

From: Wayne Schmidt
To: David Lew
Date: Thu, Feb 22, 2001 8:51 AM
Subject: Re: rev 5

some minor adds

>>> David Lew 02/21 3:44 PM >>>

6
A/B9

EA-00-179, EA-01-033

Mr. John Groth
Senior Vice President - Nuclear Operations
Consolidated Edison Company of
New York, Inc.
Indian Point 2 Station
Broadway and Bleakley Avenue
Buchanan, NY 10511

SUBJECT: CON EDISON RESPONSE, DATED JANUARY 19, 2001 TO THE NOTICE OF VIOLATION ISSUED BY THE NRC ON NOVEMBER 20, 2000, FOR A VIOLATION THAT OCCURRED AT INDIAN POINT 2

This refers to your letter, dated January 19, 2001, from Mr. J. Baumstark, in response to the Notice of Violation issued by the NRC on November 20, 2000 for a violation that occurred at Indian Point 2. The violation involved the failure, in 1997, to fully identify and correct a significant condition adverse to quality involving the steam generators at your facility, despite opportunities during the 1997 steam generator inspections to do so. The significant condition adverse to quality entailed the presence of primary water stress corrosion cracking (PWSCC) flaws in four Row 2 steam generator tubes, in the small radius low-row U-bend apex area. This significant condition adverse to quality was not identified and corrected during the 1997 steam generator inservice inspection, because of the failure to adequately account for conditions that adversely affected the detectability of, and increased the susceptibility to, tube flaws.

In your January 19 response, you denied that the violation occurred. As a basis for the denial, you contended that the 1997 steam generator tube inservice examination at Indian Point 2 was conducted in accordance with the industry guidelines and requirements applicable at the time. You noted that the NRC inspection report, upon which the Notice of Violation was based, does not reference any requirement, industry standard, benchmark, or guidance that was not met in 1997 which could have led to a failure to detect PWSCC tube defects.

In your denial, you also indicated that the ease of discovery should be fully considered in evaluating licensee problem identification and resolution. While acknowledging that it is clear that the PWSCC indication was not identified in the case of tube Row 2 Column 5 of steam generator 24, you maintained that the ease of discovery regarding the subject indication was questionable. You also provided several affidavits prepared by individuals with experience in steam generator inspection and eddy current testing, which you attest found your performance to be acceptable.

The NRC has carefully reviewed and considered your entire response, including the bases that you have provided for denial of the violation. Based on our review, we have concluded that no additional information was presented that would alter the NRC's conclusion that a violation existed. The information in your letter was not substantially different than provided to the NRC

during the NRC special inspection and subsequent meetings, including during the regulatory conference conducted on September 26, 2000.

10 CFR 50, Appendix B, Criterion XVI, requires in part, that significant conditions adverse to quality be evaluated and actions taken to prevent recurrence. This regulation recognizes that prescriptive requirements cannot be written for every condition that may be encountered, particularly in the case of plant specific conditions. Therefore, when such conditions are encountered, licensees must take actions that are commensurate with the significance of the conditions. Adherence to industry guidelines and requirements does not necessarily satisfy the requirements of 10 CFR50 Appendix B, Criterion XVI.

As documented in NRC inspection report 50-247/2000-010, Con Edison encountered significant eddy current test signal interference (i.e. high noise), tube restriction in the upper support plate of the low row tubes that indicated the potential for hourglassing, and a PWSCC indication in the apex of a low row tube during the 1997 steam generator inspections. Based on industry information, Con Edison should have recognized that these conditions were significant and adversely affected the detectability of, and increased susceptibility to, PWSCC at the apex of low row U-bends. Despite opportunities, Con Edison did not recognize and take appropriate corrective actions to adequately evaluate and account for these conditions.

Your response and the associated affidavits contain a number of statements, with which the NRC does not agree. We do not intend to address each of these points, because these issues have been previously discussed. However, several of the statements bare some discussion. Your statement that "no evidence that tube noise levels might be impacting detection" is not consistent with general eddy current practices and NRC Information Notice 93-52 and NRC Generic Letter 95-05, which discussed the NRC position that noise criteria should be incorporated that would require a certain specified noise level not be exceeded, consistent with the objectives of the inspection. The statement that "It is also not clear what 1997 SG inspection program adjustments could have been made to compensate for the effects of particular noise levels in diminishing the detectability of flaws even if those confounding influences had been appreciated" was not correct. The high signal noise in areas susceptible to PWSCC could have been recognized and accounted for in the inspection program. Adjustments could have been made to perform a more in-depth interrogation of available data associated with those susceptible areas or, if conditions prevented the detection of flaws, actions could have been taken to simply plug the potentially affected tube. Neither of these adjustments were considered in 1997, although the NRC considers that it was reasonable for you to have done so given these factors. The statement that the "discovery of a single U-bend indication in the +Point inspection after prior bobbin coil inspections was not an unusual event after 16 EPFY of operation [and] was attributable to enhanced detection capability [rather] than accelerated tube deterioration during Cycle 13" is not consistent with the PWSCC phenomenon which occurs and accelerates after an incubation period. You also made statements concerning upper flowslot hourglassing such as "That there were no explicit numerical criteria for "significant" hourglassing is a measure of industry consensus and understanding of the effects of hourglassing on tube integrity and the belief that visual inspection would reveal Surry-type degradation." This statement is not consistent with the cause and effect nature of hourglassing and U-bend apex PWSCC. The identification of one PWSCC flaw at the apex of tube in 1997 was an indication that "significant" hourglass had taken place. Your inspection program did not evaluate this significant condition and failed to determine the magnitude and extent of hourglassing.

While the NRC does not intend to prescribe what Con Edison should have done in response to the conditions encountered by Con Edison in 1997, the NRC believes that adequate evaluations and corrective actions in response to the significant identified conditions encountered and known industry information during 1997, would have reasonably prevented leaving the flaws in the low row u-bends in service.

For these reasons, the NRC has concluded that the violation remains as cited in the Notice. Although you denied the violation, we note that you agree that corrective actions are needed to improve your steam generator inspection program. We have noted the planned actions stated in your letter and have no further questions at this time. We will review these actions during future inspections. Therefore, no response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its attachment will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).