

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 14, 2022

GA2022-03AHB

Weikko Wirta
Director, Plant Operations
AES Huntington Beach Energy Project
21730 Newland Street
Huntington Beach, CA 92646

SUBJECT: Audit report of AES Huntington Beach Energy Project

Mr. Wirta:

On behalf of Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Saimon Islam and Richard Le of my staff conducted a power plant audit of AES Huntington Beach Energy Project from May 31, 2022, through June 3, 2022.

During the audit, my staff observed plant operations, inspected equipment, reviewed data, interviewed plant staff, and identified violations of General Order (GO) 167-B. A copy of the audit findings itemizing the violations is enclosed. Please advise me no later than August 12, 2022, by electronic or hard copy, of all corrective measures taken by AES Huntington Beach Energy Project to remedy and prevent the recurrence of such violations. Your response should include a Corrective Action Plan with a description and completion date of each action and measure completed.

If you wish to make a claim of confidentiality covering any of the information in the report, you may submit a confidentiality request pursuant to Section 15.4 of GO 167-B, using the heading "General Order 167-B Confidentiality Claim". The request should be sent to Saimon Islam with a copy to me and the GO 167-B inbox GO167@cpuc.ca.gov by August 15, 2022.

If you have any questions concerning this audit, you can contact Saimon Islam at Saimon.Islam@cpuc.ca.gov or (213) 326-2600.

Sincerely,

A handwritten signature in blue ink that reads "Fadi Daye".

Fadi Daye, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Attachment: Findings

Cc: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, CPUC
Majed Ibrahim, Senior Utilities Engineer, ESRB, CPUC
Saimon Islam, Utilities Engineer, ESRB, CPUC

I. Findings Requiring Corrective Action

Finding 1: ESRB Inspectors witnessed some damaged insulation

GO 167-B, Appendix D, Maintenance Standard 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.

ESRB staff witnessed damaged insulation on some pipes. Damaged insulation can result in accelerated heat gain or loss and can result in corrosion under insulation.



Damaged Insulation

Finding 02: Missing NFPA (Fire diamond) sign on natural gas compressor room

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

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

NFPA 704: 4.3 Location of Signs states:

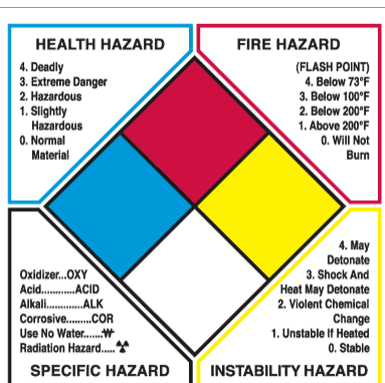
Signs shall be in locations approved by the authority having jurisdiction and as a minimum shall be posted at the following locations:

- 1) Two exterior walls or enclosures containing a means of access to a building or facility.*
- 2) Each access to a room or area.*
- 3) Each principal means of access to an exterior storage area.”*

ESRB staff found missing NFPA sign (the fire diamond) in the natural gas compressor room as indicated below. The numbers in the diamond are important to provide information related to hazards.



Missing NFPA sign (fire diamond)



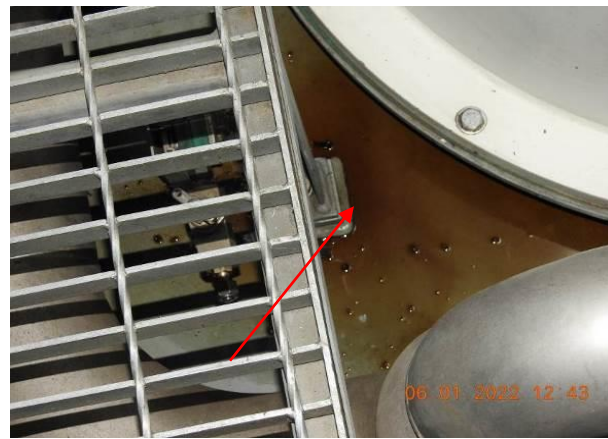
NFPA Fire diamond (For reference only)

Finding 3: ESRB Inspectors witnessed leakage from pipes and other equipment and standing waters in different areas of the plant.

GO 167-B, Appendix D, Maintenance Standard 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.

ESRB staff witnessed standing waters and few leaking pipes. Leaking pipes are indication of lack of maintenance and standing water can result in tripping hazards. Also, staff observed standing lube oil from an old leak.



Standing water in different areas of the plant

Standing Lube oil

Finding No. 4: ERSB Inspectors found numerous examples of poor housekeeping.

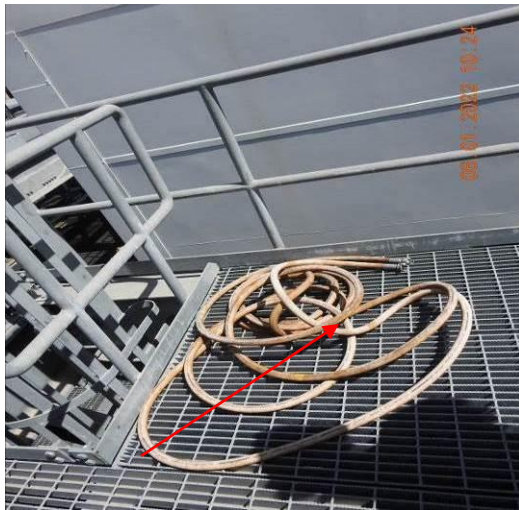
GO 167-B, Appendix D, Maintenance Standard 9: Conduct of Maintenance, states:

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 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 gloves, some unsued pipe joints and buckets on the floor. The staff also observed hoses kept on the ground. All these pose tripping hazards for plant personnel. The plant should ensure that its staff store tools and equipment back in their proper place after each use. ESRB Staff also observed loose insulation covers in several areas of the plant.



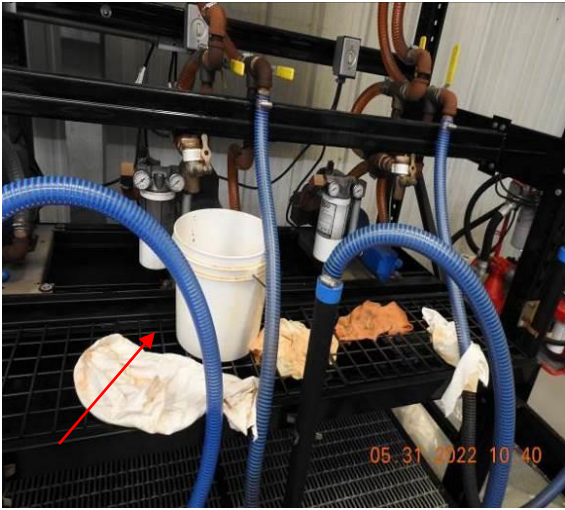
Hoses on the ground



Hoses on the ground



Broken cover of Cable Tray



Gloves, pipe joint, insulation cover on the ground

Finding No. 5: ERSB Inspectors witnessed missing High Voltage sign near the transformers.

GO 167-B, Appendix D, Maintenance Standard 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, Operation Standard 10: Environmental Regulatory Requirements states in part:

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

CAL OSHA, Title 8, § 2874 (e) Signs, states in part:

A permanent, legible, and clearly visible “HIGH VOLTAGE” warning sign, having letters at least 2 inches high, shall be located on the access opening of each transformer enclosure. These signs shall read substantially as follows: “Danger-High Voltage - Keep Out.”

ERSB staff witnessed missing High Voltage sign around the transformer.



Missing High Voltage sign

Finding No. 6: ERSB Inspectors found an outdated Fire Marshal inspection tag and also no tag in another fire extinguisher

GO 167-B, Appendix D, Maintenance Standard 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.

ERSB staff found an outdated fire marshal inspection tag and also another fire extinguisher had no tag. Fire extinguishers are required to be inspected by Fire Marshal annually to make sure they are in good condition and ready to use in case of an emergency.



Outdated inspection tag and missing inspection tag

Finding No. 6: ERSB Inspectors found missing confined space warning and misplaced Hydrogen Gas Safety Sign

GO 167-B, Appendix D, Maintenance Standard 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, Maintenance Standard 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...

ERSB staff found a Confined Space Sign missing in a lube oil room. Also, a danger sign for Hydrogen Gas was not properly attached near Hydrogen gas cylinder storage. Missing safety signs can result in injury for the plant personnel.



Missing Confined Space Sign



Danger sign not properly attached

II. Documents Reviewed

ESRB Staff reviewed the following records and documents:

(** documents were not provided during the time the audit was conducted**)

Category	Reference #	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) (last 3 years)
	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 (last 3 revisions, if applicable)
	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
Training	19	Safety Training Records*
	20	Skill-related Training Records*
	21	Certifications for Welders, Forklift & Crane Operators*
	22	Hazmat Training and Record*
Contractor	23	Latest list of Qualified Contractors*
	24	Contractor Selection / Qualification Procedure
	25	Contractor Certification Records
	26	Contractor Monitoring Program
Regulatory	27	Daily CEMS Calibration Records
	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
	33	Feedwater Grab-sample Test Records

	34	Water Chemistry Manual
	35	Logbook**
	36	List of Open/Backlogged Work Orders*
	37	List of Closed/Retired Work Orders (last 4 quarters)*
	38	Work Order Management Procedure (last 3 revisions, if applicable)
	39	Computerized Maintenance Management System (Demonstration Onsite)**
	40	All Root Cause Analyses (if any)
Gas Turbine	41	Borescope Inspection Reports (last 2 years)
	42	Maintenance & Inspection Procedures (or Related Documents) (last 3 revisions, if applicable)
	43	Intercooler Inspection Reports
	44	Combustors Inspection (CI) Reports
	45	Hot Gas Path (HGI) Inspection Reports
	46	Bearing Lube Oil Analysis Reports
	47	DC Lube Oil Pump Test Records
Main Plant Compressor(s)	48	Inspection Procedures and Records
Document	49	P&IDs*
	50	Vendor Manuals*
Spare Parts	51	Spare Parts Inventory List
	52	Shelf-life Assessment Report
Management	53	Employee Performance Review Procedures and Verifications
	54	Organizational Chart
HRSG	55	Tube Analysis Report
	56	Chemical Clean Report
	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	Overspeed Trip Test Records
	64	Bearing Lube Oil Analysis Reports
	65	DC Lube Oil Pump Test Records
	66	Emergency Stop Valve Test Records on Main Steam Line
	67	Borescope Inspection Records
	68	Most recent Class A (major) STG inspection report
	69	STG inspection reports from May 2011 and March 2013
Generator	70	Bearing Lube Oil Analysis
	71	Maintenance & Inspection Procedures (or related documents)
	72	Polarization Test Records

Transformer	73	Hot Spots / IR Inspection Reports
	74	Oil Analysis Reports
Cathodic Protection	75	Procedures and Inspection Records
Air Cooled Condenser System	76	Cooling Fans & Motors Inspection Records
	77	Cooling Tower Structural Integrity Assessment
	78	Circulating Water Pumps Maintenance Records
Instrumentation	79	Instrument Calibration Procedures and Records
Test Equipment	80	Calibration Procedures and Records
Emission Control Equipment (SCR, Ammonia, NO _x , CO)	81	Maintenance & Inspection Procedures and Records
Internal Audit	82	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.