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May 9, 2001

FOIA/PA REQUEST
Case No: 2001-0256
Date Rec'd: 5-10-2001
Action Off: Brown
Related Case:

Ms. Natalie Brown
Freedom of Information Office
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Re: Freedom of Information Act Request

Dear Ms. Brown:

Winston & Strawn respectfully submits this Freedom of Information Act (FOIA) request on behalf of our client, Consolidated Edison Company of New York, Inc. ("ConEdison"), pursuant to the Freedom of Information Act (5 U.S.C. Sec. 552) and to the Nuclear Regulatory Commission's (NRC) policies and regulations (10 C.F.R. Part 9, Subpart A). Specifically, this second party FOIA requests the documents described in the attached list.

We would appreciate your prompt response within ten (10) working days of the receipt of this request, as provided by the Code and the NRC's policies. We agree to pay such fees as required under 10 C.F.R. § 9.33 et seq., without further authorization. However, please call if the fees exceed $1,000.00. In addition, please send the response only to me, rather than making it available at the NRC's Public Document Room or on the ADAMS system. Please call me at (202) 371-5748 if you have questions.

Sincerely,

Thomas C. Poindexter

Thomas C. Poindexter, Esq.
Winston & Strawn

Enclosures

DOCUMENTS REQUESTED

Note 1: **Please interpret the word "documents" to include written and electronic documents and all drafts and copies with notations or amendments.**

Note 2: **Please interpret the word "concerning" to mean relating to, referring to, describing, evidencing, or constituting.**

1. All documents prepared by the NRC (including its consultants) beginning in 1995, concerning Con Edison's 1995 in-service inspection (hereafter, "ISI") of steam generators, including (i) documents created prior to the start of the ISI concerning the NRC's review of the procedures and plan of the ISI and documents concerning any meeting between Con Edison and the NRC to discuss the ISI or related issues; (ii) documents created during the ISI, including but not limited to, trip reports, and all other documents created by the NRC (including consultants) that was on site during the ISI; and (iii) documents created after the ISI, including but not limited to, documents concerning Con Edison's report to the NRC on the results of the ISI.

2. All documents prepared by the NRC (including consultants) *circa* 1997 concerning Con Edison's 1997 in-service inspection of steam generators including (i) documents created prior to the start of the ISI concerning the NRC's review of the procedures and plan of the ISI, and documents concerning any meetings between Con Edison and the NRC *circa* 1997 to discuss the ISI; (ii) documents created during the ISI, including but not limited to, trip reports and all other documents created by NRC personnel (including consultants) who were on site during the ISI; and (iii) documents created after the ISI, including but not limited to, documents concerning Con Edison's report to the NRC on the results of the ISI.

3. All documents prepared by the NRC (including consultants) in 2000 concerning the NRC's "Special Inspection" concerning the February 15, 2000 leak at Indian Point 2 (the Special inspection began in or about May 2000; the team manager was Dave Lew of Region 1; and the on-site team leader was Wayne Schmidt) and Notice of Violation ("NOV") to Con Edison dated November 20, 20000. (Please note that the NRC does not have to provide (i) documents already provided to the NRC by Con Edison pursuant to the Special Inspection or (ii) documents provided to the NRC by Con Edison in response to the NOV.)

4. All documents prepared by the NRC (including consultants) concerning Con Edison's December 7, 1998 request for an extension of the tube in-service inspection interval and the NRC's June 9, 1999 decision granting the request.

5. All documents prepared by the NRC (including consultants) concerning lessons learned from the February 15, 2000 leak at Indian point 2, including but not limited to, drafts of the Lessons Learned Report dated October 23, 2000, documents concerning the preparation of that Report, and all documents concerning communications to and from licensees concerning lessons learned from the February 15, 2000 leak at Indian Point.

6. All documents prepared by the NRC (including consultants) concerning the Inspector General's investigation and report concerning the February 15, 2000 leak at Indian Point 2, including but not limited to, drafts of the Inspector Generals' Report, 2000 and documents concerning the preparation of that Report.

7. All documents concerning the use of probes with frequencies above 700 kHZ to test for PWSCC in the u-bends of steam generator tubes, including but not limited to,

documents prepared by Cass Dodd in 1999-2000 concerning such probes and documents concerning the first use of such probes to test for PWSCC in u-bends.

8. All documents concerning the probability of detection ("POD") for PWSCC in u-bends using a plus point probe with a frequency of 300-400 kHz and/or a probe using a frequency above 700 kHz.

9. All documents prepared by or for the NRC concerning profiling analysis to determine the depth that a crack had to penetrate a tube's wall before a plus point probe would detect the crack (see transcript of conference held on May 3, 2000, pages 93-94 (Emmett Murphy speaking) (copy attached).

10. The report prepared by or for the NRC concerning the depth that a crack had to penetrate a tube's wall before a plus point probe would detect the crack (see transcript of the May 3, 2000, meeting between the NRC and ConEdison, pages 89-93 (Emmett Murphy speaking) (copy attached).

11. The review prepared by a consultant for the NRC that is mentioned by Mr. Emmett Murphy at page 132 of the transcript of a May 3, 2000 meeting between the NRC and ConEdison (copy attached).

12. All documents prepared by Cais Dodd concerning (i) the ISI of the steam generators at Indian Point in 1997, (ii) the ISI of the steam generators at Indian Point in 2000, and (iii) the detection of PWSCC in u-bends (including but not limited to issues related to "noise," outer diameter deposits, and the operating frequency of the probes).

13. All documents concerning industry conferences in 1996-2000 that concerned detecting indications in tubes, "noise" in tubes that might mask indications, probability of detection of indications, outer diameter deposits on tubes, and probes operating at a frequency above 700 kHZ to detect PWSCC in u-bends, including but not limited to, (i)

trip reports prepared by NRC employees or consultants, (ii) materials received at such conferences, and (iii) materials used at the hearing by the NRC or its consultants in making presentations.

14. All documents comparing the use of rotating pancake coils to bobbin coils for detecting PWSCC in u-bends.

15. . All documents prepared by the NRC (including its consultants) concerning Con Edison's request in 2000 to restart the Indian Point 2 plant without replacing the steam generators, including but not limited to, documents concerning the NRC's review of the request, the NRC's decisions to ask for more information from Con Edison, all documents concerning communications within the NRC (including with consultants), which involve whether to grant the request to restart, any drafts of documents granting and/or denying permission to restart, and any memoranda concerning such decisions or decision-making.

16. All documents concerning industry practices at any time between January 1, 1993 and December 31, 1998 for foreign material exclusion in the secondary side of nuclear power plants, including but not limited to, documents concerning (i) foreign materials causing forced outages or deratings at plants, (ii) foreign materials being found inside components in plants, (iii) the use of duct tape as a foreign material barrier, (iv) lessons learned from inadequate root cause evaluations, and (v) sandblasting or grit-blasting projects that caused forced outages or deratings at nuclear plants.

17. All documents concerning industry-wide standards and practices for root cause evaluations in the period 1993 through 1998.

18. All documents concerning industry practices at any time between 1995 and 1998 for root cause evaluations, including but not limited to, documents concerning

lessons learned from inadequate root cause evaluations and documents concerning industry-wide standards and practices for root cause evaluations.

19. All documents prepared by the NRC or its consultants concerning the NRC's review and consideration of the use of plus point probes to test for the presence of PWSCC in u-bends. This request includes, but is not limited to, documents comparing the detection abilities of plus point probes to other types of probes, documents concerning communications between the NRC and licensees concerning the appropriateness of using plus point probes to detect for PWSCC in u-bends, and documents concerning the frequency at which the plus point probe should be operated.

20. All documents prepared by the NRC or its consultants concerning the NRC's review, consideration, and comments concerning EPRI's Steam Generator Examination Guidelines: Revision 4 (dated June 1996).

21. All documents prepared by the NRC or its consultants concerning the NRC's review, consideration, and comments concerning EPRI's Steam Generator Examination Guidelines: Revision 5 (dated September 1997).

22. All documents prepared by the NRC or its consultants concerning the NRC's review, consideration, and comments concerning EPRI's Steam Generator Examination Guidelines: Revision 6 (at the time of this submittal, Revision 6 is currently in draft only and is dated April 24, 2001).

23. All documents prepared by the NRC or its consultants concerning the NRC's review, consideration, or comments concerning NEI 97-06 (dated April 1998).

address all degradation. Here I have highlighted what we believe to be the two, although we do need to look at all the degradation, but the two key elements are the low row U-bends PWSCC, the cracking mechanism for row two, column five, that led to the leakage, PWSCC at dented support plates is -- well, no indications, confirmed indications.7 found in this particular outage.

The sludge pile, a lot of effort went into the inspection to look at, in considerable depth, the sludge pile assessment will be performed as a part of this effort.

And there is the area above, if we call the sludge pile ten inches, above the sludge pile, those two, sludge pile and free span above the sludge pile are OD degradation, and then areas that have to be addressed in the tube sheet.

There is denting at the top of the tube sheet, can cause some indication in those dents. Crevice region ODSCC, the tubes in the Indian Point units are fully expanded for the first two and a half inches or so at the bottom of the tube sheet. They're not expanded the rest of the way in the tube sheet and you get deposits on the tubes and you can get OD cracking inside.

And then in the role transition, a couple inches from above the top of the tube -- the bottom of the tube sheet, there is a PWSCC indication. These will all be addressed in the final CMOA.

We focus more of this discussion today on the low row U-bends and then come back and more briefly address the other degradation mechanisms again.

We've, I think, pretty much covered these first couple topics, 2-5 would not have been called in 1997. We believe and very strongly believe that the improvements in going to the 800 kilohertz high frequency probe, we would not be leaving any indications of that size in service as a result of the 2000 inspection.

So the POD has been improved by probe, improvements in the analysis, guidelines and training. The high frequency probe, which improved the signal-to-noise ratio. Clear indication is one of the 2-4 type, row 2, column 4 indication, shown earlier. We can really begin to see a lot of the very small indications relatively clearly with the high frequency probe.

And a very important element, no indications found in rows three and four and all the indications have been in row two. We will discuss the PODs that we are planning to apply in the assessment for the U-bend and compare basically based on the extreme case of industry experience.

MR. MURPHY: I take it you're going to -- go ahead, go ahead.

MR. PITTERLE: This represents, in searching back through PODs that have been developed for PWSCC, this

represents kind of the range of PODs that have been found for a +Point coil. Now, applying this here specifically to.3 the 800 kilohertz probe, I'm not trying to draw conclusions on the 400 kilohertz, where the issues of bad data come into play.

But as far as looking forward from this inspection on, showing what has been one of the better PODs found for +Point for PWSCC has been for denting at tube support plates. In this condition, the dents are relatively symmetric. The +Point probe tends to cancel out a lot of the denting effects and detection with the +Point probe is very good.

And we see that developed through a combination of pulled tubes and extensive laboratory testing is shown the +Point POD here, lost call rates for that particular exam were very, very low, a few percent, and it represents considerable effort in training, procedures, went into that program.

MR. MURPHY: Tom, you're not suggesting that these PODs here on this chart are representative of those in the U-bend, even with the +Point.

MR. PITTERLE: I believe that this POD is representative, the lower one, representing the lower band of indications of +Point detection is typical of what we can expect for the 800 kilohertz probe, not for the 400

kilohertz.

MR. MURPHY: I guess based on the information on the table, we wouldn't agree with that. It would seem to us that one is not going to detect a significant fraction of these until the max depth is on the order of 70 percent thruwall.

Be that as it may, there's no -- you don't have it with the surface deposits.

MR. PITTERLE: I agree we do not have a performance demonstration set, but I think I disagree with the first statement that if you look at the depths that we found, the average depth, this is average depth, the max depth shifts approximately 30 percent to the right, we found an indication in this range, two indications in this range.

Let me get the numbers straight.

I don't have a full set of numbers, but there's two indications, one around 14, one about 20. A large group of indications found in this range of average depth.

MR. MURPHY: Those are square with the experience. The seven or eight U-bend indications found at Indian Point.

MR. PITTERLE: This is Indian Point.

MR. MURPHY: I'm talking about the U-bend indications.

MR. PITTERLE: Yes.

MR. MURPHY: Our assessment is these indications.90

don't become visible to the +Point until you have about a one volt response from the flaw and taking the +Point depth measurements at face value, the depths have to penetrate on the order of 60 to 70 percent thruwall before you get anything approaching a one volt response from the law. So that would seem to be roughly the detection threshold for cracks in the U-bend.

MR. PITTERLE: I don't know the basis for that statement. We sized these indications and as I will go through a little bit, the sizing of the indications, when we do benchmark calculations, demonstrates that we are being pretty conservative with these indications. And when we evaluate the data, 400 kilohertz data, which is the basis for sizing, because that's the one that's been developed, and the techniques that we're applying were developed for 400 kilohertz, there is a 14.4 average percent depth indication, a 23 percent average depth indication, large group between 38.9 to 45, 55, the 64.

MR. MURPHY: This is for axial dents, though.

MR. PITTERLE: The technique is derived from axial dents, but the sizes of these particular indications found in the U-bend.

MR. MURPHY: But I guess the question that arises is where is the evidence that this kind of information applies to cracks in the U-bend.

MR. PITTERLE: Don't have any direct indication, I concede, because there has not been an equivalent demonstration program. But the coils from the indications are riding the surface quite well, and certainly at the apex, where these indications are located, that the basic technique should be reasonable accurate. We've increased the uncertainty by 25 percent to cover the differences between the support plates, the standard deviation. When we do the tube integrity, we increase the uncertainty by 25 percent. But there's no good reason to expect that it's going to be radically different in the U-bend. We've looked at it for the same techniques, for example, against pulled tubes and role transitions. They work quite well. I agree there's going to be and we felt it also necessary to increase the uncertainty treatment for it, but I believe we're certainly of the right magnitude. But increase in deviation, we're looking at maybe plus or minus ten percent average depth, a little bit more, 12 percent. And there is nothing to indicate that these tubes are all -- that we found are all up here.

MR. MURPHY: Well, I explained how we came to our.23 conclusion and I think to support a different conclusion is going to take a heck of a lot more supporting information than has thus far been presented.

MR. PITTERLE: Well, I don't think I understood how you came to a conclusion that all these indications are 70 percent.

MR. MURPHY: It appears that that is the threshold at which flaws are being detected, that's correct.

MR. PITTERLE: But I don't see any data that says that.

MR. MURPHY: The decision was made not to pull tubes, so we don't have any supporting tube information, pulled tube information to help resolve this issue. Certainly pulled tubes from Indian Point would be very helpful, but it was decided not to do that.

MR. PITTERLE: I think we'll need to certainly cover that one in more detail and I do believe that the sizing is reasonable, if I'm looking at 12 percentage average depth, that's a lot of difference in an average depth of the flaw, size in error, the large error that we've encompassed, and I cannot believe that something more sizing that 20 percent is 70 percent average depth. It just --

MR. MURPHY: Well, you're not sizing the U-bend flaws at 20 percent.

MR. PITTERLE: Yes.

MR. MURPHY: Okay. I see the source of our discrepancy then, because our profiling analysis, by our consultants, indicates that these depths, when they're being

detected, are on the order of 70 percent thruwall.

MR. PITTERLE: I think we'll need to sit down very carefully with the consultants and see how --

MR. MURPHY: I understand. Once you have a 70 percent thruwall penetration that produces at least a one volt response, making it detectable, now, with the ability of hindsight, you can go in and you can pick out lower percentage thruwall components of the crack below the noise. You can dig those out. But unless you have a segment of the crack that's producing at least a one volt signal, by which time it's about 70 percent thruwall, unless you have that situation, you're just not going to pick out a lesser crack from the noise. It's just not going to have the voltage amplitude.

MR. PITTERLE: I think we're different already at the voltage dependence on depth. These flaws that we're sizing at 23 percent, for example, is .86 volts. No reason, on an ID flaw, we believe that a one volt ID flaw is 70.19 percent deep. It doesn't jive. The ID voltages are much higher than you can anticipate seeing an OD flaw. But it's something I think we're going to have to come across the table in detail to --

MR. MURPHY: We've done a lot of profiling analyses on our end of the table and it may be that there are some -- a conciliation process that needs to be gone

probe versus the other that's going to detect some of these small indications and the other one won't.
This is really -- I would argue it actually supports CECCO, but I'm not trying to make any point of one probe or the other, other than this certainly is a good over-check on the inspection, the detection in the sludge pile region. That's the main point.
Again, as I talked about before, we did the U-tech inspection of 23 tubes. That confirmed the CECCO call.
All of this was basically done, this additional testing was done to make sure that we had done everything practical, possible, debate between those two adjectives, to identify any of the indications in the first pass above the top of the tube sheet.
In addition, since we basically made the decision, we're going to basically in situ test everything in the sludge pile region just to make sure that we did not have sizing problems. Thirty-one tubes were in situ tested. All met the 9706 or the burst criteria, the leakage criteria, basically none leaked, steam line break.
The only one that leaked at all in the full test pressure of 5500 psi cold was 3451. And this, the peak test.23 pressure reached was 4985 and I'm just going to -- I'm used to working with hot, it's 4591 psi into a hot condition.
Well, you talked about how close together one was,

it's at three delta P. You take the 4591, divide it by the 4985, 4591 psi hot, divide it by the 1539 normal operating delta P, the burst margin is 2.98, bounds to three.
MR. MURPHY: Perhaps you can clarify something. Am I correct in recalling that this tube was detected by one of two analysts?
MR. ADANONIS: That's correct.
MR. MURPHY: Here we have a tube that, at this point in time, is marginal with respect to meeting NRC performance criteria and was only detected by one of two analysts? I believe that five -- only five of the eight actual indications were detected by both analysts and the review conducted by our consultant indicated that this indication certainly was one that should have been detected by both analysts.
I think as we indicated to you last week, I guess this is a source of concern for us and certainly I think we need to understand a little bit better why this type of indication, which includes one that was quite marginal in terms of its burst pressure capability, why there isn't better performance in the field in picking up this kind of indication.
MR. ADANONIS: And we are in the process of going back and pulling together those statistics and looking at these particular indications in detail to be in a position

to address that question. We have the same question.
MR. PITTERLE: The bottom line is that the tube and looking at that, it didn't even open up the length of the crack, it probably did not burst either, it's a ligament tear, but in either case, just met the three delta P criteria.
In the cold leg program, the initial inspection with CECCO and bobbin probe, then followed by 20 percent of one steam generator with +Point from the cold to just above the first tube support plate.
Inspected 20 percent of each of the other three steam generators to the tube end cold to 24 inches above the tube sheet, but, again, an over-check with +Point to assure that we've picked up any significant indications.
No crack-like indications were found in any of these inspections, were found to varying degrees of pits, and as a result of finding some pit-like indications, 23 and 24 were expanded to 40 percent of the tubes..19 And that, in fact, is all pit-like indications have been plugged and no cracking was found by any of this extended inspection on the cold leg.
The cold leg is basically pits and tend to be small, from all indications, negligible growth, but as a conservative element, they have been repaired. See really no anticipation of this being an issue in the operational

assessment.
MS. KAUFMANN: Tom, when you talked about the comparison between CECCO and +Point for the sludge pile, did you do a similar comparison for the cold leg inspection between +Point calls and CECCO calls?
MR. PITTERLE: I think the only difference was a couple pit calls.
MR. ADANONIS: There were a number of pits. I don't have the statistics with me, but there were pits identified with the bobbin or identified with the +Point.
MR. PITTERLE: The point is when you take a +Point to something like the pits, even if you inspect, say, new steam generator tubing, you get what's sometimes called a lap indication, you can see those with +Point, down to two or three percent depth. You see in some of these it may well be a manufacturing defect, there is no way of separating them in this vintage of a plant.
Tube sheet region, then the tube sheet burst is not an issue, the restraint of the tube sheet prevents the tube from bursting, so it's really just the -- not just, but is a leakage related question.
Again, CECCO and +Point correlation as far as confirmation with CECCO was similar to that of the qualification. There appears to be less of an influence of copper within the tube sheet crevice.