

Physics Department Minor Incidents Log

Incident No.	2003-08	Date of Report:	10/15/03
Reportable	No (per R. Karol)	Date of Incident Date:	9/23/03
Status	ES&H Committee Final Report	Author:	M. Zarcone
Groups Involved:	ATF		
Lead Investigator:	Ilan Ben-Zvi		

Description:

An ATF user entered controlled areas from September 30, 2002 through September 23rd, 2003 at the ATF with expired training (His NSLS GERT training taken 11/20/00 expired November 19, 2002, however, when he failed NSLS GERT training on 9/30/02, his training was no longer valid). The user held on to a TLD since February 2002 without exchanging badges and having his dose recorded, as required.

Background - Training

The user, a University of California Post Doc and a Foreign National, has been stationed at the ATF for approximately 3 years and, due to his continuing status, was issued a permanent TLD. The ATF was organizationally a part of the NSLS when he arrived and he followed the procedures required of all users. These included issuance of a BNL identification badge and the NSLS training.

His training consisted of: General Employee Training, NSLS GERT, NSLS Safety Orientation, Stop Work Procedure Training, ESH Orientation for New NSLS Staff, NSLS Stop Work Procedure Training, Basic Electrical Safety, Radioactive Waste Generator, Cryogen Safety, Emergency Planning and response, Laser Safety, Environmental Protection Training, LO/TO – Affected Employee and LO/TO – Authorized – all between November 20 - 30, 2000. He took ATF Awareness and Local Emergency Coordinator Training during the next two months.

On June 21st 2002, all employees of the ATF became organizationally under the Physics Department and the ATF users became organizationally under the RHIC/AGS User's Center. The Physics Department received records and became responsible for the training of all ATF employees; the RHIC/AGS Users' Center received records and became responsible for the ATF users. The transition was sudden and some of the issues were not resolved immediately. One of those issues was training equivalencies. Since ATF employees and users had been accustomed to taking the NSLS GERT, the Users' Center asked the RCD Head at that time if the NSLS GERT could still be used or slightly modified for the ATF users. The issue was never resolved and the users continued to take the NSLS GERT course. The Physics Department determined that the ATF employees would be required to take the standard BNL GERT training renewed by a challenge exam in the Safety and Training Office.

This user went to the Users' Center on September 30, 2002 probably prompted by a letter sent all ATF users by the Users' Center. While he was there, he was instructed to take BNL Cyber Security Training, renew his ATF Awareness Training, and take NSLS GERT, which he took, and failed. The exam itself does not give an indication that one has passed or failed. The Users' Center reports that anyone who fails is given a study guide and asked to return at a future date to retake the exam. He was not issued a new TLD nor did he ask about it. When he finished he was issued an ID badge and thought he was adequately trained. He did not realize he had failed the NSLS GERT exam and his training would expire on November 19, 2002. As English is not his first language it is not clear he always completely understands what is told to him unless it is made clear to him that it is important information. Neither he, his supervisor, nor the Physics Department was told that his previous GERT training was no longer valid since he had failed the exam – a notification that would have prompted a review of the user, his work, training, etc.

The user never received any notification of the expiration of his GERT in November. He was under the assumption that he had passed the course and didn't need any retraining until he needed to redo his ID badge or someone told him he had training to

do. There is no indication that this user showed any reluctance to do his training although he did it in a hurried fashion. An indication of this is the fact that he re-took GERT in the Physics Department's Safety and Training Office, got to the page where it said, "Congratulations you've passed " then left the office. He didn't read the next sentence, which said that in order to get credit he had to review the "incorrect answers". When he didn't get credit he returned to find out why and this was discovered.

Background – BNL ID Card

The User was issued a new BNL ID card since the one he had did not have a proper date on it. The initial ID card (issued by the NSLS) was issued through 4/30/04. At the time the user held an H1 visa, which expired on 9/30/03. According to immigration law he could not hold a government ID card past 9/30/03.

The user returned to the Users' Center on 7/14/03 to inform the Users' Center that his visa status had changed from an H1 to an Employment Authorization. His Employment Authorization card holds an expiration date of 6/12/04. The Users' Center again reissued him a new ID card through 4/30/04, which in this case is the FVA approval end date.

Background – Badge Use

The user has a dose record dating back to November 2000, the time he first passed the NSLS GERT. The first month he returned his TLD then did not have one processed through June 2001 – seven months. Personnel Monitoring (PM) or the NSLS RCD Tech held his badges since he did not turn in one at the end of December. This was finally cleared up by July as PM estimated a dose rate for December and he began receiving his badges again. He again participated in the monthly exchange from July 2001 through January 2002 – six months. In February 2002 he did not return his TLD but continued to use it without exchanging it until it was taken away from him in September 2003 as a result of this incident – 20 months. During this time PM held his alternate badge and initiated an investigation 14 months later on 5/9/03 probably prompted by whomever the user told that he was not receiving TLD exchanges. PM assumed the badge from February 02 was lost as a new badge was prepared for the user on 6/13/03. No one asked the user if he had lost the badge and the form PM uses was not signed by the user but by the ES&H Coordinator for the NSLS on 5/14/03 then countersigned by the FS Section Head on 5/15/03.

The user had claimed he had inquired about not finding an exchange TLD to someone at the NSLS but was not sure when or whom he told and since nothing seemed to have been done, he continued to use the old one.

The newly prepared badge was given to the Physics Department's FS Technician who did not know the individual and presumed that any user would seek out his badge when he needed it. The FS Tech, who monitors the badge board several times a month, never saw the expired badge or he would have taken possession of it.

Analysis

- The exchange process is designed to capture individuals whose training has expired or who do not turn in a TLD. Personnel Monitoring (PM) will not issue a new badge unless the old one has been turned in. In this way, TLD wearers who do not find a TLD on the exchange board will seek out the RCD Tech to obtain their new badge and will be advised that their old one had not been turned in. In a similar manner, TLDs are not put on the badge board when the training for that badge has expired. Those 'expired' badges are separated from the others and held by the RCD Tech. Again, the individual is expected to seek out the new badge. This process only works when a TLD user regularly exchanges his badge, which this user did not.
- During the course of this investigation, it was discovered that 5 other users of the ATF did not seem to have valid training for the time they were at the laboratory. It turned out that their NSLS GERT that they had passed was never entered into the BTMS. Since the BTMS is used by all on site to validate training it must have all data input in a timely manner.
- An individual will have received at least two notifications from the BTMS of expiring training starting about 2 weeks prior to the expiration then at about 1 week before. Finally a notice is issued on the day of expiration. In this case the user did not receive any notices. Active guests and visitors must be given notice of their training expirations.

- The NSLS examination does not inform the individual that he/she has failed.
- The failure of the NSLS GERT exam did not prompt notification to the individual, his supervisor, or the Department.
- The investigation of lost badges is too slow to prevent non-compliances due to the extended use of TLDs.
- An investigation of a lost badge must include input from the user.

Root Cause – Personnel Error – Failure to Follow Procedures

The user knew the procedure for exchanging badges and had done so for six months. He chose not to exchange his badge for 20 months bypassing all the checks that would have prevented this incident.

Contributing Cause – Management Problem – Inadequate Administrative Control

The systems in place to prevent these types of infractions did not function effectively. The failure of the exam should have prompted a notification response that would have prevented this incident from occurring.

Contributing Cause – Management Problem – Inadequate Procedure

The procedure followed by PM is not timely or adequate as a system of checks and balances. The initiation of the investigation exceeded the time in which a TLD can be read. The process of securing signatures in this case did not prompt an actual investigation.

Contributing Cause – Management Problem – Inadequate Procedure

A person whose first language is not English must be given a written notice of failure and must understand he/she has failed an examination that is a required qualification for the work he/she must do.

Corrective Actions: ATF Group

1. ATF training has moved from the NSLS GERT training to BNL GERT training.
2. ATF Users will be in the BTMS.
3. All ATF guests will be assigned JTA PO-04 which includes:
 - a. BNL GERT
 - b. ATF Awareness Training
 - c. Cyber Security Training
 - d. GET
 - e. Laser Safety
 - f. Static Magnetic Fields
 - g. Basic Electrical Safety
 - h. Lock-out tag-out (affected)
4. A 12 month limit will be placed on ATF Awareness training with a web-based challenge exam.
5. ATF Safety Officer will inspect all staff and guests / users training records for every scheduling period.

Corrective Actions: Physics Department

1. An RAR will be written to expose the failure of the systems:
 - a. The lack of notification of the failure of the NSLS GERT exam.
 - b. The investigation of lost badges is too slow to prevent non-compliances due to the extended use of TLDs.
 - c. An investigation of a lost badge must include input from the user.

2. The Physics Department will make the Users' Center aware of the procedural problems and work with them to develop better procedures for:
 - a. Making users aware that they have failed an exam and that their authorization to perform work is revoked as a result of the failure, when applicable.
 - b. Entering data into the BTMS
 - c. Making sure active users receive BTMS notifications for expiring training
3. The Physics Department will ask the Training and Qualifications to develop more information that tells TLD users of the consequences for not turning in TLDs and using a TLD long beyond its intended time.
4. The Department Chair will ensure that the user understands the consequences of his actions and the consequence for any further infractions.
5. Group Safety Coordinators (GSC) will be informed and there will be discussion of this incident at the next GSC meeting, Group Leaders will be briefed, and the Department will be informed of the incident at the next Department Meeting.

Lessons Learned

The length of time it takes for an investigation of a lost TLD or a TLD not turned in can lead to the belief that it is not very important to do so. Although the various radiation trainings talk about the requirement for monthly exchanges, the user is not made aware of the consequences of not turning in a TLD or using one long beyond the monthly exchange time.

The failure of an examination, especially when related to safety or compliance, must prompt the required action. There must be notifications to the appropriate persons involved i.e. the supervisor, training coordinator, etc.

A person whose first language is not English must be given a written notice of failure and must understand he/she has failed an examination that is a required qualification for the work he/she must do.

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

S. Aronson, Department Chair

Date

S. M. Shapiro, ES&H Committee Chair

Date