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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

AUG 16 1979

BENJAMIN F. SHAW COMPANY
P. O. BOX 285 OLD AIRPORT SITE
LAURENS SC 29360

The enclosed Circular No. 79-16 is forwarded to you for information. If there are any questions related to your understanding of the suggested action, please contact this office.

Sincerely,

for James P. O'Reilly
Director

Enclosures:
1. IE Circular No. 79-16
2. Listing of IE Circulars Issued in Last Six Months

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Accession No. 7908020542
SSINS: 6830

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

August 16, 1979

IE Circular No. 79-16

EXCESSIVE RADIATION EXPOSURES TO MEMBERS OF THE GENERAL PUBLIC AND A RADIOGRAPHER

Description of Circumstances:

During radiographic operations using 40 curies of iridium-192, the source became disconnected unbeknownst to the radiographer--he did not use his survey instrument. After the radiographer left the facility, an employee of the customer for which radiography was performed, saw the source and, not knowing what it was, picked it up and placed it in his hip pocket. He carried it about for approximately two hours, later giving it to his supervisor to examine. While making a determination that it was something which belonged to the radiographer, and while waiting for the radiographer to pick up the source, nine employees of the radiographer's customer were exposed. The source was also left with a secretary who was instructed to contact the radiographer. The radiographer returned, examined and took the source assuring the customer's employees that there was no problem, stating that the source was a "detector".

On the evening of the event, the employee who had put the source in his pocket became nauseous and went to a hospital for treatment. At that time a blister was found on his buttock. The initial diagnosis and treatment was for an insect bite. Thirty one days after this initial treatment the individual was hospitalized for treatment of the injury to his buttock. At that time the individual asked the physicians if there could be any connection of the injury to the radiography that had been performed at his place of work one month previously. An investigation followed which disclosed the above information.

The individual who had carried the source in his pocket remains under medical care following surgery. The attending physician does not consider the exposure to be life threatening. Neither does amputation appear necessary. The localized dose is estimated to be 1.5 million rem at skin surface, 60,000 rem at 1 cm depth and 7,000 rem at 3 cm depth. Estimated whole body doses to other individuals ranged from 1 to 60 rem. Hand doses ranged to 5,000 rem. The radiographer received estimated doses of 14 rem to the whole body and 50 rem to the hands.