



Mishaps, Lessons Learned, & Success Stories – January to March 2025

The NBACC Mishaps, Lessons Learned, and Success Stories Summary serves to reinforce a strong culture of safety and accountability by promoting consistent reporting of mishaps, establishing strong lines of communication with Health & Safety, supporting a learning environment by allowing others to learn from reported events, and tangibly demonstrating NBACC Leadership's commitment to safety, accident prevention, and continuous improvement.

LESSONS LEARNED:

A safe and successful team continuously learns from experiences and adapts to new challenges, such as unexpected equipment failures. We cannot control unexpected equipment failures, but we can mitigate unexpected equipment behavior by keeping up with its scheduled maintenance, even when the equipment may not be used for extensive periods of time. We can also be ready for the unexpected by keeping emergency evacuation procedures in the back of your mind, even when things are working well.

The documentation of near misses allows for the opportunity to reassess and improve procedures as needed. Near miss discussions can also identify other procedural improvements. While you may think a near miss is inconsequential, it should still be reported. Even if a process improvement isn't made, it helps identify trends for future discussions. When in doubt about a procedure or whether something is a near miss vs. event, call and ask to speak to a member of Health & Safety!

Doing the right thing is never wrong and it may be difficult to admit when you make a mistake. But owning it and sharing it with the right person or people may be what saves someone else from making the same mistake. Whether it is a personal protective equipment (PPE) failure, a spill or an injury, always notify Health & Safety as soon as possible. If necessary, they will notify any other party that has the need to know. It may not only be your life that you are saving.

EVENT SUMMARIES:

1. **First Aid – Recordable Injury:** 2/10/2025; An employee bent down to open a phone locker in the lobby, when they stood back up one of the top locker doors had swung open and the employee's head struck the metal locker door, causing a cut. A reminder to close and secure the phone lockers was included in the March Safety Gram, which is distributed throughout the building.
2. **First Aid Summary:** 3/10/2025; A staff member was checking a spot on the wall of a Biosafety Level (BSL)-3 lab for potential damage when their right index finger scraped a piece of the wall causing an injury. The skin was not broken, and no blood was drawn, however, the top layer of skin was lifted. The staff member washed their hands before exiting the laboratory, focusing on cleansing the injured finger, then immediately showered out. Once out of the lab they reported to Health & Safety, then to the Competent Medical Authority (CMA).

NEAR MISS SUMMARIES:

1. **Equipment Failure:** 1/15/2025; Two employees were conducting toxin preparations in a BSL-2 lab when the biosafety cabinet (BSC) shut off. Initially the BSC restarted but then shut back off. The

employees held their breath, doffed their outer PPE, and left the room. At the time of shut off, the BSC contained a 96-well plate with an exempt amount of toxin. There were no spills reported and no issues with PPE. The room was placed out of service once the employees evacuated the room. To re-secure the toxin in the room, staff donned an assigned protection factor (APF) 25 powered air purifying respirator (PAPR) and reentered the room about 20 minutes later as directed by Health & Safety. They bagged the plate, decontaminated the outside of the bag, and transferred the bagged plate to another room to continue their work. They then decontaminated their PAPR and exited to room. They confirmed no toxin appeared to have been spilled in the BSC or room following reentry. The room was then restricted for a minimum of 30 minutes to ensure a sufficient air wash was achieved prior to the lab being reopened. The BSC was placed out of service. It is believed that the high efficiency particulate air (HEPA) filter loading resulted in excessive fan heat build-up causing the unit to shut off. The HEPA filter will be replaced once the unit can be decontaminated using vaporous hydrogen peroxide (VHP).

2. **Equipment Failure:** 1/28/2025; A staff member's standing desk plug was plugged into an outlet in the cubicle partition under the staff member's desk. The metal base frame of the partition came loose and contacted the plug terminals causing an electrical short/spark, tripping the breaker. A Facility Maintenance Specialist (FMS) was notified to investigate and correct the issue. FMS reset the breaker and inspected the plug and outlet. The base frame of the partition which caused the short was secured to prevent recurrence. A new flat plugged power strip was installed and moved to an outlet that was not directly under the desk where it may be accidentally kicked/dislodged.
3. **Facility Process Error:** 1/28/2025; A staff member working in the Class II B2 BSC in a BSL-3 lab was counting colonies on plates of a Risk Group (RG)-3 agent when the BSC gave an "exhaust error" and went into alarm. The staff member immediately placed their lids on their plates, exited the BSC and then exited the room. Once outside of the laboratory, the staff member called the Command Center and requested to speak with Health & Safety. Upon hearing the report, Health & Safety asked the staff member to remain outside of the room until they could speak to FMS since there was fan maintenance taking place at the time. FMS acknowledged that taking a fan offline could have caused a minor air-handling disruption and triggered the BSC alarm. To avoid the potential for additional exhaust disruptions, FMS agreed to pause returning the repaired fan online until the staff member could complete their work in the BSC. The information was provided to the staff member, and they were permitted to return to the laboratory, clear the alarm and continue their work. Upon completion of their work, they informed Health & Safety and then FMS was notified. Going forward, FMS will inform staff members before starting fan work either via email or phone call. Relevant phone numbers for Laboratory Space Managers (LSMs) have been programmed into the facilities ticketing system such that they cannot begin fan maintenance until those individuals have been called.
4. **Facility Process Error:** 1/28/2025; A staff member called to report that a ducted BSC was in alarm. The staff member confirmed that everything in the BSC was decontaminated and that they did not intend to use that BSC for their work. The alarm was attributed to the heating, ventilation, and air conditioning (HVAC) work taking place in the building and the staff member was able to clear the alarm and begin their work. Shortly after, another call was made to report the air pressure in the room was fluctuating and had at one point caused enough pressure to cause ear discomfort and made the laboratory door very difficult to open. Health & Safety contacted the Operations Manager to relay the information and request that all HVAC work be paused to allow staff to complete their work and exit the laboratory. The Operations Manager confirmed a pause to the work taking place on the HVAC systems and the staff members were able to finish their work. A short time later one of the two staff members called to report that the other staff member was unable to open the BSL-4 personal shower door due to air fluctuations. After waiting a minute, the staff member was able to

exit the shower. Health & Safety once again reached out to Operations Manager to discuss the issues that the staff members encountered and the potential need for laboratory restrictions until HVAC work could be completed. The second staff member was able to shower out while the first staff member remained in the change room to confirm that they could safely exit. The HVAC system experienced several intermittent events that caused the HVAC system to experience an increase in exhaust flow. Testing was performed and it is believed to be caused by damper controllers sticking, impacting the fine control of the air flows. FMO is developing a lifecycle replacement plan for the damper regulators to reduce the likelihood of future recurrence.

5. **Procedural Error:** 2/12/2025; A staff member picked up a room temperature package from the loading dock for a co-worker and left it on their desk. When the co-worker got to their desk, they realized the package contained an exempt quantity of a toxin. The package was moved to the lab prior to opening using proper procedures. The Principal Investigator (PI) contacted Shipping & Receiving staff to ask that any packages from this company be treated as if they are a Biological Select Agent and Toxin (BSAT). Additionally, the PI emailed appropriate staff members and asked that they notify the dock once an order from this company is submitted rather than waiting to obtain shipping information. The PI will remain in contact with the company to determine shipping status.
6. **Equipment/Process Error:** 2/19/2025; A staff member reported black flakes in a women's changing room shower. After an initial investigation, it appears as though the flakes were due to steam pressurization related to testing on a recent Effluent Decontamination System (EDS) communication system upgrade that occurred the day prior. The testing revealed a programming error in the communication software which caused a steam valve to not close as quickly as anticipated, resulting in a buildup of steam pressure (10-15 psi). This buildup then caused a release of steam/air through the women's changing room shower drain. It was visually confirmed that no other drains within the labs, nor the men's changing room shower, were affected. A lab restriction was in place on the day the testing occurred, therefore, no one was in the labs or shower during this time. Because the EDS tank was empty at the time of the testing, only steam/air would have been released back through the drain into the shower area.

OTHER OCCURENCES:

1. **REPORTED EVENTS:** In the following, personnel reported events to Health & Safety, and they were tracked for trending purposes.
 - A staff member transferring an agent from BSL-2 to BSL-3 opened an airlock door and realized the timer on the door still had seven minutes remaining to complete a full air-wash. The staff member immediately realized the mistake, did not step into the airlock and immediately shut the door. There were no items in the airlock when it was opened.
 - A staff member on a PAPR waiver was preparing buffer when they cut their outer glove on a piece of equipment on the benchtop. No agent was present. Because the individual was on a PAPR waiver, they had a second set of gloves on over their skin. The individual confirmed the inner set of gloves were not breached and they were allowed to continue with their work.
 - A staff member's PAPR shut off while placing items in a BSC; however, nothing had been opened at the time. After swapping batteries, the individual went back into the lab and the PAPR again stopped working. The staff member held their breath and exited to the write up area. They diagnosed the PAPR issue to determine it was likely the motor. The individual replaced their PAPR motor and battery and resumed work. An out of service note was placed on the motor.
 - An individual noticed that the door readers in two of the BSL-3 lab corridors were not lit up and not allowing individuals to badge into lab rooms. Facilities recognized an issue with the system

causing the outage and fixed the issue. The issue was being addressed as the individual was reporting.

- A staff member was training a new staff member who was working in the BSC with an attenuated vaccine strain of an RG-2 agent in a BSL-3 lab. The training staff member removed their gloves but did not remove their disposable lab coat. The two individuals walked out of the lab, into the suite hallway and then into another lab prior to noticing the error. Once the trainer realized the mistake, they both immediately walked back over to the room where the lab coat was donned, disposed of the lab coat and called Health & Safety. There were no spills and no other issues with their PPE or training. They were instructed to continue with their work since the error had been remedied.
- An individual reported a suspicious colony that was found in plates containing an RG-1 agent. The colony was then subcultured/isolated and checked over the next 48 hours. Following observation, the subcultured colony no longer appeared to be an environmental contaminate of concern, however Polymerase Chain Reaction (PCR) was performed to confirm the observation. The PCR confirmed that the contaminate was not a suspicious colony of concern.
- A suspicious letter was found during routine screening of employee mail. The employee notified Health & Safety/Emergency Manager (EM). The EM confirmed the letter to be suspicious and notified the appropriate personnel. The letter was handled appropriately by the relevant parties.
- Two staff members were spraying off their PAPRs with bleach in the PAPR staging area of a BSL-3 corridor. The first member sprayed their PAPR without incident, however when the second member sprayed theirs, the nozzle popped off and the bottle dropped. Approximately 25-50 mL of bleach spilled on the floor in the PAPR staging area. Both individuals went into a change room and called a Health & Safety member. Health & Safety advised the individuals that they could re-enter the PAPR staging area and clean the spill. No agent was present. This was a new bottle and often the nozzle from the previous bottle is swapped onto the new bottle. The suspected cause of the nozzle falling off was due to the top not being fully secured.
- The door to a Centers for Disease Control and Prevention (CDC)-registered airlock was found unlatched. The door was secured, and a member of Health & Safety was contacted. It is believed that the door was opened earlier that day to remove decontaminated equipment from the airlock and the door was shut, however it did not fully latch/secure. It was confirmed with the LSM that no agent had been placed/transferred into the airlock while the door was unsecured. The inner airlock door adjacent to the laboratory was also confirmed to be secure. The issue with the door was corrected by a FMS.

Note: *Unless otherwise stated, it should be assumed that staff are wearing a PAPR (minimum APF 25) in events taking place in the BSL-3 laboratories.*

Document Definitions:

Event Summaries – Any recordable mishap or first aid injury or illness as defined by the Occupational Safety and Health Administration (OSHA).

Near Miss Summaries – Any mishap that requires a potential exposure ruling from the CMA, represented a CDC Form 3 (Report of a Theft, Loss, or Release of a Select Agent or Toxin) submission, or a potentially serious accident or incident that could have resulted in personal injury, illness, death, and damage to property or the environment, but did not occur due to one or more factors.

Other Occurrences – Mishaps that do not fit into the other two categories.