

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 11, 2022

GA2022-07AHVS

Michael Brady
EDF Renewables Asset Manager
15445 Innovation Dr.
San Diego, CA 92128

SUBJECT: Audit of Avalon Hybrid Valentine Solar

Mr. Brady,

On behalf of Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Calvin Choi and Joceline Pereira of my staff conducted a generation audit of Avalon Hybrid Valentine Solar from March 28, 2022 to March 30, 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 11, 2022, by electronic or hard copy, of all corrective measures taken by Avalon Hybrid Valentine Solar 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 Calvin Choi with a copy to me and the GO 167-B inbox (GO167@cpuc.ca.gov), by July 29, 2022. If you have any questions concerning this audit, you can contact Calvin Choi at Calvin.Choi@cpuc.ca.gov or (213) 266-4730.

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
Derek Fong, Senior Utilities Engineer, ESRB, CPUC
Joceline Pereira, Utilities Engineer, ESRB, CPUC
Calvin Choi, Utilities Engineer, ESRB, CPUC

I. Findings Requiring Corrective Action

Finding No. 1: ESRB Inspectors witnessed oil sight glass obscured by bird protection.

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 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 bird protection cages installed in a way that obstructed the oil sight glass for the low-side bushings of the transformer. An obscured oil sight glass on transformer bushings may impede maintenance activities, preventing the oil level in the bushings from being accurately determined.



Bird protection cages covering oil sight glass on transformer bushings.

Finding No. 2: ERSB Inspectors witnessed several areas with low cables near panels.

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.

ESRB staff witnessed several areas with cables detached from the solar panels and dangling close to the ground from broken zip ties. Loose cables can be damaged by wildlife or be caught in the tracker system.



Cables detached from panels close to ground.

Finding No. 3: The Plant is not keeping pace with sign damage and deterioration.

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 equipment identification labels peeling significantly from the equipment. These signs are important for the quick identification of equipment, and they help hasten repairs or maintenance being completed.



Peeling Identification Label



Peeling Identification Label

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	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 (if applicable)
	29	Water Permit (if applicable)
	30	Spill Prevention Control Plan (SPCC) (if applicable)
	31	CalARP Risk Management Plan (RMP)
O&M	32	Daily Round Sheets / Checklists
	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)
	41	Maintenance & Inspection Procedures (or Related Documents) (last 3 revisions, if applicable)
	42	SCADA system
	43	Maintenance and Inspection Records for Solar Inverters
	44	Maintenance and Inspection Records for Solar Trackers
	45	Maintenance and Inspection Records for Solar Arrays/Collectors/Solar Field
	46	Maintenance and Inspection Records for Mounting System
	47	Maintenance and Inspection Records for Switchgear/breaker/relays
	48	Maintenance and Inspection Records for Electrical System
	49	Maintenance and Inspection Records for Main Transformer(s)
	50	Maintenance and Inspection Records for Switchyard & Transmission Equipment
	51	Maintenance and Inspection Records for other equipment
Document	52	P&IDs*
	53	Vendor Manuals*
	54	Solar Firm Equipment Design Data
	55	Procedure Compliance Policy
Spare Parts	56	Spare Parts Inventory List
	57	Shelf-life Assessment Report
Instrumentation	58	Instrument Calibration Procedures and Records
Test Equipment	59	Calibration Procedures and Records
Internal Audit	60	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.