

DOCKETED

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Submitted Electronically

March 1, 2023

Valero Cogeneration Project
2022 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 2022 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. McGregor Stadtmiller at (707) 745-7545 should you have questions regarding this information.

Sincerely,

A handwritten signature in purple ink that reads 'Taryn Wier'.

Taryn Wier
Manager - Environmental Engineering

TW/MAS

Enclosure



VALERO COGENERATION PROJECT

**2022 ANNUAL COMPLIANCE REPORT FOR
THE CALIFORNIA ENERGY COMMISSION**

VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT

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

2022 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

2022 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

VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT

Section 2: Summary of Current Cogeneration Unit Operating Status

VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT

Section 2: Cogeneration Unit Operating Status

The Cogen Unit GT-4901 availability for 2022 was 93.39% including all unplanned and planned maintenance down times (total of 500.49 shutdown hours).

Planned maintenance hours:

- Routine PMs were performed (filters, instrument calibrations, etc.)

Unplanned Outages for the year included:

- Lube Oil Leak on Scavenger Hose Fitting
- Lube Oil Tubing Leak
- Loose Speed Probe Connection
- Vibration Monitoring Equipment Failure Trip (x2)
- High Air Filter differential pressure Trip
- Trip on Cooling Air Tubing Leak

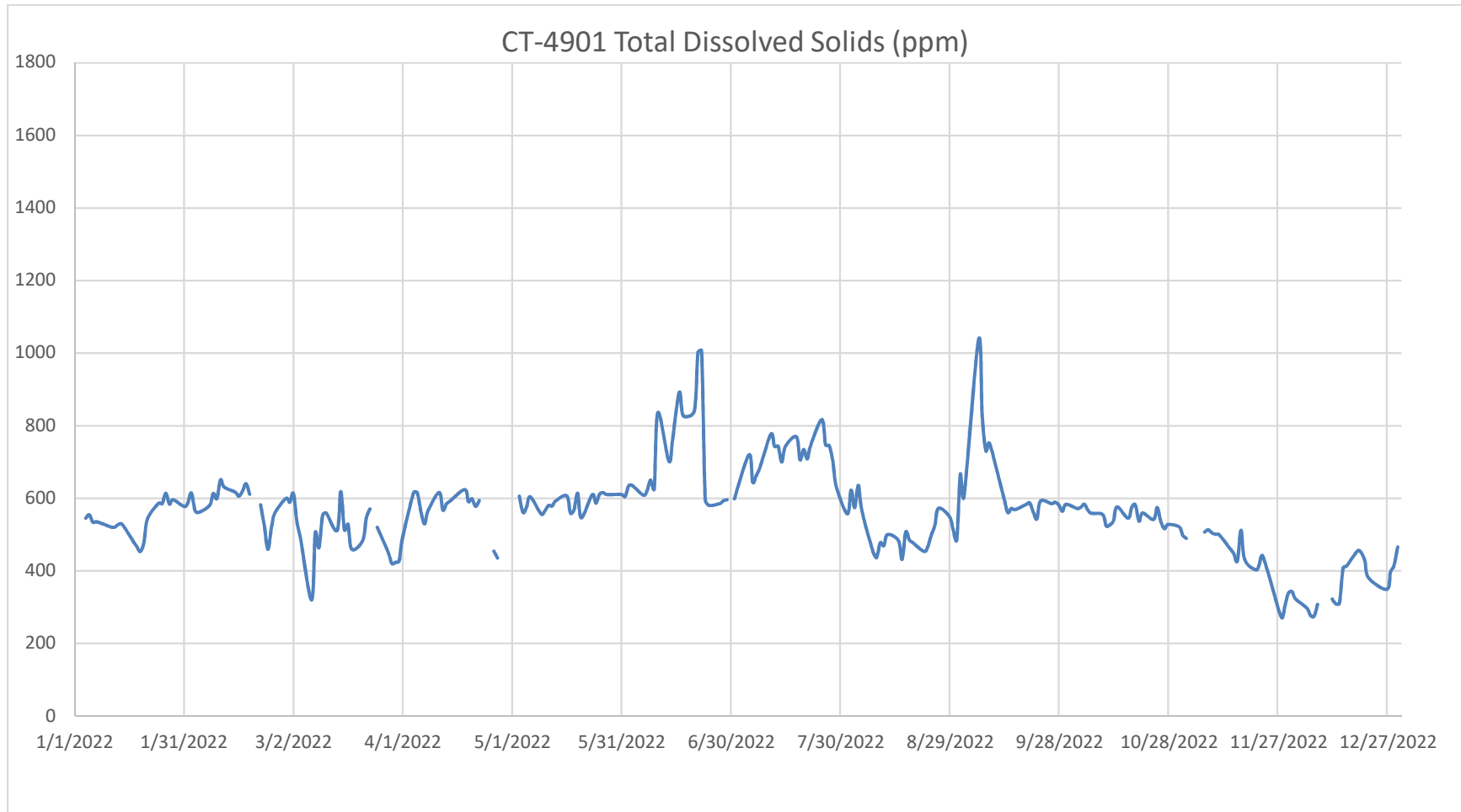
Major work:

- April Outage – Scheduled borescope inspection and annual fire system Inspection. Also completed the replacement of a faulty flame scanner, and inspect vibration system following trips.
- December Outage – Scheduled borescope inspection and annual instrument calibrations as well as maintenance including VSV Bushing Replacement PM, replaced faulty NOx Water Solenoid Valve, and T48 Temperature Probe replacements

VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT

Section 3: Documents Required by Specific Conditions

VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT
AQ-56 Cooling Tower TDS Content



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

VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT

Compliance with monthly and annual TDS average limits

Month	Monthly Average (ppm)
Jan	538
Feb	587
March	504
April	559
May	588
June	716
July	716
August	511
September	635
October	552
November	443
December	365

Annual Average = 591 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
2022 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 3/1/2023 2:33 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 - Health Skin - Corrosion - Irritation	POLYALKYLENE GLYCOL MIXTURE PROPRIETARY ADDITIVES	95% 5%	9038-95-3
	<u>CAS No</u>	<u>State</u> Liquid	<u>Storage Container</u> Steel Drum		<u>Pressue</u> Ambient	<u>Waste Code</u>				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> 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> 1344-28-1	<u>State</u> Solid	<u>Storage Container</u> Other		<u>Pressue</u> Ambient	<u>Waste Code</u>				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> > 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> Liquid	<u>Storage Container</u> Steel Drum		<u>Pressue</u> Ambient	<u>Waste Code</u>				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> 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> Solid	<u>Storage Container</u> Other		<u>Pressue</u> Ambient	<u>Waste Code</u>				
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> Ambient					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Valero	Chemical Location C5 COGEN	CERS ID 10133161
Facility Name Valero Benicia Refinery 3400 E 2nd Street, Benicia 94510		Facility ID 48-000-020015
		Status Submitted on 3/1/2023 2:33 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 <small>CAS No</small>	Pounds	800	400	400		- Health Acute Toxicity	NON HAZARDOUS PROPRIETARY MIXTURE		
		<small>State</small>	<small>Storage Container</small>		<small>Pressue</small>					
		<small>Liquid</small>	Steel Drum		<small>Ambient</small>	<small>Waste Code</small>				
		<small>Type</small>			<small>Temperature</small>					
		Mixture	Days on Site: 365		Ambient					
	MOBIL JET OIL II <small>CAS No</small>	Pounds	2490	1250	2490		- Health Acute Toxicity	TRICRESYL PHOSPHATE	5%	1330-78-5
		<small>State</small>	<small>Storage Container</small>		<small>Pressue</small>	<small>Waste Code</small>		1-NAPHTHYLAMINE, N-PHENYL	5%	90-30-2
		<small>Liquid</small>	Aboveground Tank, Steel Drum,		<small>Ambient</small>		- Health Reproductive Toxicity			
		<small>Type</small>	Other		<small>Temperature</small>		- Health Skin Corrosion Irritation			
		Mixture	Days on Site: 365		Ambient		- Health Respiratory Skin Sensitization			
							- Health Serious Eye Damage Eye Irritation			
							- Health Specific Target Organ Toxicity			
DOT: 8 - Corrosives (Liquids and Solids)	Nalco 3DTrasar 3DT230 <small>CAS No</small> 7664-93-9 <input checked="" type="checkbox"/> EHS	Pounds	1056	506	423		- Physical Gas Under Pressure	Sulfuric Acid	5%	<input checked="" type="checkbox"/> 7664-93-9
		<small>State</small>	<small>Storage Container</small>		<small>Pressue</small>	<small>Waste Code</small>	- Physical Explosive	Phosphoric Acid	5%	7664-38-2
		<small>Liquid</small>	Tote Bin		<small>Ambient</small>		- Physical Corrosive To Metal	Benzotriazole	5%	95-14-7
		<small>Type</small>			<small>Temperature</small>		- Health Acute Toxicity			
		Mixture	Days on Site: 365		Ambient		- Health Skin Corrosion Irritation			
							- Health Respiratory Skin Sensitization			
							- Health Serious Eye Damage Eye Irritation			

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 3/1/2023 2:33 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.
DOT: 8 - Corrosives (Liquids and Solids) Combustible Liquid, Class III-A	NALCO H-550	Pounds	2400	2400	1800	- Physical Corrosive To Metal	GLUTARALDEHYDE	60%	111-30-8	
	CAS No 111-30-8	State Liquid	Storage Container Tote Bin	Type Mixture	Pressue Ambient	Waste Code Temperature > Ambient	- Health Acute Toxicity - 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			
	NALCO STABREX ST70	Pounds	1222	850	489	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	SODIUM HYDROXIDE	5%	1310-73-2	
	CAS No	State Liquid	Storage Container Tote Bin	Type Mixture	Pressue Ambient	Waste Code Temperature Ambient				
DOT: 8 - Corrosives (Liquids and Solids)	Nalco Trasar Trac 104	Pounds	35	35	35	- Health Acute Toxicity - Health Skin Corrosion Irritation	Sodium Molybdate	5%	7631-95-0	
	CAS No 7631-95-0	State Liquid	Storage Container Plastic/Non-metalic Drum	Type Mixture	Pressue Ambient	Waste Code Temperature				
DOT: 8 - Corrosives (Liquids and Solids)	NALCO Trasar Trac 104	Pounds	570	50	570	- Health Acute Toxicity	Sodium Molybdate	7%	7631-95-0	
	CAS No 7631-95-0	State Liquid	Storage Container Plastic/Non-metalic Drum	Type Mixture	Pressue Ambient	Waste Code Temperature				

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 3/1/2023 2:33 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.
	NATURAL GAS	Pounds	297	3240	297		- Physical	METHANE	99%	74-82-8
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable	ETHANE	1%	74-84-0
		Gas	Steel Drum, Other		> Ambient		- Physical Gas			
		<u>Type</u>			<u>Temperature</u>		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
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Corrosive To	TITANIUM DIOXIDE	80%	13463-67-7
		Solid	Other		> Ambient		Metal	VANADIUM PENTOXIDE	2%	✓ 1314-62-1
		<u>Type</u>			<u>Temperature</u>		- 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
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Toxicity			
Flammable Liquid, Class I-A		Gas	Steel Drum, Other		> Ambient		- Health Skin			
		<u>Type</u>			<u>Temperature</u>		Corrosion			
		Mixture	Days on Site: 365		> Ambient		Irritation			
							- Health Serious			
							Eye Damage Eye			
							Irritation			
							- Health Simple			
							Asphyxiant			
DOT: 9 - Misc. Hazardous Materials	SOUR WASTEWATER	Pounds	20	220	20		- Physical	HYDROGEN SULFIDE	1%	✓ 7783-06-4
	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable			
		Liquid	Steel Drum, Other		> Ambient		- Health Acute	WATER		7732-18-5
Flammable Liquid, Class I-A		<u>Type</u>			<u>Temperature</u>		Toxicity			
		Mixture	Days on Site: 365		> Ambient		- Health			
							Respiratory Skin			
							Sensitization			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. Valero	Chemical Location C5 COGEN	CERS ID 10133161
Facility Name Valero Benicia Refinery 3400 E 2nd Street, Benicia 94510		Facility ID 48-000-020015
		Status Submitted on 3/1/2023 2:33 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.
	SUVA 123 <u>CAS No</u>	Pounds	1990	1010	1990		- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Hazard Not Otherwise Classified	EHTANE, 1,1 - DICHLORO-2,2,2- TRIFLUORO	100%	306-83-2
	TRANE OIL 22 <u>CAS No</u>	Pounds	60	70	60			WHITE MINERAL OIL	100%	8042-47-5
	USF A-284 ION EXCHANGE RESIN <u>CAS No</u>	Pounds	1060	1060	1060		- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity	Trimethylamine functionalized,CHLOROMETHELAT ED COPOLYMER OF STYRENE AND DIVINYL BENZENE WATER	70%	609011-18-3 7732-18-5

VALERO COGENERATION PROJECT

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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 Wier 3/1/23
Taryn Wier Date
Manager - Environmental Engineering

VALERO COGENERATION PROJECT

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VALERO COGENERATION PROJECT 2022 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 2022 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 2022 reporting year, no samples exceeded their limits.

**VALERO COGENERATION PROJECT
2022 ANNUAL COMPLIANCE REPORT**

2022 COMPLIANCE SUMMARY TABLE
Valero Benicia Refinery NPDES CA0005550

2022 COMPLIANCE SUMMARY TABLE
Valero Benicia Refinery NPDES CA0005550

PARAMETER	LIMIT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Chromium (Total) Eff Daily Maximum mg/L	Max 0.6	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (Total) Eff Monthly Average mg/L	Max 0.21	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (VI) Eff Daily Maximum mg/L	Max 0.062	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (VI) Eff Monthly Average mg/L	Max 0.028	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Phenols, Total Eff Daily Maximum mg/L	Max 0.35	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Phenols, Total Eff Monthly Average mg/L	Max 0.17	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Monitoring Point EFF-015-A1														0/0
Biochemical Oxygen Demand (BOD) (5-day @	Max 48	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Biochemical Oxygen Demand (BOD) (5-day @	Max 26	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chemical Oxygen Demand (COD) Eff Daily Max	Max 360	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chemical Oxygen Demand (COD) Eff Monthly	Max 180	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Total Suspended Solids (TSS) Eff Daily Maximu	Max 33	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Total Suspended Solids (TSS) Eff Monthly Aver	Max 21	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Total Organic Carbon (TOC) Eff Daily Maximun	Max 110	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Oil and Grease Eff Daily Maximum mg/L	Max 15	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Oil and Grease Eff Monthly Average mg/L	Max 8	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
pH Eff Daily Minimum SU	Min 6.5	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
pH Eff Daily Maximum SU	Max 8.5	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (Total) Eff Daily Maximum mg/L	Max 0.6	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (Total) Eff Monthly Average mg/L	Max 0.21	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (VI) Eff Daily Maximum mg/L	Max 0.062	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Chromium (VI) Eff Monthly Average mg/L	Max 0.028	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Phenols, Total Eff Daily Maximum mg/L	Max 0.35	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Phenols, Total Eff Monthly Average mg/L	Max 0.17	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Monitoring Point EFF-017-A1														0/0
Biochemical Oxygen Demand (BOD) (5-day @	Max 48	0/0	0/1	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	0/1	0/0	0/3
Biochemical Oxygen Demand (BOD) (5-day @	Max 26	0/0	0/1	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	0/1	0/0	0/3
Chemical Oxygen Demand (COD) Eff Daily Max	Max 360	0/0	0/1	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	0/1	0/0	0/3
Chemical Oxygen Demand (COD) Eff Monthly	Max 180	0/0	0/1	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	0/1	0/0	0/3
Total Suspended Solids (TSS) Eff Daily Maximu	Max 33	0/0	0/1	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/0	0/1	0/0	0/3

VALERO COGENERATION PROJECT

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WR-1 Annual Cogeneration Unit Water Use Summary

Valero Cogeneration Project 2022 Summary

MONTHLY								
	Water Usage						Recycled Water	Off-Set
	GPD				Acre-Feet		Acre-Feet	Acre-Feet
	Average	GPM	(min)	(max)	Total		Total	Net
Gallons								
Jan-22	2,860,728	92,282	64	81,780	99,212	8.8	14.4	5.6
Feb-22	2,518,741	89,955	62	83,128	112,278	7.7	12.8	5.1
Mar-22	3,124,277	100,783	70	69,957	122,570	9.6	13.8	4.2
Apr-22	2,296,169	76,539	53	3	125,305	7.0	15.1	8.1
May-22	2,859,081	92,228	64	84,589	101,218	8.8	14.9	6.1
Jun-22	3,271,980	109,066	76	95,849	152,853	10.0	15.3	5.3
Jul-22	3,034,201	97,877	68	51,968	105,315	9.3	14.9	5.6
Aug-22	2,913,399	93,981	65	61,758	103,767	8.9	14.5	5.6
Sep-22	2,925,400	97,513	68	78,634	105,360	9.0	14.9	5.9
Oct-22	2,234,784	72,090	50	14,963	96,868	6.9	14.1	7.2
Nov-22	1,896,267	63,209	44	0	91,713	5.8	14.8	9.0
Dec-22	761,519	24,565	17	0	86,107	2.3	14.1	11.7

ANNUAL								
	Water Usage						Recycled Water	Off-Set
	GPD				Acre-Feet		Acre-Feet	Acre-Feet
	Average	GPM	(min)	(max)	Total		Total	Net
2022	84,174	58	0	152,853	94	174	79	
2021	77,006	53	0	116,069	86	177	90	

GPD: Gallons per day

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

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Section 4: Post-Certification Changes

No changes were made in 2022.

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Section 5: Resolution to Unmet Submittals

There were no unmet submittals or resolutions to unmet submittals in 2022.

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Section 6: Permits and Filings Involving Other Governmental Agencies

Bay Area Air Quality Management District (BAAQMD)

- Valero Cogeneration Project – 2022 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 2022 Hazardous Materials Business Plan (including Cogeneration operations)

U. S. EPA

- Valero Benicia Refinery NSPS/MACT Semiannual Reports

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Section 7: Projection of 2022 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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Section 8: 2022 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	2022 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

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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.

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Section 10: Complaints, NOVs, Warnings and Citations

2022 Complaints:

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

2022 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
59520	5/31/2022	9/20/2019	The Cogen 3-hour average NOx 2.5 ppm (dry, 15% O2) limit was exceeded beginning on 9/20/19 at 11:00 pm and ending on 9/21/19 at 2:00 am. The average for the duration of the event was 2.7 ppm. The Cogen 1-hr average mass NOx 7.29 lbs/hr was exceeded beginning 9/20/19 at 11:00 pm and ending on 9/21/19 at midnight.
59521	5/31/2022	9/3/2020	Cogen (GT/SG4901) exceeded Nox 3hr average (ppm) between 9/3/2020 18:00-21:00 and the 1hr average (lb/hr) between 9/3/2020 18:00-19:00.
60813	11/1/2022	3/15/2022	Cogen (GT/SG4901) exceeded the 2.5 ppm NOX 3-hr avg from 8 pm - 11pm on 3/15/22.

2022 Warnings and Citations:

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