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Filer:	Anwar Ali
Organization:	Calpine Energy Solutions
Submitter Role:	Applicant
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Metcalf Energy Center, LLC

1 Blanchard Road
Coyote, CA 95013

July 26, 2022

Mr. Anwar Ali
Compliance Project Manager
Systems Assessment & Facility Sitting Division
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, CA 95814

Re: Metcalf Energy Center, LLC.
Docket No. 99-AFC-3
COM-7 - Annual Compliance Report for 2021

Dear Mr. Ali:

In accordance with the Conditions of Certification for the Metcalf Energy Center, LLC, this report is intended to fulfill the requirements of the Annual Compliance Report for 2021 in Condition of Certification COM-7.

Enclosed are the documents required by the Conditions of Certification. The documents are provided as appendices, as noted in the Annual Compliance Summary:

- Annual Compliance Summary
- Conditions of Certification Matrix
- Operating Data Summary
- AQ-13: Gas Turbine and HRSG Firing with Natural Gas
- AQ-14: Heat Input Hourly Limit
- AQ-15: Heat Input daily Limit
- AQ-16: Heat Input Annual Limit
- AQ-17: HRSG Duct Burners Firing
- AQ-18: S-1 and S-2 SCR Operation and Maintenance
- AQ-19: S-3 and S-4 SCR Operation and Maintenance
- AQ-20: Gas Turbine Emissions
- AQ-21: Gas Turbine Mass Emissions
- AQ-22: Gas Turbine Start-up
- AQ-24: Gas Turbine and HRSG Total Combined Daily Emissions
- AQ-25: Gas Turbine and HRSG Total Combined 12-Month Emissions
- AQ-26: Annual Toxic Air Contaminants Emissions
- AQ-27: Operation and Maintenance of Continuous Monitors
- AQ-28: Calculation and Recording of Daily Mass Emissions
- AQ-29: Projected Annual Emissions of Formaldehyde, Benzene, Specific PAHs

Appendix 2

Appendix 3

Appendix 4

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Appendix 6

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Metcalf Energy Center, LLC

1 Blanchard Road
Coyote, CA 95013

November 10, 2021

Director, Enforcement and Compliance Division
Bay Area Air Quality Management District, Suite 600
375 Beale Street
San Francisco, CA 94105-2066
Attn: Jeffrey Gove
jgove@baaqmd.gov

Director, Air Division (Attn: AIR-5)
U.S. Environmental Protection Agency
75 Hawthorne St.
San Francisco, CA 94105
R9.aeo@epa.gov

RE: Metcalf Energy Center, LLC., Permit No. B2183
Title V – 30 Day Deviation Follow-Up Report (RCA # 08C32)

Dear Mr. Gove,

In accordance with the Major Facility Review Permit (Title V Permit) for Metcalf Energy Center, LLC (the "Facility"), this letter is intended to satisfy the 30-day follow-up reporting requirement as required by Section I.F. of the Title V Permit, which requires the reporting of all non-compliance instances of the Title V Permit in writing within 30 days of discovery of such non-compliance. The required Title V 10-day initial notification was submitted to the District on October 13, 2021.

On October 11th, the Facility experienced an exceedance of the Facility's CO total combined mass emissions per calendar day limit of 7891.1 pounds, as stated in BAAQMD Condition #18310, part 24 (b).

Event Description

At approximately 9:31, DAHS time, the Facility, initiated a cold start-up on Unit 1 to ensure that the unit would be on-line by 16:00. Due to lingering problems with water quality following a condenser tube leak, Unit 1 encountered a chemistry issue that prevented the roll up of the steam turbine. As a result, the Unit 1 start-up was aborted after it was most of the way through the cold start-up process. Unit 2 was then started to meet the generation dispatch. Approximately 4 hours into the Unit 2 cold start-up, an initial alarm came in regarding the CO daily limit. Review by the Control Room Operator (CRO) showed that the CO was at 7,727 lbs., which was below the daily limit of 7,891.1 lbs. While the emissions were approaching the daily limit, the unit was most of the way through the start-up process and produces only de minimis CO emissions once it is in normal operations, so the CRO proceeded with the start-up process. In addition, the plant has been experiencing intermittent false exceedance notifications since a DAHS upgrade that was completed in July 2021[1], and this initial CO alarm appeared to be a recurrence of that issue. Similarly, when another CO alarm came in approximately an hour later, believing that it was another false notification, the CRO simply acknowledged the alarm and continued with the start-up. Shortly after the unit achieved normal operations, a third CO alarm came in. At that point, the CRO contacted plant management to determine the cause of the alarm and the exceedance

[1] The DAHS vendor is still investigating the false exceedance notifications but has not yet identified the cause or any corrective actions.

was discovered. The total exceedance was subsequently determined to be 167.8 lbs. in excess of the daily mass emissions limit.

The following is the specific chronology of events:

- At 09:31, the Control Room Operator (CRO) initiated startup of Unit 1.
- At 13:54, the chemistry on Unit 1 was not allowing the roll up of the steam turbine and start-up was aborted.
- At 14:04, Unit 1 concluded shut down.
- At 14:54, Unit 2 was started to meet the generation dispatch.
- At 18:01, during the fourth hour of cold start-up, the first warning alarm regarding the CO lbs. daily total limit came in. Emissions were at 7727 lbs., under the limit of 7891.1 lbs. The CRO acknowledged the alarm and proceeded with the start-up.
- At 19:01, the DAHS indicated a second warning alarm regarding the daily total CO limit. The CRO completed the start-up and brought the unit into compliance. Subsequent investigation showed that the actual exceedance occurred sometime between the first and second alarms.
- At 19:44, Unit 2 was in compliance with hourly permitted emission limits.
- At 20:01, once in normal operations, the DAHS issued the third and final daily CO emissions limit alarm. Since the unit was now in normal operations, the CRO decided to further investigate the alarm. The CRO contacted plant management to determine the cause of the alarm and confirmed that the unit had, in fact, exceeded the daily mass emissions limit.
- Next day calculated (see Attachment A – Facility Monthly Mass Emissions Report).
- At 23:05, Unit 2 was shutdown per the dispatch schedule.

Corrective Actions

The unit was shut down at 23:05 DAHS time.

Compliance Status

The Facility was in full compliance with its air permit as of 00:00 on October 12th, 2021 and remains in full compliance.

Investigation and Cause Determination

Based on our investigation, it has been determined that the ongoing issue with the false excess emission notifications on the DAHS caused confusion for the CRO. As previously mentioned, the DAHS software was updated in late July. Since the upgrade, false excess emission alarms are seen in the DAHS during some of the start-ups. The alarms are sporadic and do not occur during all start-ups. This issue was reported to the DAHS software vendor, and they continue to investigate the cause.

The CRO did investigate when the initial alarm came in and at the time of the first alarm, emissions were within permitted limits. He was aware of the ongoing issues with the false indications, and after confirming he was within limits, he believed that both the initial alarm and the subsequent second alarm were a continuation of that issue. Once the unit was out of start-up and the third CO alarm came in, the CRO investigated further to determine why there was still an alarm when the unit was in normal operations. While the CRO's investigation led to the discovery of the exceedance, shutting down the unit at that point in time would not have solved the issue. To have avoided the exceedance, CRO would have had to have initiated a shutdown after the first alarm came in, when the unit was showing that it was still below the permit limits.

Preventative Actions

The day after the incident, the CRO was counselled on the proper procedures following indications of excess emissions. The facility also performed a review of the DAHS alarms to ensure that their setpoints were correct. The review indicated that the setpoints are correct. In addition, the facility continues to work with the DAHS vendor to understand the genesis of the false exceedance notifications during unit start-up. The vendor continues to investigate and test the current version of the software to determine a cause and corrective action.

If you have any questions or require additional information, please contact Rosemary Silva, EHS Specialist III, at 408-361-4954.

As a Responsible Official, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

Sincerely,

Charles Spandri
Interim Plant Manager
Metcalf Energy Center, LLC

Cc:	Erin Phillips	BAAQMD	via email attachment
	Anwar Ali	CEC AQ-34	via email attachment
	Jessica Grossman	Sr. Counsel, Calpine	via email attachment
	Chris Cullison	EHS Manager, Calpine	via email attachment

Appendix A – Facility Monthly Mass Emissions Report

Metcalf

San Jose, CA

Facility Monthly Mass Emissions Report

October - 2021

Daily Emission Limits		12-Month Rolling Emission Limits	
NOx lbs/day - 1362.6	PM lbs/day - 510	NOx tons/year - 123.4	PM tons/year - 83.34
CO lbs/day - 7891.1	POC lbs/day - 230.2	CO tons/year - 588	POC tons/year - 28
SOx lbs/day - 57.9		SOx tons/year - 10.6	Heat Input mmBtu/year - 35,274,060

Day	Facility NOx lbs	Facility CO lbs	Facility SOx lbs	Facility PM lbs	Facility POC lbs	Facility Heat Input mmBtu
01	456.4	1049.0	20.4	61.7	18.3	61433
02	421.7	1459.4	17.4	49.6	11.9	49127
03	370.1	1794.3	12.2	36.2	9.3	36050
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
11	439.9	**8058.9**	4.5	12.2	1.3	12153
12	99.9	1533.2	0.8	2.7	0.4	2631
13	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	193.0	2466.6	3.8	12.4	4.2	12541
18	393.9	3151.6	8.9	26.9	8.0	27070
19	547.6	1722.0	19.8	59.9	17.9	59831
20	519.9	457.6	24.1	69.9	18.5	69845
21	600.4	772.6	24.8	72.2	19.8	71617
22	297.6	140.5	12.6	40.9	15.7	40939
23	100.9	1640.3	0.5	1.3	0.1	1314
24	174.8	1860.0	3.7	12.1	4.2	12016
25	412.7	2931.8	12.3	34.9	8.4	34560
26	331.5	2858.9	9.6	27.8	6.9	27961
27	550.3	195.3	28.3	80.2	18.5	79764
28	561.3	182.6	29.1	81.9	19.1	81753
29	547.0	167.2	27.7	79.6	18.7	79121
30	327.2	2362.5	9.5	27.9	7.1	27793
31	311.9	2548.5	8.5	25.0	6.3	24841
Total	7658	37353	279	815	215	812360
12-Mo Rlng Tons	71.9	172.0	3.2	9.4	2.4	3692745

METCALF ENERGY CENTER
REVISION LOG
On-Site Contingency Plan for Unplanned Temporary & Permanent Facility Closure

Date	Description of Revision	Revision No.	Revised By:
6/01/2005	Planned Developed	1	Dana Petrin
8/08/2008	Plan reviewed and contact information updated.	2	Rosemary Silva
8/24/2009	Annual Review – Updated the notification list, updated the chemical inventory.	3	Rosemary Silva
8/06/2010	Annual Review – Updated the chemical list and CEC contact	4	Rosemary Silva
8/29/2011	Annual Review – Update contact list and chemical list	5	Rosemary Silva
8/24/2012	Annual Review - Updated the contact information for the regulatory agencies. Also updated the chemical list included in the plan. The updated plan was submitted as part of the annual compliance report for reporting year 2011.	6	Rosemary Silva
8/19/2013	Annual Review – Updated contact information and chemical list. The updated plan was submitted as part of the annual compliance report for reporting year 2012.	7	Rosemary Silva
11/07/2014	Annual Review – Updated the Wastewater Inspector information	8	Rosemary Silva
12/30/2015	Annual Review – No Changes	-	Rosemary Silva
8/08/2016	Annual Review – Updated contact information for CEC and HazMat Inspector	9	Rosemary Silva
8/22/2017	Annual Review – Updated contact information for PGE	10	Rosemary Silva
8/10/2018	Annual Review – Updated contact information for City of San Jose Wastewater Inspector	11	Rosemary Silva
8/09/2019	Annual Review – No changes	-	Rosemary Silva
8/06/2020	Annual Review – No changes	-	Rosemary Silva
8/05/2021	Annual Review – Update to the contact information for Santa Clara Environmental Health Department	12	Rosemary Silva
7/27/2022	Annual Review – Updated the San Jose Fire Department Inspector contact information	13	Rosemary Silva

TABLE OF CONTENTS

1.0 PURPOSE

This plan was developed to provide an on-site contingency plan in order to ensure that the unexpected closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. The plan covers written procedures concerning site security, hazardous materials and waste removal, and insurance and warranty coverage.

2.0 SCOPE

The plan was prepared in accordance with the California Energy Commission's (CEC) Decision, Docket Number 99-AFC-03 and covers the following facility

Metcalf Energy Center, LLC (MEC)
1 Blanchard Road
San Jose, CA 95013

Telephone Number: (408) 361-4900
Type and Nature of Business: SIC 4911 Electric Power Production

3.0 RESPONSIBILITIES

3.1 PLANT MANAGER

The Plant Manager has the overall responsibility for ensuring all provisions of this plan are administered and adhered to.

3.2 OPERATIONS MANAGER

The Operations Manger is responsible for overseeing the program, and notification to the CEC.

4.0 GENERAL

4.1 NOTIFICATION PROCEDURES

In the event of an unexpected temporary or permanent closure, the Plant Manager or designee shall notify the CEC Compliance Project Manager (CPM) and other responsible agencies within 24 hours and take all necessary steps to implement this Plan. Notification shall be made by either telephone, fax, or e-mail (see table 1). The Operations Manager shall keep the CPM informed of the circumstances and expected duration of the closure.

If it is determined that a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with CEC requirements for a planned closure shall be developed and submitted to the CPM within 90 days or the CPM's determination (or other period mutually agreed to by the owner and the CPM).

TABLE 1
AGENCIES TO BE NOTIFIED

California Energy Commission	
Anwar Ali Compliance Project Manager California Energy Commission 1516 9th St. Sacramento, CA 95814-5504	Tel: (916) 654-5020 Fax: (916) 651-8868 e-mail: anwar.ali@energy.ca.gov
San Jose Fire Department	
Zuhayl Lambert Hazmat Inspector San Jose Fire Department 200 E. Santa Clara St., 2nd Fl. Tower San Jose, CA 95113	Tel: (408) 535-3881 e-mail: Zuhayl.Lambert@sanjoseca.gov
Ed Tolentino Fire Protection Engineer 4 North Second Street, Suite 1000 San Jose, CA 95113-1305	Tel: (408) 277-8755 Fax: (408) 277-2745 e-mail: edward.tolentino@ci.sj.ca.us
Santa Clara Environmental Health Department	
Robin Ward Sr. Hazardous Materials Specialist 1555 Berger Dr. San Jose, CA 95112	Tel: (408) 918-1945 e-mail: robin.ward@cep.sccgov.org
Regional Water Quality Control Board	
San Francisco Bay Regional Water Quality Control Board-Region 2 1515 Clay St. Suite 1400 Oakland, CA 94612	Tel: (510) 622-2300 Fax: (510) 622-2460
South Bay Water Recycling	
Pedro Hernandez South Bay Water Recycling Environmental Services Dept. City of San Jose 200 East Santa Clara Street, 4th Floor San Jose, CA 95131	Tel: (408) 794-6804 e-mail: pedro.hernandez@sanjoseca.gov

San Jose/Santa Clara Water Pollution Control Plant	
Kimberly DeVillier Environmental Inspector City of San Jose 200 E. Santa Clara Street, 7th Floor San Jose, CA 95113	Tel: (408) 793-5359 Fax: (408) 271-1930 e-mail: kimberly.devillier@sanjoseca.gov
Bay Area Air Quality Management District	
Jack Broadbent Air Pollution Control Officer BAAQMD 939 Ellis Street San Francisco, Ca 94109	Tel: (415) 749-5052 e-mail: jbroadbent@baaqmd.gov
Pacific Gas and Electric	
Kris Matulich Customer Service Representative PG&E 2230 Lake Washington Blvd West Sacramento, CA 95691	Tel: (916) 386-5159 Fax: (916) 687-1094 e-mail: KEMh@pge.com
Cal-ISO	
Felix Gonzalez CAL-ISO Outage Coordination P.O. Box 639014 Folsom, CA 95763-9014	Tel: (916) 351-2241 e-mail:
US Environment Protection Agency – Region IX	
US EPA Region IX 75 Hawthorne Street San Francisco, CA 94105-3901	Tel: (415) 972-3990 Fax: (415) 947-3579 e-mail: reo9@epa.gov

4.2 PLANT SHUT DOWN PROCEDURE

In the event of a plant closure, MEC, personnel will shut down all operating equipment that is not necessary to respond to an emergency, in accordance with plant operating procedures. In the event of an emergency shutdown (e.g., fire, earthquake, sabotage, etc.), MEC personnel should consult the MEC Emergency Action Plan, EAP. The purpose of the EAP is to provide emergency response guidelines so that the MEC shift, and management personnel can adequately evaluate the situation and respond in the interests of protecting personnel, company resources, and the environment.

The EAP provides guidelines for emergencies, including accidental release of toxic gases, chemical spills, fires, explosions, bomb threats, civil disobedience, and personnel injuries. There are several situations that may require emergency response by site personnel. The response

required for each situation may vary, and each requires a separate course of action. Personnel should reference the EAP for proper response.

4.3 SITE SECURITY AND EMERGENCY RESPONSE

The plant perimeter is surrounded by chain link fence. The main gate is located on Blanchard Road. Remote cameras monitor the perimeter entry into the Plant 24 hours per day, 365 days per year by Control Room Personnel. Duties of the Plant Operators include checking plant security measures during the shift.

In the event of an unexpected closure, MEC will ensure that all fencing is intact and a manned guard or private security services it used to maintain site security, if necessary.

In the event of an emergency, the San Jose Fire Department (SJFD) will have access through the main gate. Additionally, the SJFD has been supplied with a Hazardous Materials Business Plan, Risk Management Plan, and Fire Protection and Prevention Plan. The information contained in these plans will enable SJFD to respond to any emergency if the plant personnel have evacuated the premises.

4.4 HAZARDOUS MATERIAL AND WASTE REMOVAL

Handling and disposal of all hazardous materials and wastes shall be in accordance with all applicable laws, ordinances, regulations, and standards. Figure 1 identifies all hazardous materials that are located at MEC in reportable quantities. In the event of an unexpected temporary closure, not all hazardous materials will require removal. If such an event occurs, MEC will conduct visual inspections of all hazardous material storage vessels on a daily basis to assess container condition. This process can be done remotely via site cameras if necessary.

FIGURE 1
HAZARDOUS MATERIALS IN REPORTABLE QUANTITIES LOCATED AT METCALF

MATERIAL NAME	MAX DAILY	UNIT OF MEASURE
*MISCELLANEOUS FLAMMABLE LIQUID, CLASS IB	110	GAL
TURBINE OIL 68	7995	GAL
ACETYLENE	1000	CUFT
AQUEOUS AMMONIA	27527	LBS
CALIBRATION GAS (5% CARBON DIOXIDE, 12% OXYGEN, 83% NITROGEN)	435	CUFT
CALIBRATION GAS (NITRIC OXIDE/NITROGEN)	3335	CUFT
CHEMTREAT BL-124	300	GAL
CHEMTREAT BL-153	455	GAL
CHEMTREAT BL-1795	510	GAL
CHEMTREAT CL240	1500	GAL
CHEMTREAT CL4500	1500	GAL
CHEMTREAT P873L	220	GAL
CHEMTREAT RL9007	400	GAL
CONNTECT 6000	55	GAL
COSMOLUBRIC B-230	220	GAL
DEBRIS/RAGS CONTAMINATED WITH PETROLEUM/OIL	100	LBS
DIESEL	572	GAL
ELECTROLYTE	1522	GAL
GASOLINE	55	GAL
HYTRANS 61	56877	GAL
LIQUID PROPANE GAS	50	GAL
MISC LUBE OIL (LUBE OIL STORAGE)	980	GAL
CHEMTREAT BL124	300	GAL
CHEMTREAT RL9007	400	GAL
CHEMTREAT BL1795	400	GAL
NITROGEN	2650	LBS
REOLUBE TURBOFLUID 46B	6650	GAL
SILICONE OIL SH200-50 CS EG	300	GAL
SODIUM CARBNATE	300	LBS
SODIUM HYDROXIDE	55	GAL
SODIUM HYPOCHLORITE 12.5%	8300	GAL
SULFUR HEXAFLUORIDE SF6	448	LBS
SULFURIC ACID 93%	42763	LBS
USED OIL	400	GAL

MEC has implemented a Hazardous Materials Business Plan, HMBP, to assist with identification and handling of all hazardous materials. In addition to the HMBP other plans have been developed to assist plant personnel and emergency responders with handling of the hazardous materials located at MEC.

Whenever practical, hazardous materials will be returned to the vendor or transferred to another Calpine site that has the need for the material(s). The following transporters or other qualified transporters will be used if it is deemed necessary to remove any hazardous material(s).

TRANSPORTER	TELEPHONE NUMBER
Bayview Environmental	510-562-6181
Hill Brothers Chemical Company	408-421-0043

If the unexpected temporary closure also results in a release of hazardous materials or waste, plant personnel will consult the Emergency Action Plan, HMBP, and/or Risk Management Plan. These plans address accidental release prevention and emergency policies, a hazardous materials inventory, employee training, and location of safety equipment, main utility shutoffs, notification methods, and accident investigation procedures.

In addition, the Storm Water Pollution Prevention Plan, SWPP, and the Spill Prevention Control and Countermeasure Plan, SPCC, describe the necessary actions in the event of a spill that might threaten off site locations. Both structural and non-structural Best Management Practices (BMPs) are utilized at the site to reduce pollutants in storm water discharge. Structural BMPs include such measures as valves, berms, curbs, and containment structures that are used to hold or divert storm water. Non-structural BMPs include such measures as regular inspections, good housekeeping, employee training, and special procedures for storing/loading hazardous materials and wastes. Plant personnel shall consult all these plans prior to proceeding with any hazardous material or waste removal.

5.0 INSURANCE AND WARRANTY COVERAGE

MEC is insured under an "All-Risk" Builder's Risk policy for property damage and business interruption. The policy is provided by several insurance companies led by Underwriters at Lloyds of London. Liability insurance is provided by Liberty Mutual.

The warranties on the major equipment at MEC have expired.

6.0 UNEXPECTED TEMPORARY CLOSURE

If the MEC closed temporarily, there are additional tasks to be performed, including notifications for areas of transmission line engineering and biological resources.

6.1 TRANSMISSION LINE ENGINEERING

MEC signed a Generator Facility Interconnection Agreement (GFIA), with PG&E. In the event of a planned, unexpected temporary, and unexpected permanent closure contact shall be made with PG&E and Cal ISO to ensure compliance with all applicable laws, ordinances, regulations, and standards (LORS), and that system safety and reliability will not be jeopardized.

6.2 BIOLOGICAL RESOURCES

In the case of temporary closure, measures to protect biological resources would be needed only if there were a potential to surface disturbances or releases of harmful materials. If such an event occurs, MEC will consult with responsible agencies to plan clean up and mitigation of impacts to biological resources.

7.0 PERMANENT CLOSURE

In the event the MEC is closed permanently, there are additional tasks that need to be performed, including preparing a facility closure plan, notifying agencies, ensuring site security, removing hazardous materials and waste.

7.1 FACILITY CLOSURE PLAN

To ensure that the permanent closure does not create adverse impacts, a closure process will be undertaken by MEC that provides for careful consideration of available options, applicable laws, ordinances, regulations, standards, and local plans in existence at the time of closure. MEC will meet with the CEC and other agencies as necessary prior to the development of the closure plan to establish the elements of the plan. In accordance with CEC Conditions of Certification, the plan will include the following:

1) Identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site.
2) Identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project.
3) Identify any facilities or equipment intended to remain on site after closure, the reason, and any future use.
4) Address conformance of the plan with all applicable laws, ordinances, regulations, standards, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.
5) Removal of transmission conductors when they are no longer used or useful.

6) Removal of all power plant site facilities and related facilities.
7) Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species.
8) Revegetation of the plant site and other disturbed areas utilizing appropriate seed mixture.

The plan will be submitted to the CEC CPM, Santa Clara County, and City of San Jose for review and approval at least 12 months (or other mutually agreed to time) prior to commencing the permanent closure activities.

7.2 AGENCY NOTIFICATION

Additional notification may be necessary in the event of a permanent closure, including re-notifying each of the agencies listed in Table 1. The Closure Plan will also be sent to those appropriate agencies with which MEC has a current permit (e.g., Regional Water Quality Control Board, Bay Area Air Quality Management District, USEPA, etc.)

7.3 SITE SECURITY

Prior to permanent closure, the General Manager or designee will notify the San Jose Fire Department and Police Department, giving the notice that the existing level of site surveillance will not be in effect. This will enable these agencies to respond appropriately in the event of a disturbance or fire. It may be necessary for MEC to provide site security for a period of time following permanent closure, the General Manger or designee will determine the need for such interim security and will address it in the Closure Plan, if necessary.

7.4 REMOVAL OF HAZARDOUS MATERIALS AND WASTE

As required by the CEC Commission Decision, MEC is responsible for removing all hazardous materials from the site as part of permanent site closure. If MEC intends to redevelop the site, other plans may be made to either remove or store materials in different location. The details of the removal will be covered in the Closure Plan.

7.5 BIOLOGICAL, CULTURAL, AND PALEONTOLOGICAL RESOURCES

When a permanent Closure Plan is prepared, it will include the take avoidance and mitigation requirements in effect at the time for the species that would be impacted. The plan will also include the removal of the transmission facilities when they are no longer used and useful and reclamation of areas where facilities would be removed. This may include ripping of soil contouring of disturbed areas, implementation of erosion control,

revegetation, and other measures deemed appropriate at the time the Closure Plan is developed.

Biological resources compliance reporting for closure activities would likely include pre-activity survey reports, environmental monitoring reports during reclamation, and a final report describing the closure activities and any follow-on reclamation work that would be required.

The permanent Closure Plan will include a description regarding the potential of the closure activities to impact cultural and paleontological resources. The closure requirements are to be based upon the Cultural Resources and Paleontological Resources Final Report. If no activities are proposed that would potentially impact either of these resources, no mitigation measures will be required. Should a discovery be made, it will be necessary to update the Cultural Resources and Paleontological Resources final report.

The facility will comply with all COC's including contracting with qualified Cultural, Paleontological, Native American and Biological Monitors when condition require. These monitors will be identified in the final Closure Plan if required.

Metcalf Energy Center Plume Log

Cooling Tower Plumes

Date	Start Time	End Time	Total Time	Event	Relative Humidity	Temperature	Supplemental Firing (On/Off)	Plume Abatement In Service (Louvers Open)

No Plume Events in December 2021.

Total Cooling Tower Plume Hours: 0:00

Remedial Actions To Be Taken

1. The Operator will verify that the plume abatement was in service.
2. The Operator will verify that the louvers were completely opened.
3. Curtail supplementary firing in the HRSG.

Stack Plumes

Date	Start Time	End Time	Total Time	Event	Relative Humidity	Temperature	Supplemental Firing (On/Off)	Steam Injection (On/Off)	Economizer By-Pass Valve Position

No Plume Events in December 2021.

Total Stack Plume Hours: 0:00

Remedial Actions Taken

1. The Operator will operate the economizer bypass valve.
2. Curtail steam injection to the combustion turbine (called PAG steam).
3. Curtail supplementary firing in the HRSG.

Total Combined Plume Hours: 0:00

Metcalf Energy Center Plume Log

Cooling Tower Plumes

Date	Start Time	End time	Total Time	Event	Relative Humidity	Temperature	Supplemental Firing (On/Off)	Plume Abatement In Service (Louvers Open)
No Plume Events in January 2021.								
No Plume Events in February 2021.								
No Plume Events in March 2021.								
No Plume Events in April 2021.								
No Plume Events in May 2021.								
No Plume Events in June 2021.								
No Plume Events in July 2021.								
No Plume Events in August 2021.								
No Plume Events in September 2021.								
No Plume Events in October 2021.								
No Plume Events in November 2021.								
No Plume Events in December 2021.								
Total Cooling Tower Plume Hours YTD:	**0:00**							

Remedial Actions To Be Taken

1. The Operator will verify that the plume abatement was in service.
2. The Operator will verify that the louvers were completely opened.
3. Curtail supplementary firing in the HRSG.

Stack Plumes

Date	Start Time	End time	Total Time	Event	Relative Humidity	Temperature	Supplemental Firing (On/Off)	Steam Injection (On/Off)
No Plume Events in January 2021.								
No Plume Events in February 2021.								
No Plume Events in March 2021.								
No Plume Events in April 2021.								
No Plume Events in May 2021.								
No Plume Events in June 2021.								
No Plume Events in July 2021.								
No Plume Events in August 2021.								
No Plume Events in September 2021.								
No Plume Events in October 2021.								
No Plume Events in November 2021.								
No Plume Events in December 2021.								
Total Stack Plume Hours YTD:	**0:00**							

Remedial Actions Taken

1. The Operator will operate the economizer bypass valve.
2. Curtail steam injection to the combustion turbine (called PAG steam).
3. Curtail supplementary firing in the HRSG.

Total Combined Year-to-Date **0:00**

California Energy Commission's Condition of Certification

VISUAL RESOURCES-1

METCALF ENERGY CENTER, LLC
STATUS REPORT REGARDING THE ARCHITECTURAL DESIGN TREATMENT MAINTENANCE

California Energy Commission Condition of Certification Visual Resources – 1 requires the Metcalf Energy Center to submit in its Annual Compliance Report a status report regarding the treatment maintenance of the project structures. The project structures, which are visible to the public, have been painted with CPM-approved and City of San Jose-approved non-reflective colors with a low-gloss finish.

The Metcalf Energy Center Maintenance Department has procedures to address all aspects for maintaining the power plant efficiently. Issues such as coating or painting are captured by staff's surveillance and utilization of checklists. Once an item is deemed in need of maintenance, Plant Management schedule and prioritizes the maintenance through a work order process. Outside contractors are also utilized at Metcalf Energy Center. Plant Management inspects and signs off on the work once it is fully complete.

A copy of the checklists used to survey the architectural screen as well as the other painted surfaces visible from offsite is attached to this summary.

ARCHITECTURAL DESIGN TREATMENT INSPECTION METCALF ENERGY CENTER

UNIT: Steam Turbine

	TURBINE / GENERATOR ENCLOSURE	GENERATOR / CONDENSER SOUND WALL
Chalking	1	
Erosion	1	
Discoloration	1	
Fading	1	
Loss of Gloss	1	
Mildew Defacement	1	
Moisture Blushing	1	
Orange Peel	1	
Wrinkling	1	
Chemical Attack	1	
High Temperature Attack	1	
Mottling	1	
Crackling	1	
Saponification	1	
Disbanding (peel/blister)	1	
Crawling (fish eye)	1	

Comments:

Rating System: Mark a number from 1 through 5 in the appropriate box to indicate the condition of the coating:
1 = No Problems; 2 = Minor Problems; 3 =Average Problems; 4 = Increased Problems; 5 = Major Problems.

ARCHITECTURAL DESIGN TREATMENT INSPECTION METCALF ENERGY CENTER

UNIT: Cooling Tower

	SUPERSTRUCTURE
Chalking	1
Erosion/Corrosion	1
Discoloration	1
Fading	1
Loss of Gloss	1
Mildew Defacement	2
Moisture Blushing	1
Orange Peel	1
Wrinkling	1
Chemical Attack	1
High Temperature Attack	1
Mottling	1
Crackling	1
Saponification	1
Disbanding {peel/blister)	1
Crawling (fish eye)	1

Comments:

Rating System: Mark a number from 1 through 5 in the appropriate box to indicate the condition of the coating:
1 = No Problems; 2 = Minor Problems; 3 =Average Problems; 4 = Increased Problems; 5 = Major Problems.

ARCHITECTURAL DESIGN TREATMENT INSPECTION METCALF ENERGY CENTER

UNIT: HRSG & Gas Turbine 1

	INLET AIR FILTER HOUSE	TURBINE/ GENERATOR	STACK	SCREENING
Chalking	1	1	1	
Erosion/Corrosion	1	2	1	
Discoloration	1	1	1	
FadinQ	1	1	1	
Loss of Gloss	1	1	1	
Mildew Defacement	1	1	1	
Moisture Blushing	1	1	1	
Orange Peel	1	1	1	
Wrinkling	1	1	1	
Chemical Attack	1	1	1	
High Temperature Attack	1	1	1	
Mottling	1	1	1	
Crackling	1	1	1	
Saponification	1	1	1	
Disbanding (peel/blister)	1	1	1	
Crawling (fish eye)	1	1	1	

Comments:

Rating System: Mark a number from 1 through 5 in the appropriate box to indicate the condition of the coating:
1 = No Problems; 2 = Minor Problems; 3 =Average Problems; 4 = Increased Problems; 5 = Major Problems.

ARCHITECTURAL DESIGN TREATMENT INSPECTION METCALF ENERGY CENTER

UNIT: HRSG & Gas Turbine 2

	INLET AIR FILTER HOUSE	TURBINE/ GENERATOR	STACK	SCREENING
Chalking	1	1	1	
Erosion/Corrosion	1	1	1	
Discoloration	1	1	1	
Fading	1	1	1	
Loss of Gloss	1	1	1	
Mildew Defacement	1	1	1	
Moisture Blushing	1	1	1	
Orange Peel	1	1	1	
Wrinkling	1	1	1	
Chemical Attack	1	1	1	
High Temperature Attack	1	1	1	
Mottling	1	1	1	
Crackling	1	1	1	
Saponification	1	1	1	
Disbanding (peel/blister)	1	1	1	
Crawling (fish eye)	1	1	1	

Comments:

Rating System: Mark a number from 1 through 5 in the appropriate box to indicate the condition of the coating:
1 = No Problems; 2 = Minor Problems; 3 =Average Problems; 4 = Increased Problems; 5 = Major Problems.

ARCHITECTURAL DESIGN TREATMENT INSPECTION METCALF ENERGY CENTER

UNIT: Water Tanks

	SERVICE/FIRE WATER	DEMINERALIZED WATER
Chalking	1	1
Erosion/Corrosion	1	1
Discoloration	1	1
Fading	1	1
Loss of Gloss	1	1
Mildew Defacement	1	1
Moisture Blushing	1	1
Orange Peel	1	1
Wrinkling	1	1
Chemical Attack	1	1
High Temperature Attack	1	1
Mottling	1	1
Crackling	1	1
Saponification	1	1
Disbanding (peel/blister)	1	1
Crawling (fish eye)	1	1

Comments:

Rating System: Mark a number from 1 through 5 in the appropriate box to indicate the condition of the coating:
1 = No Problems; 2 = Minor Problems; 3 =Average Problems; 4 = Increased Problems; 5 = Major Problems.

ARCHITECTURAL DESIGN TREATMENT INSPECTION METCALF ENERGY CENTER

UNIT: Buildings

	ADMINISTRATION	WAREHOUSE
Chalking	1	1
Erosion/Corrosion	1	1
Discoloration	1	1
Fading	1	1
Loss of Gloss	1	1
Mildew Defacement	1	1
Moisture Blushing	1	1
Orange Peel	1	1
Wrinkling	1	1
Chemical Attack	1	1
High Temperature Attack	1	1
Mottling	1	1
Crackling	1	1
Saponification	1	1
Disbanding (peel/blister)	1	1
Crawling (fish eye)	1	1

Comments:

Rating System: Mark a number from 1 through 5 in the appropriate box to indicate the condition of the coating:
1 = No Problems; 2 = Minor Problems; 3 =Average Problems; 4 = Increased Problems; 5 = Major Problems.

METCALF ENERGY CENTER

2021 ANNUAL COMPLIANCE REPORT

WASTE-3

In accordance with **Waste-3**, the Metcalf Energy Facility is required to document actual waste management methods used during the year compared to planned management methods. The facility is currently using the planned waste management methods for all the waste streams generated within the facility, as listed in the table below.

Waste Stream	Waste Type	Planned	Actual
Non-hazardous Solid Waste	Recyclables	Recycle (Off-site)	Recycle (Off-site)
	Non-Recyclables	Landfill	Landfill
Non-hazardous Liquid Waste	Sanitary Waste	Sewage Treatment Plant	Sewage Treatment Plant
	Process Wastewater	Sewage Treatment Plant	Sewage Treatment Plant
Hazardous Liquid Waste	Used Oil	Recycle (Off-site)	Recycle (Off-site)
	Oily Water	Off-site disposal company	Off-site disposal company
	Corrosive Liquid	Off-site disposal company	Off-site disposal company
Hazardous Solid Waste	Used Oil Filters	Recycle (Off-site)	Recycle (Off-site)
	Oily Rags	Off-site disposal company	Off-site disposal company
	Universal Waste	Recycle (Off-site)	Recycle (Off-site)

Metcalf Energy Center

Annual Compliance Report 2021

Water Usage Summary

Recycled Water	
month	consumption (gal)
January	27,068,624
February	32,517,804
March	36,443,308
April	39,534,792
May	5,043,016
June	48,507,052
July	72,108,696
August	64,135,764
September	45,543,476
October	18,707,480
November	22,923,956
December	46,496,428
Total	**459,030,396**

Potable Water	
month	consumption (gal)
January	8,265,998
February	10,766,360
March	8,907,880
April	7,737,005
May	1,978,251
June	8,963,523
July	8,622,301
August	9,937,457
September	14,522,375
October	13,112,410
November	8,162,999
December	8,861,182
Total	**109,837,741**

Metcalf Energy Center

Annual Compliance Report 2021

Water Usage Summary

Condition of Certification S&W-1

Recycled Water	
Cooling Tower for Steam Cycle Cooling	459,030,396
Total Gallons 2021	**459,030,396**

Potable Water	
Condenser Make-Up	39,818,455
Steam Attemperation	37,660,155
Inlet Air Cooling	10,215,082
Domestic	847,035
RO Reject	16,858,966
Filter Backwash	3,371,793
CT Wash Water	543,362
Plant Wash Down	776,232
Total Gallons 2021	**109,837,741**

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location Metcalf | Date Inspected 5/15/21
Owner/Company CalPine | Inspected by Mike Tucker CPN KC
Company Contact | Inspector
Signature | Signature Mike Tucker
Owner's Tower Designation Main Cooling Tower
Tower Manufacturer | Model No. | Serial No.
Process Served by Tower STG Cooling | Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Design Conditions: GPM | HW ° F CW ° F WB ° F
Cell No. 10 Number of Fan Cells 10 | Tower Type: Crossflow ☐ Counterflow ☐
Date Tower was installed

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material	✓			
Structural Material Fiber glass	✓			
Fan Deck Material " "	✓			
Stairway ☐ Material " "	✓			
Ladder ☐ Material " "	✓			
Handrail ☐ Material " "	✓			
Interior Walkway ☐ Material " "	✓			
Cold Water Basin Material Concrete	✓			
Silt, Debris Buildup		✓		Minor silt buildup
Water Distribution System				
Open Basin System				
Distribution Basin Material Concrete	✓			
Inlet Pipe Material Carbon steel		✓		Paint / Corrosion spots
Inlet Manifold Material " "		✓		
Flow Control Valves Size				
Nozzles–Orifice Diameter Size				
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material 6" ABS Plastic	✓			
Branch Pipe Material " "	✓			
Nozzles–Orifice Diameter Size	~~✓~~	✓		Need 25-701183 / 682281
Up spray ☐ Down spray ☐				
Heat Transfer System				
Fill–Type & Material ABS Plastic	✓			
Eliminators–Type & Material		✓		Brittle
Louvers–Type & Material		✓		Louvers siezed / (2) arms broken west
Biological Fouling	✓			

Use this space to list specific items needing attention:

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation _____				
Fan Sheave Designation _____				
Motor Sheave Designation _____				
Gear Drive Unit				
Manufacturer Amarillo Model _____ Ratio _____				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used _____				
Seals _____	✓			
Backlash _____				
Fan Shaft Endplay _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Drive Shaft				
Manufacturer _____ Material Fiberglass	✓			
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer _____ Fixed Pitch ☑ Adjustable Pitch ☐				
Diameter _____ Number of Blades _____				
Blade Material Fiberglass	✓			
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S	✓			
Tip Clearance _____" min _____" max				
Vibration Level _____				
Fan Cylinder Height _____				
Mechanical Equipment Support _____	✓			
Oil Fill and Drain Line _____	✓			Minor leaking at fittings
Oil Level Sight Glass _____	✓			" " " "
Vibration Limit Switch _____	✓			
Motor				
Manufacturer Global XPE - Teco Westinghouse				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps 31.5 Frame 5009 B S F _____ Special Info. _____				
Last Lubrication—Date _____ Serial # HPC48632-1				
Grease Used—Type _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Unusual Vibration? No ☐ Yes ☐ Action Required _____				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____				
Make-up Valve _____				
Other Component _____				
Other Component _____				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Metcalf
Date Inspected: 5/15/21
Owner/Company: CALPINE
Inspected by: Mike Tucker CPN KC
Company Contact: _____
Inspector: _____
Signature: _____
Signature: Mike Tucker
Owner's Tower Designation: Main Cooling Tower
Tower Manufacturer: _____ Model No. _____ Serial No. _____
Process Served by Tower: STG Cooling Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Design Conditions: GPM _____ HW _____ °F CW _____ °F WB _____ °F
Cell No. 9 Number of Fan Cells 10 Tower Type: Crossflow ☐ Counterflow ☐
Date Tower was installed _____

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material	✓			
Structural Material: Fiber glass	✓			
Fan Deck Material: " "	✓			
Stairway ☐ Material: " "	✓			
Ladder ☐ Material: " "	✓			
Handrail ☐ Material: " "	✓			
Interior Walkway ☐ Material: " "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup		✓		Minor silt build up
Water Distribution System				
Open Basin System				
Distribution Basin Material				
Inlet Pipe Material: Carbon steel		✓		Paint / corrosion spots
Inlet Manifold Material: " "		✓		
Flow Control Valves Size	✓			
Nozzles–Orifice Diameter Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material	✓			
Nozzles–Orifice Diameter Size	✓			Need 7-701183 / 682281
Up spray ☐ Down spray ☑				
Heat Transfer System				
Fill–Type & Material	✓			
Eliminators–Type & Material		✓		Brittle
Louvers–Type & Material		✓		Sleezed
Biological Fouling	✓			

Use this space to list specific items needing attention: _____

#9

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/15/21

Mechanical Equipment	1	2	3	**Comments**

Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐

Belt Drive Unit

Belt Designation				
Fan Sheave Designation				
Motor Sheave Designation				

Gear Drive Unit

Manufacturer Amarillo Model _____ Ratio _____

Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐

Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐

Oil Type Used _____

Seals	✓			
Backlash				
Fan Shaft Endplay				

Unusual Noises? No ☐ Yes ☐ Action Required _____

Drive Shaft

Manufacturer _____ Material Fiberglass

	✓			

Fan

Fan Type: Propeller ☑ Blower ☐

Manufacturer _____ Fixed Pitch ☑ Adjustable Pitch ☐

Diameter _____ Number of Blades 10

Blade Material Fiberglass	✓			
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S	✓			
Tip Clearance ____" min ____" max				
Vibration Level				
Fan Cylinder Height				
Mechanical Equipment Support	✓			
Oil Fill and Drain Line	✓			
Oil Level Sight Glass	✓			
Vibration Limit Switch	✓			

Motor

Manufacturer Global XPE-Teco-Westinghouse

Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000

F L Amps 31.5 Frame 5009B S F _____ Special Info. _____

Last Lubrication—Date _____ Serial # HP248632-2

Grease Used—Type _____

Unusual Noises? No ☐ Yes ☐ Action Required _____

Unusual Vibration? No ☐ Yes ☐ Action Required _____

Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____

Make-up Valve				
Other Component				
Other Component				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Metcalf
Owner/Company: CALPINE
Company Contact:
Signature:
Owner's Tower Designation: Main Cooling Tower
Tower Manufacturer:
Process Served by Tower: STG Cooling
Design Conditions: GPM HW °F CW °F WB °F
Cell No. 8 Number of Fan Cells 10
Date Tower was installed:

Date Inspected: 5/14/21
Inspected by: Mike Tucker CPN KS
Inspector:
Signature: Mike Tucker
Model No. Serial No.
Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Tower Type: Crossflow ☐ Counterflow ☐

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material	✓			
Structural Material: Fiberglass	✓			
Fan Deck Material: "	✓			
Stairway ☐ Material: "	✓			
Ladder ☐ Material: "	✓			
Handrail ☐ Material: "	✓			
Interior Walkway ☐ Material: "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material	✓			
Inlet Pipe Material: Carbon steel		✓		Paint / corrosion spots
Inlet Manifold Material: "	✓			
Flow Control Valves Size	✓			
Nozzles–Orifice Diameter Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material: "	✓			
Nozzles–Orifice Diameter Size	✓			Need - S 701183 / 682281
Up spray ☐ Down spray ☑				
Heat Transfer System				
Fill–Type & Material: ABS Plastic	✓			
Eliminators–Type & Material		✓		Brittle
Louvers–Type & Material: Aluminum		✓		Seized (2) arms broken - West side
Biological Fouling	✓			

Use this space to list specific items needing attention:

#8

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/14/21

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation				
Fan Sheave Designation				
Motor Sheave Designation				
Gear Drive Unit				
Manufacturer ____ Model ____ Ratio ____				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used ____	m.T			
Seals ____	X	✓		Input / output shaft seals leaking
Backlash ____				
Fan Shaft Endplay ____				
Unusual Noises? No ☐ Yes ☐ Action Required ____				
Drive Shaft				
Manufacturer ____ Material Fiber glass	✓			
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer ____ Fixed Pitch ☐ Adjustable Pitch ☐				
Diameter ____ Number of Blades 10				
	m.T			
Blade Material Fiberglass	X	✓		Little build up. Coating (Sun damage)
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware ____	✓			
Tip Clearance ____" min ____" max				
Vibration Level ____				
Fan Cylinder Height ____				
Mechanical Equipment Support ____	✓			
Oil Fill and Drain Line ____	✓			
Oil Level Sight Glass ____	✓			
Vibration Limit Switch ____	✓			
Motor				
Manufacturer Global XPE-Teco-Westinghouse				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps ____ Frame ____ S F ____ Special Info. ____				
Last Lubrication—Date ____ Serial # HPC48633-4				
Grease Used—Type ____				
Unusual Noises? No ☐ Yes ☐ Action Required ____				
Unusual Vibration? No ☐ Yes ☐ Action Required ____				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required ____				
Make-up Valve ____				
Other Component ____				
Other Component ____				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Mat Cal | Date Inspected: 5/14/21
Owner/Company: CalPine | Inspected by: Mike Tucker CPN KC
Company Contact: | Inspector:
Signature: | Signature: Mike Tucker
Owner's Tower Designation:
Tower Manufacturer: | Model No.: | Serial No.:
Process Served by Tower: STG Cooling | Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Design Conditions: GPM: | HW: ° F | CW: ° F | WB: ° F
Cell No.: 7 | Number of Fan Cells: 10 | Tower Type: Crossflow ☐ Counterflow ☐
Date Tower was installed:

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material				
Structural Material: Fiberglass	✓			
Fan Deck Material: " "	✓			
Stairway ☐ Material: " "	✓			
Ladder ☐ Material: " "	✓			
Handrail ☐ Material: " "	✓			
Interior Walkway ☐ Material: " "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material				
Inlet Pipe Material: Carbon Steel		✓		
Inlet Manifold Material: " "		✓		
Flow Control Valves: Size				
Nozzles–Orifice Diameter: Size				
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material: " "	✓			
Nozzles–Orifice Diameter: Size	✓			Need–2 701183 / 682281
Up spray ☐ Down spray ☑				
Heat Transfer System				
Fill–Type & Material: ABS Plastic		✓		Brittle
Eliminators–Type & Material		✓		Brittle
Louvers–Type & Material: Aluminum		✓		Seized
Biological Fouling	✓			

Use this space to list specific items needing attention:

#7

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/14/21

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation _____				
Fan Sheave Designation _____				
Motor Sheave Designation _____				
Gear Drive Unit				
Manufacturer Amarillo Model _____ Ratio _____				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used _____				
Seals _____		✓		Input / output shaft seal leaking
Backlash _____				
Fan Shaft Endplay _____				
Unusual Noises? No ☐ Yes ☐ Action Required ~~Fill / Sample line fittings minor leaks~~				
Drive Shaft				
Manufacturer _____ Material Fiberglass	✓			
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer _____ Fixed Pitch ☑ Adjustable Pitch ☐				
Diameter _____ Number of Blades 10				
Blade Material Fiberglass		✓		Build up / Coating (sun damage)
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S	✓			
Tip Clearance _____" min _____" max				
Vibration Level _____				
Fan Cylinder Height _____				
Mechanical Equipment Support _____	✓			
Oil Fill and Drain Line _____	✓			Minor leak at fittings
Oil Level Sight Glass _____	✓			" " " "
Vibration Limit Switch _____	✓			
Motor				
Manufacturer Global XPE - Teco - Westinghouse				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps _____ Frame 5009B S F _____ Special Info. _____				
Last Lubrication—Date _____ Serial # HPC48832-5				
Grease Used—Type _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Unusual Vibration? No ☐ Yes ☐ Action Required _____				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____				
Make-up Valve _____				
Other Component _____				
Other Component _____				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Metcalf
Date Inspected: 5/14/21
Owner/Company: CALPINE
Inspected by: Mike Tucker CPN KC
Company Contact: _____
Inspector: _____
Signature: _____
Signature: Mike Tucker
Owner's Tower Designation: MAIN Cooling Tower
Tower Manufacturer: _____
Model No.: _____ Serial No.: _____
Process Served by Tower: STG cooling
Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Design Conditions: GPM _____ HW _____ °F CW _____ °F WB _____ °F
Cell No. 6 Number of Fan Cells 10
Tower Type: Crossflow ☐ Counterflow ☐
Date Tower was installed: _____

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material				
Structural Material: Fiberglass	✓			
Fan Deck Material: " "	✓			
Stairway ☐ Material: " "	✓			
Ladder ☐ Material: " "	✓			
Handrail ☐ Material: " "	✓			
Interior Walkway ☐ Material: " "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material				
Inlet Pipe Material: Carbon steel		✓		Paint / corrosion spots
Inlet Manifold Material: ABS Plastic	✓			
Flow Control Valves _____ Size	✓			
Nozzles–Orifice Diameter _____ Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material: " "	✓			Replaced 5 Yellows
Nozzles–Orifice Diameter _____ Size		✓		Need 5773 & 120 / 65 2282
Up spray ☐ Down spray ☑				
Heat Transfer System				
Fill–Type & Material: ABS Plastic		✓		Brittle
Eliminators–Type & Material		✓		Brittle
Louvers–Type & Material	✓			louvers seized
Biological Fouling	✓			

Use this space to list specific items needing attention: _____

#6 Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/14/21

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation				
Fan Sheave Designation				
Motor Sheave Designation				
Gear Drive Unit				
Manufacturer Amarillo Model Ratio				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used				
Seals		✓		Input / output shaft seals leaking
Backlash				
Fan Shaft Endplay				
Unusual Noises? No ☐ Yes ☐ Action Required				
Drive Shaft				
Manufacturer Material Carbon Fiber	✓			
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer Fixed Pitch ☑ Adjustable Pitch ☐				
Diameter Number of Blades 10				
Blade Material Fiberglass		✓		little build up. Coating (sun damage)
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S	✓			
Tip Clearance ____" min ____" max				
Vibration Level				
Fan Cylinder Height				
Mechanical Equipment Support	✓			
Oil Fill and Drain Line	✓			
Oil Level Sight Glass	✓			
Vibration Limit Switch	✓			
Motor				
Manufacturer Global XPE Teco-Westinghouse				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps Frame 5009 B S F Special Info.				
Last Lubrication—Date Serial # HPC 48633-5				
Grease Used—Type				
Unusual Noises? No ☐ Yes ☐ Action Required				
Unusual Vibration? No ☐ Yes ☐ Action Required				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required				
Make-up Valve				
Other Component				
Other Component				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Metcalf
Owner/Company: CalPine
Company Contact:
Signature:
Owner's Tower Designation: Main Cooling Tower
Tower Manufacturer:
Process Served by Tower: STG Cooling
Design Conditions: GPM ____ HW ____ °F CW ____ °F WB ____ °F
Cell No. 5 Number of Fan Cells 10
Date Tower was installed:

Date Inspected: 5/13/21
Inspected by: Mike Tucker
Inspector:
Signature: Mike Tucker
Model No. ____ Serial No. ____
Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Tower Type: Crossflow ☐ Counterflow ☐

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material: Concrete	✓			
Structural Material: Fiberglass	✓			
Fan Deck Material: " "	✓			
Stairway ☐ Material: " "	✓			
Ladder ☐ Material: " "	✓			
Handrail ☐ Material: " "	✓			
Interior Walkway ☐ Material: " "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material: Carbon / PVC	✓			
Inlet Pipe Material: Carbon steel		✓		Paint / corrosion spots
Inlet Manifold Material: ABS Plastic	✓			
Flow Control Valves ____ Size	✓			
Nozzles–Orifice Diameter ____ Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material: ABS Plastic	✓			
Nozzles–Orifice Diameter ____ Size	✓			5 - 701183 / 682281
Up spray ☐ Down spray ☐				
Heat Transfer System				
Fill–Type & Material: ABS Plastic		✓		Brittle Hole 2' x 2'
Eliminators–Type & Material: " "		✓		Brittle
Louvers–Type & Material: Aluminum	✓			
Biological Fouling	✓			

Use this space to list specific items needing attention:

#5 **Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention** 5/13/21

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation				
Fan Sheave Designation				
Motor Sheave Designation				
Gear Drive Unit				
Manufacturer Amarillo Model Ratio				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used				
Seals		✓		
Backlash				
Fan Shaft Endplay				
Unusual Noises? No ☐ Yes ☐ Action Required				
Drive Shaft				
Manufacturer Material Fiberglass	✓			
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer Fixed Pitch ☑ Adjustable Pitch ☐				
Diameter Number of Blades 10				
Blade Material Fiberglass		✓		build up on blades / Coating (sun damage)
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware				
Tip Clearance ____" min ____" max				
Vibration Level				
Fan Cylinder Height				
Mechanical Equipment Support	✓			
Oil Fill and Drain Line		✓		Minor leak at fitting threads
Oil Level Sight Glass	✓			
Vibration Limit Switch	✓			

* Gearbox oil level indicator missing

Motor

Manufacturer Global XPE-Teco-Westinghouse

Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000

F L Amps ____ Frame 5009B S F ____ Special Info. ____

Last Lubrication—Date ____ Serial # HP2486432-4

Grease Used—Type ____

Unusual Noises? No ☐ Yes ☐ Action Required ____

Unusual Vibration? No ☐ Yes ☐ Action Required ____

Unusual Heat Build-up? No ☐ Yes ☐ Action Required ____

Make-up Valve				
Other Component				
Other Component				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Met Calf
Owner/Company: Calpine
Company Contact:
Signature:
Owner's Tower Designation:
Tower Manufacturer:
Process Served by Tower: STG Cooling
Design Conditions: GPM ____ HW ____ °F CW ____ °F WB ____ °F
Cell No. 4 Number of Fan Cells 10
Date Tower was installed:

Date Inspected: 5/13/21
Inspected by: Mike Tucker CPN KC
Inspector:
Signature: Mike Tucker
Model No. ____ Serial No. ____
Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Tower Type: Crossflow ☐ Counterflow ☐

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material: Concrete	✓			
Structural Material: Fiberglass	✓			
Fan Deck Material: " "	✓			
Stairway ☐ Material: " "	✓			
Ladder ☐ Material: " "	✓			
Handrail ☐ Material: " "	✓			
Interior Walkway ☐ Material: " "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material: Carbon / ABS	✓			
Inlet Pipe Material: Carbon Steel		✓		Paint / corrosion spots
Inlet Manifold Material: ABS Plastic	✓			
Flow Control Valves ____ Size	✓			
Nozzles–Orifice Diameter ____ Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material: " "	✓			
Nozzles–Orifice Diameter ____ Size	✓			15-701183 / 682281
Up spray ☐ Down spray ☐				
Heat Transfer System				
Fill–Type & Material: ABS Plastic		✓		Brittle
Eliminators–Type & Material: " "		✓		Brittle
Louvers–Type & Material: Aluminum		✓		
Biological Fouling	✓			

Use this space to list specific items needing attention:

#4

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/31/21

Mechanical Equipment	1	2	3	**Comments**
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation _____				
Fan Sheave Designation _____				
Motor Sheave Designation _____				
Gear Drive Unit				
Manufacturer Amarillo Model _____ Ratio _____				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used _____				
Seals _____		✓		Minor oil leak input / output
Backlash _____				
Fan Shaft Endplay _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Drive Shaft				
Manufacturer _____ Material _____				
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer _____ Fixed Pitch ☑ Adjustable Pitch ☐				
Diameter _____ Number of Blades 10				
Blade Material Fiberglass		✓		Build up on blades
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S	✓			
Tip Clearance _____" min _____" max				
Vibration Level _____				
Fan Cylinder Height _____				
Mechanical Equipment Support _____				
Oil Fill and Drain Line _____		✓		Minor leaks at pipe Threads
Oil Level Sight Glass _____	✓			
Vibration Limit Switch _____	✓			
Motor				
Manufacturer Global XPE - Teco - Westing house				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps _____ Frame 5009 B S F _____ Special Info. _____				
Last Lubrication—Date _____ Serial HPC48633-2				
Grease Used—Type _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Unusual Vibration? No ☐ Yes ☐ Action Required _____				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____				
Make-up Valve _____				
Other Component _____				
Other Component _____				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location Metcalf | Date Inspected 5/13/21
Owner/Company Calpine | Inspected by Mike Tucker CPN KC
Company Contact | Inspector
Signature | Signature Mike Tucker
Owner's Tower Designation MAIN Cooling Tower
Tower Manufacturer | Model No. | Serial No.
Process Served by Tower STG cooling | Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Design Conditions: GPM | HW ° F | CW ° F | WB ° F
Cell No. 3 | Number of Fan Cells 10 | Tower Type: Crossflow ☐ Counterflow ☐
Date Tower was installed

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material Concrete	✓			
Structural Material Fiberglass	✓			
Fan Deck Material "	✓			
Stairway ☐ Material "	✓			
Ladder ☐ Material "	✓			
Handrail ☐ Material "	✓			
Interior Walkway ☐ Material "	✓			
Cold Water Basin Material Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material Concrete	✓			
Inlet Pipe Material Carbon steel		✓		Paint / corrosion spots
Inlet Manifold Material	✓			
Flow Control Valves Size	✓			
Nozzles–Orifice Diameter Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material ABS Plastic	✓			
Branch Pipe Material "	✓			
Nozzles–Orifice Diameter Size			✓	19 - 701183 & 682281 1 - 904901 1 - 736736 1 - 667048 2 - 736121
Up spray ☐ Down spray ☐				
Heat Transfer System				
Fill–Type & Material ABS Plastic		✓		Brittle / Hole 2' x 2'
Eliminators–Type & Material "		✓		Brittle
Louvers–Type & Material		✓		Louvers are Siezed
Biological Fouling	✓			

Use this space to list specific items needing attention: Change d Nozzle
From 736120 / 682282 To 701183 / 682281
Row from opening 6, 7 Short side
(1) (1)

#3

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/13/21

Mechanical Equipment	1	2	3	Comments

Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐

Belt Drive Unit

Belt Designation				
Fan Sheave Designation				
Motor Sheave Designation				

Gear Drive Unit

Manufacturer Amarillo Model _____ Ratio _____

Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐

Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐

Oil Type Used _____

Seals		✓		Minor oil leaks input/output seal
Backlash				
Fan Shaft Endplay				

Unusual Noises? No ☐ Yes ☐ Action Required _____

Drive Shaft

Manufacturer _____ Material ~~Carbon Fiber~~

Fan

Fan Type: Propeller ☑ Blower ☐

Manufacturer _____ Fixed Pitch ☑ Adjustable Pitch ☐

Diameter _____ Number of Blades 10

Blade Material Fiberglass		✓		Build up on blades
Hub Material S/S	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S	✓			
Tip Clearance ____" min ____" max				
Vibration Level				
Fan Cylinder Height				
Mechanical Equipment Support				
Oil Fill and Drain Line		✓		Minor oil leaks
Oil Level Sight Glass	✓			
Vibration Limit Switch	✓			

Motor

Manufacturer Global XPE-Teco-Westinghouse

Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000

F L Amps _____ Frame 5009 B S F _____ Special Info. _____

Last Lubrication—Date _____ Serial # HPC 48632-3

Grease Used—Type _____

Unusual Noises? No ☐ Yes ☐ Action Required _____

Unusual Vibration? No ☐ Yes ☐ Action Required _____

Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____

Make-up Valve				
Other Component				
Other Component				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location Metcalf
Owner/Company CALPine
Company Contact
Signature
Owner's Tower Designation Main Cooling Tower
Tower Manufacturer
Process Served by Tower STG cooling
Design Conditions: GPM HW °F CW °F WB °F
Cell No. 2 Number of Fan Cells 10
Date Tower was installed

Date Inspected 5/12/21
Inspected by Mike Tucker CPN KC
Inspector
Signature Mike Tucker
Model No. Serial No.
Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Tower Type: Crossflow ☐ Counterflow ☐

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material Concrete	✓			
Structural Material Fiberglass	✓			
Fan Deck Material " "	✓			
Stairway ☐ Material " "	✓			
Ladder ☐ Material " "	✓			
Handrail ☐ Material " "	✓			
Interior Walkway ☐ Material " "	✓			
Cold Water Basin Material Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material Concrete	✓			
Inlet Pipe Material Carbon Steel		✓		Paint / corrosion spots
Inlet Manifold Material	✓			
Flow Control Valves Size	✓			
Nozzles–Orifice Diameter Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material ABS Plastic	✓			
Branch Pipe Material ABS Plastic	✓			
Nozzles–Orifice Diameter Size	✓			2-736120 / 682282 8-701183 / 682281 / 732253 2-904901
Up spray ☐ Down spray ☑				
Heat Transfer System				
Fill–Type & Material ABS Plastic		✓		Brittle / 3'x5' hole
Eliminators–Type & Material " "		✓		Brittle
Louvers–Type & Material Aluminium		✓		Top covers missing / sleeve
Biological Fouling	✓			

Use this space to list specific items needing attention: * Change Nozzle
Row from door 6; 7 short side
(2) (1)

#2

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/12/21

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation _____				
Fan Sheave Designation _____				
Motor Sheave Designation _____				
Gear Drive Unit				
Manufacturer Amarillo Model _____ Ratio _____				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used _____				
Seals _____		✓		Input / output leaking
Backlash _____	✓	✗		
Fan Shaft Endplay _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Drive Shaft				
Manufacturer _____ Material Carbon Fiber	✓			
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer _____ Fixed Pitch ☐ Adjustable Pitch ☐				
Diameter _____ Number of Blades 10				
Blade Material Fiberglass		✓		Coating (sun damage) / little build up
Hub Material _____	✓			
Hub Cover Material Fiberglass	✓			
Blade Assembly Hardware S/S				Stainless steel
Tip Clearance _____" min _____" max				
Vibration Level _____				
Fan Cylinder Height _____				
Mechanical Equipment Support _____				
Oil Fill and Drain Line _____		✓		Minor leaking at pipe fittings
Oil Level Sight Glass _____	✓			
Vibration Limit Switch _____	✓			
Motor				
Manufacturer Global XPE - Teco - Westinghouse				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps _____ Frame 5009 B S F _____ Special Info. _____				
Last Lubrication—Date _____ Serial # HPC48633-1				
Grease Used—Type _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Unusual Vibration? No ☐ Yes ☐ Action Required _____				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____				
Make-up Valve _____				
Other Component _____				
Other Component _____				

Marley

Cooling Tower Inspection Checklist

SM-CKLIST

Tower Location: Met Calf
Date Inspected: 5/12/21
Owner/Company: CALPINE
Inspected by: Mike Tucker CPM KC
Company Contact:
Inspector:
Signature:
Signature: Mike Tucker
Owner's Tower Designation: Main Cooling Tower
Tower Manufacturer:
Model No.:
Serial No.:
Process Served by Tower: STG Cooling
Operation: Continuous ☐ Intermittent ☐ Seasonal ☐
Design Conditions: GPM: HW: °F CW: °F WB: °F
Cell No.: 1 Number of Fan Cells: 10 Tower Type: Crossflow ☐ Counterflow ☐
Date Tower was installed:

Condition: 1–Good 2–Keep an eye on it 3–Needs immediate attention

	1	2	3	Comments
Structure				
Casing Material: Concrete	✓			
Structural Material: Fiberglass	✓			
Fan Deck Material: " "	✓			
Stairway ☐ Material: " "	✓			
Ladder ☐ Material: " "	✓			
Handrail ☐ Material: " "	✓			
Interior Walkway ☐ Material: " "	✓			
Cold Water Basin Material: Concrete	✓			
Silt, Debris Buildup	✓			
Water Distribution System				
Open Basin System				
Distribution Basin Material: Concrete	✓			
Inlet Pipe Material: Carbon Steel		✓		Corrosion spots / paint
Inlet Manifold Material	✓			
Flow Control Valves: Size	✓			
Nozzles–Orifice Diameter: Size	✓			
Silt, Algae, Debris	✓			
Spray Type System				
Header Pipe Material: ABS Plastic	✓			
Branch Pipe Material: ABS Plastic	✓			3 - 736120 & 682282
Nozzles–Orifice Diameter: Size	✓			
Up spray ☐ Down spray ☑				
Heat Transfer System				
Fill–Type & Material: ABS Plastic		✓		Brittle
Eliminators–Type & Material: " "		✓		
Louvers–Type & Material: Aluminum		✓		Louvers siezed
Biological Fouling	✓			

Use this space to list specific items needing attention: Inspat West side CL2 line fitting

#1

Condition: 1—Good 2—Keep an eye on it 3—Needs immediate attention 5/12/21

Mechanical Equipment	1	2	3	Comments
Speed Reducer Type: Belt ☐ Gear ☑ Direct Drive ☐				
Belt Drive Unit				
Belt Designation _____				
Fan Sheave Designation _____				
Motor Sheave Designation _____				
Gear Drive Unit				
Manufacturer Amarillo Model _____ Ratio _____				
Oil Level: Full ☑ Add Immediately ☐ Low, check again soon ☐				
Oil Condition: Good ☐ Contains Water ☐ Contains Metal ☐ Contains Sludge ☐				
Oil Type Used _____				
Seals _____		✓		Minor oil leaks at pinion
Backlash _____	✓			
Fan Shaft Endplay _____	✓			
Unusual Noises? No ☑ Yes ☐ Action Required _____				
Drive Shaft				
Manufacturer _____ Material _____				
Fan				
Fan Type: Propeller ☑ Blower ☐				
Manufacturer _____ Fixed Pitch ☑ Adjustable Pitch ☐				
Diameter _____ Number of Blades 10				
Blade Material Fiberglass		✓		Fiberglass Top coating (sun damage)
Hub Material _____	✓			Blades - little build up
Hub Cover Material _____	✓			
Blade Assembly Hardware Stainless steel	✓			Stainless
Tip Clearance _____" min _____" max				
Vibration Level _____				
Fan Cylinder Height _____				
Mechanical Equipment Support _____	✓			
Oil Fill and Drain Line _____	✓			small leaks at threaded fittings
Oil Level Sight Glass _____	✓			
Vibration Limit Switch _____	✓			
Motor				
Manufacturer Global XPE-TECO Westing house				
Name Plate Data: HP 250 RPM 1780 Phase 3 Hz 60 Volts 4000				
F L Amps _____ Frame 5009 B S F _____ Special Info. _____				
Last Lubrication—Date _____ Serial # HP C48633-3				
Grease Used—Type _____				
Unusual Noises? No ☐ Yes ☐ Action Required _____				
Unusual Vibration? No ☐ Yes ☐ Action Required _____				
Unusual Heat Build-up? No ☐ Yes ☐ Action Required _____				
Make-up Valve _____				
Other Component _____				
Other Component _____				

METCALF ENERGY CENTER, LLC

TRANS-3 HAZARDOUS MATERIAL DELIVERIES

JANUARY				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
HILL BROTHERS	AMMONIA	1/4/2021	6,701	GAL
CHEMTREAT	BL1794	1/5/2021	497	LBS.
CHEMTREAT	BL152	1/7/2021	2,113	LBS.
HILL BROTHERS	AMMONIA	1/7/2021	6,701	GAL
CHEMTREAT	CL240	1/11/2021	2,326	LBS.
HILL BROTHERS	AMMONIA	1/14/2021	6,700	GAL
UNIVAR SOLUTIONS	BLEACH	1/15/2021	45,450	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	1/27/2021	49,460	LBS.

FEBRUARY				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
HILL BROTHERS	AMMONIA	2/1/2021	6,502	GAL
HILL BROTHERS	AMMONIA	2/10/2021	6,500	GAL
HILL BROTHERS	AMMONIA	2/16/2021	6,503	GAL
UNIVAR SOLUTIONS	BLEACH	2/21/2021	45,409	LBS.
HILL BROTHERS	AMMONIA	2/22/2021	6,500	GAL
CHEMTREAT	RL1245	2/24/2021	1,063	LBS.

MARCH				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
CHEMTREAT	RL1245	3/2/2021	2,126	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	3/3/2021	49,060	LBS.
HILL BROTHERS	AMMONIA	3/3/2021	6,700	GAL
CHEMTREAT	CL4500	3/8/2021	10,130	LBS.
CHEMTREAT	CL240	3/11/2021	2,326	LBS.
CHEMTREAT	CL240	3/11/2021	2,326	LBS.
CHEMTREAT	RL9007	3/11/2021	1,618	LBS.
CHEMTREAT	BL1794	3/11/2021	1,990	LBS.
HILL BROTHERS	AMMONIA	3/11/2021	6,701	GAL
HILL BROTHERS	AMMONIA	3/17/2021	6,701	GAL
UNIVAR SOLUTIONS	BLEACH	3/22/2021	45,002	LBS.
HILL BROTHERS	AMMONIA	3/26/2021	6,700	GAL

APRIL				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
HILL BROTHERS	AMMONIA	4/3/2021	6,701	GAL
CHEMTREAT	BL152	4/5/2021	2,753	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	4/9/2021	48,920	LBS.
HILL BROTHERS	AMMONIA	4/12/2021	6,701	GAL
UNIVAR SOLUTIONS	BLEACH	4/19/2021	44,491	LBS.
HILL BROTHERS	AMMONIA	4/19/2021	6,702	GAL
CHEMTREAT	BL1794	4/27/2021	995	LBS.
HILL BROTHERS	AMMONIA	4/27/2021	6,702	GAL

MAY				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
CHEMTREAT	BL152	5/5/2021	400	LBS.
CHEMTREAT	BL152	5/5/2021	2,753	LBS.

JUNE				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
HILL BROTHERS	AMMONIA	6/1/2021	6,702	GAL
UNIVAR SOLUTIONS	BLEACH	6/9/2021	44,979	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	6/10/2021	49,380	LBS.
CHEMTREAT	BL152	6/14/2021	1,674	LBS.
HILL BROTHERS	AMMONIA	6/15/2021	6,700	LBS.
HILL BROTHERS	AMMONIA	6/22/2021	6,702	GAL
UNIVAR SOLUTIONS	BLEACH	6/28/2021	45,438	LBS.
HILL BROTHERS	AMMONIA	6/29/2021	6,701	GAL
NORTHSTAR CHEMICAL	SULFURIC ACID	6/30/2021	45,400	LBS.

JULY				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
HILL BROTHERS	AMMONIA	7/9/2021	6,704	GAL
UNIVAR SOLUTIONS	BLEACH	7/12/2021	45,465	LBS.
HILL BROTHERS	AMMONIA	7/14/2021	6,701	GAL
HILL BROTHERS	AMMONIA	7/20/2021	6,701	GAL
NORTHSTAR CHEMICAL	SULFURIC ACID	7/21/2021	49,920	LBS.
CHEMTREAT	BL1794	7/23/2021	497	LBS.
UNIVAR SOLUTIONS	BLEACH	7/25/2021	44,974	LBS.
HILL BROTHERS	AMMONIA	7/26/2021	6,702	GAL
HILL BROTHERS	AMMONIA	7/30/2021	6,700	GAL

AUGUST				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
UNIVAR SOLUTIONS	BLEACH	8/3/2021	45,020	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	8/5/2021	49,780	LBS.
CHEMTREAT	RL9007	8/5/2021	1,079	LBS.
HILL BROTHERS	AMMONIA	8/6/2021	6,703	GAL
HILL BROTHERS	AMMONIA	8/13/2021	6,701	GAL
UNIVAR SOLUTIONS	BLEACH	8/16/2021	44,991	LBS.
CHEMTREAT	CL240	8/18/2021	4,652	LBS.
HILL BROTHERS	AMMONIA	8/19/2021	6,403	GAL
HILL BROTHERS	AMMONIA	8/30/2021	6,703	GAL
UNIVAR SOLUTIONS	BLEACH	8/31/2021	44,804	LBS.

SEPTEMBER				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
CHEMTREAT	BL1794	8/31/2021	995	LBS.
CHEMTREAT	BL152	9/2/2021	2,753	LBS.
CHEMTREAT	BL152	9/2/2021	2,753	LBS.
HILL BROTHERS	AMMONIA	9/5/2021	6,201	GAL
HILL BROTHERS	AMMONIA	9/11/2021	6,022	GAL
UNIVAR SOLUTIONS	BLEACH	9/12/2021	44,904	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	9/14/2021	50,320	LBS.
CHEMTREAT	RL1245	9/14/2021	1,908	LBS.
CHEMTREAT	BL152	9/15/2021	1,674	LBS.
HILL BROTHERS	AMMONIA	9/15/2021	6,201	GAL
CHEMTREAT	RL9007	9/17/2021	539	LBS.
CHEMTREAT	RL1245	9/23/2021	1,063	LBS.
HILL BROTHERS	AMMONIA	9/24/2021	6,702	GAL
CHEMTREAT	RL1245	9/27/2021	1,594	LBS.
CHEMTREAT	BL1794	9/27/2021	995	LBS.

OCTOBER				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
UNIVAR SOLUTIONS	BLEACH	10/3/2021	45,460	LBS.
CHEMTREAT	RL9007	10/4/2021	539	LBS.
CHEMTREAT	BL1794	10/13/2021	995	LBS.
HILL BROTHERS	AMMONIA	10/20/2021	6,701	GAL
NORTHSTAR CHEMICAL	SULFURIC ACID	10/26/2021	50,620	LBS.
HILL BROTHERS	AMMONIA	10/29/2021	6,502	GAL

NOVEMBER				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
UNIVAR SOLUTIONS	BLEACH	11/7/2021	44,999	LBS.
HILLBROTHERS	AMMOINA	11/9/2021	6,700	GAL
HILLBROTHERS	AMMOINA	11/16/2021	6,701	GAL

DECEMBER				
VENDOR NAME	CHEMICAL	RECEIVED	QUANTITY	UOM
CHEMTREAT	CL4500	12/6/2021	5,065	LBS.
HILL BROTHERS	AMMONIA	12/7/2021	6,002	GAL
UNIVAR SOLUTIONS	BLEACH	12/9/2021	44,977	LBS.
NORTHSTAR CHEMICAL	SULFURIC ACID	12/14/2021	48,900	LBS.
HILL BROTHERS	AMMONIA	12/14/2021	6,701	GAL
HILL BROTHERS	AMMONIA	12/20/2021	6,702	GAL
HILL BROTHERS	AMMONIA	12/27/2021	5,900	GAL
UNIVAR SOLUTIONS	BLEACH	12/28/2021	44,987	LBS.

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: METCALF ENGERGY CENTER
Facility Name: METCALF ENERGY CENTER
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: Aqueous Ammonia Storage Area

CERS ID: 10097278
Facility ID: 43-000-409545
Status: Submitted on 4/28/2022 5:16 AM

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) Corrosive	**AMMONIA** CAS No 7664-41-7 ✔EHS Map: 1 Grid: 4G	**Pounds** State Liquid Type Mixture	**27527.7** Storage Container Aboveground Tank Days on Site: 365	**32382**	27527.7 Pressue Ambient Temperature Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Ammonia	28 %	✔ 7664-41-7

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **AUXILLARY TRANSFORMERS** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**HYTRANS 61** CAS No Map: 1 Grid: 5D, 3D, D1, 5E	**Gallons** State: Liquid Type: Mixture	**1956** Storage Container: Other Days on Site: 365	**489**	1956 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Serious Eye Damage Eye Irritation	OIL, HYDRO LIGHT NAPH DIST 2, 6-DI-T-BUTYL-P-CRESOL (BHT)	99 % 1 %		64742-53-6 128-37-0
DOT: 2.2 - Nonflammable Gases	**NITROGEN, COMPRESSED** CAS No 7727-37-9 Map: 1 Grid: 2D, 3D, 5E, 5D	**Cu. Feet** State: Gas Type: Pure	**920** Storage Container: Cylinder Days on Site: 365	**230**	920 Pressue Temperature	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **BALANCE OF PLANT** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	**LEAD-ACID BATTERY**	**Gallons**	**865**	**14.4**	865			LEAD, LEAD COMPONENTS	60 %		7439-92-1
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code		SULFURIC ACID	30 %	✔	7664-93-9
Corrosive	Map: 1 Grid: 2E	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **BOILER FEED PUMPS**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**CONOCO PHILLIPS MEGA FLOW 32** CAS No Map: 1 Grid: 2H, 3H	**Gallons** State: Liquid Type: Mixture	**520** Storage Container: Other Days on Site: 365	**130**	520 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: METCALF ENGERGY CENTER
Facility Name: METCALF ENERGY CENTER
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: Boiler Water Chemical Treatment Area

CERS ID: 10097278
Facility ID: 43-060-409545
Status: Submitted on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	CHEMTREAT BL-152 CAS No Map: 1 Grid: 2G	**Gallons** State: Liquid Type: Mixture	**800** Storage Container: Tote Bin Days on Site: 365	**400**	680 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	AMMONIUM HYDROXIDE ETHANOLAMINE	30 % 10 %		1336-21-6 141-43-5
DOT: 8 - Corrosives (Liquids and Solids)	**CHEMTREAT BL1794** CAS No Map: 1 Grid: 2G	**Gallons** State: Liquid Type: Mixture	**400** Storage Container: Tote Bin Days on Site: 365	**400**	340 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Sodium phosphate, tribasic	5 %		7601-54-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: METCALF ENGERGY CENTER
Facility Name: METCALF ENERGY CENTER
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: COMBUSTION TURBINE #1

CERS ID: 10097278
Facility ID: 43-060-409545
Status: Submitted on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	**LEAD-ACID BATTERY**	**Gallons**	**324**	**2.7**	324			LEAD, LEAD COMPONENTS	60 %		7439-92-1
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code		SULFURIC ACID	30 %	✔	7664-93-9
Corrosive	Map: 1 Grid: 4E	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **COMBUSTION TURBINE #2** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	**LEAD-ACID BATTERY**	**Gallons**	**324**	**2.7**	324			LEAD, LEAD COMPONENTS	60 %		7439-92-1
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code		SULFURIC ACID	30 %	✔	7664-93-9
Corrosive	Map: 1 Grid: 2E	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **Combustion Turbine Lube Oil**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**76 TURBINE OIL 68** CAS No Map: 1 Grid: 2E, 4E	**Gallons** State: Solid Type: Mixture	**7200** Storage Container: Other Days on Site: 365	**3600**	7200 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Serious Eye Damage Eye Irritation				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: METCALF ENGERGY CENTER
Facility Name: METCALF ENERGY CENTER
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: Connex Near Storm Water Pond

CERS ID: 10097278
Facility ID: 43-060-409545
Status: Submitted on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Sodium Carbonate CAS No 497-19-8 Map: 1 Grid: 6K	**Pounds** State Solid Type Pure	**300** Storage Container Bag Days on Site: 365	**50**	300 Pressue Ambient Temperature Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: METCALF ENGERGY CENTER
Facility Name: METCALF ENERGY CENTER
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: Cooling Tower Chemical Treatment Area

CERS ID: 10097278
Facility ID: 43-060-409545
Status: Submitted on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**CHEMTREAT CL243** CAS No NA Map: 1 Grid: 5D	**Gallons** State Liquid Type Mixture	**1500** Storage Container Aboveground Tank Days on Site: 365	**1500**	1350 Pressue Ambient Temperature Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				
DOT: 9 - Misc. Hazardous Materials	**CHEMTREAT CL4500** CAS No Map: 1 Grid: 5D	**Gallons** State Liquid Type Mixture	**1500** Storage Container Aboveground Tank Days on Site: 365	**1500**	750 Pressue Ambient Temperature Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization - Health Aspiration Hazard				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**SODIUM HYPOCHLORITE 12.5%** CAS No Map: 1 Grid: 5D	**Gallons** State Liquid Type Mixture	**8000** Storage Container Aboveground Tank Days on Site: 365	**8000**	6800 Pressue Ambient Temperature Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	SODIUM HYDROXIDE SODIUM HYPOCHLORITE >12.5%-15% SODIUM CHLORIDE WATER	1 % 13 %		1310-73-2 7681-52-9 7647-14-5 7732-18-5
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1	**SULFURIC ACID 93%** CAS No ✔EHS 7664-93-9 Map: 1 Grid: 5D	**Pounds** State Liquid Type Pure	**42762.8** Storage Container Aboveground Tank Days on Site: 365	**85526**	42762.8 Pressue Ambient Temperature Ambient	Waste Code	- Physical Corrosive To Metal - Physical Contact Water Emits Flammable Gas - Health Skin Corrosion Irritation				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **CT CONTROL OIL TANK** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**MOBIL DTE 26**	**Gallons**	**200**	**100**	200		- Physical Flammable - Health Respiratory Skin Sensitization				

CAS No

Map: 1 Grid: 2F, 3F

State: Liquid | Storage Container: Other | Pressue: Ambient | Waste Code

Type: Pure | Days on Site: 365 | Temperature: Ambient

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **CT WASH WATER SUMP**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**CT WATER WASH**	**Gallons**	**3200**	**1600**	3200						
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code					
	Map: F2 Grid: F3	Type: Mixture	Days on Site: 365		Temperature: < Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **CYLINDER GAS STORAGE** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**ARGON, COMPRESSED** CAS No 7440-37-1 Map: 1 Grid: H3	**Cu. Feet** State: Gas Type: Pure	**625** Storage Container: Cylinder Days on Site: 365	**336**	586 Pressue Temperature	Waste Code	- Physical Gas Under Pressure - Health Hazard Not Otherwise Classified				
DOT: 2.2 - Nonflammable Gases	**ARGON/CARBON MONOXIDE** CAS No Map: 1 Grid: H3	**Cu. Feet** State: Gas Type: Mixture	**752** Storage Container: Cylinder Days on Site: 365	**376**	376 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure				
DOT: 2.2 - Nonflammable Gases	**CALIBRATION GAS (NITROGEN, CARBON MONOXIDE)** CAS No Map: 1 Grid: 3H	**Cu. Feet** State: Gas Type: Mixture	**580** Storage Container: Cylinder Days on Site: 365	**145**	580 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Simple Asphyxiant	NITROGEN OXYGEN CARBON MONOXIDE	83 % 12 % 5 %		7727-37-9 7782-44-7 124-38-9
DOT: 2.2 - Nonflammable Gases	**HELIUM** CAS No 7440-59-7 Map: 1 Grid: 3H	**Cu. Feet** State: Gas Type: Pure	**876** Storage Container: Cylinder	**292**	584 Pressue Temperature	Waste Code	- Physical Gas Under Pressure - Health Aspiration Hazard				
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 1 Grid: 3H	**Cu. Feet** State: Gas Type: Pure	**8050** Storage Container: Cylinder Days on Site: 365	**230**	8050 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Serious Eye Damage Eye Irritation				
DOT: 2.2 - Nonflammable Gases	**NITROGEN / NITRIC OXIDE CALIBRATION GAS** CAS No Map: 1 Grid: 3H	**Cu. Feet** State: Gas Type: Mixture	**1450** Storage Container: Cylinder Days on Site: 365	**145**	1160 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	NITRIC OXIDE NITROGEN	0 % 99 %	✔	10102-43-9 7727-37-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **CYLINDER GAS STORAGE**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN / OXYGEN CALIBRATION GAS** CAS No Map: 1 Grid: 3H	**Cu. Feet** State: Gas Type:	**870** Storage Container: Cylinder Days on Site: 365	**145**	870 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Acute Toxicity - Health Serious Eye Damage Eye Irritation - Health Simple Asphyxiant				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**Oxygen Gas** CAS No 7782-44-7 Map: 1 Grid: H3	**Cu. Feet** State: Gas Type: Pure	**843** Storage Container: Cylinder Days on Site: 365	**281**	562 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Physical Oxidizer				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **DIESEL FIRE PUMP HOUSE** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**LEAD-ACID BATTERY** CAS No Map: 1 Grid: 5I	**Gallons** State: Liquid Type: Mixture	**12** Storage Container: Other Days on Site: 365	**6**	12 Pressue: Ambient Temperature: Ambient	Waste Code: 792	- Physical Flammable - Physical Explosive - Physical Corrosive To Metal - Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid Lead, Lead Components	40 % 60 %	✓	7664-93-9 7439-92-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical location: **Fire Pump House** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**DIESEL** CAS No 68334-30-5 Map: 1 Grid: 5I	**Gallons** State Liquid Type Mixture	**572** Storage Container Aboveground Tank Days on Site: 365	**572**	550 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Acute Toxicity - Health Respiratory Skin Sensitization - Health Aspiration Hazard	FUELS, DIESEL, NO. 2 GAS OIL, LIGHT HYDRODESULFURIZED MIDDLE DISTILLATE	100 % 0 % 0 %		 64741-44-2 64742-80-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | **FUEL GAS COMPRESSORS** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**LUBRICATING OIL** CAS No Map: 1 Grid: 5J, 6J	**Gallons** State: Liquid Type: Mixture	**135** Storage Container: Other Days on Site: 365	**45**	135 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **GSU Transformers** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**HYTRANS 61**	**Gallons**	**47883**	**18345**	47883		- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	OIL, HYDRO LIGHT NAPH DIST	99 %		64742-53-6
	CAS No	State: Liquid	Storage Container: Other		Pressue: < Ambient	Waste Code		2, 6-DI-T-BUTYL-P-CRESOL (BHT)	1 %		128-37-0
	Map: 1 Grid: 2D, 3D, 4E	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical location: **Hazardous Material Storage Area**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 4.1 - Flammable Solids Flammable Liquid, Class I-C	**DEBRIS/RAGS CONTAMINATED WITH PETROLEUM/OIL** CAS No Map: 1 Grid: 5G, 5H	**Pounds** State: Solid Type: Waste	**100** Storage Container: Steel Drum Days on Site: 365	**55**	25 Pressue: Ambient Temperature: Ambient	500 Waste Code: 352	- Physical Flammable - Health Hazard Not Otherwise Classified				
	USED OIL CAS No NA Map: 1 Grid: 5G, 5H	**Gallons** State: Liquid Type: Waste	**400** Storage Container: Tote Bin Days on Site: 365	**400**	200 Pressue: Ambient Temperature: Ambient	660 Waste Code: 221	- Physical Combustible Dust - Health Hazard Not Otherwise Classified				
Flammable Solid	**USED OIL FILTERS** CAS No Map: 1 Grid: 5G, 5H	**Pounds** State: Solid Type: Waste	**100** Storage Container: Steel Drum Days on Site: 365	**100**	25 Pressue: Ambient Temperature: Ambient	200 Waste Code:	- Physical Flammable - Health Hazard Not Otherwise Classified				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: METCALF ENGERGY CENTER
Facility Name: METCALF ENERGY CENTER
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: Lube Oil Storage

CERS ID: 10097278
Facility ID: 43-060-409545
Status: Submitted on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	76 Triton 5005 GEO SAE 30 CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**110** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Skin Corrosion Irritation				
DOT: 3 - Flammable and Combustible Liquids	**76 TURBINE OIL 68** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**220** Storage Container: Steel Drum Days on Site: 365	**55**	220 Pressue: Ambient Temperature: Ambient	Waste Code					
Flammable Liquid, Class I-A	**Megaflow AW HVI Hydraulic Oil** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				
DOT: 3 - Flammable and Combustible Liquids	**MISCELLANEOUS LUBE OIL** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**220** Storage Container: Carboy Days on Site: 365	**5**	185 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Respiratory Skin Sensitization				
Flammable Liquid, Class I-B	**MOBIL DTE 26** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Pure	**110** Storage Container: Steel Drum Days on Site: 365	**55**	110 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				
Flammable Liquid, Class I-B	**MULTIPURPOSE R+O OIL 220** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**165** Storage Container: Steel Drum Days on Site: 365	**55**	165 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified	LUBRICANT BASE OIL ADDITIVES	99 % 1 %		
	Phillips Turbine Oil 100 CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**165** Storage Container: Steel Drum Days on Site: 365	**55**	110 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **Lube Oil Storage**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Release Number 1 VOC** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization				
	Reolube HYD 46 CAS No 107028-44-4 Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Pure	**110** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				
DOT: 9 - Misc. Hazardous Materials	**Shell Morlina S3 BA 220** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**220** Storage Container: Steel Drum Days on Site: 365	**55**	165 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Skin Corrosion Irritation				
	SHELL TELLUS OIL CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Pure	**110** Storage Container: Steel Drum Days on Site: 365	**55**	110 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Serious Eye Damage Eye Irritation				
DOT: 9 - Misc. Hazardous Materials	**Shell Turbo Oil DR 46** CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Carcinogenicity - Health Reproductive Toxicity - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity - Health Aspiration Hazard				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **Lube Oil Storage**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	TURBO T OIL 32 CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Pure	**385** Storage Container: Steel Drum Days on Site: 365	**55**	330 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				
	Vaprotec Light CAS No Map: 1 Grid: 5H	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **MAINTENANCE SHOP**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	***MISCELLANEOUS FLAMMABLE LIQUID, CLASS IB** CAS No Map: 1 Grid: 3J	**Gallons** State: Liquid Type: Pure	**65** Storage Container: Can, Glass Bottle or Jug, Plastic Bottle or Jug Days on Site: 365	**1**	65 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation				
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**ACETYLENE** CAS No 74-86-2 Map: 1 Grid: 3J	**Cu. Feet** State: Gas Type: Pure	**185** Storage Container: Cylinder Days on Site: 365	**185**	185 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Health Aspiration Hazard				
DOT: 2.2 - Nonflammable Gases	**ARGON / CARBON DIOXIDE** CAS No Map: 1 Grid: 3J	**Cu. Feet** State: Gas Type: Mixture	**501** Storage Container: Cylinder Days on Site: 365	**376**	501 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Simple Asphyxiant				
DOT: 2.2 - Nonflammable Gases	**ARGON, COMPRESSED** CAS No 7440-37-1 Map: 1 Grid: 3J	**Cu. Feet** State: Gas Type: Pure	**250** Storage Container: Cylinder Days on Site: 365	**250**	250 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Hazard Not Otherwise Classified				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**OXYGEN** CAS No 7782-44-7 Map: 1 Grid: 3J	**Cu. Feet** State: Gas Type: Pure	**281** Storage Container: Cylinder Days on Site: 365	**281**	281 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Oxidizer - Health Hazard Not Otherwise Classified				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **OIL/WATER SEPARATOR**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

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: 9 - Misc. Hazardous Materials Toxic	**USED OIL** CAS No 70514-12-4 Map: 5 Grid: C	**Gallons** State Liquid Type Waste	**600** Storage Container Aboveground Tank Days on Site: 365	**600**	600 Pressue Ambient Temperature Ambient	500 Waste Code 352	- Physical Flammable - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **PROPANE STORAGE** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	***MISCELLANEOUS FLAMMABLE LIQUID, CLASS IB** CAS No Map: 1 Grid: 3H	**Gallons** State: Liquid Type: Pure	**55** Storage Container: Can, Plastic Bottle or Jug Days on Site: 365	**1**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Acute Toxicity - Health Serious Eye Damage Eye Irritation				
DOT: 2.1 - Flammable Gases Flammable Liquid, Class I-A	**PROPANE** CAS No 74-98-6 Map: 1 Grid: 3H	**Cu. Feet** State: Gas Type: Pure	**225** Storage Container: Cylinder Days on Site: 365	**15**	150 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure - Health Aspiration Hazard				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **STATION SERVICE TRANSFORMERS**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**HYTRANS 61**	**Gallons**	**7038**	**3519**	7038		- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization	OIL, HYDRO LIGHT NAPH DIST	99 %		64742-53-6
	CAS No	State: Liquid	Storage Container: Other		Pressue: < Ambient	Waste Code		2, 6-DI-T-BUTYL-P-CRESOL (BHT)	1 %		128-37-0
	Map: 1 Grid: 2D, 3D	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **STEAM TURBINE CONTROL OIL TANK**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Shell Turbo Oil DR 46** CAS No Map: 1 Grid: 4F	**Gallons** State: Liquid Type: Mixture	**200** Storage Container: Other Days on Site: 365	**200**	200 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **Steam Turbine Flammable Locker**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	***MISCELLANEOUS FLAMMABLE LIQUID, CLASS IB** CAS No Map: 1 Grid: 4E	**Gallons** State: Liquid Type: Pure	**210** Storage Container: Can, Glass Bottle or Jug, Plastic Bottle or Jug Days on Site: 365	**1**	210 Pressue: Ambient Temperature: Ambient	Waste Code					
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**Diesel Fuel** CAS No 68334-30-5 Map: 1 Grid: 4F	**Gallons** State: Liquid Type: Pure	**20** Storage Container: Can, Cylinder Days on Site: 365	**5**	10 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**GASOLINE** CAS No 8006-61-9 Map: 1 Grid: 4F	**Gallons** State: Liquid Type: Pure	**70** Storage Container: Can Days on Site: 365	**5**	70 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **STEAM TURBINE PACKAGE** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**CONOCO PHILLIPS TURBINE OIL 32**	**Gallons**	**6850**	**6650**	6850		- Physical Flammable	TERT-BUTYLATED TRIPHENYL PHOSPHATES			68937406
	CAS No	State: Liquid	Storage Container: Other		Pressue: Ambient	Waste Code	- Health Hazard Not Otherwise Classified	TRIPHENYL PHOSPHATE			115-86-6
		Type: Mixture	Days on Site: 365		Temperature: Ambient						
	Map: 1 Grid: 4G										

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **Steam Turbine Under Deck**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Shell Turbo Oil DR 46** CAS No Map: 1 Grid: H5	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**USED OIL** CAS No NA Map: 1 Grid: F4	**Gallons** State: Liquid Type: Waste	**200** Storage Container: Tote Bin Days on Site: 365	**300**	100 Pressue: Ambient Temperature: Ambient	660 Waste Code: 221	- Physical Hazard Not Otherwise Classified - Health Respiratory Skin Sensitization				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical Location: **SWITCH YARD**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**FLOODED LEAD-CALCIUM BATTERY** CAS No Map: 1 Grid: 4B	**Gallons** State: Liquid Type: Pure	**9** Storage Container: Other Days on Site: 365	**0.6**	9 Pressue: Ambient Temperature: Ambient	Waste Code		LEAD, LEAD COMPONENTS	65 %		7439-92-1
								SULFURIC ACID	8 %	✔	7664-93-9
DOT: 2.2 - Nonflammable Gases	**SULFUR HEXAFLUORIDE** CAS No 2551-62-4 Map: 1 Grid: 4B	**Cu. Feet** State: Gas Type: Pure	**2970** Storage Container: Other Days on Site: 365	**594**	2970 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Simple Asphyxiant				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER**
Facility Name: **METCALF ENERGY CENTER**
1 BLANCHARD RD, SAN JOSE 95013

Chemical location: **UNIT 1 CEMS GASES**

CERS ID: **10097278**
Facility ID: **43-060-409545**
Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN / NITRIC OXIDE CALIBRATION GAS** CAS No Map: 1 Grid: 4H	**Cu. Feet** State: Gas Type: Mixture	**725** Storage Container: Cylinder Days on Site: 365	**145**	435 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	NITRIC OXIDE NITROGEN	0 % 99 %	✔	10102-43-9 7727-37-9
DOT: 2.2 - Nonflammable Gases	**NITROGEN / OXYGEN CALIBRATION GAS** CAS No Map: 1 Grid: 4H	**Cu. Feet** State: Gas Type:	**580** Storage Container: Cylinder Days on Site: 365	**145**	580 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Acute Toxicity - Health Serious Eye Damage Eye Irritation - Health Simple Asphyxiant				
DOT: 2.2 - Nonflammable Gases	**NITROGEN/CARBON MONOXIDE CALIBRATION GAS** CAS No Map: 1 Grid: 4H	**Cu. Feet** State: Gas Type: Mixture	**280** Storage Container: Cylinder Days on Site: 365	**145**	280 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Simple Asphyxiant	NITROGEN OXYGEN CARBON MONOXIDE	83 % 12 % 5 %		7727-37-9 7782-44-7 124-38-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **UNIT 1 NITROGEN STORAGE** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN**	**Cu. Feet**	**1380**	**230**	1380		- Physical Gas Under Pressure - Health Serious Eye Damage Eye Irritation				
	CAS No: 7727-37-9	State: Gas	Storage Container: Cylinder		Pressue: < Ambient	Waste Code					
	Map: 1 Grid: 3E	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **UNIT 2 CEMS GASES** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN / NITRIC OXIDE CALIBRATION GAS** CAS No Map: 1 Grid: 2H	**Cu. Feet** State: Gas Type: Mixture	**725** Storage Container: Cylinder Days on Site: 365	**145**	725 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	NITRIC OXIDE NITROGEN	0 % 99 %	✓	10102-43-9 7727-37-9
DOT: 2.2 - Nonflammable Gases	**NITROGEN / OXYGEN CALIBRATION GAS** CAS No Map: 1 Grid: 2H	**Cu. Feet** State: Gas Type:	**580** Storage Container: Cylinder Days on Site: 365	**145**	580 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Acute Toxicity - Health Serious Eye Damage Eye Irritation - Health Simple Asphyxiant				
DOT: 2.2 - Nonflammable Gases	**NITROGEN/CARBON MONOXIDE CALIBRATION GAS** CAS No Map: 1 Grid: 2H	**Cu. Feet** State: Gas Type: Mixture	**280** Storage Container: Cylinder Days on Site: 365	**145**	280 Pressue: < Ambient Temperature: Ambient	Waste Code	- Physical Gas Under Pressure - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Simple Asphyxiant	NITROGEN OXYGEN CARBON MONOXIDE	83 % 12 % 5 %		7727-37-9 7782-44-7 124-38-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **UNIT 2 NITROGEN STORAGE** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9 Map: 1 Grid: 2E	**Cu. Feet** State Gas Type Pure	**1380** Storage Container Cylinder Days on Site: 365	**230**	1380 Pressue < Ambient Temperature Ambient	Waste Code	- Physical Gas Under Pressure - Health Serious Eye Damage Eye Irritation				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **VARIOUS** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted on 4/28/2022 5:16 AM**

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Carbon Dioxide**	**Cu. Feet**	**1320**	**220**	1320		- Physical Gas Under Pressure - Health Acute Toxicity - Health Aspiration Hazard				
	CAS No: 124-38-9	State: Gas	Storage Container: Cylinder		Pressue: Ambient	Waste Code					
	Map: F4 Grid: F2; F3	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **WATER TREATMENT BUILDING** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**CHEMTREAT BL-152** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**440** Storage Container: Plastic/Non-metalic Drum	**55**	275 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	AMMONIUM HYDROXIDE Ethanolamine	30 % 10 %		1336-21-6 141-43-5
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**CHEMTREAT CL2250** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**30** Storage Container: Carboy Days on Site: 365	**5**	20 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	5-chloro-2-methyl-4-isothiazolin-3-one 2-methyl-4-isothiazolin-3-one	1 % 0 %		26172-55-4 2682-20-4
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**CHEMTREAT CL-2875** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**75** Storage Container: Plastic/Non-metalic Drum, Other Days on Site: 365	**55**	60 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation				
	CHEMTREAT P873L CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**400** Storage Container: Aboveground Tank, Other Days on Site: 365	**400**	400 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified	Poly(dimethyldiallylammonium chloride)	30 %		26062-79-3
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**CHEMTREAT RL1245** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**565** Storage Container: Tank Inside Building Days on Site: 365	**400**	565 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Skin Corrosion Irritation	SODIUM BISULFITE			7631-90-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **WATER TREATMENT BUILDING** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**CHEMTREAT RL9007** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**565** Storage Container: Tank Inside Building Days on Site: 365	**400**	510 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Diethylenetriamine penta methylene phosphonic acid	30 %		22042-96-2
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**CHEMTREAT-BL-1795** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**165** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	110 Pressue: Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	SODIUM PHOSPHATE, TRIBASTIC SODIUM HYDROXIDE	5 % 5 %		7601-54-9 1310-73-2
DOT: 9 - Misc. Hazardous Materials	**CONNTECT 6000** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**110** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	110 Pressue: Temperature:	Waste Code	- Physical Hazard Not Otherwise Classified - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Ethylene Glycol Monobutyl Ether Ethoxylated Alcohols, C9 - C11	20 % 40 %		111-76-2 68439-46-3
DOT: 8 - Corrosives (Liquids and Solids)	**FERROQUEST FQ7101** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**5** Storage Container: Carboy Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org: **METCALF ENGERGY CENTER** | Chemical Location: **WATER TREATMENT BUILDING** | CERS ID: **10097278**

Facility Name: **METCALF ENERGY CENTER** | Facility ID: **43-060-409545**

1 BLANCHARD RD, SAN JOSE 95013 | Status: **Submitted** on 4/28/2022 5:16 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**FERROQUEST FQ7102** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**5** Storage Container: Carboy Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	PHOSPHONIC ACID,(1-HYDROXYETHYLIDINE)BIS FORMIC ACID GLYCOLIC ACID	20 % 13 % 5 %		2809-21-4 64-18-6 79-14-1
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**FERROQUEST LP7200** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**5** Storage Container: Carboy Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Germ Cell Mutagenicity				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**SODIUM HYPOCHLORITE 12.5%** CAS No Map: 1 Grid: 4J	**Gallons** State: Liquid Type: Mixture	**300** Storage Container: Tank Inside Building Days on Site: 365	**400**	150 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	SODIUM HYDROXIDE 10-60% SODIUM HYPOCHLORITE >12.5%-15% SODIUM CHLORIDE WATER	1 % 13 %		1310-73-2 7681-52-9 7647-14-5 7732-18-5

ECMPS Client Tool

Version 1.* 2021 Q4

United States Environmental Protection Agency (EPA)
Emissions Collection and Monitoring Plan System (ECMPS) Feedback

January 5, 2022 11:40 AM

Re: Metcalf Energy Center (55393) - 1

Dear Certifying Official:

Thank you for submitting your Quarterly Emissions Report using the U. S. EPA`s Emissions Collection and Monitoring Plan System (ECMPS) software. This ECMPS Feedback report provides you with a detailed submission receipt, a summary of the evaluations performed on your submission, and guidance on any follow-up actions needed if any errors were found. EPA has also received a copy of this Feedback Report as part of your submission.

SUBMISSION STATUS

The EPA has received your Quarterly Emissions Report for the Facility and Monitoring Location(s) listed in Table 1 below. The Table also provides confirmation of EPA`s receipt (Date, Time, etc.) of your submission. Prior to submission ECMPS evaluated your emissions report and assigned an overall "Feedback Status Level" to it, based on the results (see Table 1). This Feedback Report also contains Table 2, which displays EPA-Accepted Cumulative Values for emissions and other parameters.

Table 1: Submission Receipt and Feedback Status Level Information

Report Received for Facility ID (ORIS Code):	55393
Facility Name:	Metcalf Energy Center
State:	CA
Monitoring Locations:	1
Submission Type:	EM for 2021 QTR 4
Feedback Status Level:	No Errors
Submission Date/Time:	01/05/2022 11:40:27 AM
Submitter User ID:	rsilva
Submission ID:	1471966
Resubmission Required:	No
EPA Analyst:	Christopher Worley; (434) 817-4150; Worley.Christopher@epa.gov Stacey Zintgraff; (202) 564-2204; zintgraff.stacey@epa.gov

EXPLANATION OF YOUR FEEDBACK STATUS LEVEL LISTED IN TABLE 1

The EPA has accepted your Emissions data submission. ECMPS detected no errors in your data based on the checks performed. NOTE: The ECMPS submission access window for this Emissions report has been closed. If you need to resubmit this data, please see the DATA RESUBMISSION guidance, below.

OTHER INFORMATION AND BULLETINS FROM EPA

QUESTIONS: Please contact your EPA Analyst listed in Table 1 with any questions regarding this submission and the evaluation results. If you need assistance with correcting problems in the Emissions data for this facility, please send an email to ECMPS Technical Support at: ecmps-support@camdsupport.com.

DATA RESUBMISSION: If you need to resubmit emissions data, including for previous calendar quarters, please complete the ECMPS Data Resubmission Request Form located at: https://ecmps.camdsupport.com/help_resubmit_form.shtml. Please provide detailed documentation of the reasons for the resubmission. Support staff will review your request and notify you via e-mail when the necessary database access window has been granted for your resubmission.

TECHNICAL SUPPORT: please visit the ECMPS Technical Support website at: https://ecmps.camdsupport.com for information about ECMPS software downloads, ECMPS News, Technical Support, documentation, tutorials, FAQs, and more.

ECMPS Data Reporting Instructions: for detailed information about reporting Monitoring Plan, QA/Certification Test, and Emissions data, please see the ECMPS Reporting Instructions on EPA`s website at: https://www.epa.gov/airmarkets/ecmps-reporting-instructions.

If you have any questions regarding this correspondence, please feel free to contact your EPA Analyst listed in Table 1 as soon as possible. Thank you for your attention to this matter.

Table 2: Cumulative Data Summary -- EPA-Accepted Values

Unit/Stack/Pipe ID: 1

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Ozone Season	Year-to-Date
Number of Operating Hours	1,628	1,253	1,842	1,116		5,839
Operating Time (hrs)	1,522.53	1,184.81	1,807.35	1,073.91		5,588.60
SO2 Mass (tons)	0.8	0.6	1.0	0.5		2.9
CO2 Mass (tons)	149,509.8	118,468.2	192,224.4	107,854.1		568,056.5
Heat Input (mmBtu)	2,515,756	1,993,475	3,234,564	1,814,880		9,558,675
NOx Emission Rate (lb/mmBtu)	0.013	0.011	0.009	0.011		0.011

ECMPS Client Tool

Version 1.* 2021 Q4

United States Environmental Protection Agency (EPA)
Emissions Collection and Monitoring Plan System (ECMPS) Feedback

January 5, 2022 11:40 AM

Re: Metcalf Energy Center (55393) - 2

Dear Certifying Official:

Thank you for submitting your Quarterly Emissions Report using the U. S. EPA`s Emissions Collection and Monitoring Plan System (ECMPS) software. This ECMPS Feedback report provides you with a detailed submission receipt, a summary of the evaluations performed on your submission, and guidance on any follow-up actions needed if any errors were found. EPA has also received a copy of this Feedback Report as part of your submission.

SUBMISSION STATUS

The EPA has received your Quarterly Emissions Report for the Facility and Monitoring Location(s) listed in Table 1 below. The Table also provides confirmation of EPA`s receipt (Date, Time, etc.) of your submission. Prior to submission ECMPS evaluated your emissions report and assigned an overall "Feedback Status Level" to it, based on the results (see Table 1). This Feedback Report also contains Table 2, which displays EPA-Accepted Cumulative Values for emissions and other parameters.

Table 1: Submission Receipt and Feedback Status Level Information

Report Received for Facility ID (ORIS Code):	55393
Facility Name:	Metcalf Energy Center
State:	CA
Monitoring Locations:	2
Submission Type:	EM for 2021 QTR 4
Feedback Status Level:	No Errors
Submission Date/Time:	01/05/2022 11:40:45 AM
Submitter User ID:	rsilva
Submission ID:	1471971
Resubmission Required:	No
EPA Analyst:	Christopher Worley; (434) 817-4150; Worley.Christopher@epa.gov Stacey Zintgraff; (202) 564-2204; zintgraff.stacey@epa.gov

EXPLANATION OF YOUR FEEDBACK STATUS LEVEL LISTED IN TABLE 1

The EPA has accepted your Emissions data submission. ECMPS detected no errors in your data based on the checks performed. NOTE: The ECMPS submission access window for this Emissions report has been closed. If you need to resubmit this data, please see the DATA RESUBMISSION guidance, below.

OTHER INFORMATION AND BULLETINS FROM EPA

QUESTIONS: Please contact your EPA Analyst listed in Table 1 with any questions regarding this submission and the evaluation results. If you need assistance with correcting problems in the Emissions data for this facility, please send an email to ECMPS Technical Support at: ecmps-support@camdsupport.com.

DATA RESUBMISSION: If you need to resubmit emissions data, including for previous calendar quarters, please complete the ECMPS Data Resubmission Request Form located at: https://ecmps.camdsupport.com/help_resubmit_form.shtml. Please provide detailed documentation of the reasons for the resubmission. Support staff will review your request and notify you via e-mail when the necessary database access window has been granted for your resubmission.

TECHNICAL SUPPORT: please visit the ECMPS Technical Support website at: https://ecmps.camdsupport.com for information about ECMPS software downloads, ECMPS News, Technical Support, documentation, tutorials, FAQs, and more.

ECMPS Data Reporting Instructions: for detailed information about reporting Monitoring Plan, QA/Certification Test, and Emissions data, please see the ECMPS Reporting Instructions on EPA`s website at: https://www.epa.gov/airmarkets/ecmps-reporting-instructions.

If you have any questions regarding this correspondence, please feel free to contact your EPA Analyst listed in Table 1 as soon as possible. Thank you for your attention to this matter.

Table 2: Cumulative Data Summary -- EPA-Accepted Values

Unit/Stack/Pipe ID: 2

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Ozone Season	Year-to-Date
Number of Operating Hours	1,065	874	1,668	1,118		4,725
Operating Time (hrs)	1,007.62	834.43	1,632.55	1,075.87		4,550.47
SO2 Mass (tons)	0.5	0.4	0.9	0.5		2.3
CO2 Mass (tons)	100,047.1	83,829.5	173,336.8	106,900.1		464,113.5
Heat Input (mmBtu)	1,683,472	1,410,574	2,916,713	1,798,820		7,809,579
NOx Emission Rate (lb/mmBtu)	0.012	0.011	0.008	0.011		0.009

Operating Data Summary January 2021 - December 2021

Metcalf CT1			Metcalf CT2			Metcalf ST1		
Date	Total Net MWh	Total Primary Fuel Quantity Burned (MMcf GG)	Date	Total Net MWh	Total Primary Fuel Quantity Burned (MMcf GG)	Date	Total Net MWh	Total Secondary Fuel Quantity Burned (MMcf GG)
January	65,445	782.9	January	34,743	411.9	January	58,625	7.84
February	68,148	814.0	February	53,300	628.0	February	73,736	28.68
March	76,264	909.3	March	53,225	625.0	March	76,772	22.48
April	76,763	861.8	April	59,359	656.3	April	78,796	-
May	13,740	165.0	May	-	-	May	7,633	0.70
June	74,382	883.0	June	59,471	693.8	June	81,773	47.20
July	103,957	1,194.7	July	98,563	1,108.3	July	122,368	69.96
August	93,281	1,083.0	August	87,886	998.2	August	110,220	52.49
September	77,796	907.2	September	66,269	753.7	September	85,828	38.95
October	41,828	498.2	October	26,851	314.9	October	39,731	11.11
November	41,133	481.8	November	46,143	532.6	November	49,578	8.22
December	74,179	857.1	December	85,741	976.1	December	71,971	0.20

METCALF ENERGY CENTER - COMPLIANCE MATRIX							
START OF COMERCIAL OPERATION		5/29/2005					
THROUGH YEAR END OF 2021		12/31/2021					
Condition No.	**Requirements & Task Summary**	**Action required**	**Event**	**Required Submittal Date**	**Date submitted to CPM**	**Date approved by CPM**	**Status/ Comments**
AQ-13	GTs (S-1, S-3) and HRSG (S-2, S-4) shall be fired exclusively on natural gas. (BACT for SO2 and PM10)	As part of the semiannual Air Quality Reports, indicate the date, time, and duration of any violation of this condition.	Semiannual Air Quality Reports	Ongoing	Monthly and Semi-Annually		Ongoing
AQ-14	Combined heat input rate of each power train (S-1 & S-2, S-3 & S-4) shall not exceed 2,124 MMBtu/hr (3-hour rolling average) (PSD for NOx)	As part of the Air Quality monthly Reports, include information on the date and time when the hourly fuel consumption exceed this hourly limit.	Monthly Air Quality Reports	Ongoing	Monthly		Ongoing
AQ-15	Combined heat input rate of each power train (S-1 & S-2 and S-3 & S-4) shall not exceed 49,908 MMBtu/day (PSD for PM10)	As part of the Air Quality monthly Reports, include information on the date and time when the hourly fuel consumption exceed this daily limit.	Monthly Air Quality Reports	Ongoing	Monthly		Ongoing
AQ-16	Combined cumulative heat input rate of GTs (S-1, S-3) and HRSGs(S-2, S-4) shall not exceed 35,274,060 MMBtu/yr. (Offsets)	As part of the Air Quality annual Reports, include information on the date and time when the annual cumulative fuel consumption exceed this annual limit	Monthly Air Quality Reports	Ongoing	Monthly		Ongoing
AQ-17	HRSGs (S-2, S-4) duct burners shall not be fired unless associated GTs (S-1, S-3) are in operation. (BACT for NOx)	As part of the Air Quality Reports, include information on the date, time, and duration of any violation of this permit condition.	Air Quality Reports	Ongoing			Ongoing
AQ-18	GT/HRSG (S-1/S-2) shall be abated by the A-1 SCR system whenever fuel is combusted in these units and the A-1 catalyst bed has reached min. operating temperature.	As part of the Air Quality Reports, provide information on any major problem in the operation of the Oxidizing Catalyst and Selective Catalytic Reduction Systems for the Gas Turbines and HRSG's.	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-19	GT/HRSG (S-3/S-4) shall be abated by the A-2 SCR system whenever fuel is combusted in these units and the A-2 catalyst bed has reached min. operating temperature.	As part of the Air Quality Reports, provide info. on any major problem in the operation of the Oxidizing Catalyst and Selective Catalytic Reduction Systems for the Gas Turbines and HRSGs.	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(a)	Emission requirements: Emission Point P-1 NOx = 19.2 lbs/hr [0.00904 lbs/MMBtu (HHV) of nat. gas fired] ; Emission Point P-2 NOx = 19.2 lbs/hr [0.00904 lbs/MMBtu (HHV) of nat. gas fired] .	As part of the Semi-Annual Air Quality Reports, indicate the date, time, and duration of any violation. Include quantitative info. on the severity of the violation.	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(b)	NOx Emission concentration = 2.5 ppmvd (corrected to 15% O2), 1-hr average {Emission Point P-1, P-2} (BACT for NOx).	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(c)	CO mass emission = 28.07 lbs/hr (at any 3-hour rolling avg.) (Emission Point P-1, P-2).	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(d)	When the heat input to a CT exceeds 1700 MMBTU/hr (HHV), the CO emission concentration shall not exceed 6.0 ppmvd on dry basis and the CO mass emission rate shall not exceed 0.0132 lb/MMBTU at any 3-hr rolling average.	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing

METCALF ENERGY CENTER - COMPLIANCE MATRIX							
START OF COMERCIAL OPERATION		5/29/2005					
THROUGH YEAR END OF 2021		12/31/2021					
Condition No.	**Requirements & Task Summary**	**Action required**	**Event**	**Required Submittal Date**	**Date submitted to CPM**	**Date approved by CPM**	**Status/ Comments**
AQ-20(e)	Ammonia (NH3) emission concentration shall not exceed 5 ppmvd on dry basis, at any 3-hour rolling avg. Ammonia injection rate to A-1, A-2 to be verified through continuous recording of rate.	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(f)	Precursor organic compounds (POC) mass emissions (as CH4) shall not exceed 2.7 lbs/hr or 0.00126 lbs/MMBTU of natural gas fired. (Emission points P-1, P-2).	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(g)	Sulfur dioxide (SO 2) mass emissions at P-1 ,P-2 each shall not exceed 1.28 pounds per hour or 0 .0006 lb /MM BTU of natural gas fired. (BACT)	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(h)	PM10 mass emission s at P-1 ,P-2 each shall not exceed 9 pounds per hour or 0.00452 lb PM10/MM BTU. Particulate matter (PM10) mass emissions at P-1 ,P-2 each shall not exceed 12 pounds per hour or 0.00565 lb PM10/MM BTU, when HRSG duct burners are in operation.	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-20(i)	Testing to confirm the PM10 emissions levels shall occur at least three (3) times per year during each of the first two (2) years of operation. Each year, at least one (1) monitoring test shall occur during winter months.	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-21	GT (S-1, S-3) Start-up and Shutdown emission rates.	Same as above	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-22	Not more than one GT (S-1, S-2) shall be in start-up mode at any one time.	In the monthly compliance report the owner/operator shall indicate any violations of this condition.	Monthly Air Quality Reports	Ongoing	Monthly		Ongoing
AQ-24	Total combined emissions in lbs/day, from GTs and HRSGs (S-1, S-2, S-3, S-4), including start-up and shutdown.	As part of the Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Semi-Annual Air Quality Reports	Ongoing	Semi-Annual		Ongoing
AQ-25	Cumulative combined emissions in tons/any consecutive 12-month period, from GTs and HRSGs shall not exceed Nox = 123.4 (offsets), CO=588, POC=28 (offsets), PM10=91.3 (offsets), SO2=10.6 (cumulative increase).	As part of the Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Air Quality Reports	Ongoing	Monthly/Annual		Ongoing
AQ-26	Maximum projected combined annual toxic air contaminant emissions from GTs and HRSGs (S-1, S-2, S-3, S-4). (a) formaldehyde = 3,796 lbs/yr (b) Benzene = 480 lbs/yr (c) PAHs=22.8 lbs/yr	As part of the annual Air Quality Reports, indicate the date, duration, and severity of any violation including quantitative information on the severity of the violation.	Annual Air Quality Reports	Ongoing	Monthly/Annual		Ongoing
AQ-26	Perform health risk assessment using emission rates per BAAQMD approved procedures and submit risk analysis to District and CPM.	As part of the annual Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation or submit risk analysis to District and CPM.	Within 60 days of source test date	Ongoing	Monthly/Annual		Ongoing

METCALF ENERGY CENTER - COMPLIANCE MATRIX							
START OF COMERCIAL OPERATION		5/29/2005					
THROUGH YEAR END OF 2021		12/31/2021					
Condition No.	**Requirements & Task Summary**	**Action required**	**Event**	**Required Submittal Date**	**Date submitted to CPM**	**Date approved by CPM**	**Status/ Comments**
AQ-27 (a-d)	Demonstrate compliance with conditions 14-17, 20(a-d), 21, 22, 24(a), 24(b), 25(a), 25(b) by using continuous monitors during all operating hours for the following parameters.	As part of the annual Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Annual Air Quality Reports	Ongoing	Monthly/Annual		Ongoing
AQ-27(e-f)	Use parameters in condition 27(a-d) and District approved methods to calculate the following. (e) Heat input rate for S-1 & S-2 combined, and S-3 & S-4 combined (f) Corrected NOx and CO concentrations and mass emissions at each exhaust point (P-1, P-2)	As part of the annual Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Annual Air Quality Reports	Ongoing	Monthly/Annual		Ongoing
AQ-27(g-l)	For each source, source grouping, or exhaust point record parameters at least once every 15 minutes and calculate and record for the following. Refer to AQ-27 for further details.	As part of the annual Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Annual Air Quality Reports	Ongoing	Monthly/Annual		Ongoing
AQ-28(a-b)	Demonstrate compliance with conditions 20, 21, 24, 25 by calculating and recording on a daily basis POC, PM10, and SO2 mass emissions fine PM10 and SO2 from each power train.	As part of the monthly Air Quality Reports, the owner/operator shall indicate the date of any violation including quantitative information on the severity of the violation.	Monthly Air Quality Reports	Ongoing	Monthly/Annual		Ongoing
AQ-29	Calculate and record on annual basis the max. projected annual emissions of formaldehyde, benzene, Specified Poly-Aromatic Hydrocarbons (PAH's).	As part of the annual Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Annual Air Quality Reports	Ongoing	Annual		Ongoing
AQ-35	Maintain records and reports on site for a minimum of 5 years.	During site inspection, make all records and reports available to the District, California Air Resources Board, and CEC staffs.	AQ Inspection per AQ-35		Ongoing		Ongoing
AQ-36	Notify District and CPM of any violations of these permit conditions.	Submittal of these notifications as required by this condition is the verification of these permit conditions.	Violation of Permit Conditions		Ongoing		Ongoing
AQ-44	MEC shall comply with the continuous emission monitoring requirements of 40 CFR Part 75			Ongoing	Ongoing		Ongoing
AQ-45	Take monthly samples of natural gas combusted at MEC and analyze these samples for sulfur content using District-approved lab methods.	Maintain on site the records of all the guarantees received from its natural gas suppliers indicating that the fuel delivered to MEC complies with the 40 CFR Part 60,Subpart GG.	On-site Compliance Inspections	Ongoing	Monthly		Ongoing
AQ-47a	Perform visual inspection of cooling tower drift eliminators once per calendar year and repair or replace any drift eliminators which are broken or missing.	As part of the monthly Air Quality Reports, indicate the date of any violation of this Condition.	Air Quality Reports	Ongoing	Annual		Ongoing
AQ-53	The heat input to the fire pump diesel engine shall not exceed 211 MM BTU totaled over any consecutive twelve month period.	As part of the monthly Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Air Quality Reports	Ongoing	Monthly		Ongoing

METCALF ENERGY CENTER - COMPLIANCE MATRIX							
START OF COMERCIAL OPERATION		5/29/2005					
THROUGH YEAR END OF 2021		12/31/2021					
Condition No.	**Requirements & Task Summary**	**Action required**	**Event**	**Required Submittal Date**	**Date submitted to CPM**	**Date approved by CPM**	**Status/ Comments**
AQ-54	The total hours of operation of the emergency generator shall not exceed 200 hours per calendar year, plus an additional 100 hours per calendar year for the purposes of maintenance and testing.	As part of the monthly Air Quality Reports, indicate the date of any violation of this Condition including quantitative information on the severity of the violation.	Air Quality Reports	Ongoing	Annual		Ongoing
AQ-56	Cold Start-up hours shall not exceed 30 hours per calendar year for each Gas Turbine.	Provide dates and durations of any violation of this Condition to the CPM.	Air Quality Reports	Ongoing	Annual		Ongoing
AQ-57	Record start time, end time, and duration of Gas Turbine Cold Startup and Combustor Tuning Periods.	Make all records available to Agencies during inspection.	Ongoing		Ongoing		Ongoing
BIO-12	Incorporate into closure plan measures that address the local biological resources and incorporate into the BRMIMP.	Address all biological resource-related issues associated with facility closure.	12 months prior to facility closure	Ongoing	12 months Prior to Closure		Ongoing
HAZ-1	Do not use any hazardous material in reportable quantities, not listed in Attachment 1 or in greater quantities or strengths than those identified unless approved in advance by Santa Clara County and the CPM.	Provide to the CPM and Santa Clara County, in the Annual Compliance Report, a list of hazardous materials contained at the facility in reportable quantities.	Annual Compliance Report	Ongoing	Annual		Ongoing
LAND-1	At such time as a connection to a trail network can be made, install and maintain the portion of the planned trail that would cross the site.	In the Annual Compliance Reports provide updates on trail developments in the area around the site.	Annual Compliance Report	Ongoing	Annual		Ongoing
NOISE-2	Throughout the construction and operation, document, investigate, evaluate and attempt to resolve all project related noise complaints.	File a copy of the Noise Complaint Resolution Form with City of San Jose and with the CPM documenting the resolution of the complaint.	30 days after receiving a noise complaint	Ongoing	Within 30 Days		Ongoing
PAL-7	Include in the facility closure plan a description regarding facility closure activity's potential to impact paleontological resources.	Include a description of closure activities in the facility closure plan.	12 months prior to facility closure	Ongoing	12 months Prior to Closure		Ongoing
Public Health-1	Perform a visual inspection of the cooling tower drift eliminators once per calendar year. Prior to initial operation of the project, have the cooling tower vendor's field representative inspect the cooling tower drift eliminator and certify that the installation was performed in a satisfactory manner.	The project owner shall include the results of the annual inspection of the cooling tower drift eliminators and a description of any repairs performed in the next required compliance report.	Annual Compliance Report	Ongoing	Annual		Ongoing
SOIL & WATER-1	Potable water may be used for cooling purposes only in the event that SBWR recycled water service is interrupted.	Provide a record of water consumption for the MEC.	Annual Compliance Report	Ongoing	Annual		Ongoing
TRANS-3	Ensure that all federal and state regulations for the transport of hazardous materials are observed.	Copies of all permits and licenses acquired concerning the transport of hazardous substances.	Annual Compliance Report	Ongoing	Annual		Ongoing
VIS-1	Treat the project structures, buildings, and tanks visible to the public in a non-reflective color.	The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.	Annual Compliance Report	Ongoing	Annual		Ongoing
VIS-11	Trail development along the Fisher Creek corridor adjacent to the power plant site.	The project owner shall submit to the City of San Jose and the County of Santa Clara Parks and Recreation Department for review and comment a specific plan.	Start of construction of the trail between Blanchard Road and railroad tracks	Ongoing	Ongoing		Ongoing

METCALF ENERGY CENTER - COMPLIANCE MATRIX							
START OF COMERCIAL OPERATION		5/29/2005					
THROUGH YEAR END OF 2021		12/31/2021					
Condition No.	**Requirements & Task Summary**	**Action required**	**Event**	**Required Submittal Date**	**Date submitted to CPM**	**Date approved by CPM**	**Status/ Comments**
VIS-11	Trail development along the Fisher Creek corridor adjacent to the power plant site.	Submit to the CPM for review and approval a specific plan describing its landscape plan.	Start of construction of the trail between Blanchard Road and railroad tracks	Ongoing	Ongoing		Ongoing
VIS-11	Trail development along the Fisher Creek corridor adjacent to the power plant site.	Submit any required revisions.	Within 30 days of notification by the CPM.	Ongoing	Within 30 days		Ongoing
VIS-11	Trail development along the Fisher Creek corridor adjacent to the power plant site.	Notify the CPM, City of San Jose and County of Santa Clara Parks and Recreation Department that the planting installation is ready for	7 days after completion of planting installation	Ongoing	Within 7 days		Ongoing
WASTE-2	Upon becoming aware of any impending waste management-related enforcement action, notify the CPM of any such enforcement action.	Notify the CPM in writing within 10 days of becoming aware of an impending enforcement action.	Within 10 days of becoming aware of an impending enforcement action	Ongoing	Within 10 Days		Ongoing
WASTE-3	Prepare and submit to the CPM a waste management plan for all wastes generated during construction and operation of the facility.	In the Annual Compliance Reports, document the actual waste management methods used during the year compared to planned management methods.	Annual Compliance Report	8/1/06	Annual		Ongoing
Compliance matrix	A compliance matrix shall be submitted by along with each annual compliance report.	Submit compliance matrix to CPM	Annual Compliance Report	Ongoing	Annual		Ongoing

Appendix 1

Metcalf Energy Center – 99-AFC-3
2021 Annual Compliance Report

Project Status

The Metcalf Energy Center, LLC (MEC) declared commercial operation (COD) on May 29, 2005. MEC is dispatched into the merchant market by Calpine Energy Services (CES) and participates in the Ancillary Services market with the California ISO.

The Annual Compliance Report has been prepared in accordance with the General Conditions of the Compliance Plan.

1. **An updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed).**

   The compliance matrix is included as an attachment. See Appendix 2.

2. **A summary of the current project operating status and an explanation of any significant changes to facility operations during the year.**

   The facility is currently operating in a normal status. There have been no significant changes to facility operations during the reporting year. See Appendix 3

3. **Documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter and should be submitted as attachments to the Annual Compliance Report.**

   The documents required by specific conditions are included in this report as attachments and are identified in the transmittal letter.

4. **A cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM.**

   - Petition to maintain the facility's post-commissioning daily and annual emission limits amendment. Order number 05-0316—03, approved on March 16, 2005.

5. **An explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided.**

   There are currently no outstanding submittals for the 2021 reporting period.

6. **A listing of filings made to, or permits issued by, other governmental agencies during the year.**

   - Annual compliance report submitted to CEC
     - Monthly Plume Abatement Status Reports
   - Annual Permit to Operate BAAQMD
     - Monthly Air Reports
   - Annual Title V Compliance Certification Report submitted to BAAQMD and EPA.

- Annual Hazardous Material Permit City of San Jose
    - Annual Hazardous Materials Business Plan Update and Certification
- Annual Fire Safety Permit City of San Jose
- Annual Business License City of San Jose.
- Annual Storm Water Report to the State Water Resources Control Board
- Annual EIA-923S and EIA-860A to the U.S. Department of Energy
- Quarterly Electronic Data Reporting to the EPA (40 CFR 75)
- Semi-Annual NSPS Report to the EPA
- Semi-Annual Title V Monitoring Reports
- Semi-Annual Wastewater Self-Monitoring Report to the City of San Jose
- Monthly EIA-923M to the U.S. Department of Energy
- All submittals, except as noted above, required under our permits have been made on time to include, for the 2021 reporting year.

7. **A projection of project compliance activities scheduled during the next year.**

   Currently there is no compliance activities scheduled.

8. **A listing of the year's additions to the on-site compliance file.**

   No additions have been made to the on-site compliance files as required by the Decision.

9. **An evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date.**

   An evaluation to the on-site contingency plan for unexpected facility closure was conducted with minor modifications. Plan is attached in Appendix 12.

   In addition, insurance coverage for the site remains current. Currently the site major equipment warranties have expired.

10. **A listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved complaints, and the status of any unresolved complaints.**

    There were no complaints, notices of violations, official warnings, or citations during the reporting period.

CONDITIONS OF CERTIFICATION SPECIFIC REQUIREMENTS

AQ-13 **The Gas Turbines and the Heat Recovery Steam Generators shall be fired exclusively on natural gas.**

No violation of this condition occurred for the 2021 reporting year

AQ-14 **The combined heat input rate to each power train shall not exceed 2,124 mmBTU per hour, averaged over any rolling 3-hour period.**

No violation of this condition occurred for the 2021 reporting year

AQ-15 **The combined heat input rate to each power train shall not exceed 49,908 mmBTU per calendar day.**

No violation of this condition occurred for the 2021 reporting year.

AQ-16 **The combined cumulative heat input rate for the Gas Turbines and HRSGs shall not exceed 35,274,060 mmBTU per year.**

No violation of this condition occurred for the 2021 reporting year.

AQ-17 **The HRSG duct burners shall not be fired unless its associated gas turbine is in operation.**

No violation of this condition occurred for the 2021 reporting year.

AQ-18 **S-1 Gas Turbine and S-2 HRSG shall be abated by the properly operated and properly maintained A-1 Selective Catalytic Reduction (SCR) system whenever fuel is combusted at those sources and the A-1 catalyst bed has reached minimum operating temperature.**

No violation of this condition occurred for the 2021 reporting year.

AQ-19 **S-3 Gas Turbine and S-4 HRSG shall be abated by the properly operated and properly maintained A-2 Selective Catalytic Reduction (SCR) system whenever fuel is combusted at those sources and the A-2 catalyst bed has reached minimum operating temperature.**

No violation of this condition occurred for the 2021 reporting year.

AQ-20 **The Gas Turbines and HRSGs shall comply emission requirements (a) through (h) under all operating scenarios, including duct burner firing mode and steam injection power augmentation mode. Requirements (a) through (h) do not apply during a gas turbine start-up or shutdown.**

No violation of this condition occurred for the 2020 reporting year.

AQ-21 **The regulated air pollutant mass emission rates from each of the Gas Turbines during a start-up or a shutdown shall not exceed the limits.**

- No violation of this condition occurred for the 2020 reporting year.

AQ-22 **The Gas Turbines shall not be in start-up mode simultaneously.**

No violation of this condition occurred for the 2021 reporting year.

AQ-24 **Total combined emissions from the Gas Turbines and HRSGs including emissions generated from the cooling tower and during Gas Turbine start-ups and shutdowns shall not exceed the following limits during any calendar day.**

The facility did experience an event of non-compliance regarding the CO daily mass emissions for the 2021 reporting year. Please refer to Appendix 13 for details.

AQ-25 **Combined emissions from the gas turbines and HRSGs, including emissions generated from cooling towers and during gas turbine startups, shutdowns and tuning shall not exceed permit limits during any consecutive twelve (12) month period.**

No violation of this condition occurred for the 2021 reporting year.

AQ-26 **Maximum projected annual toxic air contaminants emissions from the gas turbines shall not exceed permit limits.**

No violation of this condition occurred for the 2021 reporting year.

AQ-27 **Properly operated and maintained continuous monitors.**

Continuous monitors are properly operated and maintained.

AQ-28 **To demonstrate compliance with conditions 20(f), 20(g), 20(h), 21, 24(c') through 24(e), and 25('c) through 25(e) the owner/operator shall calculate and record on a daily basis the POC, PM10, and SO2 mass emissions from each power train.**

No violation of this condition occurred for the 2021 reporting year.

AQ-29 **Calculate and record on an annual basis the maximum projected annual emissions of formaldehyde, benzene, and specific PAHs.**

No violation of this condition occurred for the 2021 reporting year.

AQ-36 **Notification to the District and CPM of any violations of permit conditions.**

No violations occurred during the 2021 reporting year.

AQ-44 **Compliance with the continuous emission monitoring requirements of 40 CFR Part 75.**

No violation of this condition occurred for the 2021 reporting year. See Appendix 4

AQ-56 **Cold Start-up hours shall not exceed 30 hours per calendar year for each turbine.**

No violation of this condition occurred for the 2021 reporting year.

BIO-2 **The CPM approved Designated Biologist shall submit record summaries in the Annual Compliance Report:**

The Designated Biologist currently is not conducting any of the tasks as specified in the condition. He does provide an annual report regarding the preserve.

HAZ-1 **Do not use any hazardous materials in reportable quantities not listed in attachment 1 or in greater quantities or strengths than those identified unless approved in advance by Santa Clara County and the CPM.**

A hazardous material inventory is included as an attachment and is identified in the table of contents. See Appendix 5.

LAND-1 **At such time as a connection to a trail network can be made, install, and maintain the portion of planned trail that would cross the site.**

No trail updates have been made at this time. MEC is awaiting direction from the City of San Jose for trail construction.

PUBLIC HEALTH-1 **Perform a visual inspection of the cooling tower drift eliminators once per calendar year.**

The inspection sheet is included as an attachment and is identified in the table of contents. See Appendix 7.

SOIL & WATER-1 **Potable water may be used for cooling purposes only in the event that SBWR recycled water service is interrupted.**

A record of water consumption has been included and identified in the table of contents. See Appendix 8.

TLSN-2 **Identify and correct any complaints of interference w/ radio and TV signals from operation of line and facilities.**

The COC states that this needs to be included for 5 years. This timeframe has expired.

TLSN-4 **Ensure that the transmission line right-of-way is kept free of combustible material.**

The COC states that this needs to be included for 5 years. This timeframe has expired.

TRANS-3 **Ensure that all federal and state regulations for the transport of hazardous materials are observed during both construction and operation of the facility.**

No permits or licenses have been acquired concerning the transport of hazardous substances. A list of the hazardous materials deliveries received in 2021 is in Appendix 6.

VIS-1 **Treat the project structures, buildings, and tanks visible to the public in a non-reflective color.**

The plant's structures, buildings, and tanks have all been treated in accordance with this condition of certification. No treatment maintenance has been necessary. A copy of the inspection is in Appendix 10.

VIS-10 **The power plant shall be designed and operated to minimize visible plume.**

The total cooling tower plume hours for 2021 were 0 hours, as noted in the December 2021 Plume Summary Log. A copy of the submitted log is in Appendix 11.

WASTE-3 **Document the actual waste management methods used during the year compared to planned management methods.**

No violation of this condition occurred. A waste management sheet is included as an attachment and is identified in the table of contents. See Appendix 9.

- AQ-36: Notification of Violations
- AQ-44: Compliance with 40 CFR Part 75
- AQ-56: Cold Start-up Hours
- BIO-2: Designated Biologist Summaries
- HAZ-1: Hazardous Materials List
- LAND-1: Trail Network Connection
- PUBLIC HEALTH-1: Cooling Tower Inspection
- SOIL & WATER-1: Water Use Summary
- TLSN-2: Radio and TV Interference
- TLSN-4: Transmission Right-of-Way
- TRANS-3: Permits or Licenses for Hazardous Material Transport
- VIS-1: Treatment of Project Structures
- VIS-10: Visible Plumes
- WASTE-3: Waste Management Comparison

If you have any additional questions, please feel free to contact Rosemary Silva, EHS Specialist, at 408-361-4954.

Sincerely,

Kevin Karwick
General Manager
Metcalf Energy Center, LLC.

Enclosures: Via Email

California Energy Commission
2021 Annual Compliance Report
Metcalf Energy Center – 99-AFC-3

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