Leo Dubinski, Asst. Dir. for Mtls.
Division of Compliance, HQ.

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Robert W. Kirkman, Director
Region I, Division of Compliance

TRANSMITTAL OF LICENSE COMPLIANCE INSPECTION REPORT - 10 CFR 30

CO:I:AJF

Transmitted herewith is the following inspection report involving noncompliance:

THE BUDD COMPANY
Instrument Division
2950 Roberts Avenue
Philadelphia 32, Pennsylvania

License No.: 37-611-3 w/amends. 12 & 13

The following items of noncompliance were noted during the course of the inspection:

20.105 (b)(1)(2) - in that in an unrestricted area, i.e., a field adjacent to the fence enclosing barrels of radioactive waste, radiation levels existed such that an individual could receive a dose in excess of 2 mrem in one hour, and a dose in excess of 100 mrem in seven consecutive days. (See item 23 of report details.)

20.201 "Surveys" (b) - in that an evaluation had not been made to determine whether appropriate personnel monitoring equipment had been supplied to each individual who works in the licensee's cave facility and who would be likely to receive from beta emitting sources a dose in any calendar quarter in excess of 25 percent of the applicable value specified in paragraph (a) of Section 20.201. (See item 29 of report details.)

- - in that an evaluation had not been made to determine whether individuals who work in the licensee's cave facility and who conduct other clean-up procedures in the facility had been exposed to airborne radioactive material in excess of the limits specified by Section 20.103 (a) of 10 CFR Part 20. (See item 24 of report details.)

- in that surveys were not being made at the fence surrounding the licensee's facility to determine whether radiation levels complied with the requirements of Section 20.105 "Permissible levels of radiation in unrestricted areas". (See item 22 and 23 of report details.)

- in that surveys were not being made to determine whether contamination was being tracked or spread into the outside offices and unrestricted areas outside the Plant. (See item 22 and 23 of report details.)

- in that surveys were not adequate to ensure that the general waste did not contain any radioactive waste material. (See item 26 of report details.)

20.203 "Caution signs, labels, and signals" (b) - in that the area between the waste storage shed and the facility in which existed a level of 10 mr/hr had not been posted with a sign worded, "Caution - Radiation Area" and prescribed radiation symbol. (See item 23 of report details.)

(c) "High Radiation Areas" (1) - in that in the area near the facility wall adjacent to a waste storage room, and area over a waste drum in Zone I, in which existed high radiation areas had not been posted with signs worded, "Caution - High Radiation Area" and radiation symbol. (See item 23 of report details.)

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(c) "High Radiation Areas" (2) - in that three high radiation areas established for periods of 30 days or greater had not been equipped with control devices which would make an individual or a supervisor of the area aware of entry. These areas were the waste storage shed, the waste storage room in the controlled access facility, and the calibration room. (See items 23 and 17 of the report details.)

- in that the control device for the high radiation area in the cave was not operating for a period of at least seven days in which routine source processing was being done. (See item 15A of report details.)

(f) "Containers" (1) - in that containers holding mc amounts of Sr-90 had not been labeled with the words, "Caution - Radioactive Material" and prescribed radiation symbol. (See item 28 of report details.)

(f)(4) - in that waste drums holding multimillicurie amounts of Co-60 had not been labeled as to the kinds, quantities, and date of measurement of quantities. (See item 28 of report details.)

20.401 "Records of surveys, radiation monitoring and disposal"
(b) - in that records of concentrations of airborne activities were not being maintained iin the units used in the appendices of 10 CFR 20. (See item 24 of report details.)

- in that records of the radiation surveys performed in the areas adjacent to the calibration room during calibrations had not been maintained. (See item 17 of report details.)

License Condition 13.C. - in that sealed sources holding multimillicurie amounts of Sr-90, Co-60, and Tm-170 had not been tested for leakage since January 25, 1961. (See item 25 of report details.)

License Condition 13.E. - in that a report had not been filed with the Commission of a test which revealed the presence of greater than 0.005 uc of removable contamination on a sealed Co-60 source which was subsequently used. (See item 25 of report details.)

License Condition 15 - in that a copy of the referenced written administrative instructions had not been supplied to each individual using or having responsibility for the use of byproduct material.

- in that the instructions had been changed without the prior approval of the Isotopes Branch, Division of Licensing and Regulation.

- in that the licensee is not following as required by this condition all of the procedures as set forth in their referenced written administrative instructions. (See item 21 of report details.)

30.42 "Reports of Exports" - in that reports of exports were not being submitted to the Commission in accordance with the requirements of this section. (See item 30 of report details.)

At the conclusion of the inspection on January 25, 1962, the inspector requested that he be able to talk with management. Mr. Santoro reported that he reported to Dr. John Buck, the Vice President and General Manager, in matters of radiation safety. Dr. Buck's offices were in Phoenixville, Pa. Buck, however, was not available that week because he was in California on business. Buck was telephoned the following Monday, January 29. Buck stated that he would be available for a meeting on Thursday afternoon, February 1, 1962.

On February 1, 1962, Mr. Paul E. Klevin, Assistant to Director, Region I, Compliance and Mr. A. J. Fleming, met with Dr. Buck

to discuss the above noted items of noncompliance. Mr. Michael Santoro, Production Manager, Mr. George Pron, Manufacturing Manager, Mr. Charles Fitti, Health Physics Supervisor were present for the licensee. Mr. Thomas Gerusky, Chief Radiological Health Section represented the state of Pennsylvania, and Mr. Jesse Lieberman, Chief, Occupational Environment Section, represented the city of Philadelphia. The principal discussion at this meeting centered upon the levels of contamination present in the licensee's facility. It was noted in the discussion that their written administrative instructions, dated 9/30/58 and currently required to be followed by license condition 15, contained procedures for control over the levels of contamination. Paragraph 4.37 of these instructions, "Cleaning of Contaminated Areas," states that levels above background in any part of the building are to be reduced to background by appropriate cleaning methods. The survey made during the inspection revealed the presence of levels of contamination, ranging up to 240,000 dpm, in the Red Area of the controlled access facility where personnel work. The licensee's survey records indicated the presence of comparable, if not higher levels of contamination. Although the licensee reportedly performs clean-up operation, no formal survey is made afterward to determine the extent of clean-up. A week to ten days elapse before the next scheduled survey. During this period, the licensee is not aware of the levels.

Dr. Buck held that their present system of contamination control was adequate. Buck felt that surveys after clean-up were completely unnecessary. He stated that if the clean-up was not being done, the regularly scheduled surveys would show a precipitous rise in the contamination levels. Buck felt that the records of scheduled surveys were being kept in good order and were sufficient.

In view of the question of levels, we would like to refer to item 9 of the report details. In the DI&R letter to the licensee dated 11/6/58, it was noted that it is highly desirable, both from a technical and health safety standpoint, to clean up loose contamination within the radioisotope laboratory. Also included was a suggested upper limit of 1.0 mrad/hr for fixed surface

contamination of beta and/or gamma emitter. As a rough estimate, open window GM measurements of the plastic envelopes containing the smears taken in the inspection indicated readings of greater than 1.0 mr/hr for smears which were subsequently counted and found to have activities of 40,000 dpm or greater.

The licensee was reportedly following a revised set of instructions, dated 12/18/60, which had not been submitted for the approval of DL&R. Paragraph 40 of these instructions notes that "All decontamination procedures in the production area are the responsibility of the production supervisor. All decontamination is subject to the Health Physics standards for the plant". The review of the instructions indicated that these standards had not been set forth by the licensee as part of the procedures. Paragraph 5.18 "Regular Area Contamination Survey" described the surveys to be performed, but did not list any follow-up procedures. We believe that such procedures would include: (1) What methods of clean-up or contamination control are to be used, (2) When clean-ups are to be scheduled, (3) What levels of contamination are acceptable for continuing operations, and (4) The type of survey required to indicate that clean-up or control methods have been successful. The need for flexibility in such procedures is recognized. We understand that the licensee has now submitted their current set of written administrative instructions for approval, and would suggest that consideration be given to the need for such follow-up procedures, especially in view of the amounts of activity being processed at the facility.

Regarding evaluations of air concentrations, Buck felt that the results of the sampler above the cave door represented an average airborne concentration for the Red Area. He said that there were limits to which the air sampling could be carried. We note that, effectively, only one fixed location was being sampled in the restricted area and that the monitor in front of the cave was not working at the time of the inspection. We believe that a representative number of such air surveys should be made specifically of the breathing zones of the men while they work in the cave and other clean-up operations where activity would become airborne.

Because of the high levels of contamination in the cave, mud, and operating pit areas, it appears that individuals working in these areas are liable to internal exposure, especially by inhalation. We believe it desirable to try to determine the complete extent of these individuals' exposures. We feel that the licensee should make available to these individuals appropriate bioassay services. We think that the best method to determine the extent of the Co-60 and Ir-192 body burden is to have a whole body count performed for those individuals who enter the cave, clip sources, handle waste, change filters and conduct other operations which cause airborne radioactive dust.

Regarding the need for additional surveys outside of working areas, tracking or contamination was shown to be occurring from the controlled access facility. We believe that such contamination is directly related to the levels in the controlled access facility. With higher levels being handled, we believe there is a greater probability of spread of material into locations such as outside offices and cars.

With respect to the need for an interlock in the calibration area, Santoro stated that he did not want to install such a device. It was pointed out that they could apply to DL&R for an exception from Section 20.203 (c)(2). Santoro stated that the documents and amendments referenced in Condition 14 were for the most part no longer current or applicable to their operation. It was pointed out that he could apply to DL&R to have these removed from the license.

In the matter of posting of areas, Santoro reported that because of the amounts they were handling and because of the movement of material in the facility, it was difficult for them to keep changing the signs in individual areas. As an alternative, it was suggested that he could post the overall working areas or he could also write to DL&R for an exemption.

The increase in the amounts of material being handled appeared to contribute to the number of activities being conducted in areas of the plant outside the controlled access facility. These activities which include leak testing, the clipping of sources, and low level decontamination of manipulators are

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reportedly being done to avoid unnecessary spread of contamination from the facility.

Another major problem for the licensee was reportedly the presence of contamination upon the outside of the sealed sources. With the adoption of the more restrictive limit of 0.005 uc, the licensee has had to spend a significant larger portion of time in order to bring their sources down to this limit.

With respect to the leak test kits being supplied by Budd, Santoro said that although the swabs were being counted at the Philadelphia plant, they were not conducting the service under License -3. Santoro believed that application to DL&R for the kit had been made by the Sales Group of the Instrument Division and the work was being carried out under their license. The latter will be reviewed during a forthcoming inspection of the Sales license 37-611-4.

Concerning violation of Condition 15 of the license, it appears that a question exists as to whether the citation should be made under Amendment 12 or Amendment 13 of the license. It was noted during a review of the license backup that the licensee had requested on October 3, 1961 that License 37-611-4 be amended to cover installation of source holders at the U. S. Steel Corporation, Fairless Works, Pennsylvania. The use requested by the licensee was authorized by Amendment No. 13 to License 37-611-3 rather than by an amendment to license 37-611-4. Amendment 13 also revised Condition 15. We are citing against the revised Condition 15, but believe that DL&R should decide as to what amendment applies under the circumstances.

With respect to external exposures to personnel, Santoro stated that although Section 20.101 (b) under specified conditions authorizes exposure in excess of 1¼ rem quarter, company policy has been to try to observe this limit, and to definitely restrict whole body exposure below 5 rem/year. To ensure this, Santoro said they frequently have to withdraw men from the

controlled access facility especially at the end of a quarter. The review of exposure records indicated that the technicians were approaching the limit of 1¼ rem each quarter. It appeared from this that the licensee had been keeping a close check over external exposures.

With respect to corrective action to be taken by the licensee on the above items of noncompliance, the following sentence is noted in the introduction to the instructions dated 12/18/60:

> "At the same time, it (the report instructions) are written recognizing the following needs of the facility:
>
> 1. To operate a profitable business."

Dr. Buck stated that the Oak Ridge National Laboratory had discontinued supplying raw Co-60 in the spring of 1961. Because of this, Budd had to contract with General Electric in Vallecitos, California for the irradiation of cobalt. Buck noted that subsequently, ORNL resumed Co-60 production for a short time supplying pellets to a competitor at a lower price than suppliers of Budd. He said that it appeared possible that ORNL would again resume production of Co-60 in the near future. Buck felt that because of these actions, Budd was being priced out of business. Buck stated that the Instrument Division had lost at least $75,000 in the past year.

It appeared during the inspection that an austerity program had been in effect at Budd during the past year with a consequent reduction in services. One result of the program was the reduced number of Health Physics meetings. In view of the financial question, Dr. Buck stated that the licensee would do anything that they could within reason to take corrective action on the items of noncompliance. Buck stated that they would do everything that is necessary and reasonable to be in complete compliance with the regulations. Because of the nature

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of Budd's operations, we believe that DL&R should review carefully any future changes in the licensee's administrative instructions.

We believe that a hazard exists in the above items of noncompliance and a follow-up inspection will be scheduled.

It is requested that the report and transmittal memorandum be submitted to the Division of Licensing and Regulation for appropriate enforcement action.

Enclosure:
4 cys of Rpt.