August 20, 2003

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE -- PNO-IV-03-038

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 IV staff on this date.

Facility
Source Production and Equipment Company
St. Rose, Louisiana
(State of Louisiana Licensee)

Licensee Emergency Classification

___ Notification of Unusual Event
___ Alert
___ Site Area Emergency
___ General Emergency
_X_ Not Applicable

SUBJECT: POTENTIAL OCCUPATIONAL EXTREMITY DOSE IN EXCESS OF LIMIT

DESCRIPTION:

On August 19, 2003, the Louisiana Department of Environmental Quality (the Department) notified NRC's Operations Center of a potential occupational extremity dose in excess of the limit.

On August 6, 2003, the Department received a preliminary report from Source Production and Equipment Co, Inc. (SPEC), at which time, licensee management stated that they did not believe that the incident was reportable under the Department's regulations; however, the licensee planned to investigate the incident. Original estimates of hand exposure from the licensee were as low as 20 rem. The personnel monitoring badge worn on the employee's waist was sent in for emergency processing and indicated a whole body dose of 157 mrem.

The licensee reported that on or about August 5, 2003, an employee of SPEC attempted to clean up or remove what was thought to be contamination on the floor beneath a hot cell. The employee was alerted to the problem when the room area alarm was reading higher than normal. The material causing the increase in dose rate was not visible and was partially shielded by the legs of the cell. The employee thought that the source of the increased dose rate was due to a small particle of contamination. After repeated efforts to pick up or move the source of radiation with paper towels, it was subsequently discovered that the object was a 7.6 curie iridium-192 (Ir-192) wafer which had unknowingly fallen from the hot cell where it had been shielded. The wafer is approximately 0.1 inch in diameter and 0.01 inch thick.

The licensee and a consultant conducted re-enactments of the event to try to determine the extremity exposure. The study concluded that the individual swiped the area with hand-held paper towels multiple times, because the source could not be located visually. It was also determined that his hand may have passed over the wafer only a fraction of the swipes, and therefore came in contact with the wafer for an extremely short duration, if at all. The wafer was finally dislodged by dragging a paper towel over the wafer with his foot. When the object was finally visually identified as an Ir-192 wafer, it was retrieved with remote manual handling equipment. It was estimated that the hand dose could be as high as 700 rem. Investigations by the consultant are ongoing. The employee's hand does not show any clinical indication of an exposure to a high dose of radiation. The Department conducted a reactive inspection on August 18, 2003.

Region IV received notification of this occurrence from NRC's Operations Center on August 19, 2003. Region IV has informed NMSS, OEDO, STP, and Region IV's PAO and SLO.

This information has been discussed with the State and is current as of 2:15 p.m. (CDT) on August 19, 2003.

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