

**CPUC AUDIT FINDINGS OF CALPINE  
LOS ESTEROS CRITICAL ENERGY LLC  
October 23-25, 2023**

**I. Findings**

**Finding 1: The Plant needs to install and/or replace confined space signs.**

**GO 167, Operation Standard (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.”*

**Occupational Safety and Health Administration (OSHA) Standard 1910.146(c)(2): Permit-required confined spaces** states:

*“If the workplace contains permit spaces, the employer shall inform exposed employees, by posting danger signs or by any other equally effective means, of the existence and location of and the danger posed by the permit spaces.”*

ESRB staff identified deteriorated and faded confined space signage around the Plant’s facilities, shown below in Figures 1 to 3. Signage is required to notify staff and contractors of safety hazards and the need to obtain a permit before entering a confined space. The Plant must continue to monitor the condition of all signage and replace as needed.

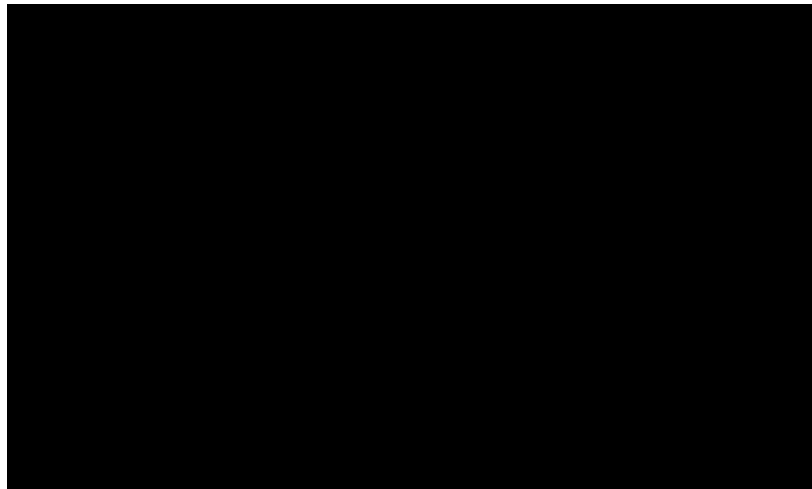


Figure 1: Confined space sign is faded.



Figure 2: Confined space sign [REDACTED] is damaged.

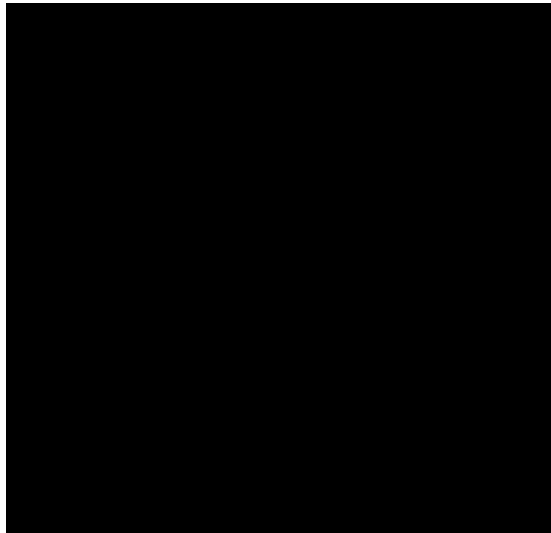


Figure 3: Confined space sign for the [REDACTED] is faded/missing.

**Finding 2: The Plant needs to address corrosion throughout the Plant's facilities.**

**GO 167-B, Appendix D, Maintenance Standard (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 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.”*

**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 minor to moderate corrosion on [REDACTED] throughout the Plant’s facilities, as shown in Figures 4 to 7 below. The Plant must address corrosion on its facilities since it negatively impacts structural integrity and could lead to failure if not addressed. ESRB recommends the Plant create a corrosion mitigation plan that will be designed to evaluate critical components to create a hierarchy for addressing the corrosion that was seen during the audit.

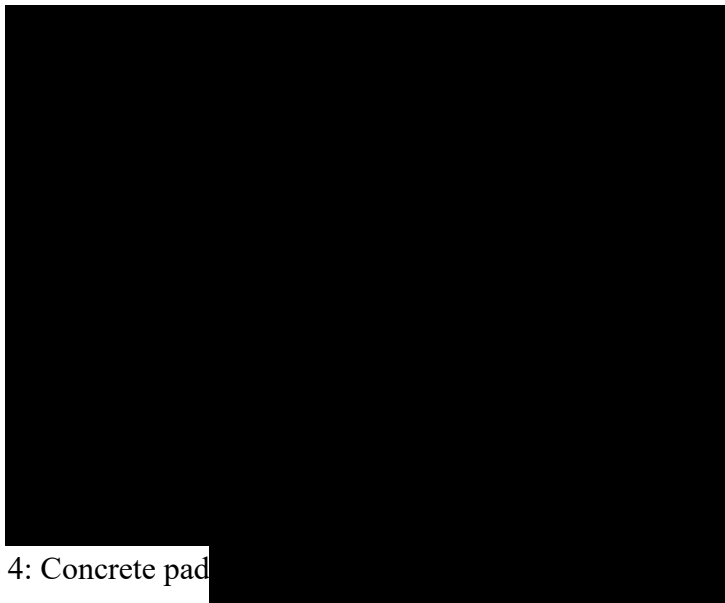


Figure 4: Concrete pad [REDACTED] is corroded.



Figure 5: Concrete pad and steel base [REDACTED] are corroded.

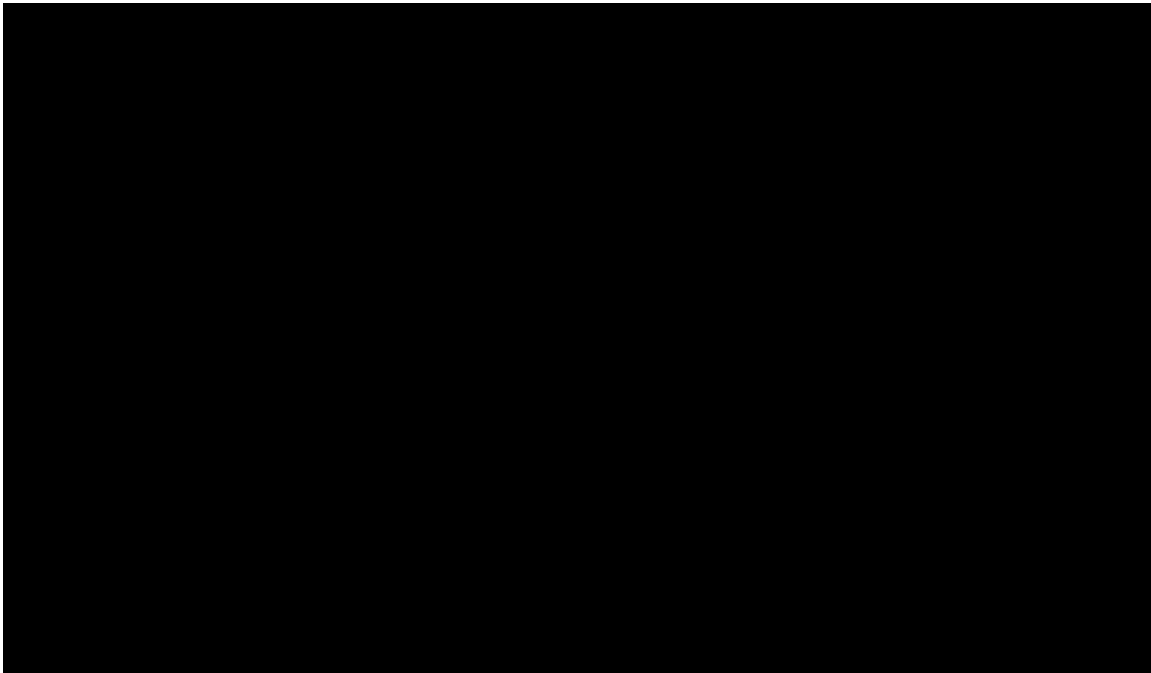


Figure 6: [REDACTED] are corroded. The Plant must promptly address this corrosion since the [REDACTED] contains incoming [REDACTED] which poses a safety hazard to workers.

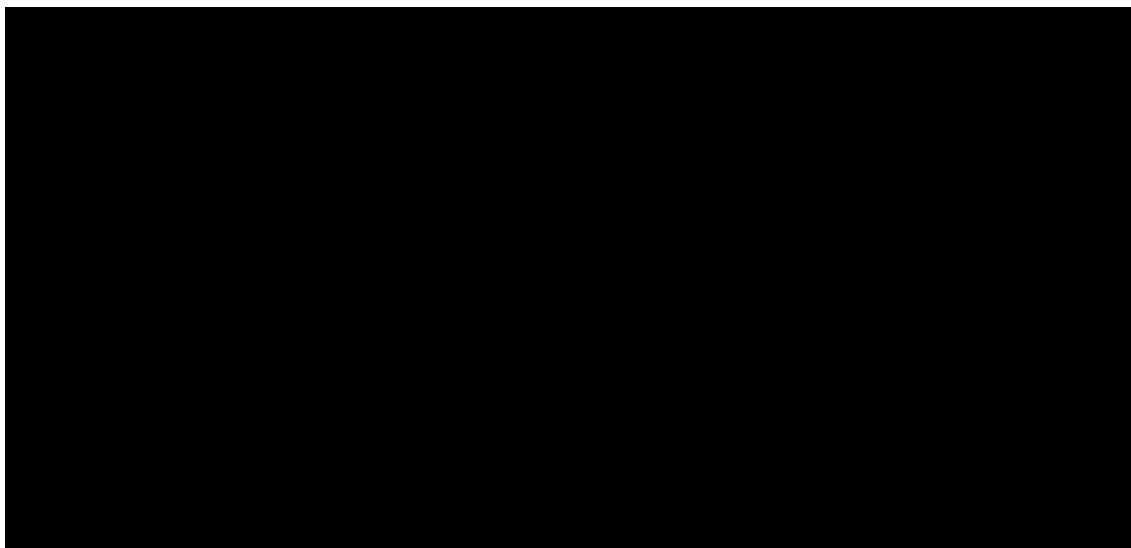


Figure 7: Steel plate for railing [REDACTED] is corroded.

**Finding 3: ESRB staff observed that the secondary containment for the [REDACTED] requires resealing.**

**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 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 the surface coating for secondary containment for the [REDACTED] [REDACTED] was cracked and peeling, see Figure 8 below. This is a crucial component in the Plant’s operation which is susceptible to corrosion without a surface coating.



Figure 8: Peeling surface coating for secondary containment of [REDACTED]

**Finding 4: The Plant needs to correct AC Unit leaks throughout the Plant.**

**GO 167, 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, OS 11: Operations Facilities, Tools and Equipment** states:

*“Facilities and equipment are adequate to effectively support operations activities.”*

**GO 167, 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 noted that all of the AC units [REDACTED] were dripping [REDACTED] creating slip hazards and increasing susceptibility to corrosion. The Plant must repair these leaks to maintain safety, reliability, and efficiency of the Plant.

## II. Documents Reviewed

ESRB staff reviewed the following records and documents:

Category	Ref #	CPUC-Requested Documents
Safety	1	Orientation Program for Visitors and Contractors**
	2	Evacuation Procedure**
	3	Evacuation Map and Plant Layout
	4	Evacuation Drill Report & Critique (last 3 years)
	5	Hazmat Handling Procedure**
	6	MSDS 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	Root Cause Analysis of all Reportable Incidents (if any)
	12	Fire Sprinklers Test Report (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 and Records**
	18	Fire Protection System Inspection Record**
	19	Job Safety Analysis Program**
	20	Hot work Procedure**
Training	21	Safety Training Records*
	22	Skill-related Training Records*
	23	Certifications for Welders, Forklift & Crane Operators*
	24	Hazmat Training and Record*
Contractor	25	Latest list of Qualified Contractors*
	26	Contractor Selection / Qualification Procedure**
	27	Contractor Certification Records*
	28	Contractor Monitoring Program**
Regulatory	29	Daily CEMS Calibration Records**
	30	Air Permit*
	31	Water Permit*
	32	Spill Prevention Control Plan (SPCC)**
	33	RATA Test Results (past 5 years)**
	34	Hazardous Waste Transfer Manifests (past 5 years)**
	35	Daily Round Sheets / Checklists*
	36	Feedwater Grab-sample Test Records**

O&M	37	Water Chemistry Manual**
	38	Logbook**
	39	List of Open/Backlogged Work Orders*
	40	List of Closed/Retired Work Orders (last 4 quarters)*
	41	Work Order Management Procedure (last 3 revisions, if applicable)**
	42	Computerized Maintenance Management System (Demonstration Onsite)**
	43	All Equipment Failure Root Cause Analyses **
	44	Vegetation Inspection & Control Program Records*
Main Plant Compressor(s)	45	Inspection Procedures and Records*
Document	46	P&IDs*
	47	Vendor Manuals*
Spare Parts	48	Spare Parts Inventory List*
	49	Shelf-life Assessment Report*
Management	50	Employee Performance Review Procedures and Verifications**
	51	Organizational Chart*
Steam Piping	52	Scaling Inspection & Removal Program and Records*
	53	Safety Valve Test Records*
	54	Hot Spots / IR Inspection Reports*
	55	FAC Inspection Procedure & Measurements*
	56	Corrosion Under Insulation Inspection Program*
	57	Pipe Hangers / Support Calibration Records*
Steam Turbine	58	NDE Reports*
	59	Overspeed Trip Test Records*
	60	Bearing Lube Oil Analysis Reports*
	61	DC Lube Oil Pump Test Records*
	62	Emergency Stop Valve Test Records on Main Steam Line*
	63	Borescope Inspection Records*
	64	Most recent Major/Minor STG inspection reports*
Generator	65	Bearing Lube Oil Analysis*
	66	Maintenance & Inspection Procedures (or related documents)**
	67	Polarization Test Records*
Transformer	68	Hot Spots / IR Inspection Reports*
	69	Oil Analysis Reports*
Cathodic Protection	70	Procedures and Inspection Records*
Cooling Tower System	71	Cooling Fans & Motors Inspection Records*
	72	Cooling Tower Structural Integrity Assessment*
	73	Condensate Pumps Maintenance Records*
Reinjection Pumps	74	Maintenance & Inspection Procedures and Records*
Instrumentation	75	Instrument Calibration Procedures and Records*

Test Equipment	76	Calibration Procedures and Records*
Emission Control Equipment	77	Maintenance & Inspection Procedures and Records**
Internal Audit	78	Internal Audit Procedures and all Records**

\* Provide data in a searchable format such as a searchable PDF, Word Document, Excel Spreadsheet, etc.

\*\* These items may be provided on-site by the first day of the audit.