



**Quality Division Use Only**

Quality Tracking #:	<input type="text" value="2022-011"/>	Classification:	<input type="text" value="Incident"/>
Non-Conformance Level:	<input type="text" value="N/A"/>	Section:	<input type="text" value="Biology/DNA"/>
Date of Discovery:	<input type="text" value="12/23/21"/>	Date of Incident:	<input type="text" value="12/23/21"/>

Forensic Case Number(s), if applicable:	Agency Case Number(s), if applicable:
2021-19315	011851321

**Description of Non-conformance:**

Due to an unplanned building power outage two freezers and one refrigerator in the post-amplification laboratory rose to temperatures that exceeded their respective temperature ranges for approximately six hours.

**Additional Information/Follow-Up:**

On December 23, 2021, an unplanned building power outage occurred due to a burst pipe in the building and all HFSC staff were notified and directed to remain at home. The Operations Coordinator received an alert from the DicksonOne temperature monitoring system notifying him that two units on the 18th floor were not reporting data at approximately 8:35am. The CODIS Administrator had arrived at the office prior to all staff being directed to remain at home and was able to reset both units. One unit (in the Forensic Biology evidence vault) began reporting data after the reset but the other (in Forensic Biology post-amplification laboratory) continued to malfunction. The Operations Coordinator requested that the units be reset again a few hours later given the power outage issues.

During a walkthrough on the 18th floor, the CODIS Administrator discovered that Freezer 4, Freezer 18, and Refrigerator 8 (referred to as Cooler 8 by the Forensic Biology section) in the post-amplification laboratory were leaking water onto the floor. Upon further investigation, she realized the freezers and refrigerator were plugged into a regular/non-generator supported outlet affected by the power outage. At approximately 3:30pm, the CODIS Administrator plugged the freezers and refrigerator into a generator outlet (indicated by a red colored face plate) and notified the Operations Coordinator who monitored the temperature readings as the freezers and refrigerator returned to their respective acceptable temperature ranges. In addition, the CODIS Administrator covered the wet floor with drying pads to absorb and clean up the leaking water.



**Actions Taken:**

Freezer 4 is used to store processed amplification plates, and Freezer 18 and Refrigerator 8 (Cooler 8) are used to store the post-amplification reagents.

The processed amplification plates are only stored so they are available if a situation occurs where a sample needs to be re-loaded. In those situations, re-load cases are subjected to room temperature while the plate is running. Additionally, a comparison of the original data to any newly generated data from re-load is required prior to using the data for interpretation or reporting purposes.

Because post-amplification reagents that are stored in Freezer 18 and Refrigerator 8 (Cooler 8) are shipped at room temperature, there is minimal technical concern that the increase in temperature affected the reagents. However, although Hi-Di formamide (one specific reagent that is stored as aliquots in Freezer 18) is shipped at room temperature, it is a one-time use reagent and discarded once the Hi-Di formamide aliquot is thawed for casework processing. Improperly stored Hi-Di formamide can cause decreased signal, noisy baseline, loss of resolution, and tailing peaks. Therefore, the Technical Leader decided the best course of action would be to discard all the Hi-Di formamide aliquots in Freezer 18, and new aliquots were prepared on January 6, 2022.

Prior to the decision to discard all aliquots stored in Freezer 18, an amplification plate was re-loaded on December 30, 2021. The Technical Leader reviewed both sets of data and determined that neither the samples nor the controls exhibited any signs of improper storage of Hi-Di formamide previously mentioned. The newly generated data was consistent with the data generated from the original load and it was determined that both sets of data were suitable for interpretation.

Previously, the post-amplification laboratory did not have enough generator outlets and limitations on the arrangement of units to accommodate the DicksonOne temperature monitoring system. As of December 23, 2021, all freezers and refrigerators are plugged into generator outlets. The HFSC generator was tested as part of a planned building power outage on February 12, 2022 and operated without issue.

**Summary of Root Cause Analysis:**

Note: Incidents are documented for tracking purposes and trend analysis. Root Cause Analysis is not required for incidents.

N/A



**Houston Forensic Science Center**  
**Incident/Corrective Action Report**  
Quality Division

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**Section Manager:** Courtney Head

**Date:** 01/19/23

**Division Director:** Amy Castillo

**Date:** 01/19/23

**Incidents or Corrective Actions that involve the Biology/DNA section are reviewed by the Technical Leader and CODIS Administrator.**

**Technical Leader:** Cheron Maxwell

**Date:** 01/18/2023

**CODIS Administrator:** Jennifer Clay

**Date:** 01/19/2023

**Quality Director:** Erika Ziemak

**Date Closed:** 01/19/23