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F A X M E S S A G E

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NO. PAGES (including cover sheet):

I reviewed the recent batch of IP2 Condition Report (CR) summaries. As with the prior CRs, most involve problems typically reported by nuclear plant workers: burned out light bulbs, equipment failures discovered during testing, etc.. However, there were several CRs that continue to suggest broader, systemic problems. Those CRs are:

1. **CR 200103186:** This CR reports that boron deposits were observed on the exterior base of the Refueling Water Storage Tank (RWST) and that dirt samples taken in the vicinity of the tank revealed the presence of Cesium-137. The presence of boron outside the RWST may be the result of through-wall cracks in the tank's walls. The RWST is the primary source of water for makeup to the reactor core in event that a pipe connected to the reactor pressure vessel breaks.

As a minimum, this CR seems to suggest the uncontrolled, unmonitored release of radioactive material to the environment, which is specifically prohibited by federal regulations. At the other extreme, this CR may suggest that the RWST's walls have been weakened such that the tank would collapse if an earthquake were to happen.

2. **CR 200103189:** This CR was written following the test of the main turbine stop valves on March 30, 2001. During this test, "significant feedwater fluctuations were noticed on all Steam Generators." The CR also states, "This problem with 23 Steam Generator 'A' feed flow channel (FT-438A) has been an ongoing problem and was written up before (CR 200101017, CR 200102559, and WON 01-19551). There are currently no work orders or condition reports open to address the problems with FT-438A and suggest that a new work order be written to investigate this problem that has existed for over two months."

CR 200103198 was initiated shortly afterwards for the same reason. This CR was written because "21 Steam Generator feed flow is oscillating periodically. ... Several swings up to 300,000 lbm/hr have been observed."

CR 200103208 was also initiated shortly afterwards for very similar reasons. It states

"As soon as the control was placed in manual removing the level dominate signal, the demand signal for the valve FCV-447 went to the closed position and feed flow indication dropped from 3.4E6 lbm/hr to 3.1E6 lbm/hr. ... 24 Steam Generator level decreased from 48% to 40% before level dominate signal was able to restore feed flow to previous steady state value of 3.4E6 lbm/hr."

These CRs suggests the frustrations felt by workers at Indian Point 2. The workers are doing what they are supposed to do by initiating CRs when problems are identified. But the CRs are closed without the problems being fixed. Following the steam generator level problems experienced at Indian Point 2 in early January 2001, I reviewed the self-evaluation prepared by Con Ed on that event. The charts attached to that report clearly showed significant feedwater fluctuations. These fluctuations were so significant that I specifically brought them to the attention of Mr. Brian Holian of NRC Region I. In fact, these fluctuations were the only concern that I raised to the NRC following that mishap. I have prepared post-trip reports at the Browns Ferry, Grand Gulf, and Hope Creek nuclear plants. At those plants, I would have reported level control problems such as the ones apparent at Indian Point 2. I feel certain that none of those plants would have continued to operate with the magnitude of feedwater flow fluctuations being tolerated at Indian Point 2.¹

- 3. CR 200103190: This CR reports that a worker at Indian Point 2 was disciplined for having written a Condition Report (CR 200103008) that was critical of Radiation Protection management. Federal regulations, specifically 10 CFR 50.7, protect all nuclear plant workers from retaliation for voicing safety concerns. This CR may involve a violation of that federal regulation.**
- 4. CR 200103215: This CR documented several problems revealed during an Emergency Planning Drill. For example, the CR reported that "The Operations Support Center (OSC) did not always keep the EPM [Emergency Plant Manager] informed of activities being directed from the Central Control Room (CCR)." This CR involves the same kinds of problems that were revealed during real emergencies at Indian Point 2 in August 1999 and February 2000. The problems appear to persist despite promises by the NRC that improvements have been made in the area of emergency preparedness.**
- 5. CR 200103216: This CR documented that initial accountability of plant workers was not completed within 30 minutes during the emergency planning drill conducted on March 28, 2001. This is the very same, absolutely identical problem reported by the NRC's Augmented Inspection Team report following the February 2001 actual emergency at Indian Point 2, which the NRC promised had been fixed.**
- 6. CR 200103219, CR 200103225 and CR 200103235: These CRs document equipment**

¹ The three plants I mentioned are boiling water reactors while Indian Point 2 is a pressurized water reactor. Nevertheless, all four plants have feedwater systems and use feedwater control systems that are similar in function (and mal-function).

problems encountered during the emergency planning drill conducted on March 28, 2001. For example, the CR reported that "The phone [in the Operations Support Center] did not ring when the CCR [Central Control Room] called the assigned number" and "The Control Room Communicator had difficulties making notifications to the NRC. The new phone did not have the required information sticker on it, which lists the phone numbers to call" and "The dedicated phone (Emergency Managers Hotline) connecting the ED [Emergency Director], Shift Manager, and Emergency Plant Manager did not work properly. Whenever the ED initiated a call, he got no one to answer on the other end." These are problems that also occurred following the real emergencies at Indian Point 2 in August 1999 and February 2000 which the NRC promised had been fixed.

7. CR 200103223: This CR documents human errors revealed during the emergency planning drill conducted on March 28, 2001. For example, the CR reported that "The fax number for Westchester County Emergency Operations Center has not correctly programmed into the simulator Emergency Plan fax machine. This caused delays in distribution of hard copies of the NYS Radiological Emergency Data Form." Similar errors were made during actual emergencies at Indian Point 2 in August 1999 and February 2000, although the NRC promised that such problems had been fixed.
8. CR 200103227: This CR reported that the Emergency Plant Manager did not relieve the Shift Manager of Emergency Director responsibilities during an emergency planning exercise conducted on March 28, 2001. In addition, the CR reported that the Emergency Planning Manager did not keep the Emergency Director updated on plant conditions and onsite emergency response activities. Similar problems were encountered during actual emergencies at Indian Point 2 in August 1999 and February 2000, although the NRC promised that such problems had been fixed.
9. CR 200103246: This CR reported that the new remote radiation monitoring system that provides information for emergency planning purposes has so many problems that "there is no point in writing them all down here." Some of the multitude of problems with the new system include a radiation detector that "does not provide an accurate reading," "pre-qualification of the system was never performed by Con Edison," and "we are having to back track to qualify the system yet the system is already in service." The CR reported that the Con Edison project manager "questioned how the project was allowed to progress this far without proper QA oversight, contractor oversight, and engineering review." The CR concludes that the problem call "into questions the readiness and operability of the system to provide it's designed function." The CR reported that this new system of questionable function was installed in August 2000 in the height of alleged heightened NRC scrutiny.
10. CR 200103145: This CR reported a discrepancy between the electrical wiring actually on the emergency diesel generators and their associated electrical drawings. The CR concluded "it does appear to present a decreased margin of safety" and recommended "Contact Diesel Vendor to determine intent of original design." In October 1996, the NRC asked Con Edison to review the adequacy and availability of the plant's design

bases information. In February 1997, Con Edison responded under oath or affirmation that the adequacy and availability of the plant's design bases information was fine. This CR, and many other documented problems, suggests otherwise.

11. CR 200102900: This CR reported that "26 CWP [circulating water pump] is making a clicking noise while it is operating. ... Noticed upper brg [bearing] is about an inch below the normal running oil level, however there is not any evidence of oil leaking out of the bearing anywhere. ... Maintenance supervisor suggested possibility of something loose behind coupling guard. CWP would need to be shutdown to remove coupling guard." The circulating water pumps supply river water to the main condenser to cool the steam leaving the main turbine. This CR suggests that management at Indian Point 2 tolerates degraded conditions (i.e., clicking noises from equipment that shouldn't be clicking).
12. CR 200103244: This CR reported "There has been a hole in the suction piping for 13 WDTP [waste distillate transfer pump] since Oct 2000. There is only 14 pump available. This pipe needs to be repaired before we have no pumps left. That will leave us with no means to get rid of waste from Unit 2." CR 200102730 reported that "While scouring a lineup for #14 waste distillate tank noted a leak at valve LW-674 (#14 WDTP suction stop). The valve has a 1/16" hole on the bottom of the valve body. ... a lot of water to be processed and it's backing up very fast!" CR 200102822 reported "LW-710 has a pinhole leak on the down stream side. LW-710 is the recirc flow control valve for 14 Waste Distillate transfer pump. With this pump unavailable, we are not able to recirc or release a waste distillate tank." These CRs suggest several things: (a) the material condition of the plant is not very good, and (b) Con Edison is waiting until repairs have to be made, perhaps because it is trying to sell the plant to another company. At least three CRs written on leaks involving only two pumps, and the problem still remains.
13. CR 200102823: This CR was written because "there were no chloride or sulfate concentration readings" for the steam generator blowdown flow samples. The plant's chemist reported that "they were not done today as required by his procedure ... due to a lack of manpower." The CR concluded "these samples are very important to monitoring steam generator health." It is well known that water chemistry is crucial to maintaining the integrity of the steam generator tubes. The tubes in question are inside recently installed steam generators. The old steam generators were removed after one tube ruptured and caused an accident. According to this CR, chemistry samples are not being analyzed—in direct violation of company procedures—due to a manpower shortage. If the company doesn't have enough people to operate the reactor safely, perhaps they should shut down the reactor. It only takes one person to shut down the reactor.
14. CR 200102724: This CR reported that the Severe Accident Management Guidance (SAMG) Setpoints and Computational Aids prepared by a contractor in 1997 have never been reviewed and accepted by Con Edison Engineering. As a result, the CR reported "we now have an approved set of SAMG documents with unapproved

setpoints and computational aids within their structure." This CR appears to be yet another example of inadequate design bases control and/or inadequate configuration management.

15. CR 200102596: This CR reported that water and resin was discovered on the floor after the resin beds from the Spent Resin Storage Tank were transferred via a Temporary Facility Change (TFC). The dose rate from the resin was 40 mrem/hour. The CR concluded "it appear that the TFC was not properly installed for the volume of water that went through the system." Indian Point 2 seems to rely heavily on TFCs. From my experience, TFCs are frequently used to circumvent the normal paperwork process. TFCs do not get the same review and scrutiny as a permanent change to the facility. As this CR proves, inadequately reviewed TFCs can and do have safety implications.
16. CR 200102025: This CR reported "25 Zirn Strainer Motor Gearbox Drain Plug is leaking oil that is accumulating on the Zirn Strainer insulation below. This leak was previously identified and returned to operations as being fixed." As with several other CRs, this CR demonstrates the frustration of workers who identify problems that have already been identified but not fixed.
17. CR 200102033: This CR reported "21 HSB Sightglass is not oriented correctly. ... Note this condition originated after completion of work order #NP 01 20007 completed by FIN [Fix-It Now] in 2/9/01." FIN is the Fix-It Now project adopted by many nuclear plants to accelerate repairs. In this case, it appears that the BIN [Break-It Now] team showed up instead.
18. CRs 200102056 and 200102057: These CRs involve discrepancies between Design Bases Documents (DBDs) and vendor data. Specifically, the DBDs for the containment spray system and the residual heat removal/safety injection system state that the minimum required recirculation spray flow rate is 1,300 gallons per minute with a total duration period of 2 hours. But a Westinghouse document issued in December 2000 reported the minimum required recirculation spray flow rate as being 1,100 gallons per minute for a 3.4 hour period. Depending on which information is correct, either (a) the DBDs were not updated to reflect the Westinghouse information, or (b) Westinghouse used the wrong information in their safety studies.
19. CR 200102090: This CR reported that "SAO-124 notification listing in back of procedure has not been updated with recent changes in management. Additionally, phone numbers are not current and in one case has not been updated after four requests." Given Con Edison's repeated problems responding to actual and simulated emergencies, it is not surprising that the procedure used to make notifications is inadequate and seemingly cannot be made adequate despite repeated attempts.

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