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UNITED STATES RADIUM CORPORATION

P.O. Box 246

MORRISTOWN, NEW JERSEY

BLOOMSBURG DIVISION

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RADELIN-MORRISTOWN, N. J.

ADDRESS REPLY TO
P.O. BOX 380
BLOOMSBURG, PA.

February 17, 1960

U.S. Atomic Energy Commission
Washington 25, D.C.

Attention: Mr. J. R. Mason
Chief, Isotopes Branch
Division of Licensing and Regulation

Gentlemen:

Reference: DLR:RGP

This will acknowledge your letter of January 8, 1960, calling attention to our non-compliance with A.E.C. requirements on several points. While all of the data necessary to give you the complete answer to the alleged violations are not immediately available, the following will constitute a partial answer.

1. A sampling program is under way to evaluate -
 - a. The concentration of radioactivity in effluent water from the plant.
 - b. The concentration of radioactivity in the canal water.
 - c. The concentration of radioactivity in the canal bed and banks.

In this program the canal has been staked off into 5 yard square areas, and samples of both water and soil are being analyzed from each area. We estimate that due to the weather problem an additional three month period will be required to complete the assay. The results and a program of corrective action if necessary will be reported by 1 June, 1960.

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2. A. Samplings of effluent air have indicated that levels of particulate radioactive material are well below maximum permissible levels.
- B. An Atomic Accessories TSM-91 tritium monitor is in use in the tritium building. However, it can not be used in other areas because of gamma background interference. Our inquiries relative to suitable stack monitors for tritium have been unsuccessful to date, and the only lead we have discovered appears in classified literature. Any suggestions you may be able to give us will be appreciated.
3. A. The high radiation readings about the glove box in the solution storage area were due to the unshielded Strontium 90 sources in the box. The sources were removed and, since the glove box was found to be contaminated beyond recovery, it was disposed of as radioactive waste. Health Physics personnel have been alerted to the necessity for prompt action when such violations are discovered.
- B. The drum of waste in the silo storage area was in the process of packaging for disposal. According to C.F.R. 20.203(c)(2) interlocks or signal systems are not required unless a high radiation area is established for 30 days. The drum of waste was in the silo for less than 30 days.
4. Film rings and finger tabs are worn by personnel working with Strontium 90. The program was instituted following the referenced inspection.
5. The presence of excessive tritium concentrations was not discovered until bio-assay results led to investigation. The incident in question resulted from the transfer of a group of leaking tubes containing Hydrogen 3 from one area to another and sealing in containers. An accumulation of this magnitude will not be permitted in the future.

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6. The radiation incident in question was reported by telephone to the New York Operations Office as soon as the facts were known. The incident was considered a Class "C" incident, which requires a written report in 30 days.
7. All containers containing by-product material are now labeled in accordance with regulation. The Health Physics group has been given the responsibility for policing these requirements.
8. Plans are being formulated to meter the effluent from areas processing radioactive material and to provide hold up storage until the amount and type of radioactivity can be determined. In the meantime all liquid radioactive wastes are being segregated and concentrated for disposal. The complete plan will be submitted with the report of 1 June referenced under paragraph 1.

Bio-assays for persons working with Cesium 137, Strontium 90 and Polonium 210 will be performed effective immediately, utilizing standard procedures for such assay. Currently there are 2 persons who would be checked for cesium, 4 for strontium and 2 for polonium.

With reference to the handling of defective tubes containing Hydrogen 3, our present practise is to place such tubes in glass jars, place the jars in pressure lid cans, soft solder the circumference of the lid and dispose of the lot as waste material. A procedure for the preliminary check of all tubes for completeness of seal has been instituted to minimize the incidence of leakers after tritium filling.

If suitable monitoring equipment can be found, consideration will be given to the development of a "fail-safe" system,

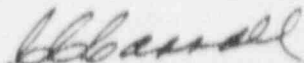
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wherein an automatic cut-off arrangement activated by the
monitor may be installed.

Very truly yours,

UNITED STATES RADIUM CORPORATION


C. C. Carroll, Chairman
Institutional Isotopes Committee

CCC:ar

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