

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



December 8, 2021

GA2021-08AW

Fernando Gracian, Regional Manager
Clearway Energy
8560 Oak Creek Road
Mojave, CA 93501

SUBJECT: Audit of Alta I-X

Mr. Gracian:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Saimon Islam, Mily Vaidya, and Joceline Pereira of my staff conducted a power plant audit of Alta I-X Wind facilities from September 20, 2021 through September 24, 2021.

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 January 10, 2022, by electronic or hard copy, of all corrective measures taken by Clearway 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 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 Kjetsli, Program Manager, ESRB, CPUC
Majed Ibrahim, Senior Utilities Engineer, ESRB, CPUC
Saimon Islam, Utilities Engineer, ESRB, CPUC

I. Findings Requiring Corrective Action

Finding 01: Missing NFPA (Fire diamond) sign in chemical storage area

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 observed that the outdoor chemical storage area had no NFPA signs.



Signs identify designated place for each substance but no NFPA diamond in the area.

Finding 02: ESRB inspectors observed a rusted and leaking fire pump

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.

GO 167-B, Appendix E, Operation Standard 27: Flow Assisted Corrosion states in part:

Where circumstances require it, the GAO has a flow-assisted corrosion program, which identifies vulnerable equipment, provides for regular testing of that equipment, and responds appropriately to prevent failures.

A fire pump showed corrosion and signs of leaking. It is essential that all fire facilities are properly maintained and remain in reliable condition in case of an emergency.



Buildup around fire pump suggests water leakage over a long period of time.

Finding 03: ESRB inspectors found Chemical storage cabinet structurally unsound

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 found a sagging unsecured shelf within the flammable chemical storage cabinet. Flammable materials should be secured to decrease the risk of spills.



The middle shelf in the cabinet is sagging under the weight of the containers.

Finding 04: ESRB inspectors witnessed deteriorated High voltage stickers on transformers

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.

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.”

ESRB inspectors found several pad mounted transformers with high voltage stickers that were deteriorated beyond recognition. External warning signs are a crucial safety device as these transformers are within an area that is open to the public.



Several deteriorated high voltage stickers on outdoor transformers.

Finding 05: ESRB inspectors witnessed several safety signs deteriorated or illegible

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 found safety signs in poor condition and in need of replacement. Signs should be legible and color coding should be clearly recognizable.



Signs showing wear and faded colors.

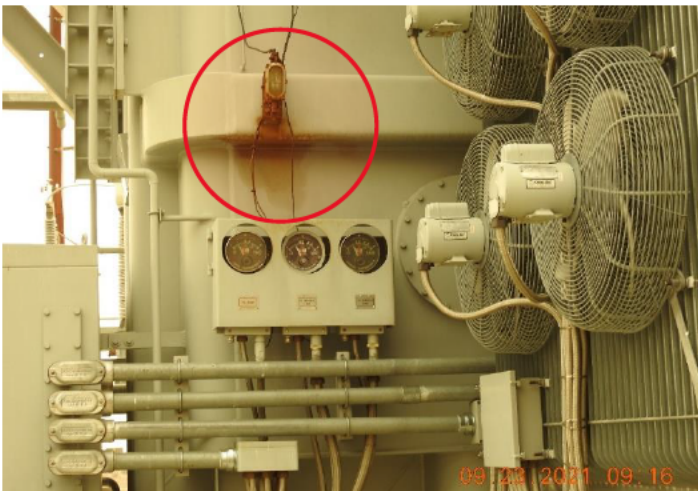


Finding 6: ESRB inspectors witnessed an equipment on transformer rusted and shows recent leaking

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 observed rust and a relatively recent oil stain at a connection point on a substation transformer. Long term oxidation can damage the structural integrity of equipment.



Rust and oil stain on transformer.

Finding 7: ESRB inspectors observed the plant has not updated its arc flash analysis since 2013

GO 167-B, Appendix D, Maintenance Standard 8: Maintenance Procedure and Documentation states:

Maintenance procedures and documents are clear and technically accurate, provide appropriate direction, and are used to support safe and reliable plant operation. Procedures must be current to the actual methods being employed to accomplish the task and are comprehensive to ensure reliable energy delivery to the transmission grid.

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.

ESRB Inspectors observed that Plant Staff has not updated its arc flash analysis. The last analysis was done in 2013. NFPA-70E recommends that arc flash studies be updated when a major modification or renovation takes place and at intervals not to exceed 5 years.

II. Documents Reviewed

Category	Reference #	CPUC-Requested Documents
Safety	1	Orientation Program for Visitors and Contractors**
	2	Evacuation Procedure
	3	Evacuation Map and Plant Layout
	4	Latest Evacuation Drill Report & Critique
	5	Hazmat Handling Procedure
	6	MSDS for All Hazardous Chemicals
	7	Injury & Illness Prevention Plan (IIPP)
	8	OSHA Form 300 (Injury Log) in last 2 years
	9	OSHA Form 301 (Incident Report) in last 2 years
	10	Fire Protection System Inspection Record
	11	Insurance Report / Loss Prevention / Risk Survey
	12	Lockout / Tagout Procedure, In Plant Clearance Procedures
	13	Arcflash Analysis
	14	Confined Space Entry Procedure
	15	Plant Security Measures
	Training	16
17		Safety Training Records
18		Skill-related Training Records
19		Certifications for Welders, Forklift & Crane Operators
Contractor	20	Hazmat Training and Record
	21	Latest list of Qualified Contractors*
	22	Contractor Selection / Qualification Procedure
	23	Contractor Certification Records
Regulatory	24	Contractor Monitoring Program
	25	Spill Prevention Control Plan (SPCC)
	26	CalARP Risk Management Plan (RMP)
	27	Annual RATA Test Reports (if applicable)
	28	Air Permit (if applicable)
Document	29	Water Permit (if applicable)
	30	P&IDs
	31	Turbine design data
O&M	32	Vendor Manuals (to be provided onsite)
	33	Daily Round Sheets / Checklists

	34	Logbook**
	35	List of Backlogged Work Orders (last 4 quarters)
	36	List of Retired Work Orders (last 4 quarters)
	37	Work Order Management Procedure
	38	Computerized Maintenance Management System (Demonstration on-site)**
	39	All Root Cause Analyses (if any)
	40	Operating Procedures
	41	Monthly Plant Performance Summary/ Detail Reports (last 4 quarters)
	42	Vibration Analysis Reports
	43	Oil Analysis Reports
	44	Substation inspection records
	45	Inspection of Watch Process (Demonstration on site)**
	46	Event Response Tracking System (ERTS) Procedure
	47	Test and inspection of high voltage equipment
	48	Reliability Checks Procedure
	49	Maintenance & Inspection Procedures for wind turbines
	50	Maintenance & Inspection Procedures for generators
	51	Maintenance & Inspection Procedures for transformers
	52	Maintenance & Inspection Procedures for gearboxes
	53	Maintenance & Inspection Procedures for other equipment
	54	Maintenance & Inspection Records for wind turbines
	55	Maintenance & Inspection Records for generators
	56	Maintenance & Inspection Records for transformers
	57	Maintenance & Inspection Records for gearboxes
	58	Maintenance & Inspection Records for other equipment
	59	SCADA System (Demonstration onsite)**
	60	Wind turbine generation forecasting
Spare Parts	61	Spare Parts Inventory System
	62	Shelf-life Assessment Report
Management	63	Performance Review Records
	64	Organizational Chart
Instrumentation	65	Instrument Calibration Procedures and Records
Internal Audit	66	Internal audit reports within last 5 years

* 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.