Physics Department Incidents Log

Incident No.	2005 - 03	**Date of Report:** 11/7/05
Reportable/Classification:	Not ORPS Reportable – Not a PAAA violation	**Date of Incident:** 5/11/05
Status	ES&H Committee Final Report	
Author of this Report:	M. Zarcone	
Groups Involved:	Omega	
Lead Investigator:	D. Lissauer – Jeremy Dodd	

Description:
On 05/11/05, during a walk-through of Building 832, a container and label for a 244-Curium source was found in a desk drawer in the eBubble (Nevis/BNL) group area, but no sign of the corresponding source. Subsequent inquiries revealed that the 244-Cm source was in use inside the eBubble group's cryostat setup at the time of the walkthrough, but that there was no "Controlled Area" posting. The 244-Cm source has an estimated current activity of 38 μCi, while the Maximum Sealed Source Activity for use by GERT-trained individuals is 4 μCi. Nevis personnel working on the eBubble project did not have Radiological Worker I (HP-RWT-002) Training which is required to handle the source or enter the controlled area. The employee who handled the source was properly trained as a source custodian, had the proper training and authority to move sources.

Immediate Actions:
An inventory of all sources in Building 832 was immediately undertaken. This investigation discovered that a 252-Cf source that was being stored in the Building 832 source safe, had not been properly registered for transport from Building 535 to Building 832, and that there was no log of source movements within the building. The RCD Technician took control of all sources that were being stored in the building except for the two involved in experiments. The 252-Cf source was returned to the source custodian in Building 535 where it originated. The ES&H Committee interviewed the Nevis person working on this experiment.

Discussion:
The source custodian by virtue of his training should have known the proper procedures and should have notified the RCD Technician and should have had a logbook to track the movements of the sources in the building. This notification would have prompted the RCD Technician to properly post the cryostat and ensure proper logging of the source into the building.

Although the experimenters did not handle the source or go into the controlled area, (they all were GERT qualified), there exists a potential for a non-compliance whenever the source is moved and therefore Radiological Worker I training will now be required.

This source was not explicitly listed in the Experimental Safety Review which would have triggered a need for RWT 002 and a discussion of the procedures.

Root Cause: **Human Error – Procedures not Followed**

1. Procedures for source transport between BNL Buildings (prior notification of Facility Support by source custodian) were not followed.
2. No log of source movements within Building 832.

Corrective Actions (Group):

1. "Controlled Area" signage added to eBubble group setup.
2. Current Nevis personnel have taken HP-RWT-002 Training, and future Nevis personnel who will be working with the 244-Cm source will also take this Training course.
3. Source inventory log has been implemented in Building 832 (it will be maintained next to the source safe).

Corrective Actions (Department):

1. All experimenters have been informed of the proper procedures for source movement and proper notifications.
2. The source custodian, the RCD Technician, and the Physics Department's Master Source Custodian discussed the rules and regulations for source movement.

3. Infrequently used sources located in 4 different source boxes have been removed from the field and put under the control of the RCD Technician and the Departmental Master Custodian.
4. Group Safety Coordinators will be informed of this incident at a GSC Meeting and the Department will be informed at an "All Hands Meeting".

Lessons Learned: (Group)

1. eBubble group personnel have been educated in the BNL radiological safety procedures and protocols, and have a clearer understanding of the BNL management structure (roles of ESH Coordinator and FS Representatives) as it concerns handling of radiological materials.
2. Communication between Nevis and BNL personnel on safety-related matters will be improved.

Lessons Learned: (Department)

The lack of response of the source custodian related to other radiological issues should have prompted the Physics Department's safety organization to more carefully monitor this experiment. The Department will be more pro-active in this regard. This will be added as one of the goals for the next Self-Assessment Plan.

The above incident has been investigated and requires no further action.

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S. Dawson, Department Chair Date

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S. M. Shapiro, ES&H Committee Chair Date