



# NRC NEWS

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## **NRC PROPOSES \$16,250 FINE FOR MARCUS HOOK, PA., COMPANY FOR VIOLATIONS INVOLVING RADIATION EXPOSURES**

The Nuclear Regulatory Commission staff has proposed a \$16,250 civil penalty for a Marcus Hook (Delaware County), Pa., company for several violations of agency requirements. The most significant violation by Epsilon Products Co. involved exposures exceeding regulatory limits to five employees and contractors of the firm who are not radiation workers and are therefore considered members of the public.

Last Aug. 27th, Epsilon notified the NRC that a gauge containing radioactive material (cesium-137) had malfunctioned at its Marcus Hook site, with its radioactive source failing to retract to the shielded position. The gauge was located outside of a chemical process tank in order to monitor the buildup of polymerized material within the vessel. Initially, the unshielded source was not detected due to an inadequate radiological survey conducted by a company technician.

Subsequent radiological surveys and interviews determined that five workers who cleaned the interior of the tank between Aug. 23 and 27 received a radiation dose in excess of the regulatory limit of 100 millirems because the source was unshielded at the time. The doses ranged from 103 to 197 millirems. The highest estimated dose is approximately 4 percent of the annual allowable level for radiation workers. It is not expected that these exposures will result in adverse health effects for the exposed individuals.

A millirem is a measure of exposure to radiation. The average American is exposed to about 360 millirems of radiation exposure each year from natural and manmade sources.

In response to the event, the NRC performed a Special Inspection at the facility between last Aug. 30 and Dec. 16, 2005, with the inspectors identifying six apparent violations. Besides the violation for radiation exposures experienced by the employees and contractors, the other violations include: 1) failure to maintain dose rates in unrestricted areas below 2 millirems in any 1 hour; 2) failure to perform appropriate radiological surveys in unrestricted and uncontrolled areas; 3) failure to provide appropriate training to an authorized user of radioactive materials; 4) failure to conduct adequate physical inspections of the fixed gauge at the required 6-month interval; and 5)

failure to develop and implement operating and emergency operating procedures that included instructions for testing each gauge for proper operation.

“While none of the employees received a radiation exposure that is considered harmful, the NRC considers the failure to control radiation doses within regulatory limits to any individuals who are considered members of the public a serious matter,” Region I Administrator Samuel J. Collins wrote in a letter to Epsilon regarding the enforcement action.

The company has taken steps to prevent a recurrence that include removing the gauge involved from service; conducting a review of its entire radiation safety program and recommending the revision and/or development of radiation safety procedures; and taking steps to ensure that only appropriately trained staff members are permitted to use gauges containing radioactive material.

Epsilon is required to provide the NRC with a written reply to the violations within 30 days.

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