

Criscione, Lawrence

From: Criscione, Lawrence
Sent: Tuesday, February 01, 2011 2:51 PM
To: DSouza, Wendy
Subject: Sharing invitation: Criscione, Lawrence - Calendar

Microsoft Exchange Calendar:

Criscione, Lawrence - Calendar
Criscione, Lawrence (Lawrence.Criscione@nrc.gov) has invited you to view his or her Calendar.

Wendy,

Attached is the letter I sent to Mr. Bell on January 20th. I sent it via the mail, but I also emailed him a copy on that same day. I copied the email to Mr. Lee, Mr. Banks and Ms. Raspa.

I also emailed Mr. Bell and Mr. Lee on January 26th enquiring if they would be willing to meet with me as part of the NRC's Open Door Policy.

I have not yet received any indication that OIG received my January 20th letter, nor have I been given any indication by Mr. Bell or Mr. Lee that they would be willing or not willing to meet with me as part of the Open Door Policy.

I came by the 5th floor today to see find out if my letter had been received and to find out when I might expect a response, if any. I don't need to meet with Mr. Banks, but if he (or anyone else from OIG) would like to meet with me, please review my calendar and schedule an appointment.

Thank you for your assistance,

Lawrence

Lawrence S. Criscione
Reliability & Risk Engineer
RES/DRA/OEGIB
Church Street Building
Mail Stop 2A07
(301) 251-7603

January 20, 2011

(b)(6)

Hubert Bell, Inspector General
U.S. Nuclear Regulatory Commission
Office of the Inspector General
Mail Stop O5-E13
11555 Rockville Pike
Rockville, MD 20852

Dear Mr. Bell:

I was once a US NRC licensed Senior Reactor Operator at Callaway Plant. In February 2007 I accidentally uncovered an inadvertent passive shutdown of the reactor which occurred on October 21, 2003 and which, in my opinion, was intentionally covered up by the control room operators. This allegation was investigated by Region IV as allegations RIV-2007-A-0028 and RIV-2007-A-0096. Two of your inspectors (Mark Banks and Rossana Raspa) are somewhat familiar with the incident.

Although they refuse to use the adjective "passive", Region IV does agree with me that around 10:18 am on October 21, 2003 the reactor at Callaway Plant passively shut down due to a combination of buildup of Xenon-135 and a sharp 4°F rise in average reactor coolant temperature. It is my contention that this passive shutdown was "inadvertent" in that it went unnoticed by the NRC licensed operators for over an hour (until the channel 2 Source Range Nuclear Instrument energized at 11:25 am and caused an annunciator on the reactor plant's main control board to annunciate). It is unclear to me what Region IV's position is on whether the passive shutdown "inadvertently" occurred or whether it was intentionally allowed to occur; all that Region IV will transparently state to me is that my allegation that the passive shutdown was "inadvertent" could not be substantiated. However, Region IV did substantiate that no negative reactivity was actively inserted until more than 106 minutes after the reactor passively shut down and that "...appropriate attention to reactivity management would have the operators insert the control rods well before the time they were actually inserted."

Region IV has also stated to me that "*There were essentially no safety implications from the plant configuration and adequate shutdown margin was maintained throughout the 90- to 100-minute period from the turbine trip to the insertion of the control rods.*" Although I agree that there were no safety implications "*from the plant configuration*", I do not agree that there were no safety implications from the incident itself. NRC licensed control room operators recklessly relying on an informal estimation that transient Xenon-135 levels would be sufficient to prevent an inadvertent reactor restart has immense safety implications: we (the public) expect that NRC licensed operators will actively and conservatively control the nuclear fission reaction and will NOT passively rely on informal estimations of transient fission product poisons when both active means to control the fission reaction are available (i.e. control rods and boron) and formal means to evaluate the adequacy of Xenon-135 are available (i.e. a Shutdown Margin calculation). The fact that after-the-fact calculations demonstrated that shutdown margin was adequate does not mean there were "*no safety implications*". Relying on luck is not an

acceptable strategy for operating a large commercial reactor. The nuclear fission reaction must always be actively controlled and when transient fission product poisons are utilized for maintaining safety margins their levels must be formally calculated BEFORE relying on them.

In a February 26, 2010 letter to me, Region IV stated:

The inspectors noted that the crew had completed a shutdown margin verification just prior to tripping the main turbine, as required by the shutdown procedure. The shutdown margin verification ensured that had a design basis accident occurred at that time, adequate negative reactivity was available to maintain the plant shutdown.

I requested a copy of this "shutdown margin verification" through the Freedom of Information Act and was told that it is not an NRC record and cannot be provided. I believe that the reason it could not be provided is because it does not exist. It is my contention that on October 21, 2003 there was no formal calculation performed to show that from 10:13 am (the time of the manual turbine trip) to 12:05 pm (the time control bank insertion began) Xenon-135 levels were adequate to ensure "that had a design basis accident occurred at that time, adequate negative reactivity was available to maintain the plant shutdown." I allege the following:

1. On October 21, 2003 the operating crew at Callaway Plant did NOT complete a shutdown margin verification just prior to tripping the main turbine. The only "shutdown margin verification" that I know of at Callaway Plant which "ensured that had a design basis accident occurred...adequate negative reactivity was available to maintain the plant shutdown" was surveillance OSP-SF-00001. This surveillance procedure was NOT performed prior to tripping the turbine, and on October 21, 2003 there was no completed performance of this procedure which validated the reactor conditions from 10:13 am through 12:05 pm contained adequate negative reactivity to maintain the plant shutdown had a design basis accident occurred.
2. Although it is possible the crew had completed a "Xenon Prediction", the Xenon Prediction procedure is not a substitute for a Shutdown Margin surveillance (OSP-SF-00001). The Shutdown Margin surveillance ensures that there is adequate negative reactivity to prevent the reactor from inadvertently restarting during a design basis accident. The Xenon Prediction calculation provides the crew with estimated Xenon-135 levels so they know how much positive reactivity must be added to keep the reactor critical. They are different calculations and are performed for different reasons. It is not accurate to state that a Xenon Prediction "ensured that had a design basis accident occurred at that time, adequate negative reactivity was available to maintain the plant shutdown."
3. By allowing Callaway Plant to substitute a Xenon Prediction for a Shutdown Margin calculation, Region IV is failing to ensure that health and safety measures are appropriately addressed.
4. By stating to me that "The inspectors noted that the crew had completed a shutdown margin verification just prior to tripping the main turbine" and then refusing to provide me a copy of that "shutdown margin verification" Region IV is failing to appropriately transact nuclear regulation publicly and candidly.

I respectfully request the intervention of the Inspector General on resolving the four items above. Specifically, I request that one of the following actions be performed:

- Region IV admit to me, in writing, that on October 21, 2003 the crew at Callaway Plant did NOT complete a formal shutdown margin verification just prior to tripping the main turbine and that, during the 106 minutes in which the reactor was shutdown with the control rods still at their last critical rod heights, there was no formal calculation in effect which showed "*that had a design basis accident occurred at that time, adequate negative reactivity was available to maintain the plant shutdown.*"

OR

- Region IV provided me a copy of the "*shutdown margin verification*" which was performed by the crew "*just prior to tripping the main turbine*". Appropriate redactions may be made to this document. I just want to be able to see the procedure which was performed, the time it began, the time it was completed, and the calculations which were done. I do NOT need the names of the performers or any other personal information which is normally redacted.

I do not know what process you will use to handle this request, but please note that I do NOT request anonymity or confidentiality in any way. I have copied several individuals on this correspondence who have been assisting me in various ways in addressing my concerns regarding the October 21, 2003 shutdown. Please be open and transparent with them and anyone else who wishes to discuss my concerns.

I currently work in Rockville, MD and make it home to Illinois infrequently. Please copy all correspondence to me at my personal email address (b)(6) If you have any questions, please feel free to contact me at (b)(6)

Very respectfully,



Lawrence S. Criscione, PE

Cc: Congressman Dennis Kucinich
Representative Jeanette Mott Oxford, Missouri legislature
David Lochbaum, Union of Concerned Scientists
Dr. Charles N. Davis, University of Missouri