

DOCKETED

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Submitted Electronically

February 29, 2024

Valero Cogeneration Project
2023 CEC Annual Compliance Report
Docket No. 01-AFC-05

Mr. Anwar Ali
Compliance Project Manager
Valero Cogeneration Project (01-AFC-05)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, California 95814

Dear Mr. Ali:

Enclosed is a copy of the Annual Compliance Report for the calendar year 2023 for the Valero Cogeneration Project, as required by the General Conditions of the CEC's Commission Decision. Along with the compliance status information required by the CEC's General Conditions, documents are included in Section 3 of this report to comply with the following specific conditions:

- AQ-56 – Cooling Tower TDS Content
- HAZ-1 – List of Hazardous Materials Contained at Cogeneration Unit
- WASTE-2 – Waste Management Methods
- WQ-2 – Annual Monitoring Report to RWQCB
- WR-1 – Annual Water Use Summary

Please contact Mr. Michael Thetford at (707) 745-7204 should you have questions regarding this information.

Sincerely,

A handwritten signature in blue ink that reads 'Taryn Goodwin'.

Taryn Goodwin
Manager - Environmental Engineering

TWG/MWT

Enclosure

Document # 27874



VALERO COGENERATION PROJECT

**2023 ANNUAL COMPLIANCE REPORT FOR
THE CALIFORNIA ENERGY COMMISSION**

VALERO COGENERATION PROJECT
2023 ANNUAL COMPLIANCE REPORT

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VALERO COGENERATION PROJECT
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Section 1: Updated Compliance Matrix (Open Conditions)

2023 Annual Compliance Report

Valero Cogeneration Project Conditions of Certification

Item No.	Condition No.	Requirement	Timing	No. of Days Prior	Status
2	<u>AQ-2</u>	SO ₂ emissions offsets quarterly report	End of each quarter	Within 30 days after	Ongoing
13	<u>AQ-13</u>	Fire only refinery fuel or natural gas in gas turbines and HRSG duct burners	On-going	--	Ongoing
14	<u>AQ-14</u>	Combined heat input rate to the power train limited to 810 MM Btu per hour, averaged over any 3-hr period	On-going	--	Ongoing
15	<u>AQ-15</u>	Combined heat input rate to the power train limited to 19,440 MM Btu per calendar day	On-going	--	Ongoing
16	<u>AQ-16</u>	Combined cumulative heat input rate for each power train limited to 6,351,000 MM Btu per year	On-going	--	Ongoing
17	<u>AQ-17</u>	Properly operate and maintain SCR and CO Oxidation Catalyst abatement systems	On-going	--	Ongoing
18	<u>AQ-18</u>	Gas turbines and HRSGs shall comply with criteria pollutant emission limits when firing natural gas exclusively	On-going	--	Ongoing
19	<u>AQ-19</u>	Gas turbines and HRSGs shall comply with criteria pollutant emission limits under all operating scenarios	On-going	--	Ongoing
20	<u>AQ-20</u>	Sulfuric acid emissions limited to less than 7 tons in any consecutive 4 quarters	On-going	--	Ongoing
22	<u>AQ-22</u>	Total power train criteria pollutant emissions annual limits and annual report	On-going	--	Ongoing
23	<u>AQ-23</u>	Calculate and record criteria pollutant emissions on a daily basis	On-going	--	Ongoing
24	<u>AQ-24</u>	Notify District's Source Test Section prior to conducting any tests	Prior to source test	7	Ongoing
25	<u>AQ-25</u>	Submit monitoring reports in accordance with District procedures and time limits	On-going	--	Ongoing
26	<u>AQ-26</u>	Maintain records on site at least 5 years	On-going	--	Ongoing

2023 Annual Compliance Report

Valero Cogeneration Project Conditions of Certification

Item No.	Condition No.	Requirement	Timing	No. of Days Prior	Status
27	<u>AQ-27</u>	Notify District of any violations of permit conditions per Title V	On-going	--	Ongoing
31	<u>AQ-31</u>	Start up period for gas turbines no longer than 256 min or achieve 1 hr in compliance	Start Up mode	--	Ongoing
34	<u>AQ-34</u>	Comply with Acid Rain program CEM requirements	On-going	--	Ongoing
36	<u>AQ-36</u>	Report H2S/TRS content of refinery fuel gas	End of each quarter	Within 60 days after	Ongoing
38	<u>AQ-38</u>	Install/maintain CEM and recorder for NOX, CO and O2	On-going	--	Ongoing
39	<u>AQ-39</u>	POC and PM10 quarterly source testing	Annual	--	Ongoing
40	<u>AQ-40</u>	SAM, SO2, SO3, ammonium sulfates quarterly source testing	Quarterly	--	Ongoing
42	<u>AQ-42</u>	Inspect HC valves per Reg 8-18	Quarterly	--	Ongoing
43	<u>AQ-43</u>	Equip connectors with graphitic-based gaskets and inspect per Reg 8-18	Quarterly	--	Ongoing
44	<u>AQ-44</u>	Equip HC centrifugal compressors with dual mechanical seals and inspect per Reg 8-18	Quarterly	--	Ongoing
54	<u>AQ-56</u>	Measured TDS content of cooling tower circulating water	Monthly, Annual; Annual Compl. Report	--	Ongoing
80	<u>HAZ-1</u>	List of Haz Materials in reportable quantities	Annual Compl. Report	_	Ongoing
85	<u>NOISE-2</u>	Noise Complaint Records	On-going	_	Ongoing
116	<u>WASTE-1</u>	Notify CPM of any enforcement action by any local, state or federal agency	As needed	_	Ongoing
123	<u>WATER QUALITY-2</u>	Notify CPM of any changes to NPDES permit, submit annual monitoring report	Receipt of NPDES permit, annual reporting; Annual Compl. Report	30 (after)	Ongoing
131	<u>WATER RES-1</u>	Water use metering, annual report	Annual Compl. Report	--	Ongoing

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2023 ANNUAL COMPLIANCE REPORT

Section 2: Summary of Current Cogeneration Unit Operating Status

VALERO COGENERATION PROJECT

2023 ANNUAL COMPLIANCE REPORT

Section 2: Cogeneration Unit Operating Status

The Cogen Unit GT-4901 availability for 2023 was 80.19% including all unplanned and planned maintenance down times (total of 1736 shutdown hours).

Planned maintenance:

- Routine preventative maintenance were performed (filters, instrument calibrations, etc.)
 - Removed site engine for combustion inspection
 - Balanced generator rotor
- Unplanned outages for the year included:
 - Lease engine replaced with a second lease engine due to an oil leak
 - Flame out trips requiring replacement of the fuel shut off valve
 - Fuel gas driver faults
 - NOx water distribution block leaks
 - Generator oil level trip (loose wire)
 - Flying takeover boiler valve maintenance

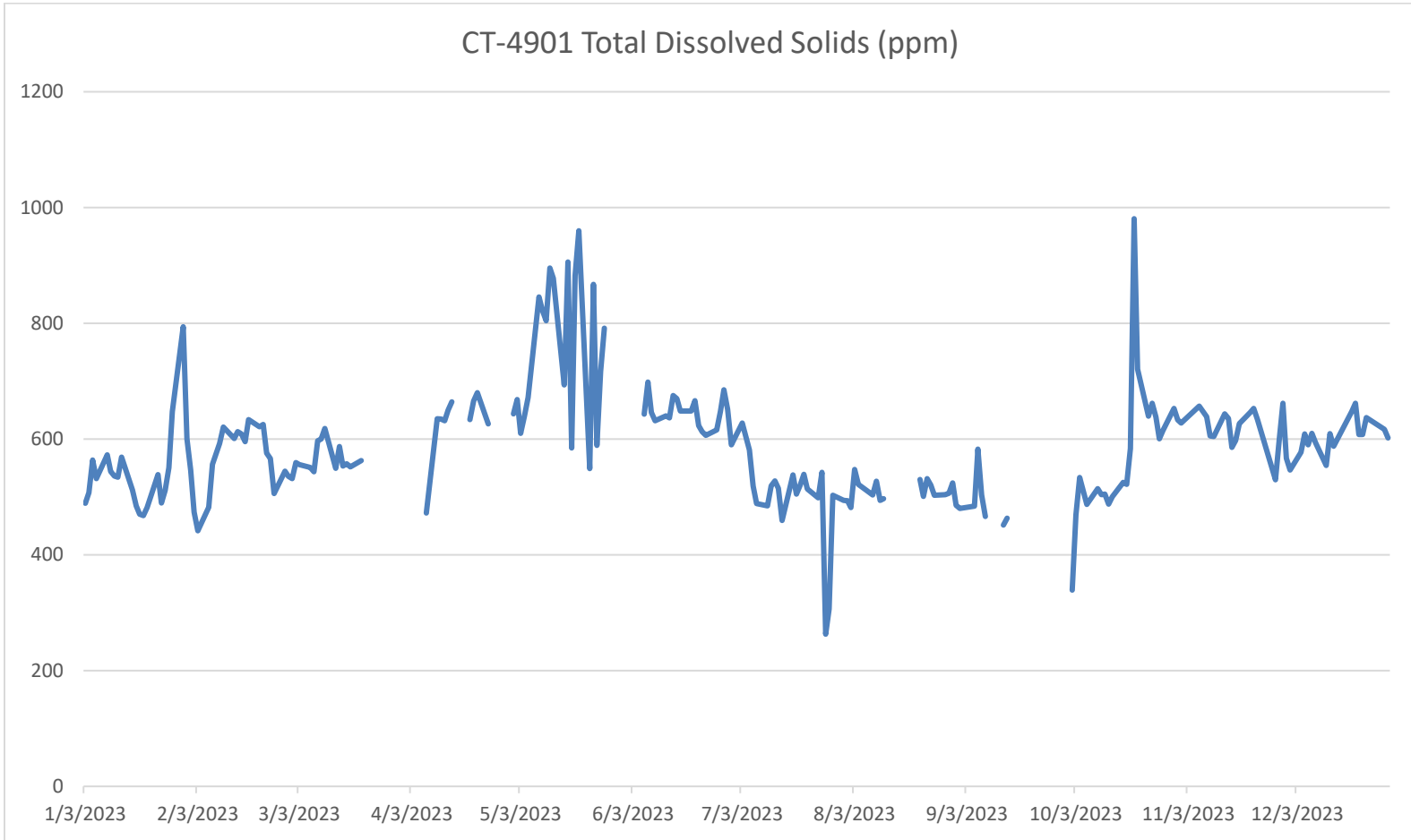
Major work:

- March Outage – Scheduled combustion inspection. Installed lease engine (SN 185-169, mfg. 1994). Changed air filters, fire system inspection, and inspected package ventilation fans.
- May Outage – Unplanned outage to install a second lease engine (SN 191-138, mfg. 1998) as the first lease engine developed an oil leak and the Valero Engine (SN 191-353) combustion inspection was not yet complete. Annual Instrument Calibration preventative maintenance was also completed during this event.

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2023 ANNUAL COMPLIANCE REPORT

Section 3: Documents Required by Specific Conditions

VALERO COGENERATION PROJECT
2023 ANNUAL COMPLIANCE REPORT
AQ-56 Cooling Tower TDS Content



*** Please note breaks in data were due to Cogen downtime.**

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Compliance with monthly and annual TDS average limits

Month	Monthly Average (ppm)
Jan	543
Feb	565
March	566
April	629
May	751
June	644
July	497
August	510
September	490
October	574
November	618
December	604

Annual Average = 583 ppm

AQ-56: The measured total dissolved solids (TDS) content of the circulating cooling water shall not exceed 1500 ppm TDS for any monthly average, or 1080 ppm TDS annual average, with a municipal water supply as cooling tower make-up. The use of alternative water supplies will require evaluation of new TDS limits for the cooling tower.

Verification: The project owner shall maintain appropriate measurement data records, and submit the monthly and annual average TDS of the cooling tower circulating water.

VALERO COGENERATION PROJECT
2023 ANNUAL COMPLIANCE REPORT

HAZ-1 Hazardous Materials Contained at Cogeneration Unit

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Valero	Chemical Location C5 COGEN	CERS ID 10133161
Facility Name Valero Benicia Refinery		Facility ID 48-000-020015
3400 E 2nd Street, Benicia 94510		Status Submitted on 2/28/2024 12:05 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	EL-1515 VISCOSITY GRADE 10 TO 680	Pounds	1950	487	1950		- Physical - Flammable - Health Acute - Toxicity - Health Skin - Corrosion - Irritation	POLYALKYLENE GLYCOL MIXTURE PROPRIETARY ADDITIVES	95% 5%	9038-95-3
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
		Liquid	Steel Drum		Ambient					
	<u>Type</u>	Mixture	Days on Site: 365		Temperature					
					Ambient					
	EMERACATM ADCAT CO CATALYST	Pounds	4800	4800	4800		- Health - Carcinogenicity - Health Acute - Toxicity - Health Skin - Corrosion - Irritation - Health - Respiratory Skin - Sensitization - Health Serious - Eye Damage Eye - Irritation - Health Specific - Target Organ - Toxicity	ALUMINUM OXIDE PLATINUM		1344-28-1 7440-06-4
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
	1344-28-1	Solid	Other		Ambient					
	<u>Type</u>	Mixture	Days on Site: 365		Temperature					
					> Ambient					
Combustible Liquid, Class II	FYREWASH F1	Pounds	3200	400	1600		- Health - Carcinogenicity - Health Acute - Toxicity - Health Skin - Corrosion - Irritation - Health Specific - Target Organ - Toxicity	NON IONIC SURFACTANT PETROLEUM DISTILLATES HEAVY AROMATIC NAPHTHA 2-BUTOXYETHHOXY ETHANOL	25% 50% 25% 25%	64742-47-8 64742-94-5 112-34-5
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
		Liquid	Steel Drum		Ambient					
	<u>Type</u>	Mixture	Days on Site: 365		Temperature					
					Ambient					
	ION EXCHANGE RESIN USF C-211	Pounds	710	710	710		- Health Acute - Toxicity - Health Skin - Corrosion - Irritation - Health Serious - Eye Damage Eye - Irritation - Health Specific - Target Organ - Toxicity	WATER SULFONATED COPOLYMER OF STYRENE	60% 70%	7732-18-5 69011-22-9
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
		Solid	Other		Ambient					
	<u>Type</u>	Mixture	Days on Site: 365		Temperature					
					Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

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3400 E 2nd Street, Benicia 94510		Status Submitted on 2/28/2024 12:05 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	MOBIL DTE 25	Pounds	800	400	400		- Health Acute Toxicity	NON HAZARDOUS PROPRIETARY MIXTURE		
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>	<u>Waste Code</u>				
		Liquid	Steel Drum		Ambient					
		<u>Type</u>			<u>Temperature</u>					
		Mixture	Days on Site: 365		Ambient					
	MOBIL JET OIL II	Pounds	2490	1250	2490		- Health Acute Toxicity	TRICRESYL PHOSPHATE	5%	1330-78-5
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>	<u>Waste Code</u>	- Health Reproductive Toxicity	1-NAPHTHYLAMINE, N-PHENYL	5%	90-30-2
		Liquid	Aboveground Tank, Steel Drum,		Ambient		- Health Corrosion			
		<u>Type</u>	Other		<u>Temperature</u>		- Health Irritation			
		Mixture	Days on Site: 365		Ambient		- Health Respiratory Skin Sensitization			
							- Health Eye Damage Eye Irritation			
							- Health Target Organ Toxicity			
DOT: 8 - Corrosives (Liquids and Solids)	Nalco 3DTrasar 3DT230	Pounds	1056	506	423		- Physical Gas Under Pressure	Sulfuric Acid	5%	✓ 7664-93-9
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressure</u>	<u>Waste Code</u>	- Physical Explosive	Phosphoric Acid	5%	7664-38-2
	7664-93-9	Liquid	Tote Bin		Ambient		- Physical Corrosive To Metal	Benzotriazole	5%	95-14-7
		<u>Type</u>			<u>Temperature</u>		- Health Acute Toxicity			
		Mixture	Days on Site: 365		Ambient		- Health Skin Corrosion			
							- Health Irritation			
							- Health Respiratory Skin Sensitization			
							- Health Eye Damage Eye Irritation			

Hazardous Materials And Wastes Inventory Matrix Report

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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Combustible Liquid, Class III-A	NALCO H-550	Pounds	2400	2400	1800		- Physical	GLUTARALDEHYDE	60%	111-30-8
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>	<u>Pressue</u>	<u>Waste Code</u>		Corrosive To			
	111-30-8	Liquid	Tote Bin	Ambient			Metal			
		<u>Type</u>	Mixture	Days on Site: 365	<u>Temperature</u>		- Health Acute - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity			
DOT: 8 - Corrosives (Liquids and Solids)	NALCO STABREX ST70	Pounds	1222	850	489		- Health Acute	SODIUM HYDROXIDE	5%	1310-73-2
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>	<u>Pressue</u>	<u>Waste Code</u>		Toxicity			
		Liquid	Tote Bin	Ambient			- Health Skin Corrosion			
		<u>Type</u>	Mixture	Days on Site: 365	<u>Temperature</u>		Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation			
DOT: 8 - Corrosives (Liquids and Solids)	Nalco Trasar Trac 104	Pounds	35	35	35		- Health Acute	Sodium Molybdate	5%	7631-95-0
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>	<u>Pressue</u>	<u>Waste Code</u>		Toxicity			
	7631-95-0 ✓ EHS	Liquid	Plastic/Non-metalic Drum				- Health Skin Corrosion			
		<u>Type</u>	Mixture	Days on Site: 365	<u>Temperature</u>		Irritation			
DOT: 8 - Corrosives (Liquids and Solids)	NALCO Trasar Trac 104	Pounds	570	50	570		- Health Acute	Sodium Molybdate	7%	7631-95-0
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>	<u>Pressue</u>	<u>Waste Code</u>		Toxicity			
	7631-95-0 ✓ EHS	Liquid	Plastic/Non-metalic Drum							
		<u>Type</u>	Mixture	Days on Site: 365	<u>Temperature</u>					

Hazardous Materials And Wastes Inventory Matrix Report

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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	NATURAL GAS	Pounds	297	3240	297		- Physical	METHANE	99%	74-82-8
	CAS No	State	Storage Container		Pressue	Waste Code	Flammable	ETHANE	1%	74-84-0
		Gas	Steel Drum, Other		> Ambient		- Physical Gas			
		Type			Temperature		Under Pressure			
		Mixture	Days on Site: 365		> Ambient		- Physical			
							Explosive			
							- Health Acute			
							Toxicity			
							- Health Simple			
							Asphyxiant			
	PLATE TYPE CATALYST	Pounds	52000	52000	52000		- Physical	MOLYBDENUM TRIOXIDE	10%	1313-27-5
	CAS No	State	Storage Container		Pressue	Waste Code	Corrosive To	TITANIUM DIOXIDE	80%	13463-67-7
		Solid	Other		> Ambient		Metal	VANADIUM PENTOXIDE	2%	✓ 1314-62-1
		Type			Temperature		- Health Acute			
		Mixture	Days on Site: 365		> Ambient		Toxicity			
							- Health			
							Respiratory Skin			
							Sensitization			
							- Health Specific			
							Target Organ			
							Toxicity			
	REFINERY FUEL GAS	Pounds	407	3240	407		- Health Acute	FUEL GAS		68308-27-0
	CAS No	State	Storage Container		Pressue	Waste Code	Toxicity			
Flammable Liquid, Class I-A		Gas	Steel Drum, Other		> Ambient		- Health Skin			
		Type			Temperature		Corrosion			
		Mixture	Days on Site: 365		> Ambient		Irritation			
							- Health Serious			
							Eye Damage Eye			
							Irritation			
							- Health Simple			
							Asphyxiant			
	SOUR WASTEWATER	Pounds	20	220	20		- Physical	HYDROGEN SULFIDE	1%	✓ 7783-06-4
DOT: 9 - Misc. Hazardous Materials	CAS No	State	Storage Container		Pressue	Waste Code	Flammable			
		Liquid	Steel Drum, Other		> Ambient		- Health Acute	WATER		7732-18-5
Flammable Liquid, Class I-A		Type			Temperature		Toxicity			
		Mixture	Days on Site: 365		> Ambient		- Health			
							Respiratory Skin			
							Sensitization			

Hazardous Materials And Wastes Inventory Matrix Report

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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
	SUVA 123	Pounds	1990	1010	1990		- Health Acute Toxicity	EHTANE, 1,1 - DICHLORO-2,2,2-TRIFLUORO	100%	306-83-2
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	- Health Skin Corrosion			
		<u>Liquid</u>	<u>Other</u>		<u>> Ambient</u>		Irritation			
		<u>Type</u>			<u>Temperature</u>		- Health Respiratory Skin Sensitization			
		<u>Mixture</u>	Days on Site: 365		<u>> Ambient</u>		- Health Serious Eye Damage Eye Irritation			
							- Health Specific Target Organ Toxicity			
							- Health Hazard Not Otherwise Classified			
	TRANE OIL 22	Pounds	60	70	60			WHITE MINERAL OIL	100%	8042-47-5
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>				
		<u>Liquid</u>	<u>Other</u>		<u>> Ambient</u>					
		<u>Type</u>			<u>Temperature</u>					
		<u>Mixture</u>	Days on Site: 365		<u>> Ambient</u>					
	USF A-284 ION EXCHANGE RESIN	Pounds	1060	1060	1060		- Health Acute Toxicity	Trimethylamine functionalized,CHLOROMETHELATED COPOLYMER OF STYRENE AND DIVINYL BENZENE	70%	609011-18-3
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	- Health Skin Corrosion			
		<u>Solid</u>	<u>Other</u>		<u>Ambient</u>		Irritation			
		<u>Type</u>			<u>Temperature</u>		- Health Respiratory Skin Sensitization			
		<u>Mixture</u>	Days on Site: 365		<u>Ambient</u>		- Health Specific Target Organ Toxicity			7732-18-5

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WASTE-2 Documentation of Waste Management Methods

I certify that all wastes generated at the Valero Cogeneration Facility are properly characterized and managed according to waste management practices described in CTEMS EPL-4001 Container Labeling and Closure Policy and the Benicia Refinery Waste Management Compliance Manual.

Taryn Goodwin 2/29/24
Taryn Goodwin Date
Manager - Environmental Engineering

VALERO COGENERATION PROJECT

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VALERO COGENERATION PROJECT 2023 ANNUAL COMPLIANCE REPORT Valero Benicia Refinery NPDES CA0005550

WQ-2: Annual Monitoring Data Submitted to RWQCB

The Valero Cogeneration Project sends a small amount of wastewater to the refinery's wastewater treatment system, which after treatment becomes a part of the refinery's effluent. Valero submits its self-monitoring data for the refinery's effluent monthly to the RWQCB electronically via the Internet to eSMR, the State Board electronic reporting system.

Attached is the 2023 NPDES Compliance Summary Table for the Valero Benicia Refinery, which provides a listing of the refinery's NPDES permit monitoring points and compliance parameters, along with a monthly accounting of the compliance status and number of samples taken each month.

For each month, the entry made in each row (e.g., 0/31) corresponds to the number samples exceeding the limit versus the number of samples taken during the month. An entry of 0/31 means that no samples exceeded the limit out of 31 (i.e., daily) samples that month.

During the 2023 reporting year, there were 0 sample results that exceeded a NPDES permit limit.

EFF-001 January Hydraulic Storm

On December 31, 2022 the Wastewater Treatment Plant (WWTP) was shutdown (out of service) due to sustained heavy rainfall.

During the month of January 2023, the refinery continued to experience unprecedented hydraulic limitation due to wet weather flow from four back to back heavy rain events. A State of Emergency was declared throughout California on January 4, 2023.

On January 3, 2023, weather subsided such that refinery personnel could return to the unit. To restore operations, the stormwater from the Retention Pond was pumped to Sulphur Springs Creek while resuming bypass sampling. Because stormwater capacity was maximized due to the prior heavy rain event and the WWTP was out of service for several days due to flooding, Valero made a 24-hour notification via email of an anticipated bypass to the Regional Water Board in anticipation of the second heavy rain event. Valero received approval from the RWQCB via email at the end of business day.

On January 4, 2023 at approximately 19:40 hours, the WWTP was shut down and personnel evacuated due to heavy winds and intense precipitation.

On January 5, 2023, Valero continued to work to restore power to the WWTP which was restored at approximately 10:48 hours. Valero Operations maintained close communication with the City of Benicia for Lake Herman water discharges in order to try to minimize any potential impacts to Valero's WWTP.

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Between January 6, 2023 and January 11, 2023, Valero attempted to return the WWTP to operation amid continued effects of the multiple storm events. On January 11, 2023, at approximately 14:00 hours, the WWTP was normalized and returned to service. Retention Pond stormwater continued discharging to the creek until January 16, 2023 due to maximized storm water storage capacity.

From January 5-11, 2023, Valero provided updates on WWTP to the RWQCB regarding operational progress.

EFF-001 March/April Wet Weather

On March 6, 2023, Valero made a 24-hour notification via email and phone call of an anticipated bypass to the RWQCB, in anticipation of the upcoming heavy rain storm event. Stormwater storage capacity was maximized due to prior heavy rain events. Valero received approval from RWQCB via email at the end of the business day.

On March 9, 2023 at 10:58 hours, Solano County issued a High Winds and Flooding Alert. At approximately 19:00 hours, the WWTP initiated the approved bypass from 20 yr. stormwater pond to Final Effluent Discharge E-001. Valero Operations maintained close communication with the City of Benicia for Lake Herman water discharges in order to try to minimize any potential impacts to Valero's Wastewater Treatment Plant (WWTP). Daily sampling was initiated and use of the approved bypass ended on April 17, 2023.

EFF-001 Acute Toxicity

During the month of January, a weekly bioassay went static on January 7, 2023 due to the Wastewater Treatment Plant unit start up process.

During the months of February, July, August and September 2023 there were instances where the bioassay tests went static for a short period of time due to diversions from Bay. All tests ended 100% survival. There were no impacts to treatment or compliance.

**VALERO COGENERATION PROJECT
2023 ANNUAL COMPLIANCE REPORT**

2023 COMPLIANCE SUMMARY TABLE
Valero Benicia Refinery NPDES CA0005550

VALERO COGENERATION PROJECT

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WR-1 Annual Cogeneration Unit Water Use Summary

Valero Cogeneration Project 2023 Summary

MONTHLY								
	Water Usage					Recycled Water	Off-Set	
	GPD				Acre-Feet	Acre-Feet	Acre-Feet	
	Gallons	Average	GPM	(min)	(max)	Total	Total	Net
Jan-23	1,430,087	46,132	32	3,756	69,921	4.4	6.9	2.5
Feb-23	1,316,603	47,022	33	36,706	61,842	4.0	6.9	2.9
Mar-23	696,220	22,459	16	0	36,888	2.1	6.4	4.2
Apr-23	594,013	19,800	14	0	84,713	1.8	6.4	4.5
May-23	2,695,100	86,939	60	2	112,729	8.3	13.6	5.3
Jun-23	2,206,975	73,566	51	4	96,309	6.8	13.6	6.8
Jul-23	2,408,688	77,700	54	69,604	97,417	7.4	13.6	6.2
Aug-23	1,804,585	58,212	40	6	98,271	5.5	7.6	2.0
Sep-23	235,452	7,848	5	2	84,096	0.7	12.1	11.4
Oct-23	2,410,882	77,770	54	3	110,219	7.4	12.0	4.6
Nov-23	2,775,039	92,501	64	76,213	101,059	8.5	13.1	4.6
Dec-23	2,100,321	67,752	47	59,246	85,078	6.4	13.2	6.7

ANNUAL							
	Water Usage					Recycled Water	Off-Set
	GPD				Acre-Feet	Acre-Feet	Acre-Feet
	Average	GPM	(min)	(max)	Total	Total	Net
2023	56,475	39	0	112,729	63	125	62
2022	84,174	53	0	152,853	94	174	79

GPD: Gallons per day

CEC Condition of Certification, Water Use Metering, WATER RES-1 & WATER RES-2

Note: Due to flow meter downtimes, May, June, July, November, and December recycled water values are averaged over the previous 3 years.

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Section 4: Post-Certification Changes

No changes were made in 2023.

VALERO COGENERATION PROJECT
2023 ANNUAL COMPLIANCE REPORT

Section 5: Resolution to Unmet Submittals

There were no unmet submittals or resolutions to unmet submittals in 2023.

VALERO COGENERATION PROJECT

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Section 6: Permits and Filings Involving Other Governmental Agencies

Bay Area Air Quality Management District (BAAQMD)

- Valero Cogeneration Project – 2023 Annual Mass Emissions Report to BAAQMD
- Routine Reports to BAAQMD:
 - Monthly Cogen NOx Report
 - Monthly Cogen CO Report
 - Monthly Cogen Fuel Gas Report (H2S/TRS)
 - Quarterly Cogen SO2 Curtailment Report
 - Quarterly Fuel Gas Sulfur Report
- Source Testing Reports:
 - Quarterly source test reports for SAM measurements
 - Annual source test reports for PM10, POC, SO2 measurements
- Form CEC-1304 - Quarterly Report for Power Plants 10 MW or Greater
- Title V, Renewed - Issued by BAAQMD April 30, 2013

Regional Water Quality Control Board (RWQCB)

- Valero Refinery NPDES Permit Renewal (including Cogeneration operations) RWQCB Order No. R2-2020-0033, CA 0005550: Adopted by RWQCB on December 16, 2020, effective January 1, 2021 through December 31, 2025
- Valero Refinery SWPPP Update (including Cogeneration operations)

Department of Energy (DOE) Energy Information Administration (EIA) reports

- EIA – 860 “Annual Electric Generator Report”
- EIA – 923 “Monthly Power Plant Operations Report”

Solano County CUPA / City of Benicia Fire Dept

- Valero Benicia Refinery 2023 Hazardous Materials Business Plan (including Cogeneration operations)

U. S. EPA

- Valero Benicia Refinery NSPS/MACT Semiannual Reports

VALERO COGENERATION PROJECT
2023 ANNUAL COMPLIANCE REPORT

Section 7: Projection of 2024 Compliance Activities

Operations:

Maintain cogeneration unit operations in compliance with emission limits and other permit conditions.

Recordkeeping:

Continue collection of data and records and maintain compliance files.

Reporting:

Prepare and submit monthly CEM reports.

Prepare and submit required quarterly, semiannual, and annual reports.

Source Testing:

Conduct quarterly source testing for SAM. Conduct annual source testing for PM10, POC, and SO₂.

Continuous Emissions Monitoring Systems (CEMS):

Continue to conduct quarterly accuracy audits (CGA & RATA).

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2023 ANNUAL COMPLIANCE REPORT

Section 8: 2023 Files

The following onsite compliance files have been established for the Valero Cogeneration unit and contain the information described for the previous year's operating period.

File Number	File Name	File Description
CGN AI-03-02	CEC Annual Compliance Report	Annual Compliance Reports for Cogen required by general conditions of CEC's Commission Decision
CGN AI-03-02	Routine Cogen Quarterly Reports	Cogen Quarterly SO2 Containment Report
CGN AI-03-03	Annual Mass Emissions Report	Cogen Report as required by Permit Conditions #22 and #23
CGN EA-17-00	CGN CEC Compliance Fees	Invoices, Cogen Facility Compliance Fees
CGN WA-03-02	Monthly Cogen Water Use Reports	Cogen Cooling Tower TDS by Conductivity Cogen H2O Report
Fed 60a AI-24-16	FED-60A QA/QC GT-4901/SG-4901	Cogen – CEMS Quality Assurance Plan
SRCTST AI-03-03	BAAQMD Notifications	Notifications of source tests for Cogen
SRCTST AI-03-03	Cogen – Monthly CEMS Report	Cogen - Monthly Gas Turbine and HRSG Monitoring Report Reg. 1-522.8
SRCTST AI-24-00	Monthly CEMS Down & OOC LOGS	2023 Monthly CEMS Downtime & Out of Control Logs
SRCTST AI-21-03	Cogen – Stack Source Tests	Source test for the Cogen Stack and Quarterly Source Test Submittals
SRCTST AI-21-03	SRCTST GT-4901 S-1030	Source Test Reports

VALERO COGENERATION PROJECT

2023 ANNUAL COMPLIANCE REPORT

Section 9: Evaluation of the Onsite Contingency Plan

Onsite Contingency Plan for Unexpected Temporary & Permanent Closure

The Onsite Contingency Plan for Unexpected Temporary and Permanent Closure is reviewed and updated annually.

Cogeneration Unit Operating Procedures

The normal and emergency procedures in the operating procedures manual are reviewed and updated annually.

VALERO COGENERATION PROJECT

2023 ANNUAL COMPLIANCE REPORT

Section 10: Complaints, NOVs, Warnings and Citations

2023 Complaints:

The refinery received no complaints that have been determined to be related to the Cogeneration Unit.

2023 Notices of Violation (NOVs):

The BAAQMD issued the following NOVs for events that were related to the Cogeneration Unit (GT/SG-4901 stack emissions):

BAAQMD NOV #	Date Issued	Date of Event	Description
62184	4/17/2023	9/30/2021	NOV was issued for exceeding the 2.5 ppmvd 3-hr avg NOX limit from GT-4901 on September 30, 2021. (9/30/21 12:00-3:00)
62190	6/20/2023	4/30/2023	NOV was issued for failure to report period of NOx CEMS inoperation greater than 24 continuous hours by the following working day.
62191	6/26/2023	11/5/2022	NOV was issued for exceeding 6 ppmvd @15%O2 average over 3-clock hour period at Cogen on 11/5/2022. (11/5/22 00:00-05:00)
62200	12/6/2023	7/17/2023	NOV was issued for Cogen NOx emissions greater than 7.29 lb per clock hour and 2.5 ppmvd @15%O2 (3-hour clock period average)
62201	12/19/2023	1/15/2023	NOV was issued for Cogen NOx emissions greater than 7.29 lb per clock hour and 2.5 ppmvd@15%O2 (3-hour clock period average)

2023 Warnings and Citations:

The refinery received no other warnings or citations that have been determined to be related to the Cogeneration Unit.

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Section 11: 2023 CEC Compliance Inspection and Follow Up



January 8, 2024

McGregor Stadtmiller, Environmental Engineer
Valero Refining Company
3400 East 2nd Street
Benicia, California 94510

**VALERO COGENERATION PROJECT (01-AFC-05C) COMPLIANCE
INSPECTION AND FOLLOW UP – COMPLETED**

Dear McGregor Stadtmiller:

Thank you for taking the time to accommodate the California Energy Commission (CEC) staff (staff) on their June 1, 2023, compliance inspection.

The purpose of the compliance inspection was to perform a visual examination of the site and review selected documentation, procedures, and records related to the facility's Conditions of Certification (COC). Such inspections are periodically conducted to verify compliance with the COC in the facility's Final Commission Decision.

As a follow-up to the inspection, you were sent a letter on July 19, 2023, listing action items for completion. Staff has reviewed all information provided and no additional information is required.

Staff's limited inspection and review of the documents, procedures and records provided did not identify any violations of Valero Cogeneration Project's COC, and this inspection is now complete and closed.

With the completion of the compliance inspection, all documents that were requested by staff have been deleted from the CEC's record keeping system.

McGregor Stadtmiller
January 8, 2024
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Should you have any questions or concerns, please contact Compliance Project Manager Anwar Ali, Compliance Monitoring and Enforcement Unit, Safety and Reliability Branch, at (916) 698-7498 or at Anwar.Ali@energy.ca.gov.

Sincerely,

Brett Fooks

Brett Fooks
Program Manager,
Safety and Reliability Branch,
Siting, Transmission, and Environmental
Protection Division