

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

July 16, 1985

IE INFORMATION NOTICE NO. 85-57: LOST IRIDIUM-192 SOURCE RESULTING IN THE
DEATH OF EIGHT PERSONS IN MOROCCO

Addressees:

All licensees that possess, use, and manufacture radiographic exposure devices with sealed radiation sources.

Purpose:

This information notice is provided to alert recipients of a serious safety problem when radiography sources are not controlled by surveillance and when radiological surveys are not performed to make certain that such sources are under control at all times.

It is expected that licensees will review this notice for applicability to their radiographic activities, if appropriate, to preclude a potential of serious over-exposures to individuals. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

In March 1984, a serious radiation incident occurred in Morocco that was reported in an official press release from the Ministry of the Interior. In the course of this accident, eight persons died from overexposure to radiation. Other individuals also received significant doses of radiation that required medical attention. Three individuals who were severely injured were hospitalized at the Curie Institute in Paris and later were released in apparently satisfactory condition after medical treatment.

The accident originated at a fossil-fueled power plant under construction in Mohammedia, Morocco, where iridium-192 sources were being used to radiograph welds. In March 1984, one of these sources, that contained approximately 30 curies of iridium-192 at the time, apparently became disconnected from the drive cable and was not properly returned to its shielded container. Subsequently, the guide tube was disconnected from the camera and the source eventually dropped to the ground, where a passing laborer noticed the tiny metal cylinder and took it home. Although it is not clearly known if the problem originated from a disconnect between the source pigtail and drive cable or if a break occurred between the pigtail and source, there are indications that the latter may have occurred.

Discussion:

Within a relatively short period of time, during May and June of 1984, a total of eight persons, including the laborer and his entire family and some relatives, died with the clinical diagnosis of "lung hemorrhages." It was initially assumed that the deaths were the result of poisoning. Only after the last family member had died was it suspected that the deaths might have been caused by radiation. The source was recovered in June 1984.

Although the source container was marked by the internationally recognized radiation caution symbol, the source itself bore no markings.

There is no information available on the precautionary radiation surveys that may have been performed at the time of the incident. However, it is apparent from the stated facts that radiation surveys of the type described in the NRC regulations, if performed, would have disclosed the problem and may have prevented the incident.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.



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Attachment: List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED
 IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-56	Inadequate Environment Control For Components And Systems In Extended Storage Or Layup	7/15/85	All power reactor facilities holding an OL or CP
85-55	Revised Emergency Exercise Frequency Rule	7/15/85	All power reactor facilities holding an OL or CP
85-54	Teletherapy Unit Malfunction	7/15/85	All NRC licensees authorized to use teletherapy units
85-53	Performance Of NRC-Licensed Individuals While On Duty	7/12/85	All power reactor facilities holding an OL or CP
85-52	Errors In Dose Assessment Computer Codes And Reporting Requirements Under 10 CFR Part 21	7/10/85	All power reactor facilities holding an OL or CP
85-51	Inadvertent Loss Or Improper Actuation Of Safety-Related Equipment	7/10/85	All power reactor facilities holding an OL or CP
85-50	Complete Loss Of Main And Auxiliary Feedwater At A PWR Designed By Babcock & Wilcox	7/8/85	All power reactor facilities holding an OL or CP
85-49	Relay Calibration Problem	7/1/85	All power reactor facilities holding an OL or CP
85-48	Respirator Users Notice: Defective Self-Contained Breathing Apparatus Air Cylinders	6/19/85	All power reactor facilities holding an OL or CP, research, and test reactor, fuel cycle and Priority 1 material licensees

OL = Operating License
 CP = Construction Permit