be necessary. See 10 CFR §50.59(a)(1).

D. Expansion Joint in Corroded Area

Decade amended its Motion for Litigable Issues to raise a question concerning the safety of an expansion joint that might be formed in a corroded area of a tube. It based its contention on an event that occurred at the San Onofre power reactor in which sleeves were found to have been expanded into tube areas in which intergranular attack (IGA) was present. NRC Staff's Answer to Decade's Interrogatories Relative to the Safety Evaluation Report on Full Scale Sleeving, August 6, 1982, at 6.

However, it has been the consistent position of both applicant and staff that problems in the upper expansion joint can result only in very limited leaks. The staff's position, which has not been rebutted by Decade, is that the sleeve extends far enough beyond the upper joint to constrain any rupture at the joint so that there could be a leak of no more than 12.5 gallons per minute, which is far less than the leakage that might cause critical overheating of fuel. Murphy Affidavit at 4. Consequently, we find that there is no genuine issue of fact concerning the weakness of an upper mechanical joint that might be formed in an area of a steam generator tube that has been subject to intergranular attack.

III PROCEDURES

We will consult with the parties before setting hearing deadlines, including deadlines for the filing of direct testimony and a deadline for the simultaneous filing of findings of fact and conclusions of law, followed by a 10 day period for simultaneous responses. We request the parties to conform their filings to the suggestions recently given to parties by the Licensing Board's order of September 16, 1982, which we attach for the information of the parties.

O R D E R

For all the foregoing reasons and based on consideration of the

entire record in this matter, it is this 1st day of October, 1982,

ORDERED

- (1) That a hearing shall be held on the following issue:
That the license amendment should be denied or conditioned because applicant has not demonstrated that eddy current testing is adequate to detect serious stress corrosion cracking or intergranular attack, in excess of the technical specification prohibiting more than 40 percent degradation of the sleeve wall, in sleeves that would be inserted within steam generator tubes.
- (2) That summary disposition is granted with respect to every other issue in this case.

FOR THE
ATOMIC SAFETY AND LICENSING BOARD

Peter B. Bloch

Peter B. Bloch, Chairman
ADMINISTRATIVE JUDGE

Jerry R. Kline

Jerry R. Kline,
ADMINISTRATIVE JUDGE

Hugh C. Paxton by Peter B. Bloch

Hugh C. Paxton
ADMINISTRATIVE JUDGE

Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Peter B. Bloch, Chairman
Dr. Jerry R. Kline
Mr. Frederick J. Shon

In the Matter of

Docket Nos. 50-440-OL
50-441-OL

CLEVELAND ELECTRIC ILLUMINATING
COMPANY, et al.

(Perry Nuclear Power Plant, Units 1 & 2)

September 16, 1982

MEMORANDUM AND ORDER
(Concerning Scheduling)

In the interest of efficient management of this proceeding, the Board invited the partys' suggestions for scheduling. Ohio Citizens for Responsible Energy (OCRE), Sunflower Alliance Inc., et al., Cleveland Electric Illuminating Company, et al. (applicant), and the Staff of the Nuclear Regulatory Commission (staff) have each filed their suggestions. Applicant favored commencement of the evidentiary hearing on December 1, 1982 and allowed no time for the filing of motions for summary disposition. Intervenors, who provide time for the filing of motions for summary disposition, both suggested that the hearing begin in May 1983.

Staff's proposal, which we have adopted with modifications, is a compromise between applicant and intervenors. It provides for motions for summary disposition but takes an optimistic view concerning completion of discovery. In adopting this proposal, we recognize that we are merely adopting targets that may help to focus our efforts. Should intervening circumstances require, these targets may be adjusted, by motion.

We adopt the following schedule:

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| EVENT | TARGET DATE |
|---|--------------------|
| Complete discovery on Issues 3-7 | September 30, 1982 |
| Complete discovery on Issues 9, 11 | October 15, 1982 |
| Complete discovery response on 3-7 | October 29, 1982 |
| Complete discovery response on 9, 11 | November 15, 1982 |
| Motions for summary disposition on 3-7 | November 15, 1982 |
| Motion for litigable issues, QA | November 15, 1982 |
| Motions for summary disposition on 9, 11 | December 1, 1982 |
| Answers to summary disposition on 3-7 | December 10, 1982 |
| Answer to motion for litigable issues, QA | December 10, 1982 |
| Answers to summary disposition on 9, 11 | December 27, 1982 |
| Board ruling on summary disposition | January 17, 1983 |
| Direct testimony filed | January 31, 1983 |
| Commencement of hearing | February 15, 1983 |

The adopted schedule does not provide for a prehearing conference, despite OCRE's suggestion that one be held. However, the schedule may be modified if a party moves, prior to December 27, 1982, to hold such a conference and buttresses its motion with suggestions for the objectives of the conference.

FORM OF FILINGS

The Board urges the parties to consider how to make summary disposition motions, motions concerning litigable issues, and post-hearing filings most useful as instruments to persuade and assist the Board.

It is our job to examine each admitted contention or each admitted genuine issue of fact that survives summary disposition in light of the applicable law, including statutes and regulations and the applicable regulatory materials, including guides and NUREG's. Next, we must analyze the facts of record in light of those materials and the relevant arguments of the parties. At the summary disposition stage, we must determine whether genuine issues of fact exist. At the initial decision stage, we must determine whether applicant has met the burden of proof with respect to each of the issues admitted into the proceeding.

We urge the parties to make clear, thoughtful filings that comply with the regulations and demonstrate the logical process the party hopes the Board will adopt. This requires careful attention to each fact of record, including providing assistance to the Board in considering facts that appear to be adverse to the party's position. Consideration should be given to conceding, where appropriate, that the facts do not support the party. Arguments that ignore some of the facts will lack persuasiveness or, if they lead the Board into error, will expose the party to reversal on appeal.

Subsequent to trial, findings and conclusions should not be submitted in numbered form. The Board prefers writing decisions (and receiving findings and conclusions) organized in outline form, discussing the contentions, the law, the positions of the parties, the relevant facts and the conclusions, including license conditions that may have been shown to be necessary. You may suggest one or more consistent lines of reasoning by which the conclusion you favor may be reached. You may also refute the other party's suggested lines of reasoning. You may also suggest specific license conditions or argue against conditions you oppose.

Citations to cases should analyze the relevance of the cases. Reliance on dictum should be disclosed clearly. If a case is relied on for a holding, discuss the facts of the case and how the principle you distill from the case was relevant to the issues pending before the court. Only cite strings of cases if each is relevant. The Board may disregard string citations if early cases in the string are not relevant.

Findings on different contentions will be simultaneously filed pursuant to a phased schedule that will be adopted after the Board has been advised by the parties of their preferences. The phased schedule will provide for one or two of the sets of simultaneous filings to precede the schedule suggested in the regulations. Other filings will exceed the suggested time schedule, thus allowing greater care in preparation. Every party may respond to the filings of the others, within 10 days of filing of the findings of the other party.

We urge the parties to exercise self-discipline. Motions for summary disposition should be filed only with respect to issues or parts of issues that the movant believes are not in genuine dispute. Similarly, motions for litigable issues should be filed only if the movant believes that there is a genuine issue of fact with respect to each such issue. (The motion for litigable issues is analogous to the answer to a motion for summary disposition and shall be treated as such under the regulations. The response to such a motion is in the nature of a motion for summary disposition, and shall be treated as such; however, the response need only address the issues raised in the motion for litigable issues.) Issues thought not to be in genuine contention should be clearly set forth, together with the basis supporting the statement that there is no genuine issue. Opposition to such motions also should be made on a clear, point-by-point basis, stating each genuine fact and its record support. At this stage, genuine facts must be evidentiary--in a form that is admissible at trial.

We also urge the parties to continue and improve upon their efforts at constructive cooperation. It is understandable that advocates will on occasion be unable to reach compromises; but compromise can help to narrow the issues and assist the Board and the parties to concentrate on truly important issues rather than spreading their efforts thinly over many issues that no one considers truly important. If the parties wish, the Board would attempt to assist in discussions aimed at narrowing or eliminating issues.

NOTICE

The Board wishes to call to the attention of the parties the following recently published article: Thomas H. Pigford, "The Diagnostics of Nuclear Safety", 25 Nuclear News 54 (September 1982).

ORDER

For all the foregoing reasons and based on consideration of the

entire record in this matter, it is this 16th day of September, 1982,

ORDERED

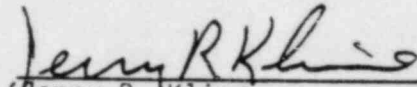
(1) The Board adopts the schedule set forth in the accompanying memorandum;

(2) The Board adopts the procedural guidance given to the parties in the accompanying memorandum.

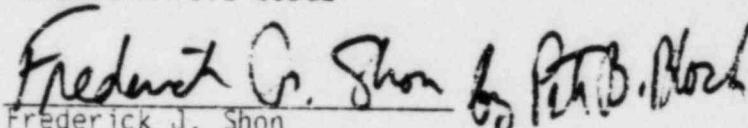
FOR THE
ATOMIC SAFETY AND LICENSING BOARD



Peter B. Bloch, Chairman
ADMINISTRATIVE JUDGE



Jerry R. Kline,
ADMINISTRATIVE JUDGE



Frederick J. Shon
ADMINISTRATIVE JUDGE

Bethesda, Maryland