

DCS No: 999999012288
Date: January 25, 1988

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-I-88-12A

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region I staff on this date.

Facility:
Ashland Chemical Company
Easton, Pennsylvania
General Licensee

Licensee Emergency Classification:
☐ Notification of Unusual Event
☐ Alert
☐ Site Area Emergency
☐ General Emergency
☒ Not Applicable

Subject: POLONIUM-210 CONTAMINATION OF FACILITIES AND PERSONNEL FROM STATIC ELIMINATING DEVICE - (UPDATE)

On January 22, 1988, Ashland Chemical Company (ACC), Easton, Pa., reported to Region I that one or more of its ionizing air guns held under a general license had apparently become defective, allowing polonium-210 (Po-210) contamination to be spread to areas of the Easton plant and to workers' clothing. The ionizing air gun devices were manufactured by 3M Company, St. Paul, Mn. Two inspectors dispatched to the Easton site confirmed the presence of contamination.

On January 23, an Augmented Inspection Team (AIT) comprised of Region I and NMSS representatives began an inspection into the cause of the incident, the extent of contamination and the potential health and safety impact on workers and the public. ACC and its health physics consultant, Applied Health Physics (APH), distributed sample bottles to first (day) and second (evening) shift workers on January 22, and directed that 24-hour urine samples be collected throughout the weekend and returned to the site on Monday, January 25. These samples will be split with NRC for analysis. All plant operations were shut down to permit characterization of the extent of the contamination and initiation of cleanup operations. As of the evening of January 24, no evidence of contamination off the site had been identified.

Preliminary radiation/contamination surveys of the buildings and grounds of the Easton facility indicate that the contamination involves at least three large production buildings where the ionizing units are used to neutralize static electricity on product containers and to remove dust. Preliminary information accumulated to date indicates that the microspheres on which the Po-210 is adsorbed have come loose from the epoxy base that holds them to an

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interior surface of the pressurized air guns. The particles, about 35 microns in diameter, apparently settle out of the air stream and, based on air samples taken by Region I, do not constitute an airborne problem at the present time. The manufacturer, 3M, reports that the microspheres are very insoluble and, if ingested, would move through the intestinal tract and be excreted from the body. Analysis of the urine specimens obtained from the workers should indicate whether this conclusion is valid, since the presence of polonium in the urine would indicate that the ingested material was or has become soluble. Any potential health impact would be minimized if any ingested material was and remained insoluble.

During the weekend, ACC determined that ionizer units of the same type (3M model no. 908) were installed at its facility in Dallas, Texas. APH representatives were flown to Dallas, where they determined that similar contamination existed. The Texas Bureau of Radiation Control (BRC) reportedly dispatched an inspector to that facility on January 24 to monitor containment and cleanup activities at the Dallas location. Region IV and State, Local and Indian Tribe Programs are maintaining contact with the Texas BRC. ACC also reported that series 900 ionizer units are in use at its facility in Newark, CA, and at a pilot facility in Columbus, OH, but checks of those units by the licensee revealed no evidence of contamination.

A three person team from the 3M Company, including a recognized expert in ionizing devices, has been at the Easton site since the morning of January 23. A management team from ACC corporate headquarters also arrived on site the morning of January 23 to direct control and cleanup activities. Region III has maintained a dialogue with 3M relative to the production and distribution of ionizing devices and dispatched inspectors to the New Brighton, MN plant where the devices are manufactured.

Since the cause of the failure of the devices has not been determined, and because of the widespread use of the devices (3M reports about 8,000 customers in the U.S., with at least 20,000 units in use), the NRC issued an Order to 3M on January 25, suspending the license under which the model 908 and similar devices are distributed. The Order also requires 3M to inform any customer to whom specified models of the device have been distributed of the incidents described above and to provide any information on possible causes of the leakage of Po-210, to instruct such users of the devices to inform 3M of any suspected failures of the devices, and to call to the attention of the users the requirements of 10 CFR 31.5(c)(5) (i.e., suspend use of the device if removable contamination of 0.005 microcuries is identified). The Order also requires 3M to inform NRC within 24 hours of any device failures that are reported, to institute a testing program to identify the scope of the device failure problem and to provide to NRC within 14 days a plan for identifying any additional failed devices. An analysis of causes of device failures is also required.

ACC issued two press releases between January 22 and 24, and the NRC has responded to numerous media inquiries. In addition, NRC issued a press release in connection with issuance of the Order to 3M on January 25. The Commonwealth of Pennsylvania and the States of Texas and Minnesota have been informed of the incident. This information is current as of 1:00 p.m., January 25, 1988.

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