CPUC AUDIT FINDINGS OF PASTORIA ENERGY FACILITY JULY 29 – AUGUST 2, 2024

I. Findings

Finding 1: The Plant's documentation process and procedures require improvement.

General Order (GO) 167-B, Appendix D, Maintenance Standard (MS) 9: Conduct of Maintenance states:

> *"Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation."*

GO 167-B, Appendix E, Operation Standard (OS) 4: Problem Resolution and Continuing Improvement states:

> *"The GAO values and fosters an environment of continuous improvement and timely and effective problem resolution."*

During the review of Plant documentation, Electric Safety and Reliability Branch (ESRB) staff identified several instances of incomplete work orders, inspection records, and emergency drills as well as outdated procedures, including the following:

1. During a review of the Plant's Injury and Illness Prevention Plan (IIPP), ESRB staff found that [redacted]. However, the audit revealed that Pastoria Energy Facility (PEF) did not properly save the forms; as a result, the Plant could not provide them upon request. PEF must ensure that all [redacted] forms are properly documented, saved, and readily available.

2. PEF provided only two [redacted] evacuation drill records for [redacted], but PEF did not provide any records for [redacted]. PEF provided records for [redacted], and ESRB staff reviewed them. Evacuation drills are essential for ensuring the safety and well-being of facility personnel during emergencies. PEF must ensure that evacuation drills are performed consistently and the participant rosters and debrief notes are completed for every evacuation drill.

3. The Plant's Control of Hazardous Energy Lockout/Tagout (LOTO) Standard, [redacted]. However, when ESRB staff requested to review records of the [redacted], they were not available. PEF must ensure that the [redacted] of the Site LOTOs are being performed and documented.

4. While reviewing the Plant's [redacted], ESRB staff found inconsistencies in the records with multiple [redacted] tests missing from [redacted]3. PEF must ensure that [redacted] are performed consistently, and the records are kept appropriately.

5. During an inspection of the Plant's [redacted], ESRB staff discovered that the physical copy of Part 2 of the Emergency Response Plan (ERP) is outdated. PEF provided ESRB staff with version [redacted], but the version in the control room is version [redacted]. PEF must ensure that all physical copies of the ERP within the facility are updated whenever a new version becomes available.

Finding 2: Recurring critical varnish potential in [redacted].

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

"Maintenance is conducted in an effective and efficient manner, so equipment performance and materiel condition effectively support reliable plant operation."

GO 167-B, Appendix D, MS 11: Plant Status and Configuration states:

"Station activities are effectively managed so plant status and configuration are maintained to support reliable and efficient operation."

While performing documentation review, ESRB staff observed that the Plant is having recurring issues with varnish analysis test results for the [redacted] Since 2023, [redacted] have consistently yielded critical varnish potential results. When inquired about the results, PEF reported that it had found no evidence of varnish in the [redacted] through its current practice of [redacted] to assess varnish potential. However, relying solely on [redacted] to assess varnish potential is insufficient. Given the recurring critical test results provided by third-party services, PEF must implement a more effective method for detecting varnish in the [redacted]. During the audit, PEF acknowledged the need for varnish control and committed to implementing a new method. PEF must provide a detailed plan outlining how it will address this issue.

Equipment Identification	[redacted] Sample Date	Varnish Potential
[redacted]		

Figure 1: List of varnish analysis test results for [redacted] and [redacted].

Finding 3: Evidence of water leaks on various equipment in the Plant.

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

"Maintenance is conducted in an effective and efficient manner, so equipment performance and materiel condition effectively support reliable plant operation."

GO 167-B, Appendix D, MS 11: Plant Status and Configuration states:

"Station activities are effectively managed so plant status and configuration are maintained to support reliable and efficient operation."

GO 167-B, Appendix D, MS 13: Equipment Performance and Materiel Condition states:

"Equipment performance and materiel condition support reliable plant operation. This is achieved using a strategy that includes methods to anticipate, prevent, identify, and promptly resolve equipment performance problems and degradation."

During the Plant tour, ESRB staff observed water leakage issues on several pieces of equipment. To ensure the safety and reliability of the Plant, routine inspections must be conducted to identify and address abnormal equipment conditions, including water leakage issues. The following findings must be addressed:

1. [redacted] with a [redacted] steam leak.

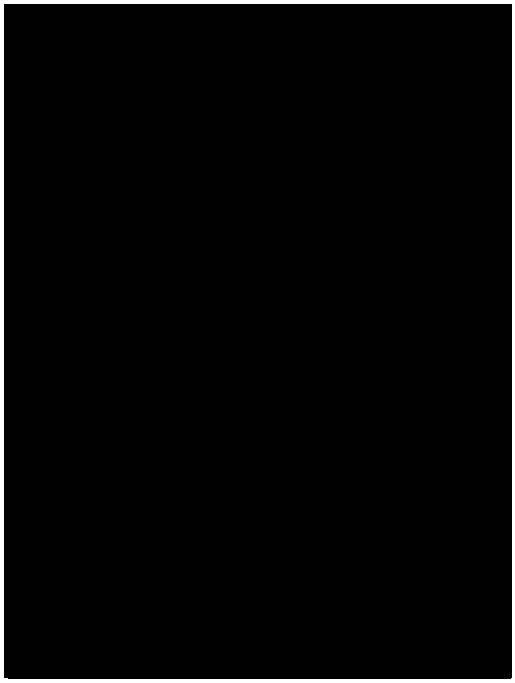

Figure 2: Leaking [redacted].

2. The [redacted] is leaking water. All leaking valves must be repaired promptly to ensure optimal valve operation and prevent energy loss. During the audit, the Plant tightened the valve and repaired the leak.

Figure 3: (Left) Leaking [redacted]. (Right) PEF immediately tightened the valve and repaired the leak.

3. Valve [redacted] with packing leaks on the [redacted]. During the audit, the Plant tightened the valve [redacted] and repaired the leak.

Figure 4: (Left) Valve [redacted] with a packing leak. (Right) PEF immediately tightened the valve and repaired the leak.

4. An [redacted] valve with serial number [redacted] on [redacted] with steam leaks. During the audit, PEF tightened the valve [redacted] and repaired the leak.

Figure 5: (Left) [redacted] valve [redacted] with steam leaks. (Right) PEF tightened the valve [redacted]g and repaired the leak.

5. A water leak on a [redacted]. Although the pipe is insulated, water is leaking through the insulation.

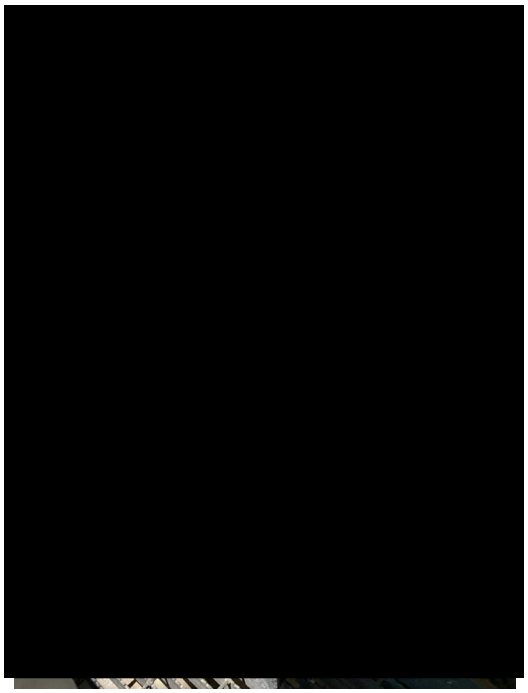

Figure 6: Leaking [redacted].

6. A steam leak on a [redacted].

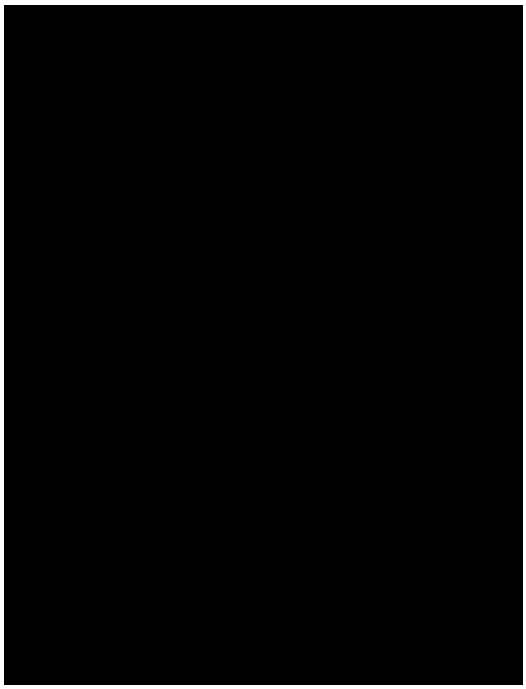

Figure 7: Leak on a [redacted].

7. Leaking [redacted] on the [redacted].

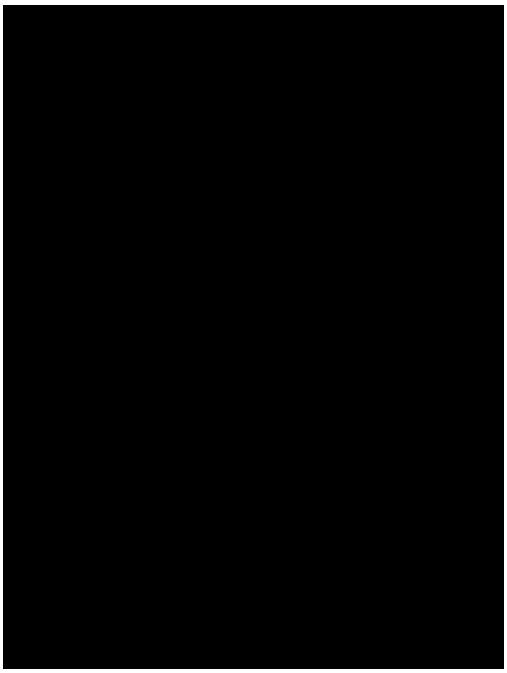

Figure 8: Leaking water observed from the [redacted].

8. The [redacted] has missing insulation and active leaks.

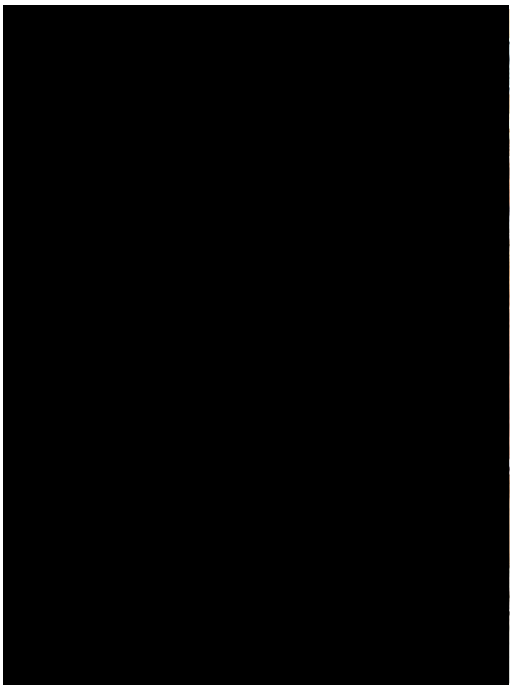

Figure 9: [redacted] with active leaks and missing insulation.

9. ESRB staff observed a water leak on the [redacted]. Despite being insulated, water is visibly leaking through the insulation on the [redacted].

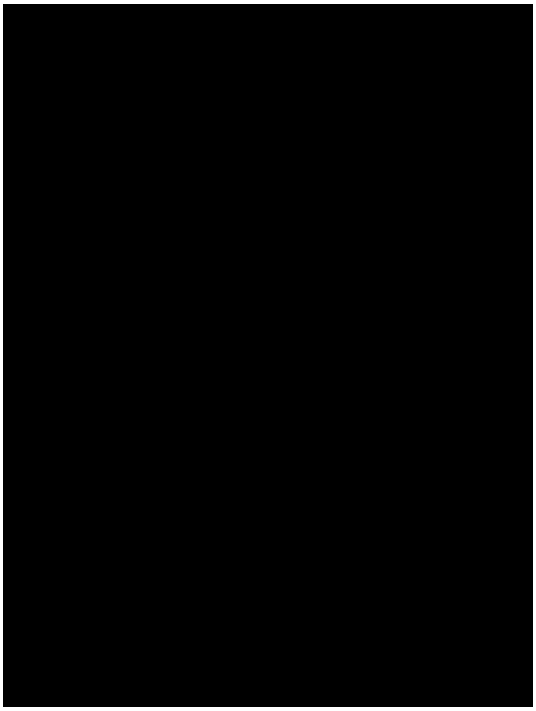

Figure 10: [redacted] leaking water.

10. A [redacted] valve on the [redacted] has a water leak at the valve [redacted].

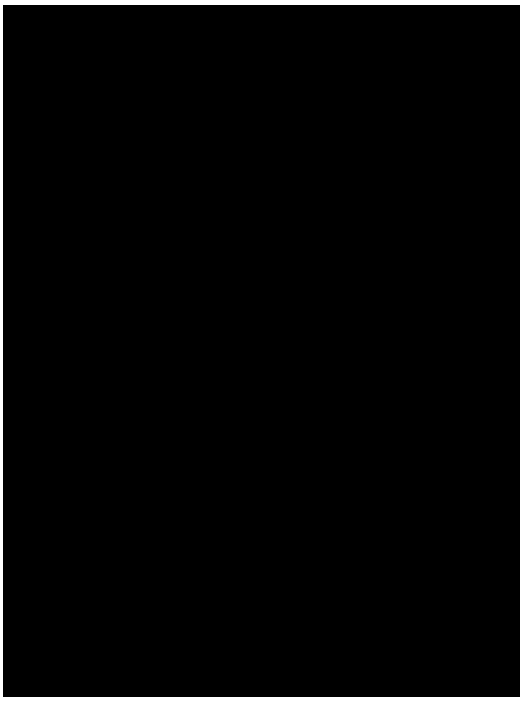

Figure 11: Leaking [redacted] valve on [redacted].

11. The [redacted] located behind the [redacted] has an unidentified leak.

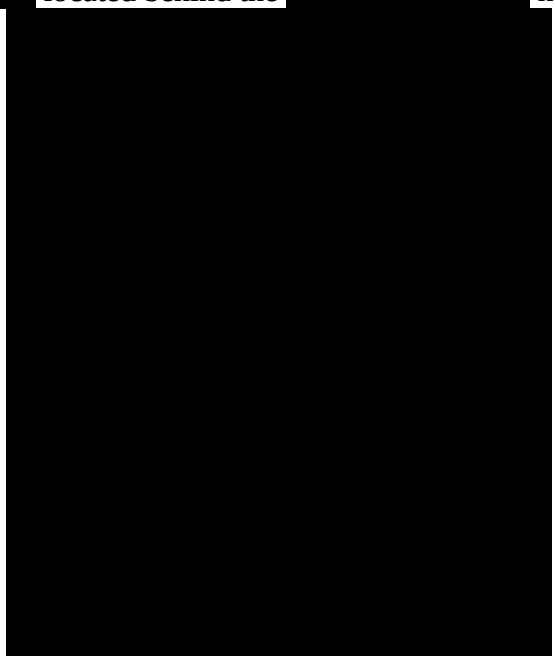

Figure 12: [redacted] with a leak.

12. The [redacted] from the [redacted] is leaking water.

Figure 13: [redacted] leaking water.

13. Leaking water on the [redacted].

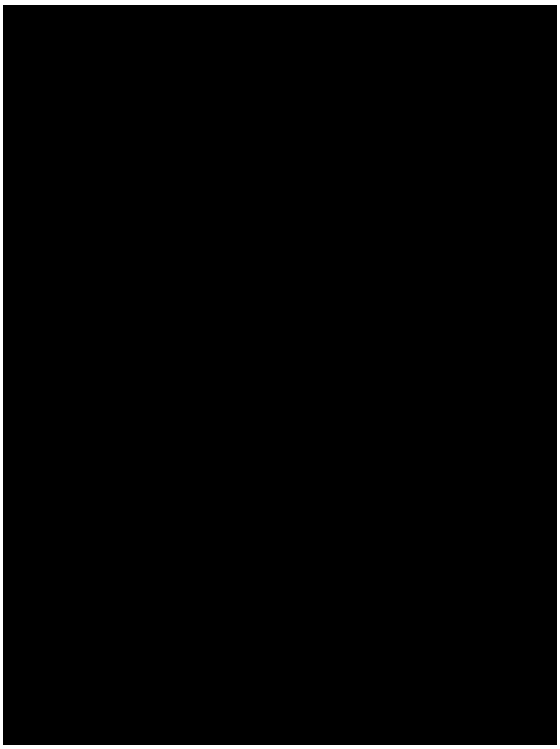

Figure 14: [redacted] leaking water.

14. The [redacted] has a significant leak.

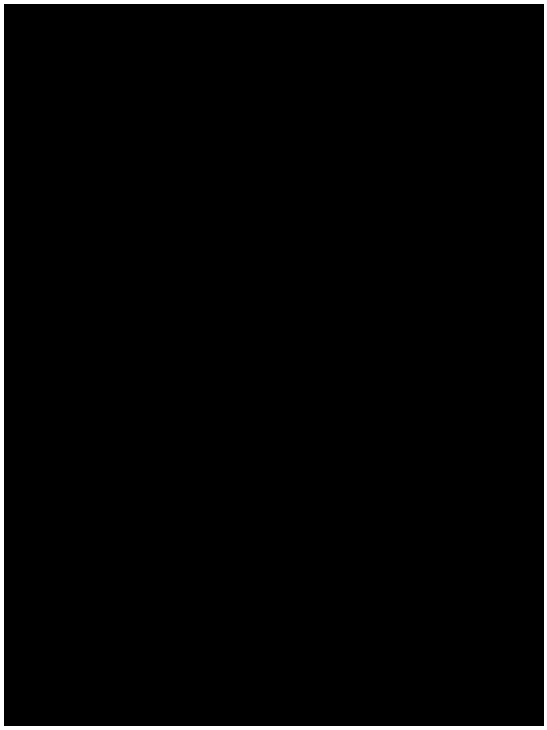

Figure 15: [redacted] with a severe leak.

15. The [redacted] for [redacted] is leaking water.

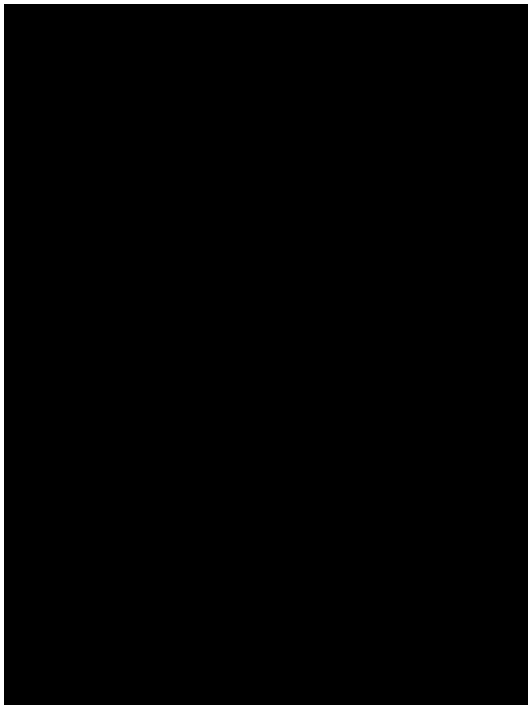

Figure 16: Leaking [redacted].

16. The [redacted] for [redacted] is leaking water.

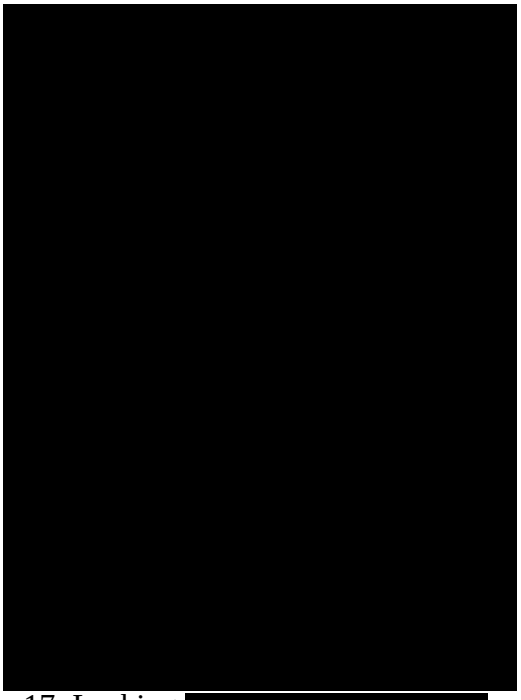

Figure 17: Leaking [redacted].

17. The [redacted] valve [redacted] is leaking steam.

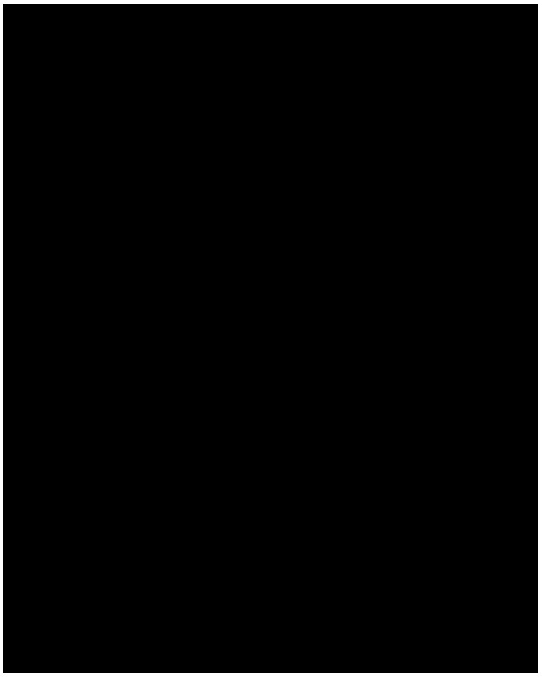

Figure 18: [redacted] valve [redacted] leaking steam.

18. ESRB staff observed water leaks in [redacted]. The bolted segment shows bulging deformation, which is a sign of ongoing corrosion.

Figure 19: Water leaking in a bolted segment of [redacted].

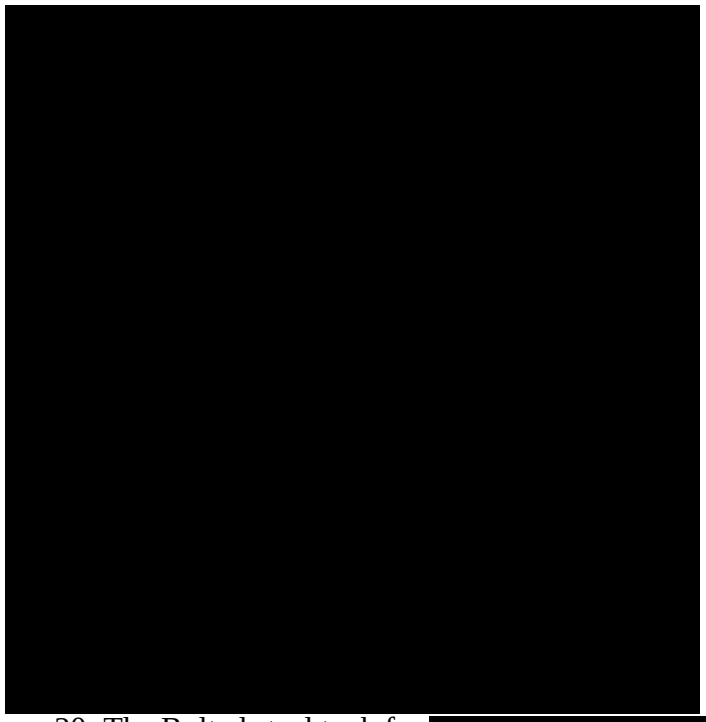

Figure 20: The Bolted steel tank for [redacted].

Finding 4: Evidence of oil leaks in various equipment in the Plant.

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

"Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation."

GO 167-B, Appendix D, MS 11: Plant Status and Configuration states:

"Station activities are effectively managed so plant status and configuration are maintained to support reliable and efficient operation."

GO 167-B, Appendix D, MS 13: Equipment Performance and Materiel Condition states:

"Equipment performance and materiel condition support reliable plant operation. This is achieved using a strategy that includes methods to anticipate, prevent, identify, and promptly resolve equipment performance problems and degradation."

ESRB staff observed multiple oil leaks in various pieces of equipment throughout the Plant. Unaddressed oil leaks can create safety hazards in the form of slip hazards, damage equipment, and reduce overall efficiency. Given the importance of lubrication oil for safe and efficient operation, PEF must implement a plan for regular, comprehensive inspections to identify and promptly address any oil leaks including the following:

1. [redacted] valve with oil stains.

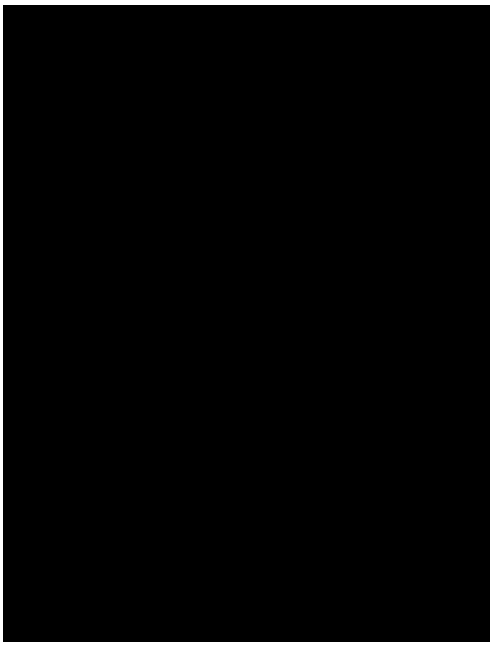

Figure 21: [redacted] valve with oil stains.

2. The [redacted] valve with oil stains.

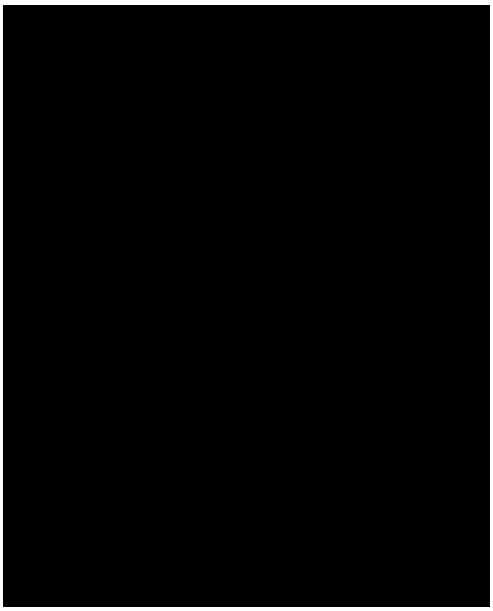

Figure 22: [redacted] valve with oil stains.

3. The [redacted] has oil stains on the outer casing. [redacted] oil is essential for regulating [redacted] temperatures. To maintain reliable operation, [redacted] oil leaks must be promptly cleaned and addressed.

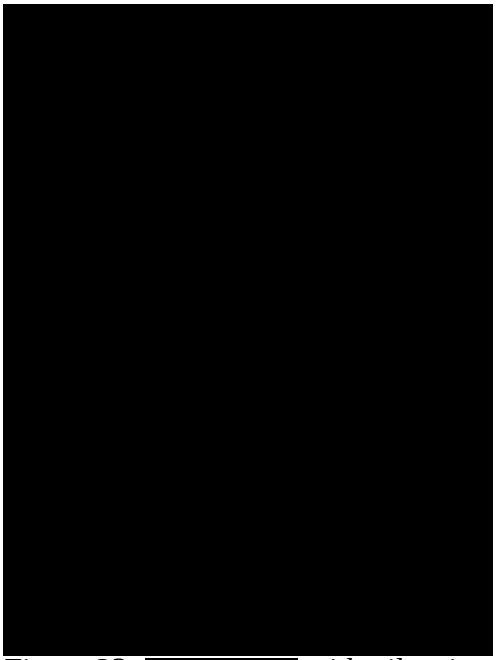

Figure 23: [redacted] with oil stains.

4. Oil stains on the [redacted]. During the audit, PEF fixed the leak and cleaned up the oil.

Figure 24: (Left) [redacted] with oil stains on [redacted]. (Right) PEF repaired the leak and cleaned up the oil residue.

5. Oil stains on the [redacted]

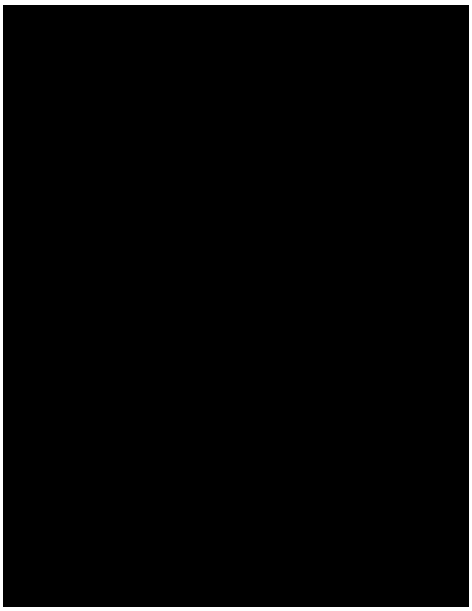

Figure 25: [redacted] with oil stains.

Finding 5: ESRB staff observed an unlocked [redacted].

GO 167-B, Appendix E, OS 1: Safety states in part:

"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site..."

National Fire Protection Association (NFPA) 25 13.3.1.3 states:

"Each normally open valve shall be secured by means of a seal or a lock or shall be electrically supervised in accordance with the applicable NFPA standard."

ESRB staff observed an unlocked [redacted] in the Plant. PEF must conduct routine inspections of their [redacted] and ensure that the valves are in their correct positions and are locked.

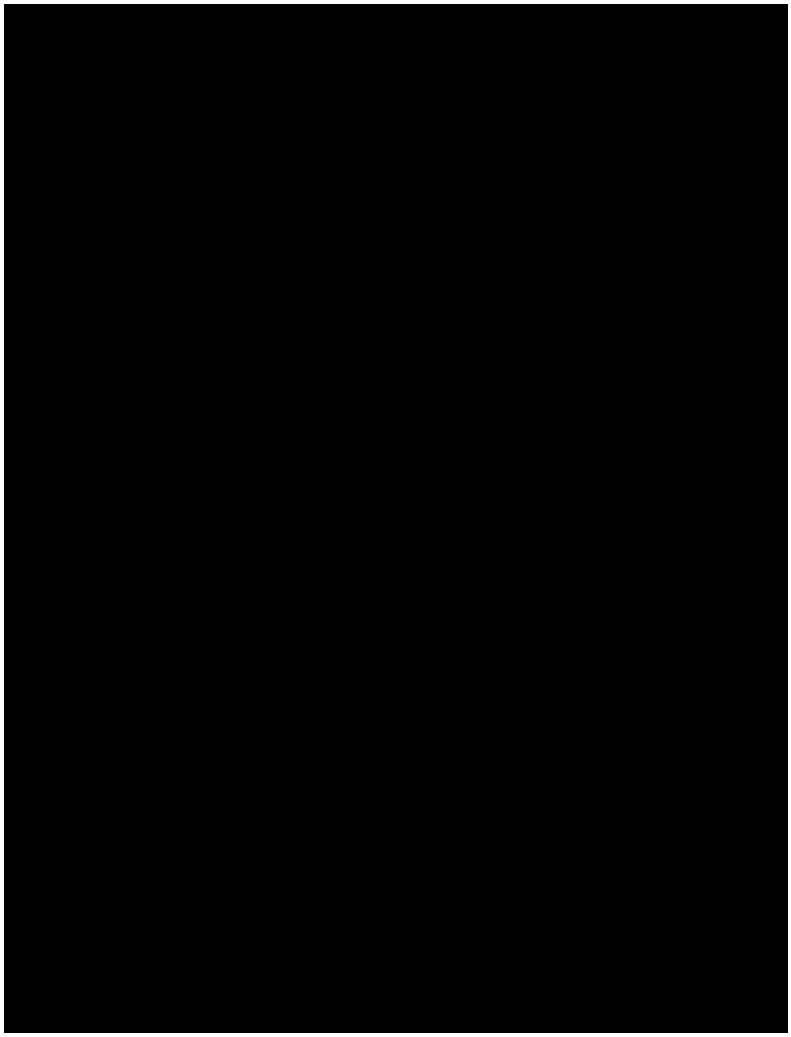

Figure 26: [redacted] with a missing lock.

Finding 6: ESRB staff observed damaged insulation across the Plant.

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

"Maintenance is conducted in an effective and efficient manner, so equipment performance and material condition effectively support reliable plant operation."

GO 167-B Appendix D, MS 11: Plant Status and Configuration states:

"Station activities are effectively managed so plant status and configuration are maintained to support reliable and efficient operation."

ESRB staff observed damaged insulation around the Plant on various [redacted]. Damaged insulation poses a risk of burn injuries to personnel, compromises functionality, and accelerates corrosion under the insulation which affects the Plant's operational reliability. Plant management must prioritize the immediate repair of identified insulation damage and develop a plan to ensure the ongoing integrity of facility wide insulation to maintain worker safety and operational reliability.

1. Damaged insulation on [redacted].

Figure 27: Damaged insulation on [redacted].

2. Damaged insulation on [redacted].

Figure 28: Damaged insulation on [redacted].

3. Missing insulation on pipe supporting structure of [redacted].

Figure 29: Missing insulation on pipe supporting structure of [redacted].

4. Missing insulation cover on [redacted].

Figure 30: Missing insulation cover on [redacted]

5. Missing insulation on [redacted].

Figure 31: Missing insulation on [redacted].

6. Damaged insulation on the [redacted].

Figure 32: Damaged insulation on the [redacted].

7. Damaged insulation on [redacted].

Figure 33: Damaged insulation on [redacted].

8. Damaged insulation on [redacted].

Figure 34: Damaged insulation on [redacted].

9. Damaged insulation on [redacted].

Figure 35: Damaged insulation on [redacted].

10. [redacted] pipe without insulation

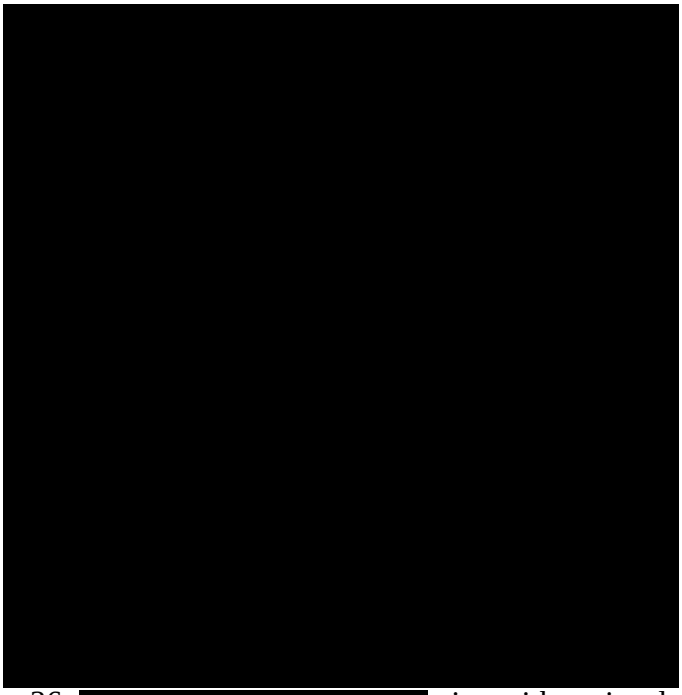

Figure 36: [redacted] pipe without insulation.

Finding 7: ESRB staff observed multiple equipment deficiencies and abnormal components.

GO 167-B, Appendix D, MS 1: Safety states in part:

> *"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site. The company behavior ensures that personnel at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority..."*

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

> *"Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

GO 167-B, Appendix E, OS 13: Routine Inspections states:

> *"Routine inspections by plant personnel ensure that all areas and critical parameters of plant operations are continually monitored, equipment is operating normally, and that routine maintenance is being performed. Results of data collection and monitoring of parameters during routine inspections are utilized to identify and resolve problems, to improve plant operations, and to identify the need for maintenance."*

During the facility inspection, ESRB staff identified numerous defective gauges and abnormal conditions requiring repairs. These issues included broken gauges and damaged components. PEF must conduct regular, thorough inspections to identify and promptly address abnormal conditions. The following findings require immediate attention:

1. The pressure gauges on the [redacted] and [redacted] are damaged. PEF must repair, replace, or recalibrate these gauges to ensure accurate readings can be easily observed locally at the equipment during [redacted] as needed.

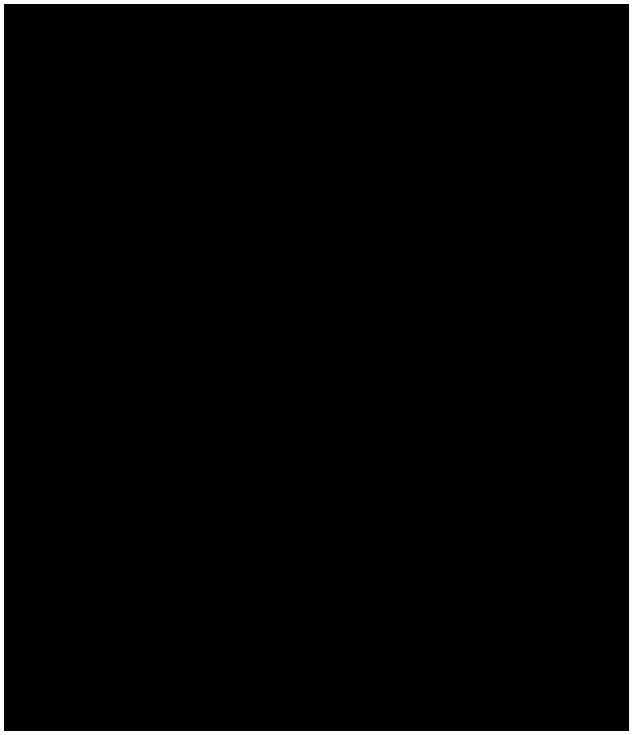

Figure 37: Broken pressure gauge on [redacted].

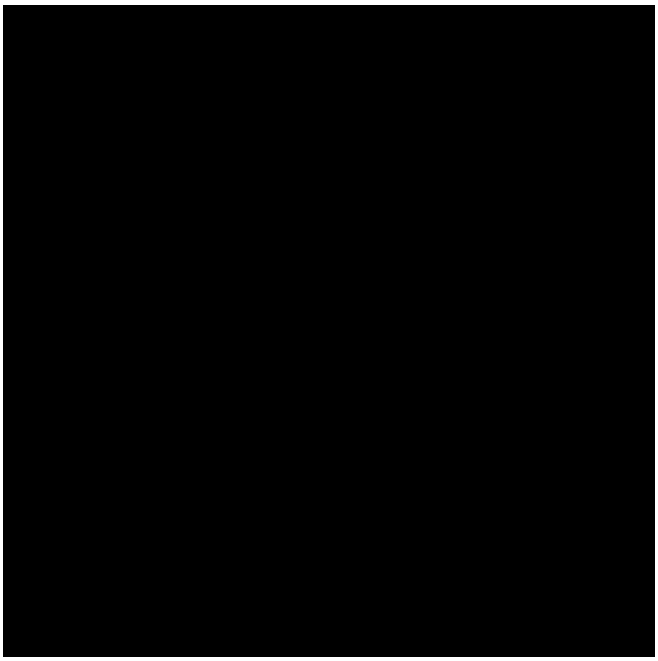

Figure 38: Damaged pressure gauge on [redacted].

2. A severely damaged sight glass on the [redacted] compromises worker safety and operational reliability. Specifically, the [redacted] sight glass contains high-pressure and high-temperature steam, posing a danger to workers in the area due to the risk of inadvertent valve position change. However, neither valve isolation nor warning signs were in place for the damaged sight glass.

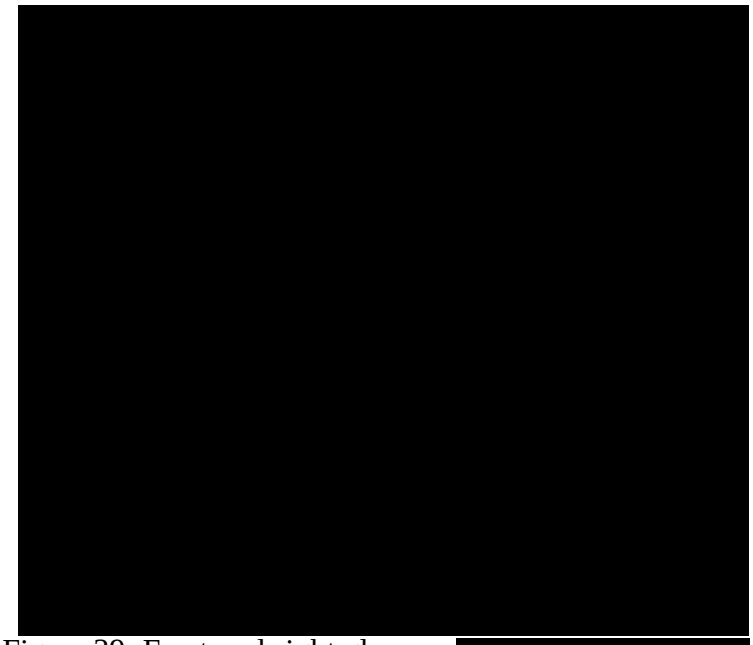

Figure 39: Fractured sight glass on [redacted].

3. A disconnected drainpipe on a [redacted] and [redacted]. The disconnected drainpipe line poses an extreme danger to workers in the area in the event of [redacted] lifting. Additionally, PEF has not repaired the leaking [redacted] valve on the [redacted] since a [redacted].

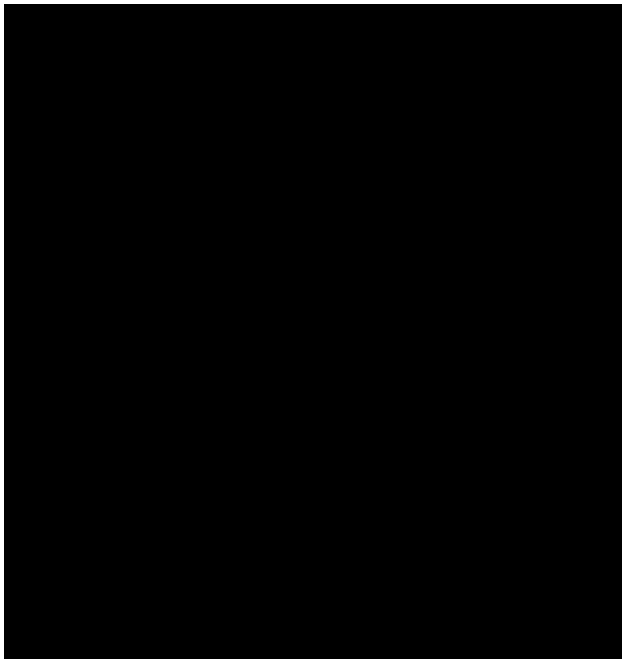

Figure 40: Disconnected drain line on [redacted].

Figure 41: Leaking [redacted] gauge on [redacted]

Finding 8: ESRB staff observed numerous unmarked and out of travel range [redacted] throughout the Plant.

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

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GO 167-B, Appendix D, MS 11: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

GO 167-B, Appendix E, OS 8: **Plant Status and Configuration** states in part:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation.*

GO 167-B, Appendix E, OS 13: **Routine Inspections** states in part:

> *"Routine inspections by plant personnel ensure that all areas and critical parameters of plant operations are continually monitored, equipment is operating normally, and that routine maintenance is being performed."*

During the site inspection, ESRB staff observed that numerous [redacted] and supports were unmarked and operating outside their designated travel ranges. Piping supports are critical for accommodating dead weight and thermal expansion loads while maintaining flexibility. They must operate within their designated cold-hot travel range and support piping in both cold and hot conditions without being overloaded. However, many [redacted] were found to be outside their designated travel ranges.

Plant management must inspect all [redacted] to identify and rectify discrepancies promptly. Additionally, PEF must develop a routine [redacted]

[redacted] Procedure for Plant Personnel and train its personnel to perform routine visual inspections of [redacted] to assist in pre-failure detection. Furthermore, PEF must also correct all missing cold-hot markers as part of the routine inspection program to enable personnel to readily identify discrepancies during daily rounds or routine inspections. The following findings must be addressed:

1. An unmarked [redacted] on the [redacted].

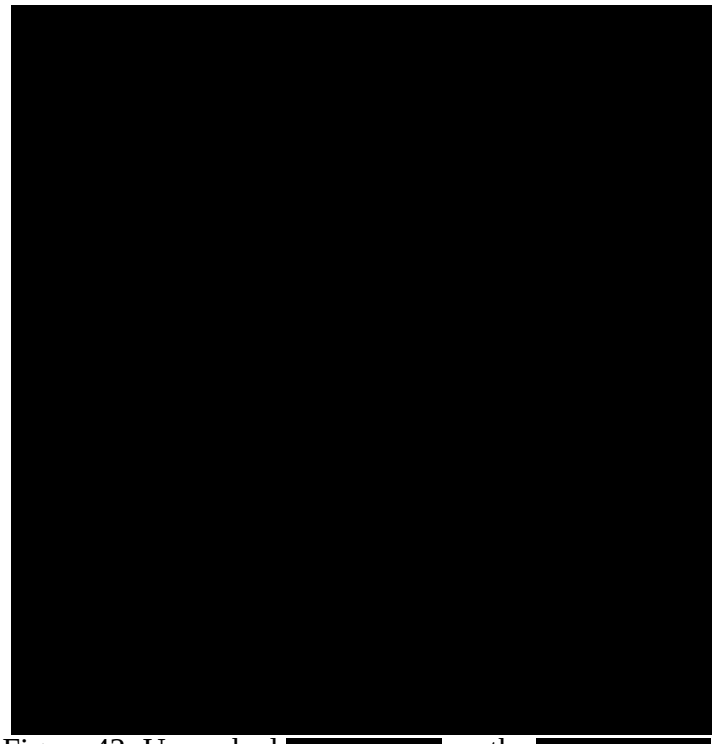

Figure 42: Unmarked [redacted] on the [redacted].

2. Out of travel range [redacted] on the [redacted].

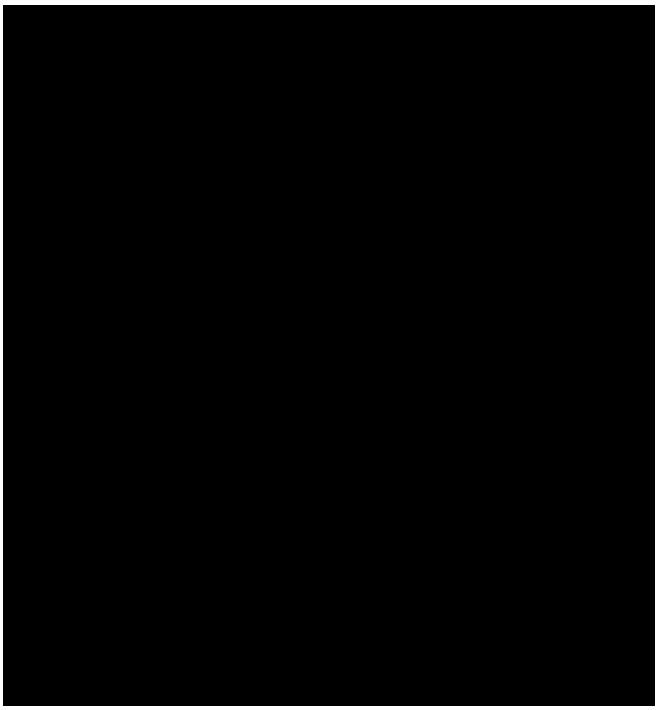

Figure 43: Out of travel range [redacted] on the [redacted].

3. Out of travel range [redacted] on the [redacted].

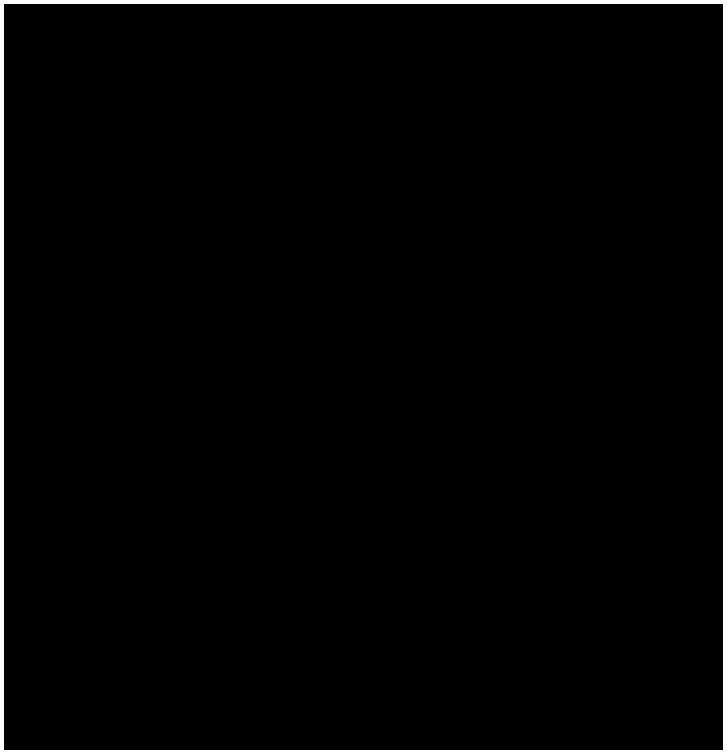

Figure 44: Out of travel range [redacted] on the [redacted].

4. Out of travel range [redacted] on [redacted].

Figure 45: Out of travel range [redacted] on the [redacted].

5. Out of travel range [redacted] on the [redacted].

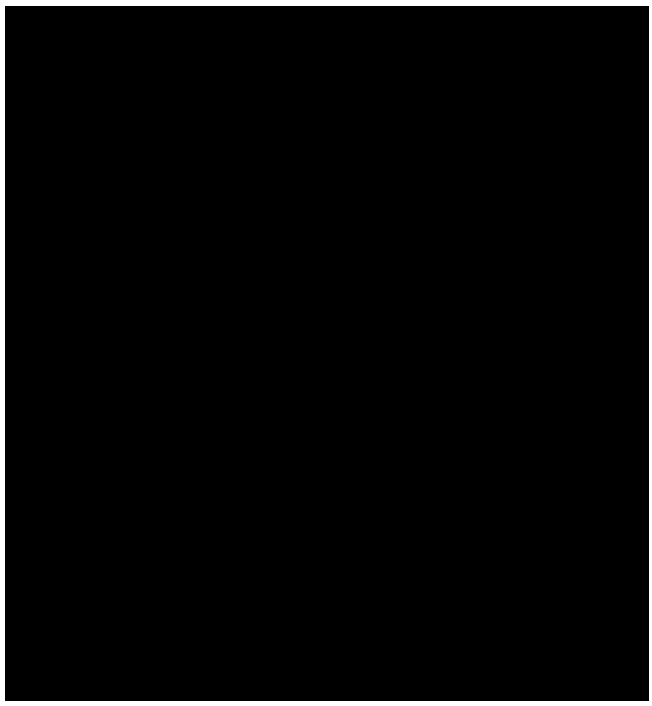

Figure 46: Out of travel range [redacted] on the [redacted].

6. Missing markers on the [redacted].

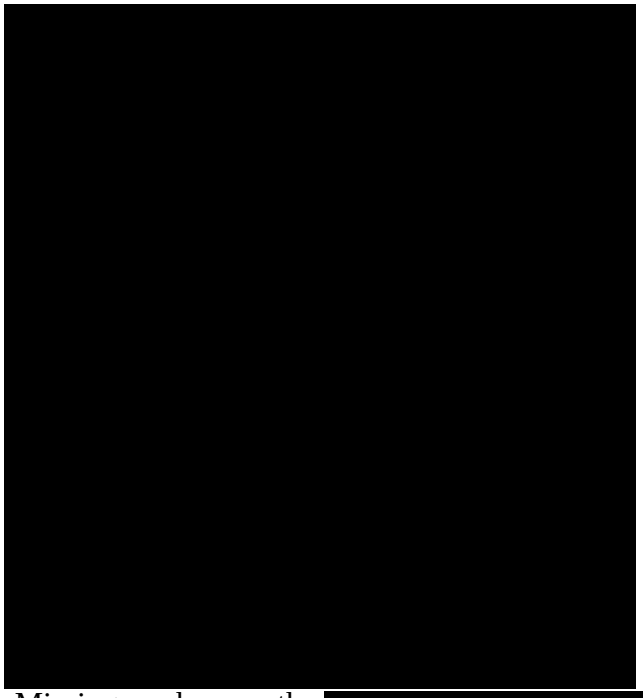

Figure 47: Missing markers on the [redacted].

7. Missing markers on [redacted].

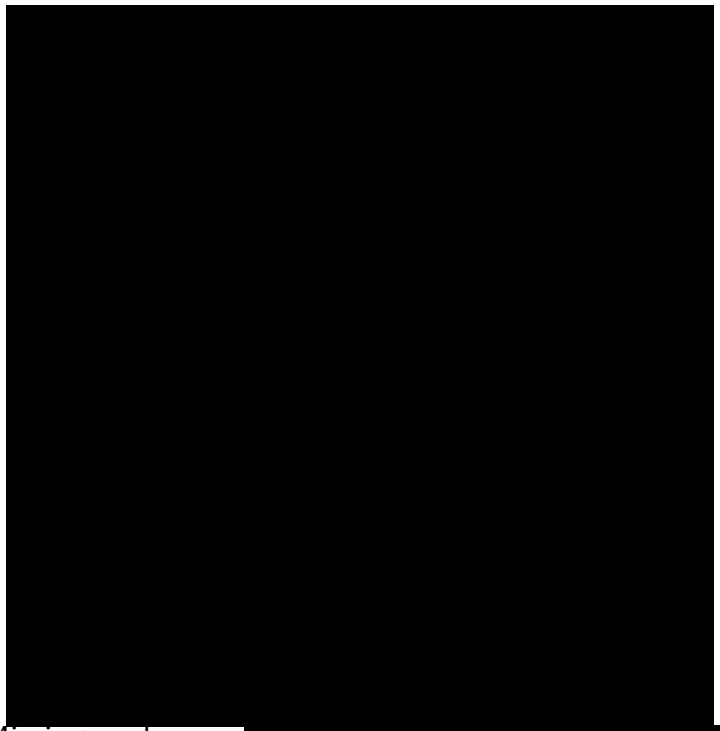

Figure 48: Missing markers on [redacted].

Finding 9: The Plant does not have proper ventilation control in the [redacted] and ESRB staff observed chemical deposits on numerous battery terminals.

GO 167-B, Appendix E, OS 1: Safety states:

> *"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site. The company behavior ensures that personnel at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority. The work environment and the policies and procedures foster such a safety culture, and the attitudes and behaviors of personnel are consistent with the policies and procedures."*

GO 167-B, Appendix E, OS 4: Problem Resolution and Continuing Improvement states:

> *"The GAO values and fosters an environment of continuous improvement and timely and effective problem resolution."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

NFPA 1: Fire Code 2018, Chapter 52, Energy Storage Systems, Code 52.3.2.8, Ventilation states:

> *"Where required...ventilation shall be provided for rooms and cabinets in accordance with the mechanical code and one of the following:*
>
> 1. *The ventilation system shall be designed to limit the maximum concentration of flammable gas to 25 percent of the lower flammable limit (LFL) of the total volume of the room during the worst-case event of simultaneous "boost" charging of all batteries, in accordance with nationally recognized standards.*
> 2. *Mechanical ventilation shall be provided at a rate of not less than 1 $ft^3/min/ft^2$ (5.1 $L/sec/m^2$) of floor area of the room or cabinet. The ventilation can be either continuous, or activated by a gas detection system…"*

ESRB staff observed that the ventilation control of the [redacted] does not comply with safety codes and regulations. The Plant's [redacted], equipped with [redacted] batteries, utilizes a forced ventilation system with a damper and two roof ventilators. However, the ventilation fan was neither confirmed to be operational nor were there any automatic fan control devices identified on the ventilation system. Moreover, the ventilation fan damper was in the closed position.

PEF must inspect and evaluate the ventilation system of the [redacted] and implement corrective measures to comply with safety codes and regulations. PEF must also install

notification systems to alert personnel of high concentrations of flammable gas in the [redacted].

Additionally, ESRB staff observed chemical deposits on numerous battery terminals in the [redacted] and [redacted]. This can cause electrical problems, such as increased resistance within the circuits and reduced battery life. To prevent accidental power supply interruptions and ensure proper functionality in emergency situations, PEF must implement a routine inspection and maintenance program to address battery terminal corrosion.

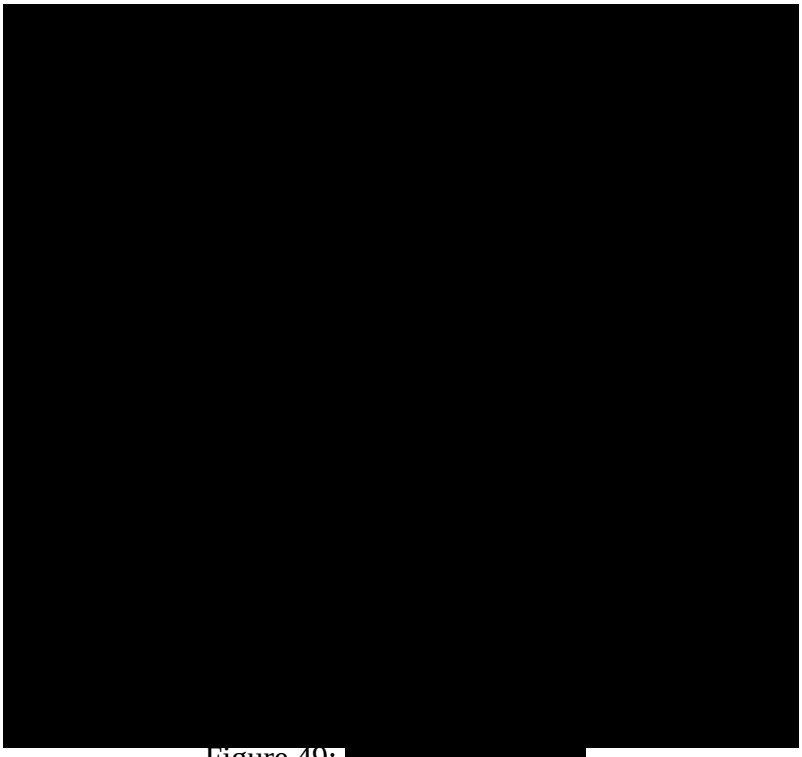

Figure 49: [redacted].

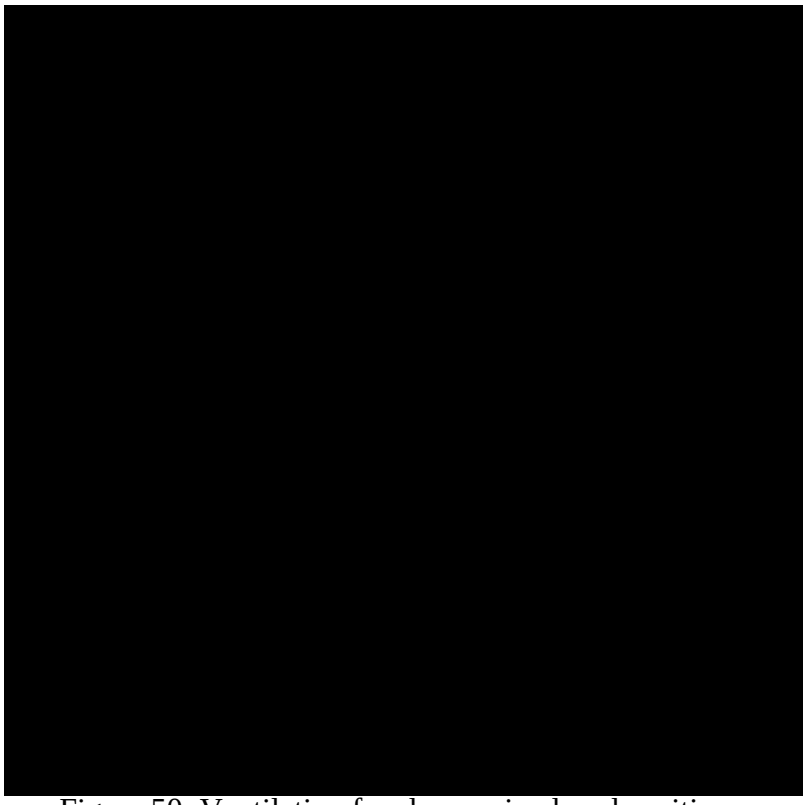

Figure 50: Ventilation fan damper in closed position.

Figure 51: Chemical deposit on a battery terminal in [redacted].

Figure 52: Chemical deposit on a battery terminal in [redacted].

Figure 53: Chemical deposit on a battery terminal in [redacted].

Finding 10: The concrete foundations of both [redacted] Storage Tank and [redacted] are spalling and cracked.

GO 167-B, Appendix E, OS 1: Safety states in part:

> *"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site. The company behavior ensures that personnel at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

> *"Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation."*

ESRB staff observed significant corrosion on the concrete foundation supporting the [redacted]. The concrete pads are showing signs of deterioration, with cracking and spalling, and the bottom of the metal skid is severely corroded. If left unaddressed, this corrosion can jeopardize the integrity of the equipment. Unstable foundations can lead to misalignment and vibrations, affecting the safety and reliability of the equipment. Additionally, ESRB staff observed cracks around the concrete foundation of the [redacted] storage tank [redacted].

The structural integrity of the concrete foundation for this massive storage tank is critical for worker safety. The foundation must maintain its original design specifications to support the tank's maximum load. PEF must address the deteriorating concrete foundations and take necessary corrective and preventive measures to ensure the integrity of both the foundations and the equipment they support.

Figure 54: Corroded and cracked concrete foundation of the [redacted].

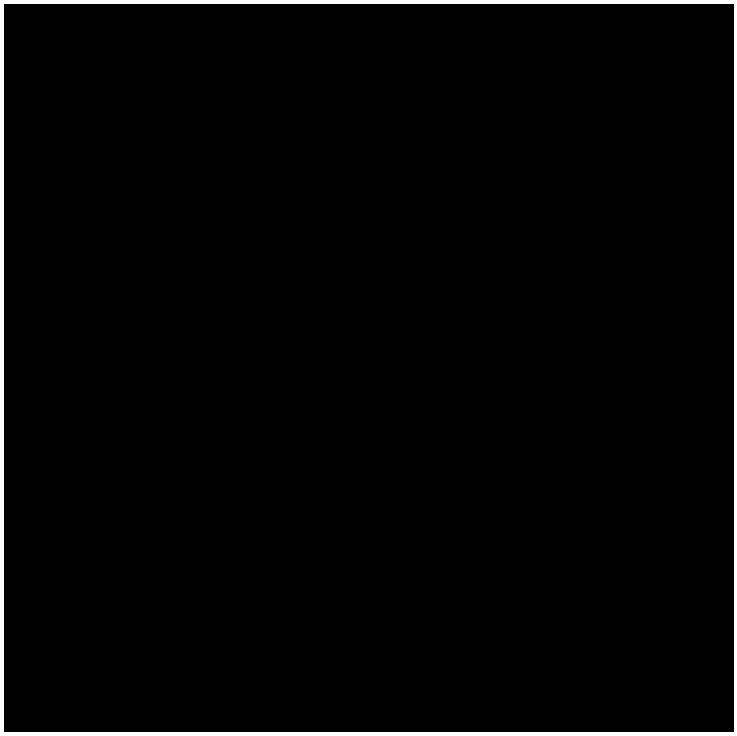

Figure 55: [redacted] storage tank by [redacted] building.

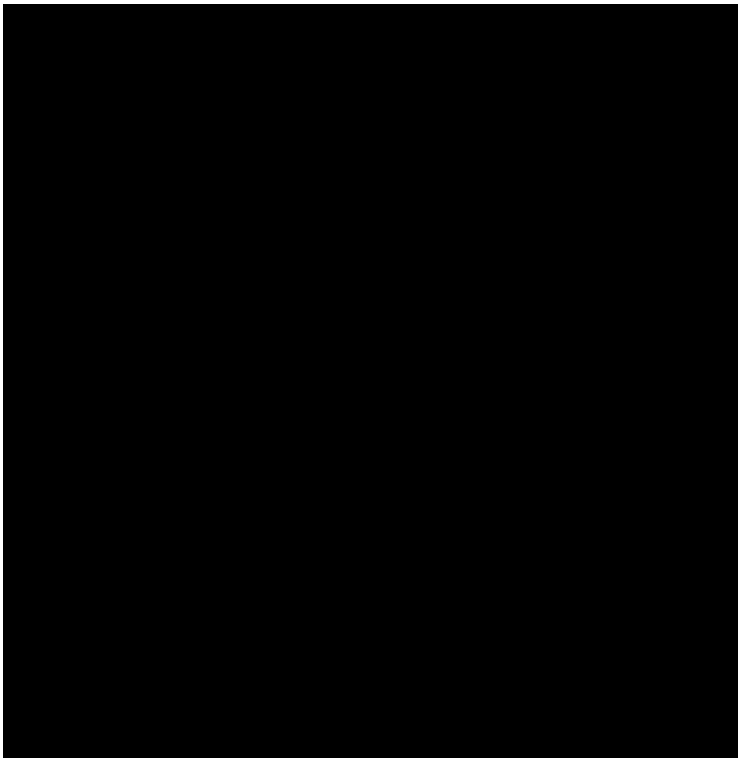

Figure 56: Cracks on the foundation on Sodium Chloride [redacted].

Finding 11: ESRB staff observed a lack of inspection records on rigging equipment.

GO 167-B, Appendix E, OS 1: Safety states in part:

> *"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site. The company behavior ensures that personnel at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

ESRB staff observed rigging and lifting equipment in the [redacted]. While the Plant maintains and organizes this equipment properly, several areas require improvement for worker safety. The Plant has not been conducting periodical inspections of the equipment. The Plant staff stated that the rigging and lifting equipment have been inspected only before being used rather than on a periodic basis. Per Occupational Safety and Health Administration (OSHA) and American Society of Mechanical Engineers (ASME) regulations, periodic rigging and lifting equipment inspections must be documented and performed at least once yearly in addition to equipment inspections before being used. If the equipment is going to be subjected to harsher service conditions, it may need to be inspected every three months or perhaps every month.

Additionally, ESRB staff observed that some sling labels are not legible. Label information is critical for safety. PEF must inspect all rigging and lifting equipment and immediately remove any equipment that lacks proper labels from service as well as any damaged or defective equipment. PEF must also develop and implement an inspection procedure for daily checks before equipment use, conduct thorough periodic inspections, and provide trainings for all personnel who use the equipment.

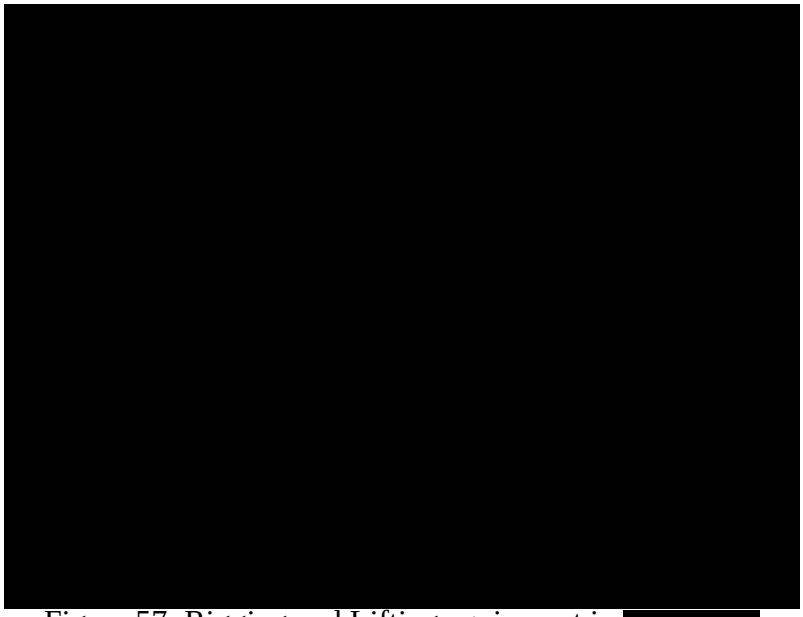

Figure 57: Rigging and Lifting equipment in [redacted]

Finding 12: Plant Engineering must improve the identification and repair of hot spots on [redacted].

GO 167-B, Appendix E, OS 1: **Safety** states in part:

> *"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site. The company behavior ensures that personnel at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

During the field inspection, ESRB staff inspected hot spots on [redacted] as noted by recent infrared inspection records. These hot spots are concentrated in the [redacted]. Persistent hot spots with high temperatures have been noted in the Plant's [redacted] inspection records. Specifically, the most recent [redacted] infrared inspections revealed ongoing hot spots in [redacted], including multiple hot spots in the [redacted] and numerous hot spots in five areas of [redacted]. During the field inspection, ESRB

staff observed some hot spots on [redacted], with temperature ranging from [redacted].

Hot spots degrade insulation, reducing the [redacted] thermal efficiency and compromising the protection of the outer casing and worker safety. PEF must promptly repair the defective insulation in the affected areas and provide ESRB staff with the 2024 infrared inspection records, including evidence of improved hot spot conditions or a detailed repair plan with a timeline for addressing identified hot spots.

Additionally, it is strongly recommended that PEF perform infrared inspections under maximum load conditions whenever possible. For example, the [redacted] inspection record of [redacted] was collected at a [redacted] load, while the inspections in [redacted] were conducted at a [redacted] load. Future inspections should be carried out at a similar or maximum MW load to ensure accurate and consistent information for trend analysis.

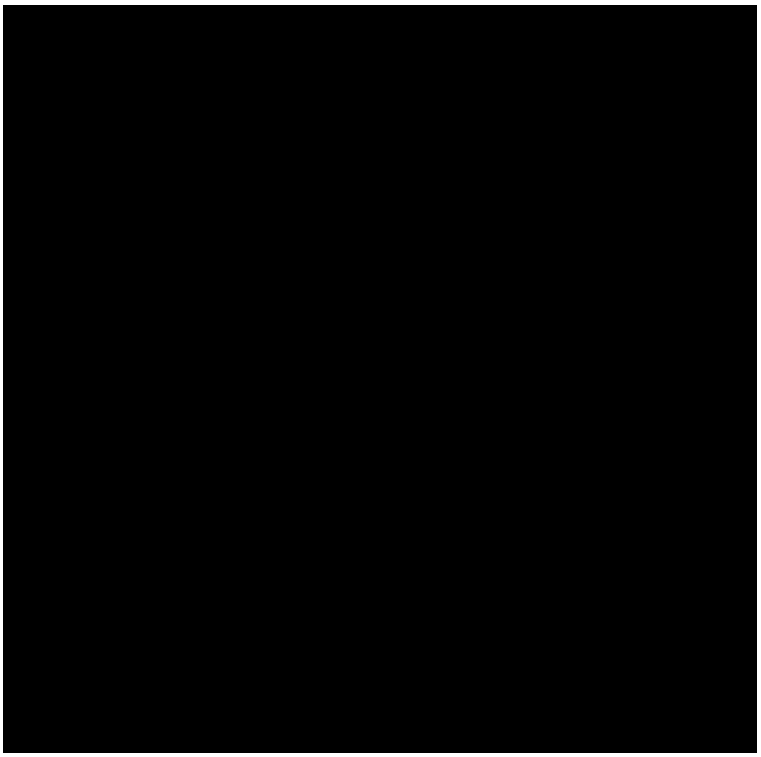

Figure 58: Discolored hot spot on [redacted].

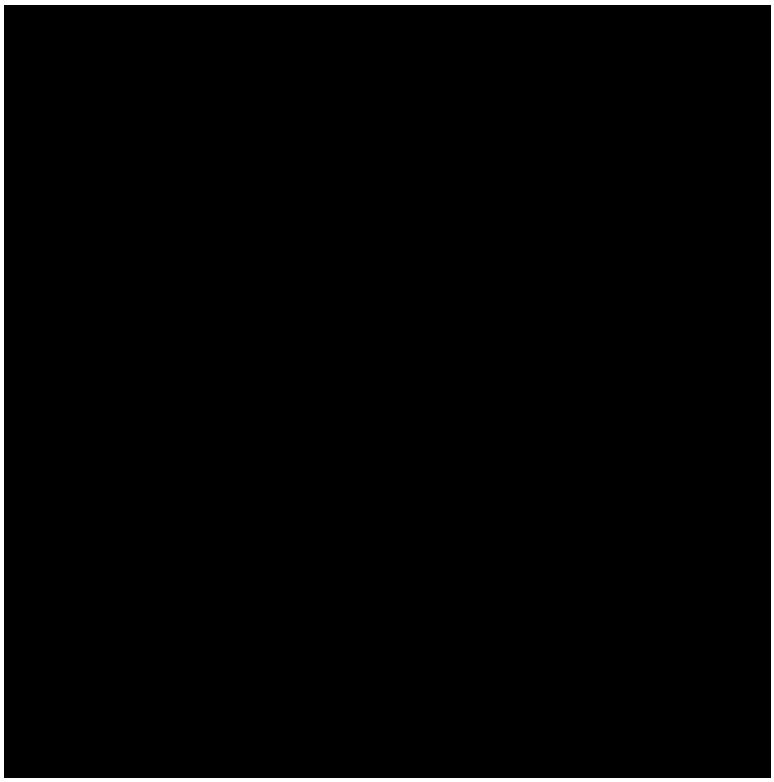

Figure 59: Hot spots are observed at the [redacted]

Figure 60: Hot spots are observed at [redacted].

Finding 13: ESRB staff observed deteriorating, outdated, and missing signage in various locations throughout the Plant.

GO 167-B, Appendix E, OS 1: Safety states in part:

"The protection of life and limb for the work force is paramount. GAOs have a comprehensive safety program in place at each site..."

GO 167-B, Appendix D, MS 4: Problem Resolution and Continuing Improvement states:

"The company values and fosters an environment of continuous improvement and timely and effective problem resolution."

GO 167-B, Appendix D, MS 11: Plant Status and Configuration states:

"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."

ESRB staff noted that the Plant is falling behind on replacing deteriorating signs and is missing signs in critical areas including the following:

1. Deteriorated confined space signage on the [redacted].

Figure 61: Deteriorated confined space signage on [redacted].

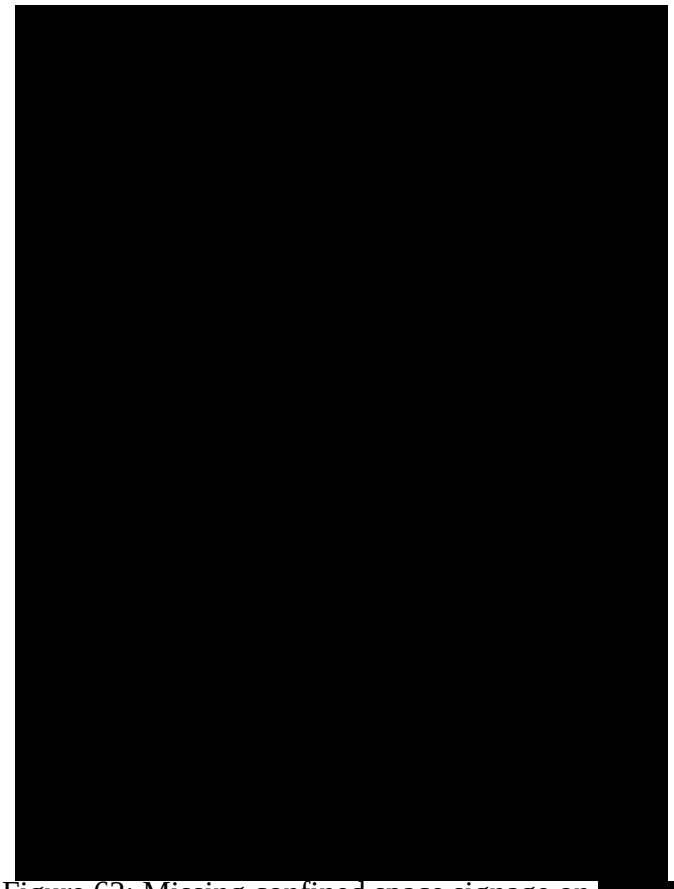

Figure 62: Missing confined space signage on [redacted].

Figure 63: Deteriorated confined space signage on [redacted].

2. Missing high voltage signage on the [redacted]. Additionally, fire suppression pipe identification stickers are also missing on the [redacted].

Figure 64: Missing high voltage signage on [redacted].

Figure 65: Missing high voltage signage on [redacted].

Figure 66: Missing high voltage signage and fire suppression pipe identification [redacted].

Figure 67: Missing High Voltage warning sign on [redacted].

3. Deteriorated and missing pipe identification stickers observed on [redacted].

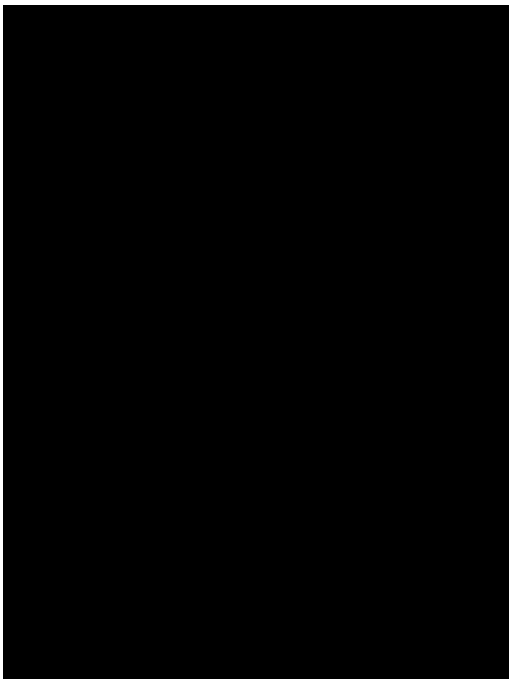

Figure 68: Faded stickers on a [redacted].

Figure 69: Damaged signage on a [redacted].

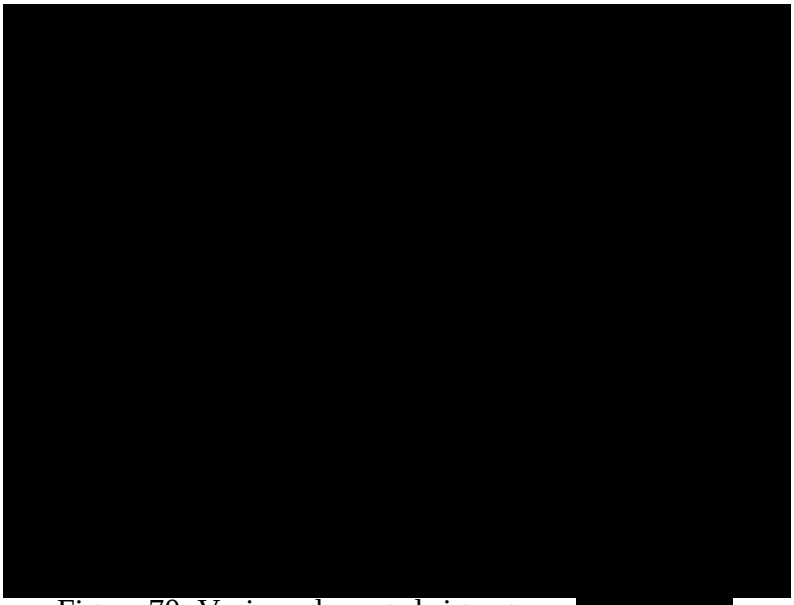

Figure 70: Various damaged signage on [redacted].

4. Missing confined space signage on [redacted] PEF immediately fixed the missing signage during the audit.

Figure 71: (Left) Missing confined space sticker. (Right) PEF immediately added the missing signage.

5. Faded and missing stickers located on the electrical junction box on [redacted].

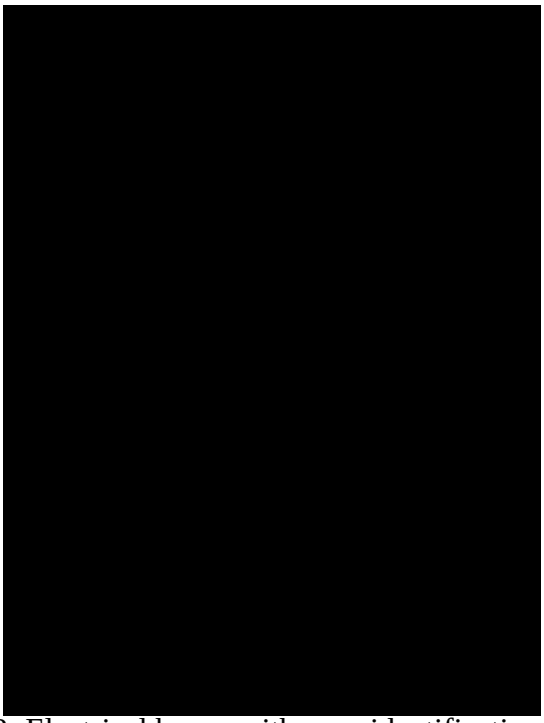

Figure 72: Electrical boxes with poor identification stickers.

6. Deteriorated confined space sign on [redacted],

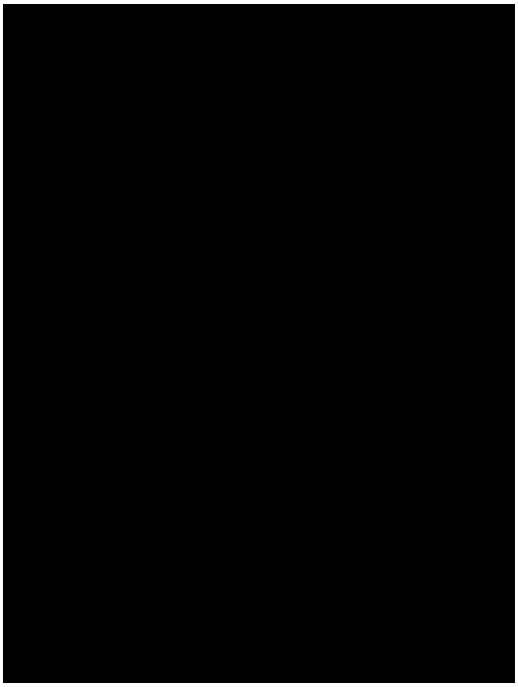

Figure 73: Damage to confined space sticker.

7. An abandoned and worn out LOTO on the [redacted] that is dated from [redacted]

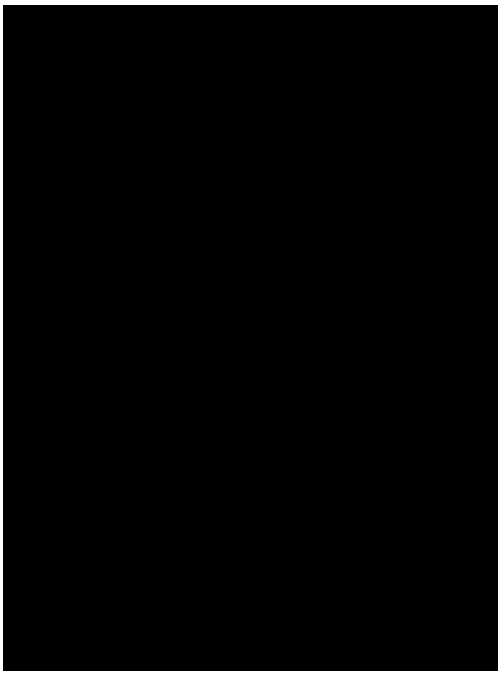

Figure 74: Abandoned and worn out LOTO tag.

8. An abandoned and worn-out maintenance tag left on [redacted] in the [redacted].

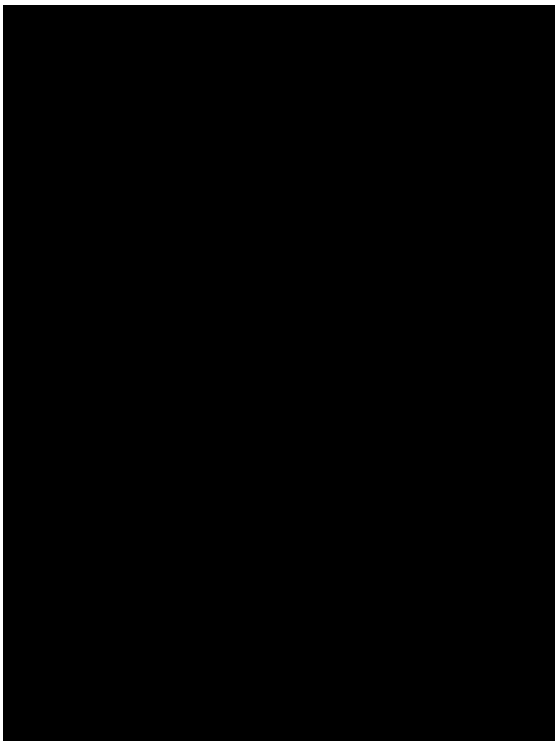

Figure 75: Abandoned and worn-out maintenance tag.

9. Muster/evacuation signage posted is small and not clearly visible from a distance. PEF must ensure that muster/evaluation signage is clearly visible, and font size is legible from a distance.

Figure 76: Small and illegible muster point sign.

10. ESRB staff identified a decommissioned eye wash station in the [redacted]. PEF must remove the signage to prevent confusion and ensure that employees, contractors, and visitors are aware that the station is no longer operational.

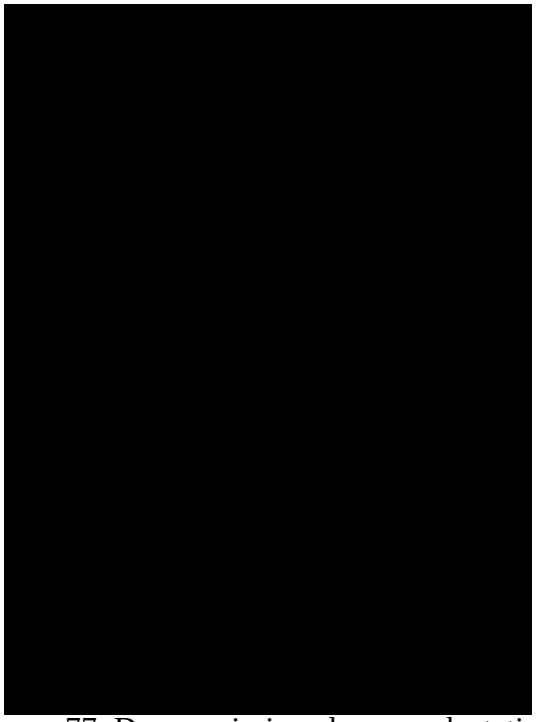

Figure 77: Decommissioned eye wash station.

Finding 14: ESRB staff observed flammable material storage cabinets without self-closing mechanisms.

GO 167-B, Appendix E, OS 10: Environmental Regulatory Requirements states in part:

> *"Environmental regulatory compliance is paramount in the operation of the generating asset."*

NFPA 1 60.1.2.23 (d) states:

> *"Doors shall be well fitted, self-closing, and equipped with a self-latching device."*

ESRB staff observed a flammable material storage cabinet in the Plant did not have a self-closing mechanism. No flammable materials are being stored in the cabinet, but the cabinet is marked for flammable storage. Plant management stated that the cabinet is no longer used to store flammable materials, in which case PEF must remove all flammable storage stickers from the cabinet and ensure no flammable materials are stored in the cabinet. Otherwise, PEF must ensure that all flammable material storage cabinets on site are fitted with self-closing mechanisms.

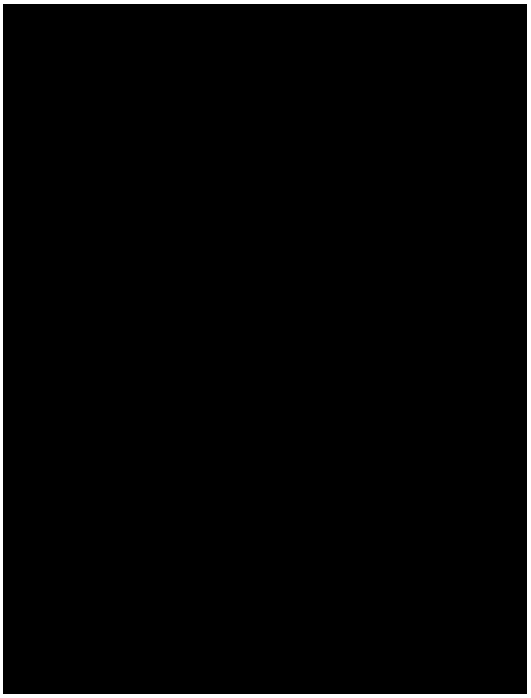

Figure 78: Flammable material storage cabinet with no self-closing mechanism in the [redacted].

Finding 15: ESRB staff observed improper housekeeping.

GO 167-B, Appendix E, OS 1: Safety states in part:

> *"The protection of life and limb for the work force is paramount. The company behavior ensures that individuals at all levels of the organization consider safety as the overriding priority."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."

ESRB staff identified housekeeping deficiencies in various areas of the Plant including the following:

1. Bolts from past maintenance left to rust on the valve that was replaced. During the audit PEF immediately cleaned up the bolts.

Figure 79: (Right) Rusted bolts left on a valve. (Left) During the audit, PEF immediately cleaned up the bolts.

2. The [redacted] gate is unlocked, allowing unauthorized access. The gate should be kept locked to prevent individuals who lack proper training and equipment from entering the [redacted].

Figure 80: Unlocked [redacted] gate.

3. The [redacted] were found unlocked, posing a safety and security risk. Locking these [redacted] helps prevent accidental activation by unauthorized individuals and reduces the risk of vandalism or sabotage.

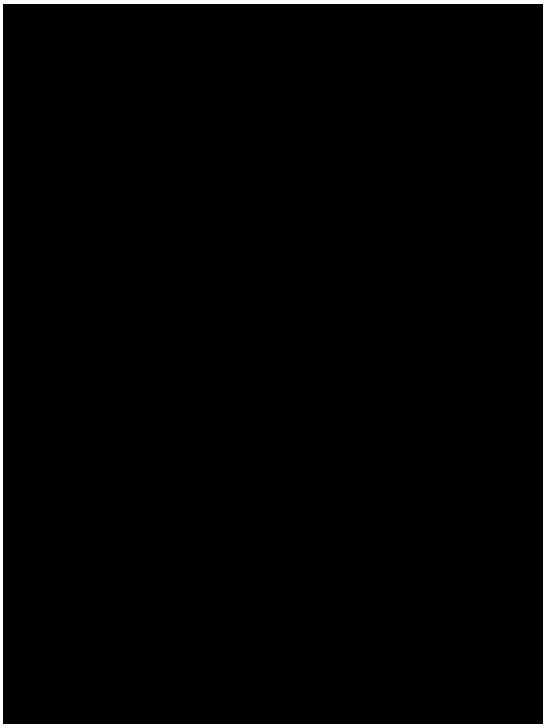

Figure 81: Unlocked [redacted].

Finding 16: The Plant has missing or incorrectly labeled NFPA 704 Placards.

GO 167-B, Appendix D, MS 1: Safety states in part:

"The protection of life and limb for the work force is paramount. The company behavior ensures that individuals at all levels of the organization consider safety as the overriding priority."

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

"Station *activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

NFPA 704: 4.2.3.3 states in part:

"Where more than one chemical is present in a building or specific area, professional judgement shall be exercised to indicate ratings using the following methods:

1) *Composite Method. Where many chemicals are present, a single sign shall summarize the maximum ratings contributed by the material(s) in each category and the special hazard category for the building and/or area."*

During the inspection of the Plant, ESRB staff noted that several NFPA 704 hazard placards are either absent or incorrectly labeled. Additionally, ESRB staff noted one instance within the Plant's documentation where NFPA 704 hazard information was incorrectly labeled. PEF must review all chemical Safety Data Sheets (SDS) to ensure accurate labeling and must add or replace the following with accurate labels:

1. The [redacted] container in the [redacted] has a NFPA 704 hazard placard that does not match the SDS sheet. The SDS had a rating of [redacted] for health, [redacted] for flammability, and [redacted] for reactivity. Meanwhile, the tank in the warehouse area had a NFPA 704 hazard placard with a rating of [redacted] for health, [redacted] for flammability and [redacted] for reactivity. The tank NFPA 704 hazard placard must be updated to match the SDS.

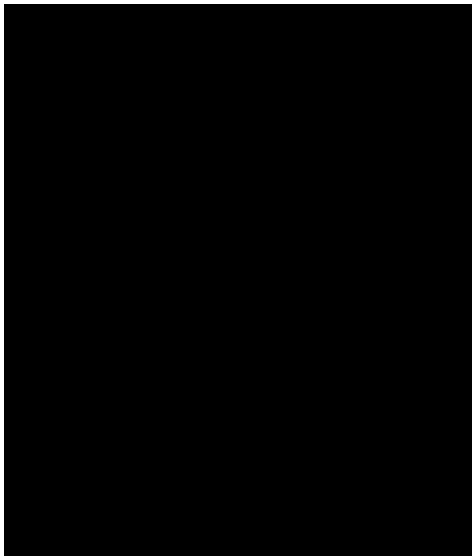

Figure 82: [redacted] container with incorrect information.

2. In [redacted] ERP Part 1, a table is presented with [redacted]. The listing of [redacted] is shown as below:

Chemical	Location	Hazard Rating	Fire	Health	Reactivity
[redacted]					

Figure 83: Listing of [redacted] as found in the ERP.

The information presented on the ERP Part 1 table does not match the SDS for [redacted]. The SDS presented to ESRB staff for [redacted] had a rating of [redacted] for health, [redacted] for flammability, and [redacted] for reactivity. The table in the ERP must be updated.

3. ESRB staff noted the absence of NFPA 704 placards on the [redacted] and from the [redacted]. PEF must ensure that these doors are properly labeled to reflect the hazardous materials classification of the batteries

Figure 84: [redacted] missing NFPA 704 placards.

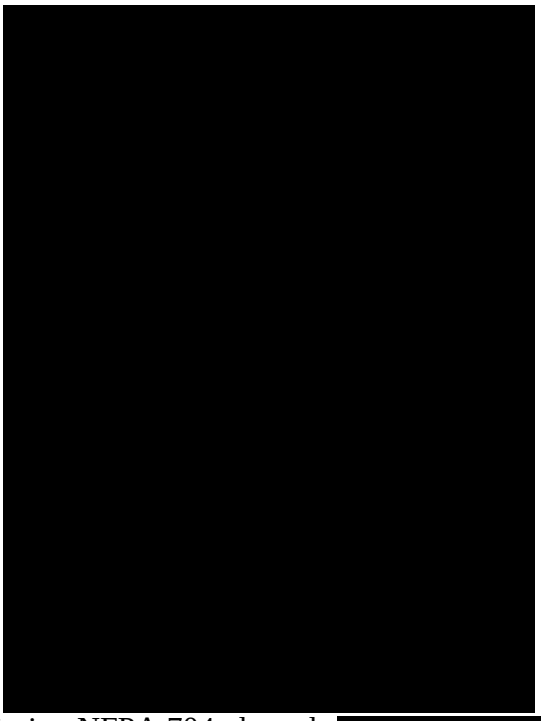

Figure 85: Missing NFPA 704 placards [redacted]

4. The Plant's [redacted] main gate is missing an NFPA 704 placard. It is essential that this placard be installed to inform emergency responders, Plant personnel, and visitors of the chemical hazards present within the [redacted].

Figure 86: [redacted] main gate missing an NFPA 704 placard

5. The [redacted] tank has an incorrectly labeled NFPA 704 placard with all hazards labeled as [redacted]. The SDS sheet for [redacted] has a health rating of [redacted], a flammability rating of [redacted], and a reactivity rating of [redacted]. PEF must update the placard on the tank.

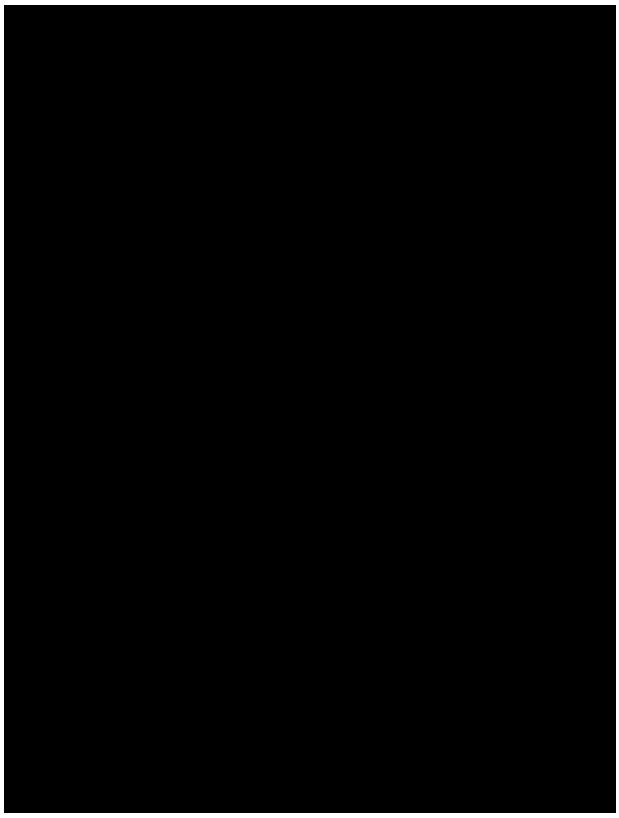

Figure 87: [redacted] tank with an incorrectly labeled NFPA 704 placard.

Finding 17: ESRB staff identified multiple instances of damaged equipment throughout the Plant.

GO 167-B, Appendix E, OS 1: Safety states in part:

> *"The protection of life and limb for the work force is paramount. The company behavior ensures that individuals at all levels of the organization consider safety as the overriding priority."*

GO 167-B, Appendix E, OS 8: Plant Status and Configuration states:

> *"Station activities are effectively managed so plant status and configuration are maintained to support safe, reliable and efficient operation."*

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

> *"Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation."*

During the Plant inspection, ESRB staff observed several instances of broken equipment. PEF must conduct thorough inspections to identify and promptly repair any damaged equipment including the following:

1. A [redacted] with a missing bolt near the [redacted]. The [redacted] bolt must be replaced.

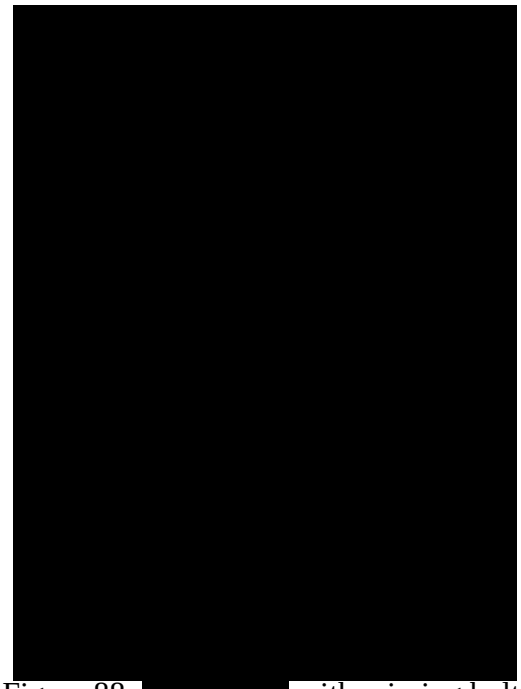

Figure 88: [redacted] with missing bolt.

2. A disconnected [redacted] spotted under the [redacted]. PEF must repair the [redacted]

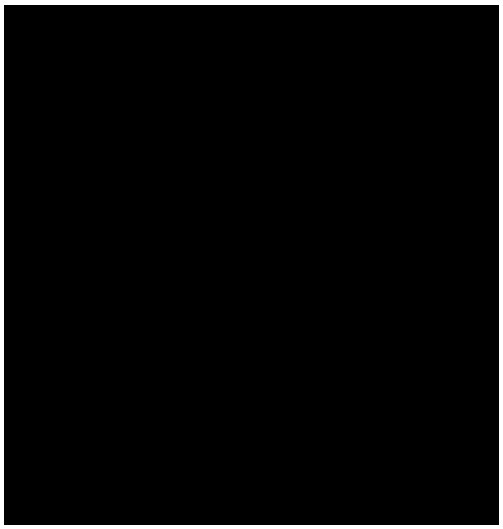

Figure 89: A disconnected [redacted] between [redacted].

3. The grounding cables on the [redacted] have been severed. PEF must repair these cables as soon as possible.

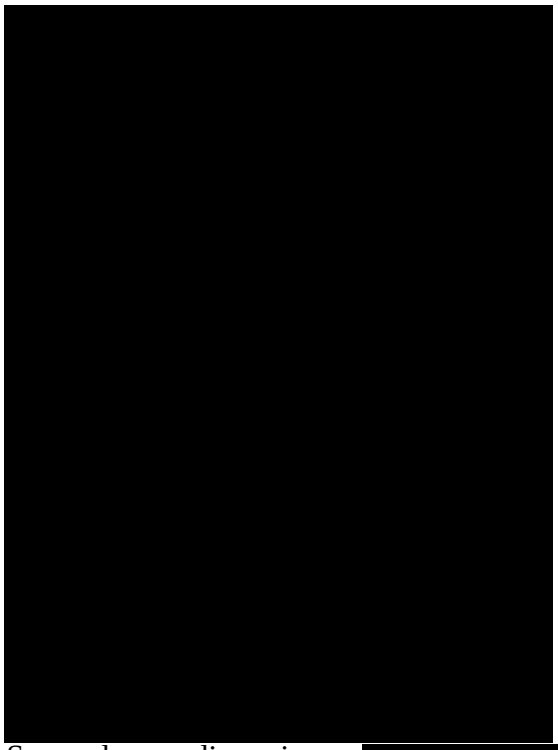

Figure 90: Severed grounding wire on [redacted].

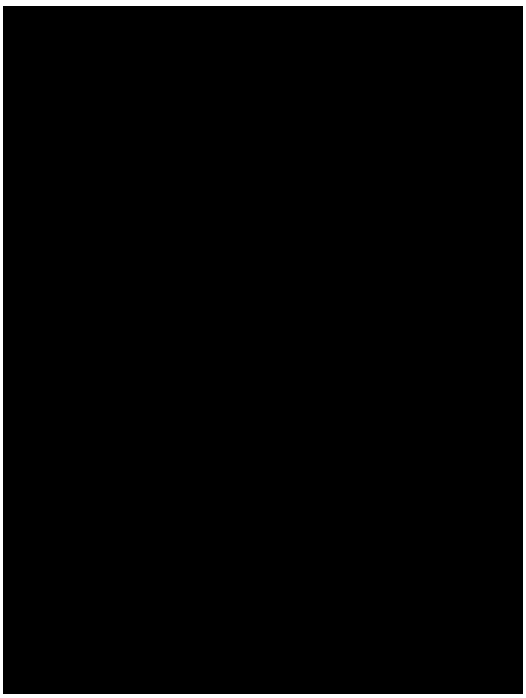

Figure 91: [redacted] with a severed grounding wire on [redacted].

4. Non-functional emergency exit light in the [redacted].

Figure 92: Non-functional emergency exit light.

Finding 18: ESRB staff observed an active equipment alarm.

GO 167-B, Appendix D, MS 9: Conduct of Maintenance states:

> *"Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation."*

GO 167-B, Appendix E, OS 4: Problem Resolution and Continuing Improvement states:

> *"The GAO values and fosters an environment of continuous improvement and timely and effective problem resolution."*

While performing the Plant inspection, ESRB staff observed that the [redacted] sensor on [redacted] has an active alarm. Active alarms are a sign of potential problems that need to be addressed immediately. PEF must conduct routine inspections to identify and resolve equipment active alarms.

Figure 93: [redacted] sensor with an active alarm.

II. List of Documents Reviewed

Category	Reference #	CPUC-Requested Documents
Safety	1	Orientation Program for Visitors and Contractors (Onsite)
	2	Evacuation Procedure
	3	Evacuation Map and Plant Layout
	4	Evacuation Drill Report & Critique (last 3 years)
	5	Hazmat Handling Procedure
	6	SDS for All Hazardous Chemicals
	7	Injury & Illness Prevention Plan (IIPP)
	8	OSHA Form 300 (Injury Log) in last 4 years
	9	OSHA Form 301 (Incident Report) in last 4 years
	10	List of all CPUC Reportable Incidents (last 5 years)
	11	All Root Cause Analyses (last 5 years)
	12	Fire Protection System Test Report and Inspection Record (last 3 years)
	13	Insurance Report / Loss Prevention / Risk Survey (last 3 years)
	14	Lockout / Tagout Procedure
	15	Arc flash Analysis
	16	Confined Space Entry Procedure
	17	Plant Physical Security and Cyber Security Procedures
	18	5-year Water Based Fire Protection System Inspection Record
Training	19	Safety Training Records
	20	Skill-related Training Records
	21	Certifications for Welders, Forklift & Crane Operators
	22	Hazmat Training and Records
Contractor	23	Latest list of Qualified Contractors

Category	Reference #	CPUC-Requested Documents
	24	Contractor Selection / Qualification Procedure
	25	Contractor Certification Records
	26	Contractor Monitoring Program
Regulatory	27	Daily CEMS Calibration Records (Onsite)
	28	Air Permit
	29	Water Permit
	30	Spill Prevention Control Plan (SPCC)
	31	CalARP Risk Management Plan (RMP)
O&M	32	Daily Round Sheets / Checklists (Onsite)
	33	Feedwater Grab-sample Test Records
	34	Water Chemistry Manual
	35	Logbook (Onsite)
	36	List of Open/Backlogged Work Orders
	37	List of Closed/Retired Work Orders
	38	Work Order Management Procedure
	39	Computerized Maintenance Management System (Demonstration Onsite)
Gas Turbine	40	Maintenance & Inspection Procedures (or Related Documents)
	41	Borescope Inspection Reports (last 2 years)
	42	Hot Gas Path Inspection Reports
	43	Combustors Inspection Reports
	44	Intercooler Inspection Reports (if applicable)
	45	Overspeed Trip Test Records
	46	Bearing Lube Oil Analysis Reports
	47	DC Lube Oil Pump Test Records

Category	Reference #	CPUC-Requested Documents
Main Plant Air Compressors	48	Inspection Procedures and Records
Document	49	P&IDs
	50	Vendor Manuals (Onsite)
Spare Parts	51	Spare Parts Inventory List
	52	Shelf-life Assessment Procedures and Reports
Management	53	Employee Performance Review Procedures and Verifications
	54	Organizational Chart
HRSG	55	Tube Analysis Report
	56	Tube Clean Records (Internal and/or external)
	57	Safety Valve Test Records
	58	Hot Spots / IR Inspection Reports
	59	Structural Integrity Assessment
HEP	60	FAC Inspection Procedure & Measurements
	61	Pipe Hangers / Support Calibration Records
Steam Turbine	62	NDE Reports
	63	Borescope Inspection Records
	64	Most recent major STG inspection report
	65	STG inspection reports
	66	Overspeed Trip Test Records
	67	Bearing Lube Oil Analysis Reports
	68	DC Lube Oil Pump Test Records
	69	Emergency Stop Valve Test Records on Main Steam Line
	70	Steam Turbine Water Induction Prevention Procedures
Generator (Combustion and	71	Bearing Lube Oil Analysis
	72	Maintenance & Inspection Procedures (or related documents)

Category	Reference #	CPUC-Requested Documents
Steam Turbine Generators)	73	Electrical Test Records (Reactive power verification, excitation control modeling, polarization, etc.)
Transformers (All)	74	Hot Spots / IR Inspection Reports
	75	Oil Analysis Reports
Cathodic Protection	76	Procedures and Inspection Records
Air Cooled Condenser System	77	Cooling Fans & Motors Inspection Records
	78	Cooling Tower Structural Integrity Assessment
	79	Circulating Water Pumps Maintenance Records
Instrumentation	80	Instrument Calibration Procedures and Records
Test Equipment	81	Calibration Procedures and Records
Emission Control Equipment (SCR, Ammonia, NOx, CO)	82	Maintenance & Inspection Procedures and Records
Internal Audit	83	Internal Audit Procedures and all Records