Kern, David:(GenCo-Nuc)

From: DeSantis, Ralph:(GenCo-Nuc)
Sent: Monday, November 23, 2009 4:02 PM
To: TMI Supervisory Listing
Subject: TMI SUPERVISORY BRIEF - RB Contamination Update REV. 1 please use this one

Supervisory Brief

INFORMATION FOR SUPERVISORS

Exelon. Nuclear

RB Contamination Issue Update: No Threat to Our Team's Health and Safety

DATE: Monday, November 23, 2009

FROM: Tom Dougherty, Plant Manager

INSTRUCTIONS: Please share the following information with your employees at your first opportunity.

We understand that you may have some questions about the recent contamination issue. Let me stress to you that there was no threat to your health and safety during this issue. You probably saw media reports this weekend that describe the situation in a variety of ways. However, our in-depth analysis shows that this minor amount contamination was confined to the reactor building and was limited to a dozen individuals. All workers are expected to receive zero (0) mrem of dose following completion of final whole body counts.

While it is our goal to always keep dose as low as reasonably achievable, there will be times when employees working in the outage receive some amount of dose. The contamination received by any one individual was less than what you or I would receive on a hip or chest x-ray and most of the 12 individuals received about the same amount of dose as you or I would receive on a round-trip flight to Japan.

Background of the event:

At approximately 1600 on Saturday an unexpected increase in airborne radioactivity developed in the Reactor Building. This was immediately evident by the alarming of local air monitors first in the B D-ring, then in other areas of the Reactor Building. As per procedure, the control room and OCC were notified and all work was stopped. Personnel were directed to exit the reactor building until conditions could be assessed. Precautionary actions were then taken to cover reactor building openings, including lowering of the pre-installed curtain at the construction hatch, and covering the personnel hatch entrance area. RB purge supply fans were secured to maximize purge exhaust ventilation flow and reduce air flow out of the construction opening. An airborne sample taken at the inside of the construction opening at 1830 showed activity levels had returned to normal values. The calculated release for this event was 0.7% of TMI's annual limit, which is equivalent to 0.1 mrem on an annual limit of 15 mrem. No contamination was found on any surfaces outside the containment building – in other words, this event posed no threat to public health or safety, or the health or safety of our team.

The inside airborne contamination was caused by a slight change in air pressure inside the containment building that dislodged small irradiated particles in the reactor system piping. Some of the small particles were lofted into the air inside the building and were detected by an array of monitors in place to detect such material.

There are no NRC contamination limits, only dose limits. No NRC dose limits were exceeded for any personnel. The following are NRC dose limits:

5000 mrem/yr. – Total Effective Dose Equivalent (TEDE) the sum of the internal dose and external dose.

15,000 mrem/yr. – Lens Dose Equivalent (LDE) dose to the lens of the eye.

50,000 mrem/yr. – Shallow Dose Equivalent (SDE) external exposure of the skin or extremities (elbows, lower arms, wrists, hands, knees, lower legs, ankles, and feet).

50,000 mrem/yr. – Total Organ Dose Equivalent (TODE) the sum of the external exposure and internal exposure to the organ receiving the highest dose.

How did the total activity released during this issue compare to normal, everyday radiation received by non-nuclear workers?

Each person in the United States receives about 300 mrem per year of radiation dose from naturally occurring sources. The activity released during this event was about 0.1 mrem (one tenth of one mrem).

Whole Body Count - why did I need one?

When there is airborne contamination present there is the potential for intake of contamination, which delivers internal dose. A WBC evaluates any internal dose received. Since airborne contamination was detected our procedures require a WBC to confirm any potential intake.

Why did it take so long to process everyone through the Whole Body Count?

Over 140 personnel received a WBC. There is only one WBC monitor onsite. The number of personnel requiring WBC, one WBC monitor, and the review process delayed the release of personnel.

I was in the RB at the time of the event and did not hear an alarm sound. Why was this the case?

The alarms that sounded were airborne monitoring AMS-4's which is a local area monitoring device. It is only audible by personnel in the immediate area. These devices are also equipped with a flashing light, which can be visually detected by personnel in the immediate area if noise levels are high. Our RP tech's are trained and tasked to assist all personnel in the building upon receipt of an alarm or abnormal condition.

Will there be any further communications to station personnel on this event?

Communications will continue as updates to the information provided are received.

What if I have additional questions on this issue?

Please email any further questions on this issue you would like to see addressed through a site wide communications to Anna.Krause@exeloncorp.com.