

Specialty Materials

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US Nuclear Regulatory Commission
Director, Office of Nuclear Material Safety & Safeguards
Attention: Document Control Desk
Mail Stop T8A33, Two White Flint N, 11545 Rockville Pike
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Docket No. 40-3392
License No. SUB-526

Subject: 30-Day Written Follow-Up Report to NRC Event Number 44444 Reported
08//28/2008 to NRC Operations Center

The Honeywell Metropolis Works facility (MTW) reported to the NRC Operations Center in accordance with 10 CFR 40.60(1) the occurrence of an unplanned contamination event that required access to be restricted for more than 24 hours by imposing additional radiological controls. This letter is a follow-up report to address specific items required by 10CFR40.60(c)(2).

NRC Event Number 44444 dated August 28, 2008, reported:

An unplanned contamination event occurred on August 27, 2008. The event is reportable in accordance with 10 CFR 40.60 subparagraph (1) based on an unplanned event that resulted in additional radiological controls or by prohibiting entry into the area. The 24 hour period ended at 10.00 a.m. on August 28, 2008. The additional control imposed is to wear air purifying respirators on the second floor of the Feed Materials Building (FMB). Air samples from the second floor were analyzed and the airborne radioactivity average is approximately $6.7\text{E-}11$ microCurie/ml. The airborne contamination is natural uranium ore concentrates and the physical form is a light dusty material.

The area of contamination is in the Feed Materials Building while using the prepared feed mill.

The licensee notified NRC Region II (D. Hartland).

10 CFR 40.60(c)(2) Written 30-day follow up report required sections

(2)(i) A description of the event, including the probable cause and the manufacturer and model number (if applicable) of any equipment that failed or malfunctioned

An unplanned contamination resulting in no measurable off-site radioactivity occurred during the period from 8.00 a.m., August 27 to 8.00 a.m. August 28, 2008. This is a reportable event in accordance with 10 CFR 40.60, subparagraph (1) based on additional radiological controls being required for more than 24 hours. The additional control imposed was the requirement to wear air purifying respirators in the Feed Materials Building where the event occurred. Milled uranium oxide is converted to uranium hexafluoride in the process equipment contained within the FMB.

The event location was the 2nd floor of the FMB. At 10.00 a.m. on August 27, 2008 the Health Physics staff identified an elevated airborne radioactivity of 28E-11 microCurie/ml on one of the floor's fixed samplers. The additional control to wear air purifying respirators was imposed. Investigation and clean up activities were initiated immediately. During the decontamination activities, the average airborne radioactivity concentration remained elevated for more than 24 hours resulting in a reportable event.

Bioassay results from the affected employees indicated no elevated uptake of radioactivity.

The equipment inspection determined that the cause of this event was a leakage of #2 Milled Feed Crusher manufactured by Allis Chalmer Company. The airborne material was emitted from the Crusher's rollers area due to a lack of vacuum in the system caused by line blockage.

(2)(ii) The exact location of the event

The high airborne radioactivity occurred as a result of airborne uranium emissions from #2 Milled Feed Crusher on the 2nd floor of the Feed Materials Building of the Honeywell facility in Metropolis, IL.

(2)(iii) The isotopes, quantities, and chemical and physical form of the licensed material involved

The isotope released was the Natural uranium in ore concentrate. The material chemical form was uranium oxide (U_3O_8), and the physical form was a dust particulate.

The highest average airborne activity concentration for the 2nd floor was 7.5E-11 microCurie/ml, which is less than 1 gram of natural uranium suspended in air for the event period.

(2)(iv) Date and time of the event

The event occurred at 10.00 a.m. on August 27, 2008.

(2)(v) Corrective actions taken or planned and the results of any evaluations or assessments

The following actions have been taken:

Air purifying respirator requirement was imposed at the time of event identification on August 27, 2008.

Radioactive contamination resulting from this event was cleaned from the FMB. Airborne radioactivity returned to the levels below an administrative action level of $5.0E-11$ microCurie/ml (for the floor average) at 13.00 on August 28, 2008.

The following actions intended for improvement of housekeeping and decontamination standards are planned in response to this event:

Identify owners at MTW Department Managers level for assigned housekeeping areas; Target date 09/20/2008.

Plant Manager communicate responsibilities to housekeeping area owners, reinforcing expectations and standards for housekeeping; Target date 09/20/2008.

Schedule and conduct frequent meetings with area owners to status housekeeping issues; Target date 09/20/2008.

Housekeeping area owners begin data collection to support on-going metrics reporting for housekeeping areas; Target date 09/20/2008.

Prepare metrics for housekeeping performance and present for review and feedback at aforementioned area owners meetings; Target date 09/30/2008.

(2) (vi) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name

Following the event, the routine bioassay samples collected from employees were reviewed. The most significant bioassay result was 9.0 mg/l which corresponds to an exposure of <10 mrem (CEDE).

Fixed air samplers in the FMB analyzed after the event indicated that the highest air activity on the second floor during the event was $97E-11$ microCurie/ml. The 2nd floor FMB highest average during the event was $7.5E-11$ microCurie/ml.

NRC region II (D. Hartland) was notified following the event.

Please contact Mr. Larry Parscale, Regulatory Affairs Manager, at 618-524-6221 if you have additional comments or questions regarding this matter.

Sincerely

A handwritten signature in black ink, appearing to read "Mitch Tillman". The signature is fluid and cursive, with the first name "Mitch" and last name "Tillman" clearly distinguishable.

Mitch Tillman
Plant Manager

cc: L. Parscale

Regional Administrator
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