

NOV 4 1968

**Jack R. Roeder, Chief, Materials Inspection
and Enforcement Branch, Division of Compliance, EQ**

**COMPLIANCE INQUIRY MEMORANDUM
WESTINGHOUSE ELECTRIC CORPORATION
ASTRONUCLEAR LABORATORY
LARGE, PENNSYLVANIA
LICENSE NO. 37-09442-02
EXPOSURE**

On October 22, 1968 CO:1 received a copy of a letter dated October 22, 1968 from the licensee to the Director, Division of Compliance transmitting a report of an exposure to an employee during the month of July 1968. According to the film badge processor the employee had received an exposure to the hands of 39.6 rads beta and 1.45 rem gamma which was in excess of the quarterly limit specified in 10 CFR 20.101. The whole body exposure of the employee was 0.64 rads beta and 0.07 rem gamma. The exposure occurred during the transfer of acid solutions containing mixed fission products from a number of 100 ml bottles into one six-liter bottle. The employee wore rubber gloves during this operation. Radiation levels according to the licensee ranged from 1 R/hr to 3 R/hr gamma with the survey meter in contact with the bottles. The elapsed time to perform the work was approximately 40 minutes.

Licensee stated that investigation of this exposure has not established the cause of the high beta exposure. Licensee stated that in the future handling procedures will be provided to assure that the hand exposures will be within the limits specified in 10 CFR 20.

An inspection of licensee' activities is to be conducted in this quarter at which time additional information concerning this exposure will be obtained.

**Alvin F. Ryan
Investigation Specialist**

ETA

Information in CO:1:AER was deleted in accordance with the Freedom of Information Act, exemptions 6

FOIA- 2001-0377

OFFICE ▶	CO	CO				
SURNAME ▶	Ryan	Nelson				
DATE ▶	11/1/68					

21- We will obtain additional info during next inspection which will be conducted in this quarter. *BRM*



Westinghouse Electric Corporation

3 Gateway Center
Box 2278, Pittsburgh 30, Pa.

October 22, 1968

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Hester
W. Hester
Hester

U. S. Atomic Energy Commission
Division of Compliance
Washington, D. C. 20545

Attention: Mr. L. D. Low, Director

Subject: Report of Exposure

Gentlemen:

Attached is a report covering the radiation exposure of a Westinghouse Electric Corporation employe. It occurred while the employe was working at the Astronuclear Laboratory at Large, Pennsylvania, operating under License 37-09442-02. Employe "B" was engaged in transferring acid containing mixed fission products from several small containers to one large container. Information concerning the employe is presented on a supplementary sheet. The employe has been notified per 10 CFR20.405(b).

Very truly yours,

Karl R. Schendel
Karl R. Schendel
License Administrator

Attachments: Report of Exposure and
Supplementary Sheet (2 copies each)

cc: Mr. R. W. Kirkman
Region I, Division of Compliance, USAEC
970 Broad Street
Newark, New Jersey 07102

Westinghouse Electric Corporation
Box 2278
Pittsburgh, Pennsylvania 15230

REPORT OF EXPOSURE

EMPLOYEE "B"

10/22/68

In the report from R. S. Landauer, Jr. & Co. to the Westinghouse Astronuclear Laboratory, dated September 25, 1968, it was indicated that Employee "B" had received an exposure to the hands of 39.6 rads beta and 1.45 R gamma during the month of July, which was in excess of the quarterly limit specified in 10CFR20.101. This exposure was recorded on a finger ring badge. The whole body exposure of Employee "B" was .64 rads beta and 0.07 R gamma. This individual has had no other exposure during the quarter.

The exposure occurred during the transfer of acid solutions, containing mixed fission products, from a number of 100 ml bottles into one six-liter bottle. The individual wore rubber gloves during this operation. A radiation survey showed that the radiation levels involved ranged from 1 R/hr to 3 R/hr gamma with the survey meter in contact with the bottles. The length of time required to perform the work was approximately 40 minutes which was the same as the estimated time. The unusually high beta exposure which was reported had not been anticipated since a normal ratio of beta to gamma for this type of work is about 3 to 1. Since receiving this report, a number of experiments have been made using the same acid solution and it has not been possible to reproduce the high beta to gamma

ratio. Thus it has not been possible to establish the cause of this high beta exposure.

In the future, when similar work is to be performed, the possibility of high beta to gamma ratios will be recognized and handling procedures will be provided to assure that the hand exposures will be within the limits specified in 10CFR20.

Westinghouse Electric Corporation
Box 2278
Pittsburgh, Pennsylvania 15230

SUPPLEMENTARY SHEET

REPORT OF EXPOSURE

EMPLOYEE "B"

10/22/68

EXL

The individual identified as Employee "B" in the attached "Report of Exposure, Employee "B", dated 10/22/68, is [REDACTED] a Westinghouse Electric Corporation employee, Social Security Number [REDACTED]. At the time of the exposure, [REDACTED] was working at the Westinghouse Astronuclear Laboratory at Large, Pennsylvania under License 37-09422-02.