BALANCING AUTHORITY OF NORTHERN CALIFORNIA

6001 S STREET • MS D109 • SACRAMENTO • CA 95852-1830

September 3, 2022

The Honorable Jennifer Granholm
Secretary of Energy
United States Department of Energy
1000 Independence Ave, SW
Washington DC 20585

RE: Amended, Supplemented and Clarified Draft Request for Emergency Order Pursuant to Section 202(c) of the Federal Power Act

Dear Secretary Granholm:

On September 2, 2022, the Balancing Authority of Northern California (BANC), pursuant to Section 202(c) of the Federal Power Act (FPA),[1] submitted a Request for an Emergency Order and a finding by the Secretary of Energy that an electric reliability emergency exists within the State of California that requires intervention, in the form of a Section 202(c) emergency order, to preserve the reliability of the bulk electric power system in California. As described in that request and as amended and clarified below in this Draft Supplement, an emergency order will allow the BANC Balancing Authority Area (BAA) to dispatch of generation within the BANC BAA, specifically set forth and described herein, that may be necessary for the BANC to meet demand in the face of extreme heat.

Amendment Limiting Application of Emergency Order

In its original Request for an Emergency Order, BANC identified two sets of backup generators that were made known to it as possibly available to be dispatched by BANC based on overall grid conditions and certain articulated emergency triggers. In working with the host utility, the Sacramento Municipal Utility District, and NTT, the customer who owns the applicable generating units, we have determined that any Emergency Order would only apply to a subset of the units covered by the original Request. Specifically, the units in question are:

- **NTT Global Data Centers America, CA2**

[1] 16 U.S.C. § 824a(c).

Attached hereto is a redlined Exhibit A of the original request that clarifies and narrows the scope of any Emergency Order.

BANC Prudent Planning and Procurement Activities

In this section BANC endeavors to supplement its original request and summarize its planning and procurement activities in advance of Summer 2022, and its responses to changed circumstances that have contributed to stressed grid conditions this Summer.

Each year, BANC undertakes a rigorous exercise that examines the procurement of resources, both owned or under contract to, its members, load forecasts, and various sensitivities of load to examine resource adequacy metrics over an array of conditions.

This Summer Assessment uses refined tools such as Effective Load Carrying Capability of both dispatchable and non-dispatchable resources, attempts to assess variable hydrological conditions that affect generation that is particularly important to the BANC footprint, evaluates several potential stress conditions, and aggregates the procurement of BANC members in an attempt to assess peak summer conditions.

We have attached hereto a copy of the Summer 2022 BANC Summer Assessment. The overall conclusion was that the resources under the control of BANC members were adequate to meet system peak conditions even under fairly stressed modeling assumptions.

Certain physical constraints have changed since the Summer Assessment was performed. First, BANC members have experienced unexpected generating unit outages that have impacted their ability to meet forecasted loads this summer. One of the BANC members has been able to recover fully their units back into service that were subject to forced outages, to support operations during the coming heat wave. The other member has also recovered from the forced outage; specifically, a two-by-one configured ~550MW combined cycle unit that has lost the steam turbine generator for an extended period is operating under reduced capacity conditions. After receiving regulatory approvals at the state and local level, the applicable BANC member has received concurrence from the manufacturer and tested the ability to run the gas turbines in simple cycle mode. This provides approximately half of the unit output as compared to a combined cycle configuration. This member has also been active in the bilateral trading market to find replacement energy for most of the deficit resulting from the forced outage, and has secured considerable replacement capacity and energy. Even after the successful attempts to ameliorate the forced outage of a major unit, the outage continues to restrict available reserves.

Second, the loads from the forecasted heat wave over the next week are expected to push BANC members to at or over historical peaks and higher than normally expected planning targets for this time of year. This has necessitated reliance on adjacent markets for additional resources. The markets available to the BANC members are either the CAISO or the Pacific Northwest (PNW) bilateral wholesale markets. However, the markets in the West are extremely tight. Due to the strain on the CAISO markets from the heat wave we are seeing most economic bids not being awarded during critical hours. BANC members have been able to obtain some purchases from the PNW to help offset the additional need. We are also near physical limits for power flows over major interties from the PNW, which may also limit the ability to import additional power.

BANC members have also been making use of demand-side programs. This includes commercial interruptible load programs, residential peak shaving programs, and public appeals for conservation. We

have appended hereto an illustrative example of a SMUD Power Alert.

Clarifying Certain Matters

Why is an Emergency Order Needed? Why Cannot the Units Run under Current Permits?

BANC does not believe the units can run under existing permits. The unit owners represent to BANC that service from the utility must have been discontinued in order to run the units under existing permits. The requested relief allows the dispatch of the units during specified emergency conditions but in advance of cessation of utility service, in an attempt to avoid firm load curtailments.

We have attached the terms of the applicable permit hereto.

How the Units Will be Dispatched?

BANC will be responsible for directing the dispatch of the units, although the starting and stopping of the units will be manual and performed by the unit owner. The CAISO may also have a need for the units even if there is not a BANC need, the CAISO may communicate that need to BANC and BANC will direct the dispatch of the units. Thus, these units may benefit operation of either the BANC or CAISO BAAs. These details are currently being worked through in the arrangements between the CEC and the customer.

Effect of the Unit Dispatch

The effect of the unit dispatch will be to remove load from the overall system. The units are customer owned at a data center and are designed to provide back-up power. They are not currently designed to inject power into the larger grid. The benefit to the overall grid will be to remove the data center load and reduce the likelihood or extent of any rotating outages.

To clarify further, the capacity of the generating units may exceed the load of the data center. That will not matter for these purposes. The units will only run up to the load of the data center, because they are not currently configured to inject power into the grid. Thus, while the maximum nameplate capacity is identified in Exhibit A, the actual output of the units will not exceed the load served on-site.

What are the Triggers for Unit Dispatch?

BANC is the applicable Balancing Authority Area. The units will only be dispatched if there is a confirmed EEA 2 or more severe declaration applicable to the BANC BAA or the CAISO BAA. Also, the units will only be dispatched between the hours of 2 PM and 10 PM Pacific Standard Time. Both the EEA2 designation and the hour limitations apply to limit the scope of any requested Order.

Are the Units Part of a State Emergency Reliability and Compensation Program?

Yes. The NTT units are planned to be operated and compensated through a state-run emergency program designed for these purposes. This program includes compensation levels and after the fact validation of performance. While this program is new and the application to NTT may deviate based on

unique factual circumstances, the general parameters of the program apply. A linkage to the applicable state regulations can be found here.[2] The regulations are appended hereto.

The NTT units and their load are not part of any utility interruptible program.

Are the Units in a Disadvantaged Community?

No. Under either the critieria specified in California statute under SB 535, nor the CalEnviroScreen metrics,[3] these units are not located in a disadvantaged community as that term is generally defined under California law.

BANC greatly appreciates DOE's expedited consideration of this request. Please do not hesitate to contact the undersigned if you have any questions or require additional information in order to act on this request.

Respectfully submitted,

James R. Shetler
General Manager
Balancing Authority of Northern California

[2] Emery, Ashley, David Erne, and Erik Lyon. July 2022. *Demand Side Grid Support Program: Proposed Draft Guidelines First Edition*, California Energy Commission. Publication Number: CEC-300-2022-008.

[3] https://usage.smud.org/SustainableCommunities/; https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

Exhibit A - List of Covered Resources

Exhibit A - List of Covered Resources

Power plant and location	Owner/Operator	Estimated MW affected by limitation	Permit Exceedances
~~NTT Global Data Centers Americas, CA1 1200 Striker Ave Sacramento, CA 95834~~ ~~Coordinates, Mechanical Yard~~ ~~Lat: 38.649968 Long: -121.489737~~	~~NTT Global Data Centers Americas, Inc~~	~~32MW of generation capacity across 16 diesel generators. Back up capacity designed to support 12.6MW of critical IT load with built in redundancy.~~	~~Nitrogen oxide emissions~~
NTT Global Data Centers Americas, CA2 1312 Striker Ave Sacramento, CA 95834 Coordinates, Mechanical Yard (East) Lat: 38.649918 Long: -121.491378 Coordinates, Mechanical Yard (West) Lat: 38.649908 Long: -121.492920	NTT Global Data Centers Americas, Inc	48MW of generation capacity across 24 diesel generators. Back up capacity designed to support 26.1MW of critical IT load with built in redundancy	Nitrogen oxide emissions

2022 SUMMER

LOADS & RESOURCES ASSESSMENT

May 2022

Balancing Authority of Northern California

A Joint Powers Authority Among
Modesto Irrigation District, City of Redding, City of Roseville, City of Shasta Lake,
Trinity Public Utilities District, and Sacramento Municipal Utility District
www.thebanc.org

Table of Contents

1. Executive Summary

The Balancing Authority of Northern California (BANC) is a Joint Powers Authority (JPA) consisting of the Sacramento Municipal Utility District (SMUD), Modesto Irrigation District (MID), City of Roseville (RSC), Redding Electric Utility (REU), City of Shasta Lake (CSL), and Trinity Public Utilities District (TPUD). BANC assumed the Balancing Authority (BA) responsibilities on May 1, 2011, from SMUD that include balancing the generation, load, and interchange, and coordinating system operations with neighboring BAs – Bonneville Power Administration (BPA), Turlock Irrigation District (TID), and California Independent System Operator (CAISO). There are two footprints within BANC – SMUD and Western Area Power Administration – Sierra Nevada Region (WAPA), which includes WAPA, MID, RSC, REU, CSL, and TPUD. The Figure 1-1 below shows the geographical map of BANC system.

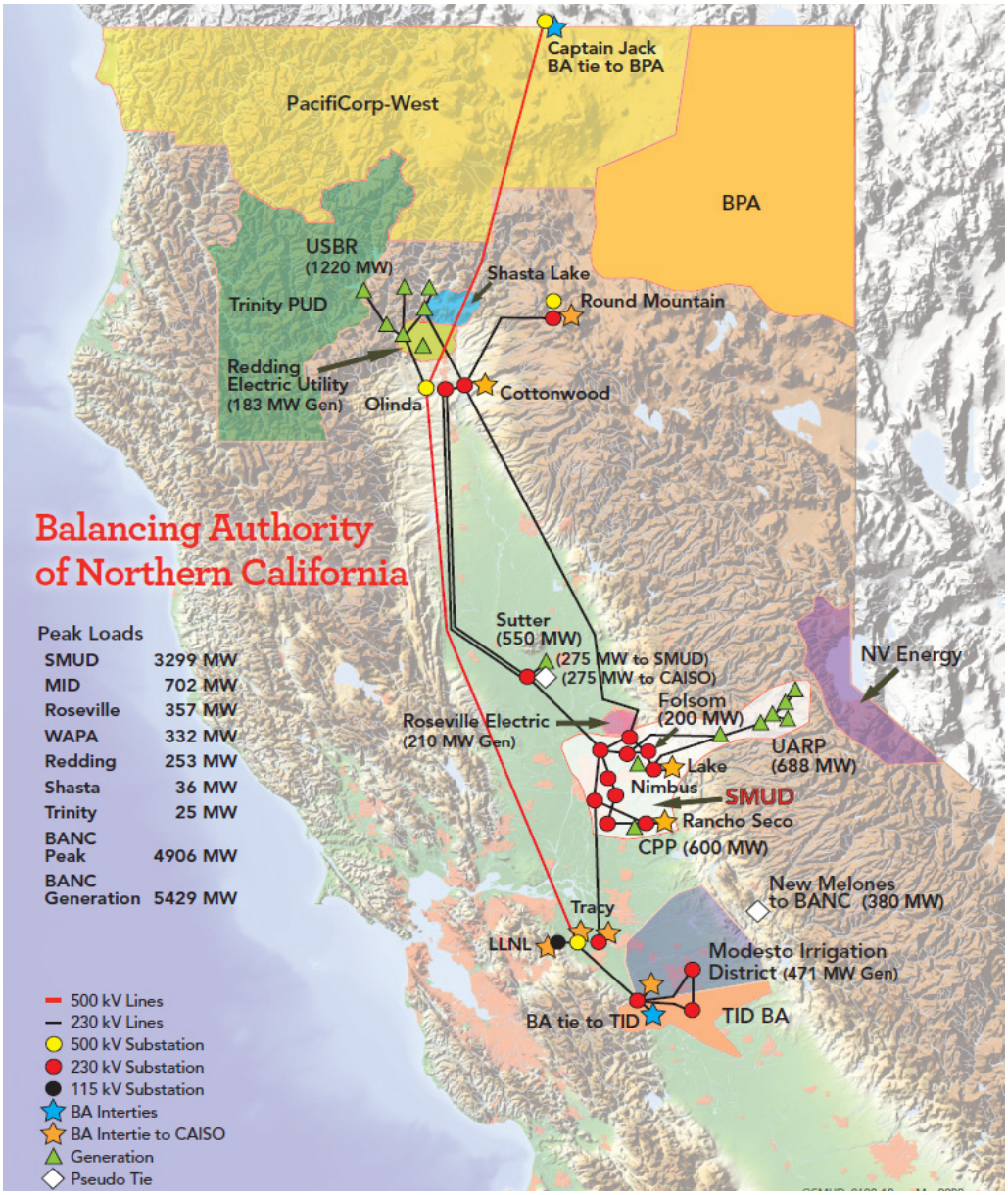

Figure 1-1: Geographical Map of BANC System

This BANC summer loads and resources assessment report provides an assessment of the load forecast, resource supply, and energy imports in the 2022 summer operating season – June 1st, 2022, through October 31st, 2022, for the BANC Balancing Authority Area (BAA).

The forecasted BANC 1-in-2 peak load for 2022 summer is 4513 MW which is 29 MW or 0.6% higher than the actual 2021 BANC peak load of 4484 MW. The forecasted 1-in-2 peak loads for the SMUD and WAPA footprints are 2950 MW and 1563 MW, respectively.

The forecasted BANC 1-in-10 peak load for 2022 summer is 4840 MW which is 356 MW or 7.9% higher than the actual 2021 BANC peak load of 4484 MW. The forecasted 1-in-10 peak loads for the SMUD and WAPA footprints are 3176 MW and 1664 MW, respectively.

Considering the rotating outages within the CAISO BAA that occurred during the 2020 summer, the potential resource shortfalls in CAISO footprint and Western Power Pool (WPP) area, and the reliance of BANC entities on the imports from the CAISO and WPP areas, more thorough and detailed analyses are performed to assess BANC's load and resource outlook and evaluate BANC's risk of energy or capacity shortages either during normal or emergency conditions. The key analyses and studies that are performed are summarized as follows:

(1) Assess the critical hours of the peak load day, i.e., Hour Ending (HE) 16 through HE 21, to cover both the gross peak load as well as the net peak load
(2) Calculate the hourly Effective Load Carrying Capability (ELCC) and Net Qualifying Capacity (NQC) for all resources and imports, such as Hydro, Thermal, Solar, Wind, etc.
    - Hydro ELCC and NQC are calculated based on the historical hydro capacity in the past 3 similar water years.
    - Thermal ELCC and NQC are calculated based on the Ambient Temperature Derate and the forced outage data in the past 3 years.
    - Solar and Wind ELCC and NQC are calculated based on the actual output of the plants during the critical hours in the past 3 years.
(3) Evaluate the detailed availability of import resources, including both the firm contracted resources and non-dependable import resources
(4) Assess the availability of the Demand Response programs
(5) Evaluate the Operating Margin for both the 1-in-2 peak load as well as the 1-in-10 peak load
(6) Conduct Monte Carlo probability simulations to assess the Loss of Load Probability (LOLP) as follows:
    - Simulate 2,000 cases for each of the critical hours HE16 through HE21, representing 2,000 years of simulation
    - Simulate Thermal generator outages based on the actual outage data in the past 3 years
    - Simulate Hydro generator capacity based on the actual operating capacity in the past 3 similar water years
    - Simulate Solar and Wind generation output based on the historical data in the past 3 years
    - Simulate load beyond 1-in-10 peak load forecast
    - Simulate the reduction of non-dependable import when the load is higher than 1-in-10 load forecast, representing a West-Wide heat wave
(7) Perform analysis to the special operating scenarios as listed below:
    - California Oregon Intertie (COI) derate due to wildfires
    - CAISO BAA is in an Energy Emergency Alert 3 (EEA 3)

- West-Wide heat wave causing the reduction of non-dependable imports
- Impacts of wildfire smoke on the solar generation and system load

The assessment results show that

- BANC's hourly gross peak load is forecasted to be at HE17 and BANC's hourly net peak load is forecasted to be at HE18.
- The most stressed operating condition will be when BANC's peak load occurs in August as the available Hydro generation and Solar generation in August is forecasted to be less than June and July.
- The base case assessment demonstrates that BANC has sufficient generation and transmission capacity to meet the forecasted 1-in-2 and 1-in-10 load for 2022 summer with sufficient operating margin (OM) as shown in Table 1-1 below.
- The Monte Carlo probability simulation results show that BANC has a low risk of 5.65% (or 1 day in 17 years) to be in an EEA 3 and an extremely low risk of 0.60% (or 1 day in 166 years) to shed firm load, both of which are lower than the industry LOLP benchmark of 1 day in 10 years.
- The analyses indicate that BANC would have sufficient operating margin for the special operating scenarios of wildfire smoke and the CAISO BA in an EEA 3.
- However, BANC would have risks of being in an EEA 3 when there is a West-Wide heat wave causing 1-in-20 load with no non-dependable import available or when the COI has a significant derate after losing two 500 kV lines due to wildfires under 1-in-10 load.

Table 1-1: 2022 Summer Base Case Supply & Demand Outlook at Gross & Net Peak Hours

	BANC BA		SMUD Footprint		WAPA Footprint	
2021 Generation (MW)	5413		2607		2806	
Generation Outage (MW)	(35)		(0)		(35)	
Retired Generation (MW)	0		0		0	
New Generation (MW)	16		8		8	
2022 Generation (MW)	5394		2615		2779	
Peak Load Hour	HE17	HE18	HE17	HE18	HE17	HE18
Equivalent ELCC	79.5%	78.4%	83.2%	81.2%	75.9%	75.8%
Total Generation NQC (MW)	4286	4229	2176	2123	2110	2106
Forecasted Import (MW)	1828	1816	1451	1443	620	616
Forecasted Export (MW)	(342)	(353)	(0)	(0)	(585)	(595)
Demand Response (MW)	73	73	54	54	19	19
Total Supply (MW)	5844	5765	3680	3620	2164	2145
1-in-2 Load + Reserves (MW)	4816	4781	3115	3075	1701	1706
1-in-2 OM * (MW)	1028	984	565	544	463	439
1-in-2 OM * (%)	21.3%	20.6%	18.1%	17.7%	27.2%	25.7%
1-in-10 Load + Reserves (MW)	5164	5127	3354	3311	1810	1816
1-in-10 OM * (MW)	680	638	326	309	354	329
1-in-10 OM * (%)	13.2%	12.4%	9.7%	9.3%	19.6%	18.1%

* Operating Margin (OM) (MW) = Total Supply – (Load + Reserves)
* Operating Margin (OM) (%) = (Total Supply – (Load + Reserves)) / (Load + Reserves)

Water Conditions as of April 1, 2022:

- United States Bureau of Reclamation's (USBR) Central Valley Project (CVP) reservoir storage levels were at approximately 57% of historical average
- Northern Sierra snowpack was only at 30% of its historical average
- Northern California precipitation was at 75% of its historical average
- Forecasted statewide snowmelt runoff is at about 60% of an average water year
- SMUD's storage reservoirs were at 115% of historical average and the inflow to the storage reservoirs is projected to be 120% of median.
- With only 75% of precipitation and 30% snowpack, the 2021-2022 water season is classified as "Critically Dry" according to California Department of Water Resources' (CDWR's) Bulletin 120 released on March 8, 2022.

Resource Availability Forecasts as of April 1, 2022:

- Based on the current outage information, all SMUD and CVP hydro resources are expected to be available during the 2022 summer peak months.
- The total hydro power peak or energy production is projected to be significantly lower than the historical average based on water conditions.
- One-half of the Sutter Energy Center (SEC) or 275 MW will continue to be available to SMUD and the other half of the SEC or 275 MW is available to the CAISO BA.

California Oregon Intertie (COI) Import Capability:

- Based on the seasonal study performed by the California Operating Sub-Committee (OSS), the 2022 summer COI operating nomogram is similar to 2021.
- Wildfire threat continues to be a risk with the threat areas and fire-season period both expanding and increasing the risk of Public Safety Power Shutoff (PSPS) events or actual outages.
- The CAISO has committed to support BANC if a PSPS event on the CAISO controlled portion of COI should create resource shortage conditions for BANC.

2. 2021 Summer Review

2.1 System Load

The recorded BANC peak load for 2021 summer reached 4484 MW at 16:59:29 on June 18, 2021, which was 91 MW (or 2%) lower than BANC's peak load in 2020 (4575 MW) due to a relatively mild summer temperature and the increased installations of the Behind-The-Meter (BTM) photovoltaic (PV) solar generation.

Because BANC entities are located in different geographical areas, they may not reach their peak loads at the same time or date. The BANC entities' load levels at the time of the BANC peak load are defined as the Simultaneous Peak Load and their individual peak load levels are defined as the Non-simultaneous Peak Load.

On June 18, 2021, the BANC BA, SMUD footprint, and WAPA footprint all reached their peak loads on the same day but at different time stamps. The Simultaneous Peak Load for the WAPA footprint was 1464 MW and the Simultaneous Peak Load for the SMUD footprint was 3020 MW. The SMUD footprint reached its Non-simultaneous Peak Load of 3027 MW at 16:49:00 and the WAPA footprint reached its Non-simultaneous Peak Load of 1464 MW at 16:58:57. However, MID reached its Non-simultaneous Peak Load on 7/30/2021 while RSC and REU reached their Non-simultaneous Peak Load on 7/10/2021.

Table 2-1 below shows the Simultaneous Peak Loads and Non-simultaneous Peak Loads and a comparison of 2021 actual Non-simultaneous Peak Loads vs. 2021 forecasted Non-simultaneous Peak Loads for BANC and all BANC entities.

Table 2-1: 2021 Simultaneous and Non-simultaneous Peak Loads vs. 2021 Forecasts

	Non-simultaneous Peak Load Forecast (MW)	Actual Non-simultaneous Peak Load (MW)	Non-simultaneous Peak Load Forecast Error (MW)	Non-simultaneous Peak Load Forecast Error (%)	Actual Simultaneous Peak Load[1] (MW)
BANC BA	4460	4547	-87	-1.9%	4484
SMUD	2938	3027	-89	-2.9%	3020
MID	684	680	4	0.6%	656
RSC	334	352	-18	-5.1%	341
REU	225	236	-11	-4.7%	221
CSL	32	37	-5	-13.5%	34
TPUD	25	25	0	0%	20
WAPA Footprint	1522	1520	2	0.1%	1464

[1] The Actual Simultaneous Peak Load values came from the PI historian data.

2.2 System Generation

The Sutter Energy Center (SEC) continued to be available at 275 MW capacity (17 MW capacity increase from 258 MW in 2020) for summer 2021 as a part of generation for SMUD. In addition, 174 MW of utility-scaled solar and 3 MW of net metered solar generation went on-line in the BANC footprint in 2021. BANC's total generating capacity increased to 5413 MW. Table 2-2 shows generation levels of BANC entities collected in PI at the 2021 BANC peak load moment (16:59:29 on 6/18/2021).

Table 2-2: BANC Entities Generation Levels at 2021 BANC Peak Load Moment

	Generation (MW)	Simultaneous Peak Load (MW)	Generation Capacity (MW)	Generation Output %
BANC BA	2780	4484	5413	51.4%
SMUD	1378	3020	2607	52.9%
MID	222	656	469	34.5%
RSC	181	341	231	78.4%
REU	113	221	182	62.1%
CSL	0	34	0	N/A
TPUD	0	20	0	N/A
WAPA Footprint	1402	1464	2806	50.0%

2.3 System Import

With the completion of PG&E's Palermo-Rio Oso 115 kV reconductoring project in 2014, the transfer capability of COI has been greatly improved (up to 1175 MW increase under high Northern California Hydro condition). Table 2-3 shows BANC entities' simultaneous import levels at the 2021 peak load moment. The data shows BANC entities heavily relied on imports to serve load (approximately half of the load in SMUD, MID, RSC, and REU were served by imports).

Table 2-3: BANC Entities' Import Levels at 2021 Peak Load Moment

	Simultaneous Import (MW)	Simultaneous Peak Load (MW)	Import/Load Ratio
BANC BA	1704	4484	38.0%
SMUD	1642	3020	54.4%
MID	434	656	66.2%
RSC	160	341	46.9%
REU	108	221	48.9%
CSL	32	34	100%
TPUD	19	20	100%
WAPA Footprint	62	1464	4.2%

3. 2022 Summer Assessment

In light of the rotating outages within the CAISO BAA that occurred during the 2020 summer, the potential resource shortfalls in CAISO footprint and Western Power Pool (WPP) area, and the reliance of BANC entities on the imports from the CAISO and WPP areas, more thorough and detailed analyses are performed to assess BANC's load and resource outlook and evaluate BANC's risk of energy or capacity shortages either during normal or emergency conditions. The key analyses and studies that are performed are summarized as follows:

(1) Assess the critical hours of the peak load day, i.e., Hour Ending (HE) 16 through HE 21, to cover both the gross peak load as well as the net peak load
(2) Calculate the hourly Effective Load Carrying Capability (ELCC) and Net Qualifying Capacity (NQC) for all resources and imports, such as Hydro, Thermal, Solar, Wind, etc.
    - Hydro ELCC and NQC are calculated based on the historical hydro capacity in the past 3 similar water years.
    - Thermal ELCC and NQC are calculated based on the Ambient Temperature Derate and the forced outage data in the past 3 years.
    - Solar and Wind ELCC and NQC are calculated based on the actual output of the plants during the critical hours in the past 3 years.
(3) Evaluate the detailed availability of import resources, including both the firm contracted resources and non-dependable import resources
(4) Assess the availability of the Demand Response programs
(5) Evaluate the Operating Margin for both the 1-in-2 peak load as well as the 1-in-10 peak load
(6) Conduct Monte Carlo probability simulation to assess the Loss of Load Probability (LOLP) as follows:
    - Simulate 2,000 cases for each of the critical hours HE16 through HE21, representing 2,000 years of simulation
    - Simulate Thermal generator outages based on the actual outage data in the past 3 years
    - Simulate Hydro generator capacity based on the actual operating capacity in the past 3 similar water years
    - Simulate Solar and Wind generation output based on the historical data in the past 3 years
    - Simulate load demand beyond 1-in-10 peak load forecast
    - Simulate the reduction of non-dependable import when the load is higher than 1-in-10 load, representing West-Wide heat wave
(7) Perform analysis to some special operating conditions as listed below:
    - California Oregon Intertie (COI) derate due to wildfires
    - CAISO BAA is in an Energy Emergency Alert 3 (EEA 3)
    - West-Wide heat wave causing the reduction of non-dependable import
    - Impacts of wildfire smoke to the solar generation and system load

3.1 Forecasted System Load

Due to the increase of the renewable generation within BANC footprint, BANC's summer assessment will need to cover both the gross peak load and the net peak load. The gross peak load is the conventional peak load that is served with all resources. The net peak load is defined as the peak load that is served with the dispatchable traditional resources, such as Hydro and Thermal, and is calculated as gross peak load less the non-dispatchable renewable generation.

As shown in Table 3-1 below, the forecasted BANC 1-in-2 gross peak load for the 2022 summer is 4513 MW, which is 29 MW higher than the actual 2021 BANC peak load of 4484 MW. The forecasted BANC 1-in-10 gross peak load is 4840 MW, which is 356 MW higher than the actual 2021 BANC peak load of 4484 MW. For 2022 summer, the hourly load profiles for the critical hours (HE16 through HE21) are developed for all BANC entities based on the historical hourly load data to assess both the gross peak load and the net peak load. The load profiles showed that BANC's hourly gross peak load is at HE17 and the hourly net peak load is at HE18.

Table 3-1: 2022 Forecasted Peak Loads for BANC Entities

	Forecasted 1-in-2 Gross Peak Load (MW)	Forecasted 1-in-2 Net Peak Load (MW)	Forecasted 1-in-10 Gross Peak Load (MW)	Forecasted 1-in-10 Net Peak Load (MW)
SMUD	2950	2731	3176	2954
WAPA Footprint	1563	1549	1664	1650
MID	665	648	709	692
Roseville Electric	338	338	389	389
REU	236	236	238	238
Shasta Lake	36	36	37	37
Trinity PUD	25	25	28	28
Forecasted BANC Peak Load	4513	4280	4840	4604

Figure 3-1 below shows a comparison of forecasted 2022 non-simultaneous peak load with the historical peak load since 2006 (all-time peak load year) for BANC, SMUD, and WAPA footprint.

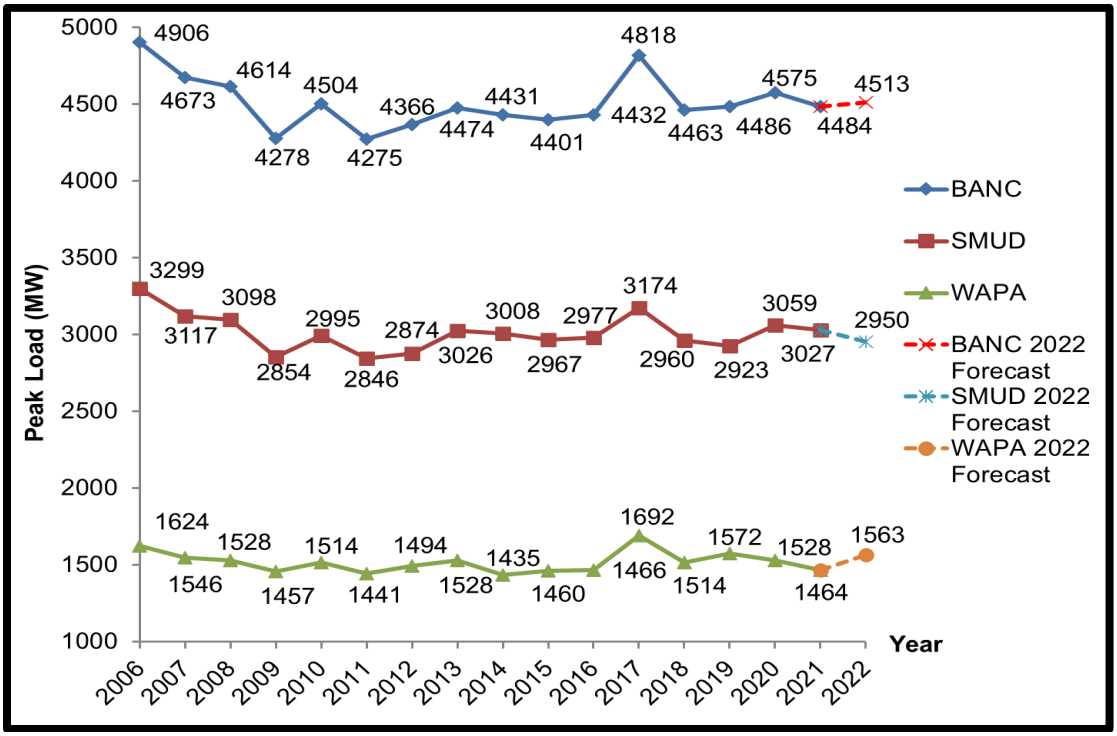

Figure 3-1: 2022 Forecasted Peak Load vs. Historical Peak Load

Figure 3-1 shows that all BANC entities' peak loads declined significantly due to the economic recession after the all-time peak recorded during the 2006 multi-day heat wave. The subsequent peak load demands reached their lowest in 2011 and then started recovering. Due to the unusual heat waves and economic recovery from the recession, BANC's 2017 peak load reached the highest level since 2006, despite the increased installations of the behind-the-meter photovoltaic solar generation. Several BANC entities, such as MID, City of Roseville, City of Shasta Lake, and WAPA footprint, even set their new all-time peak load records in 2017. In 2018 and 2019, BANC entities peak loads have been fairly flat due to the increased installations of BTM solar and SMUD's implementation of the Time-Of-Day rates in 2019.

Two extreme heat waves hit California and the western U.S. in 2020 summer, the original day-ahead load forecast showed that the loads of BANC BA and all BANC entities might get close to or even higher than the all-time peak. However, the severe smoke and ash from the wildfires reduced sun radiation such that the forecasted loads did not materialize. Even though, MID and City of Shasta Lake still set the new peak load records of 702 MW and 37 MW in 2020.

The Figure 3-2 below shows the highest temperature in Sacramento area in recent years. BANC's peak load occurred either on these days or subsequent days due to the impact of holidays or weekends, except for 2017, where BANC's peak load occurred on 6/20/2017. The data also shows that the highest temperature day is moving towards August in recent years. In addition, considering that the hydro generator capabilities and solar generation in August are lower than June and July, it is assumed in this assessment that the 2022 BANC peak load day is in August as it will be the most severe operating condition.

Max °F	Date	Max °C
112	August 16, 2020	44
107	August 15, 2019	42
109	July 25, 2018	43
109	August 28, 2017	43
108	July 26, 2016	42
108	July 29, 2015 +	42
107	August 01, 2014 +	42
110	July 04, 2013	43
107	August 13, 2012	42

Figure 3-2: The Highest Sacramento Temperatures in Recent Years

3.2 Forecasted Resource Supply

In 2021, Roseville Energy Park (REP)'s capacity was increased by 8 MW after steam turbine upgrade and there will be another 8 MW of net metered solar generation in SMUD footprint coming on-line before the 2022 summer. In addition, one-half of SEC (275 MW) will continue to be available as a part of SMUD's generation. BANC's total installed generation capacity will increase to 5429 MW, of which, 2704 MW (49.8%) is hydro generation, 2323 MW (42.8%) is thermal generation, 16 MW (0.3%) is biogas generation, and 386 MW (7.0%) is solar generation. In total, 57.2% of the installed generation capacity within BANC is carbon-free.

As half of BANC's generation capacity is Hydro, it is critical to forecast hydro generation availability based on the Water Conditions, including reservoir levels, snowpack levels, precipitations, and snowmelt runoffs. According to the CDWR's website, the 2022 Water Conditions as of April 1, 2022, are summarized as follows:

- USBR's CVP reservoirs were at approximately 57% of historical average (Figure 3-3)
- Northern Sierra snowpack was only at 30% of its historical average (Figure 3-4)
- Northern California precipitation was at 75% of its historical average (Figure 3-5)
- Forecasted statewide snowmelt runoff was at approximately 60% of an average water year (Figure 3-6)
- SMUD's storage reservoirs were at 115% of historical average and the inflow to the storage reservoirs is projected to be 120% of median.

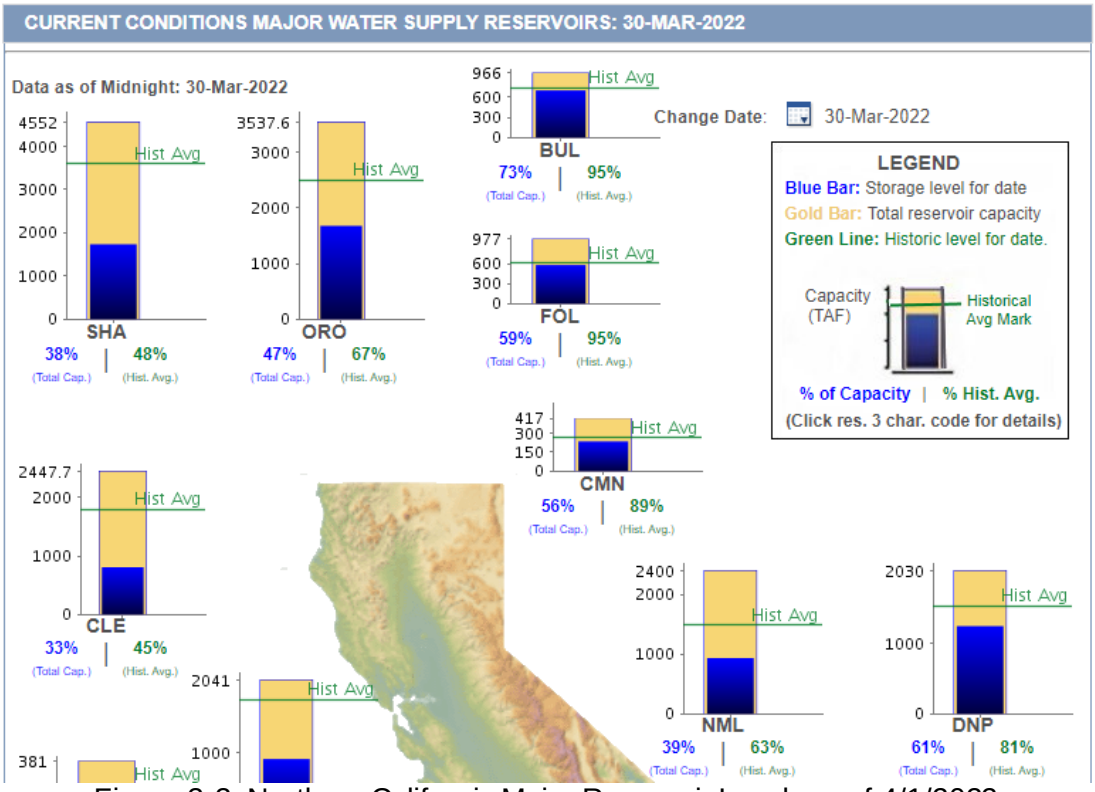

Figure 3-3: Northern California Major Reservoir Levels as of 4/1/2022

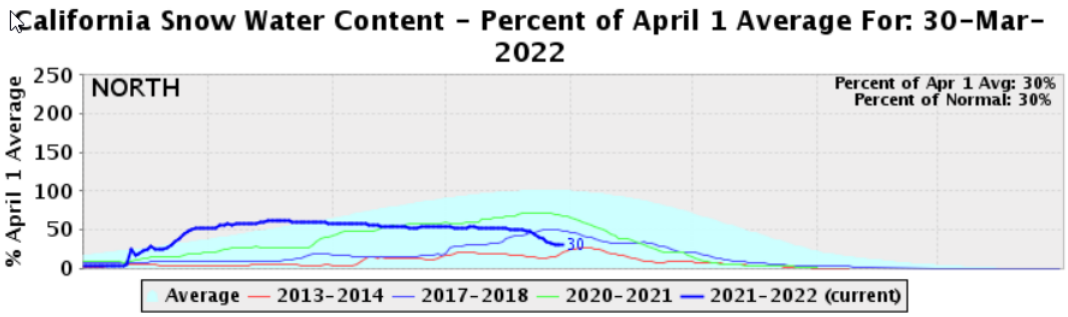

Figure 3-4: Northern Sierra Snowpack Level as of 4/1/2022

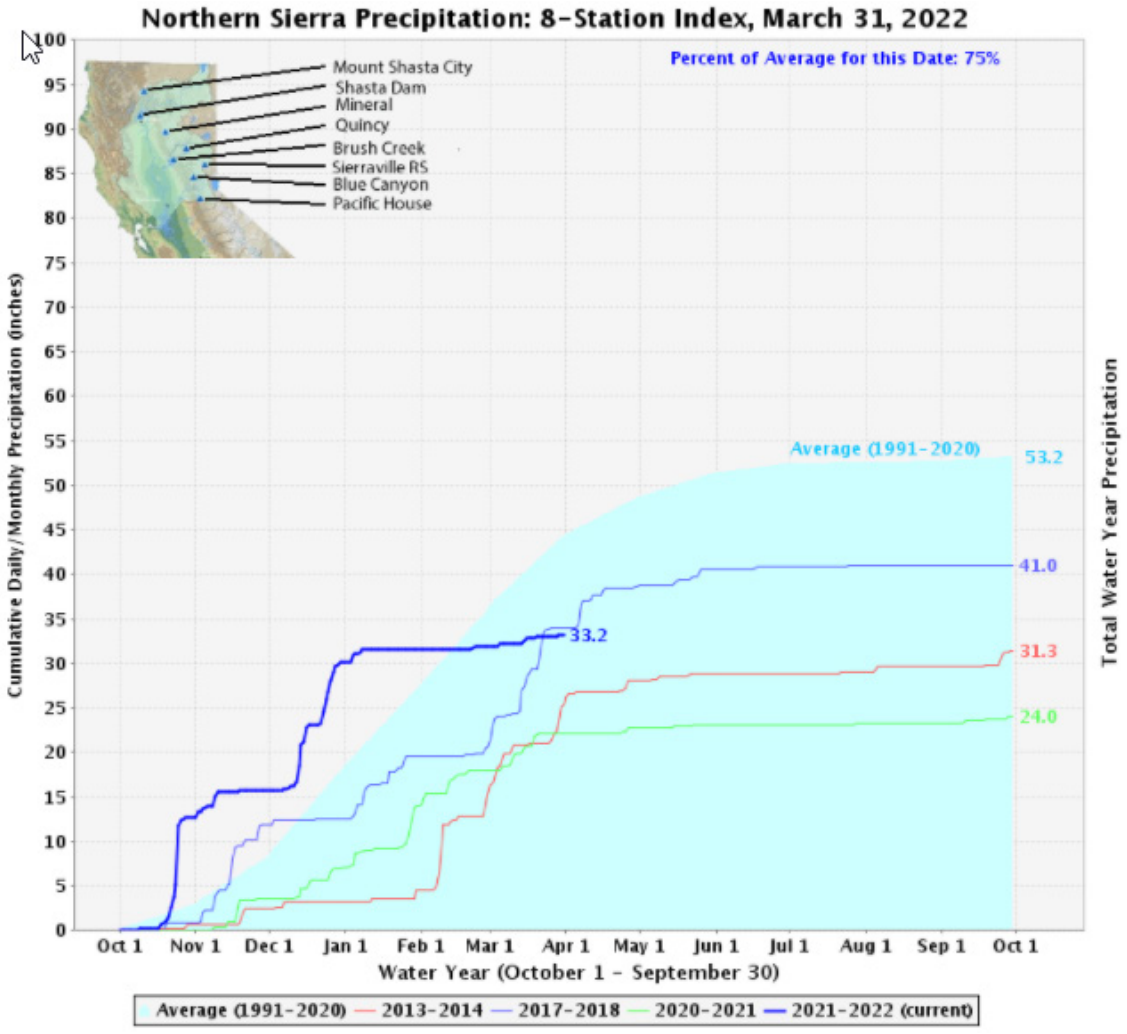

Figure 3-5: Northern Sierra Precipitation as of 4/1/2022

UNIMPAIRED FLOW FOR - MARCH 28, 2022
(Provisional data, subject to change)

Report generated: March 30, 2022 16:19

WATER YEAR FORECAST SUMMARY AND MONTHLY DISTRIBUTION (IN THOUSANDS OF ACRE-FEET)													
WATERSHED	OCT THRU JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR TOTAL	80% PROBABILITY RANGE 90%	10%	WY % AVERAGE
Trinity, Lewiston	215	51	55	90	75	27	8	2	1	524	375	810	40
Inflow to Shasta	1,395	232	235	260	245	180	165	153	150	3,015	2,670	4,175	53
Sacrament, Bend	2,087	318	314	375	325	245	215	187	184	4,250	3,785	6,225	51
Feather, Oroville	1,331	256	347	245	155	95	75	65	56	2,625	2,300	4,085	60
Yuba, Smartville	654	105	145	205	178	48	19	11	11	1,375	1,165	1,970	61
American, Folsom	783	140	224	230	181	50	9	2	2	1,620	1,290	2,455	60

Figure 3-6: Forecasted Snowmelt Runoffs as of 4/1/2022

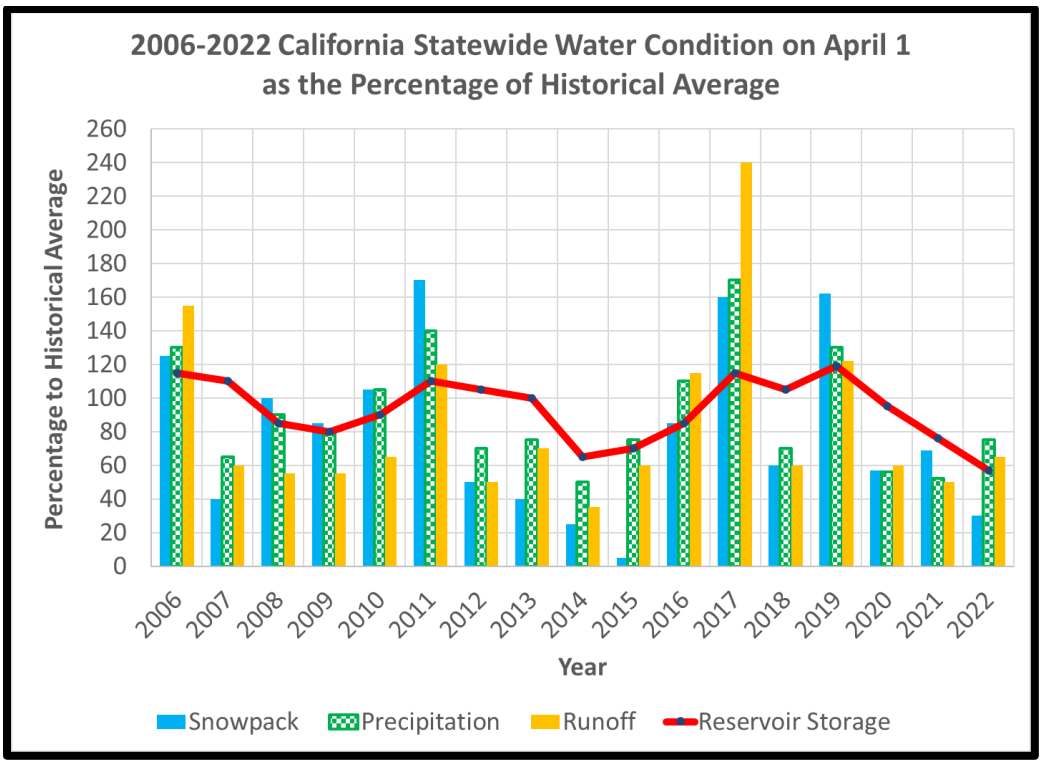

Figure 3-7: 2006-2022 California Statewide Water Condition on April 1

Based on the current outage information, all the SMUD and CVP hydro resources are expected to be available during the 2022 summer except Keswick Unit #3 (35 MW). However, the total hydro power production is projected to be lower than the historical average level due to the "Critically Dry" water condition.

Although BANC's installed generation capacity will reach 5429 MW, not all this MW capacity can be available to serve load. There are several factors that will limit generator's capacities, especially during the critical hours (HE16~HE21) of the peak load day. For example, thermal generators will be derated due to high ambient temperature, hydro generators will be derated due to lower reservoir levels, and solar generators will reduce output when sun sets.

To accurately assess BANC's ability to serve load, more detailed studies are performed to calculate BANC generators' Effective Load Carry Capability (ELCC) and Net Qualifying Capacity (NQC).

ELCC is a metric to evaluate how effective a generator can be to serve load for a given hour of the year and is defined as the percentage of a generator's installed capacity (i.e., Pmax) in this assessment. ELCC can be calculated for each individual generator or for a group of generators with similar characteristics.

NQC is defined as the MW capacity of a generator that can be counted in the resource plan to serve the load for a given hour of the year and can be calculated as:

$$NQC = ELCC * Pmax$$

Different types of generators have different characteristics and therefore different ways of calculating the ELCC and NQC. In this summer assessment, the monthly ELCC and NQC are used and they are calculated as monthly values for each 24 hours of the day.

3.2.1 Hydro Generator ELCC and NQC

Within BANC footprint, there are storage hydro generators and run-of-river hydro generators but no pumped-storage hydro generators. For this summer assessment,

- Storage hydro generators' monthly ELCC and NQC are calculated as the average of the hourly historical operating capacity in each summer month of the past 3 similar water years.
- Run-of-river hydro generators' monthly ELCC and NQC are calculated as the average of the hourly actual output in each summer month of the past 3 similar water years.
- Based on the 2022 Water Conditions shown in Figure 3-3 through Figure 3-7, 2014, 2018, and 2021 are selected as the similar water years.

3.2.2 Thermal Generator ELCC and NQC

As shown in Figure 3-2, BANC entities' peak load in recent years occurred on a hot summer day with temperature between 107 ºF and 112 ºF and the maximum capacities of thermal generators on the peak load day will be lower than their nameplate capacities. In this assessment, all BANC's thermal generators will use their ambient temperature derated capacities at 112 ºF.

In addition, although these thermal generators will normally not have planned outages during summer months, the unexpected, or forced outages do occur occasionally. To account for this impact, the Average Forced Outage Rates (AFORs) are calculated for all thermal generators using the historical forced outage data in the summer months of the past 3 years. Therefore, for thermal generators,

$$\text{Thermal ELCC} = 1 - \text{AFOR}$$

$$\text{Thermal NQC} = \text{ELCC} * \text{Pmax at } 112\ ^{\circ}\text{F}$$

3.2.3 Solar and Wind Generation ELCC and NQC

The hourly solar and wind generators' ELCC are calculated as the average solar outputs for each hour for the days with temperature higher than or equal to 100 ºF in the month of August of the past 3 years. The new solar generation will use the data of the nearby solar generation with similar solar panel technology.

3.3 Forecasted System Import

The COI is the major path for BANC entities to import capacity and energy from Pacific Northwest (Washington and Oregon) sources. Based on the study performed by the California OSS, the 2022 summer COI operating nomogram under all-line-in-service and normal hydro condition is

similar to 2021. According to National Oceanic and Atmospheric Administration (NOAA), the water supply of the Columbia River – the major river runoff supporting hydroelectric power generation in Pacific Northwest (PNW), was forecasted to be 95% of the 30-year normal at the Dalles Dam as of April 1, 2022, which indicates a normal hydro energy supply from Pacific Northwest this summer.

In order to accurately assess the imports that BANC entities can obtain during the high load days, this assessment classifies BANC entities' imports into three categories:

- WAPA Base Resources (adjusted by WAPA's Hydro ELCC)
- Contracted Firm Imports from PNW or CAISO (adjusted by ELCC for Hydro, Solar, Wind)
- Non-Dependable Imports

The Non-Dependable Import is defined as the import which is expected to achieve in the week-ahead or day-ahead timeframe based on historical real-time import data. The Non-Dependable Import is not backed-up with long-term firm contracts and could come from the PNW and/or CAISO market with the risk that there may not be sufficient energy/capacity available in the week-ahead or day-ahead timeframe during a west-wide heat wave.

In order to calculate the hourly Expected Non-Dependable Import for each BANC entity, the Expected Max Import is calculated for each BANC entity as the average of the maximum hourly historical real-time import for the month of August in the past 3 years on high load days. Then, the equation is as follows:

$$\text{Expected Non-Dependable Import} = \text{Expected Max Import} - \text{Firm Import}$$

3.4 Forecasted System Export

All the BANC entities rely on imports to serve load on the high load days, except WAPA, which will export a portion of its Base Resources to the entities within CAISO BAA per contract. In this assessment, the hourly Expected Export is calculated for WAPA as the average of the hourly historical real-time export for the month of August in the past 3 years.

3.5 Forecasted Demand Response

Demand Response (DR) can reduce end-user loads in response to high prices, financial incentives, environmental conditions, or reliability issues. DR can play an important role to offset the need for more generation and provide grid operators with additional flexibility in operating the system during periods of limited supply. There are several DR programs available within BANC BAA with a maximum amount of 73 MW. However, these DR programs have different contracts to be available in different days and hours. Therefore, the hourly DR profiles are created for all BANC entities in this assessment.

3.6 Forecasted Operating Reserves

Per NERC/WECC Reliability Standards, BANC shall maintain sufficient Regulating Reserve and Contingency Reserve during real-time operations. In this summer assessment, the amount of the Operating Reserves (Regulating Reserve plus Contingency Reserve) is calculated for each hour and is considered as a part of BANC's load obligation.

3.7 Scheduled Generation/Transmission Outages

According to the current available information, there are no major transmission or generation outages scheduled within the BANC footprint during the summer peak months – June, July, and August, except that the Keswick Unit #3 (35 MW) will be out of service from mid-Jun to late-July. In early September, SMUD's Consumnes Power Plant (CPP) plans to have some maintenance work. However, these CPP outages can be rescheduled if load is high. The Table 3-2 below lists the major transmission and generation outages within the BANC footprint and the surrounding areas for the 2022 summer.

Table 3-2: Scheduled Major Outages for 2022 Summer

Start Time	End Time	Outage Facility	Description	Outage Area	Outage Impact
5/2/2022	6/10/2022	Carr Unit #2	Maintenance	WAPA	86 MW generation outage
6/6/2022	6/9/2022	Robbs Peak Unit	Maintenance	SMUD	26 MW generation outage
6/6/2022	6/9/2022	Loon Lake Unit	Maintenance	SMUD	78 MW generation outage
6/13/2022	7/22/2022	Keswick Unit #3	Maintenance	WAPA	35 MW generation outage
9/3/2022	9/6/2022	Consumnes Power Plant CTG3	Maintenance	SMUD	298 MW generation outage
9/5/2022	9/16/2022	Folsom Unit #1	Maintenance	WAPA	71 MW generation outage
9/5/2022	9/16/2022	Nimbus Units #1 & 2	Maintenance	WAPA	17 MW generation outage
9/17/2022	9/20/2022	Consumnes Power Plant CTG2	Maintenance	SMUD	298 MW generation outage
9/26/2022	9/30/2022	Captain Jack-Olinda 500 kV Line	Switch Replacement	WAPA	COI derated to 3200 MW

Based on the monthly Hydro ELCC and Solar ELCC studies, the total available resources in July after deducting Keswick Unit #1 will still be higher than the total available resources in August.

3.8 Forecasted Base Case Supply & Demand Outlook

In the base case assessment, the average August ELCC are used for all resources – Hydro, Thermal, and Solar, and the Operating Margins (OMs) are calculated for BANC BA, and SMUD and WAPA footprints for both 1-in-2 and 1-in-10 forecasted peak loads as follows:

Operating Margin = Generation NQC – Outages + Import – Export + DR – Load – Reserves

The Operating Margin calculated in this assessment is different than the Planning Reserve Margin (PRM) that is used in the Resource Adequacy analysis as reserves are counted as a part of load obligation. The Table 3-3 defines the operating conditions for the BANC BA per NERC Reliability

Standard EOP-011-1. As SMUD and WAPA will provide emergency assistance to each other, they would be in EEA conditions only when the BANC BA is in the EEA conditions.

Table 3-3: BANC Operating Condition Definitions

Operating Condition	BA Status	Note
OM >= DR	Sufficient OM	No need to utilize DR
0 <= OM < DR	EEA 2	BA relies on DR to maintain Reserves
OM < 0 & OM + Reserves >=0	EEA 3	BA unable to maintain Reserves
OM + Reserves < 0	Firm Load Shedding	BA unable to serve all load

The base case results show that BANC BA, SMUD footprint, and WAPA footprint all have sufficient resource supplies to meet the forecasted 1-in-2 and 1-in-10 load demands and reserve requirements for 2022 summer with sufficient Operating Margins (OMs) as shown in Table 3-4 below when counting the expected Non-Dependable Imports.

Table 3-4: 2022 Summer Base Case Supply & Demand Outlook at Gross & Net Peak Hours

	BANC BA		SMUD Footprint		WAPA Footprint	
2021 Generation (MW)	5413		2607		2806	
Generation Outage (MW)	(35)		(0)		(35)	
Retired Generation (MW)	0		0		0	
New Generation (MW)	16		8		8	
2022 Generation (MW)	5394		2615		2779	
Peak Load Hour	HE17	HE18	HE17	HE18	HE17	HE18
Equivalent ELCC	79.5%	78.4%	83.2%	81.2%	75.9%	75.8%
Total Generation NQC (MW)	4286	4229	2176	2123	2110	2106
Forecasted Import (MW)	1828	1816	1451	1443	620	616
Forecasted Export (MW)	(342)	(353)	(0)	(0)	(585)	(595)
Demand Response (MW)	73	73	54	54	19	19
Total Supply (MW)	5844	5765	3680	3620	2164	2145
1-in-2 Load + Reserves (MW)	4816	4781	3115	3075	1701	1706
1-in-2 OM * (MW)	1028	984	565	544	463	439
1-in-2 OM * (%)	21.3%	20.6%	18.1%	17.7%	27.2%	25.7%
1-in-10 Load + Reserves (MW)	5164	5127	3354	3311	1810	1816
1-in-10 OM * (MW)	680	638	326	309	354	329
1-in-10 OM * (%)	13.2%	12.4%	9.7%	9.3%	19.6%	18.1%

* Operating Margin (OM) (MW) = Total Supply – (Load + Reserves)
* Operating Margin (OM) (%) = (Total Supply – (Load + Reserves)) / (Load + Reserves)

The Figure 3-8 through Figure 3-10 show the charts of the resource stack vs. load + reserve on the forecasted peak load day over the critical hours of HE16~HE21 under the base case conditions for BANC BA, SMUD footprint, and WAPA footprint.

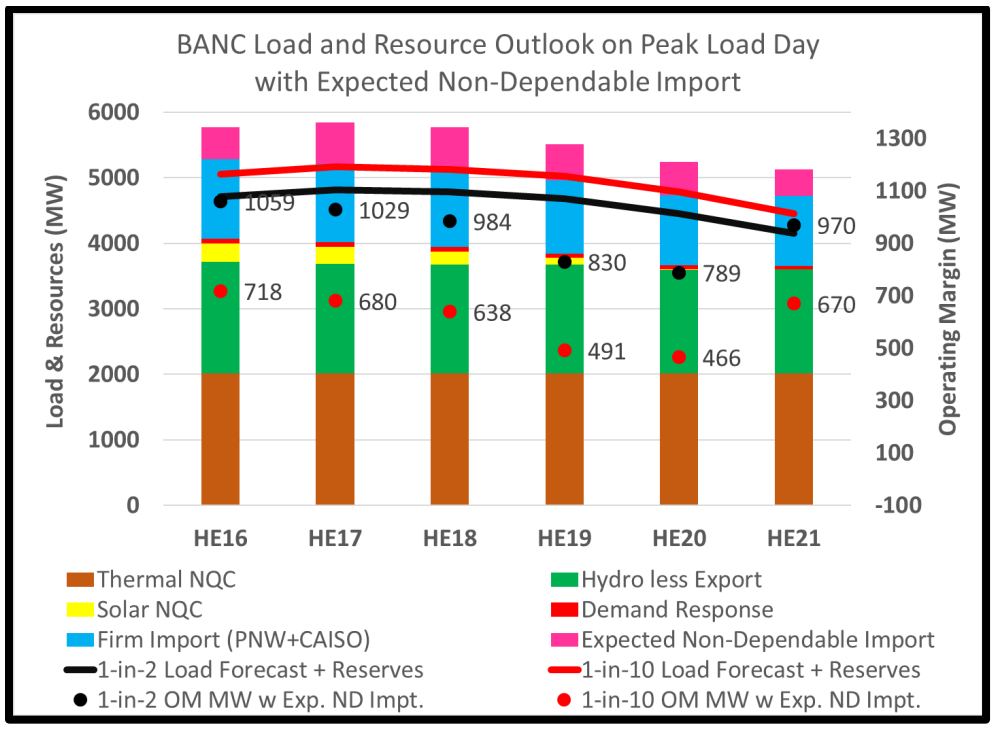

Figure 3-8: BANC Base Case Load and Resources Outlook on Peak Load Day

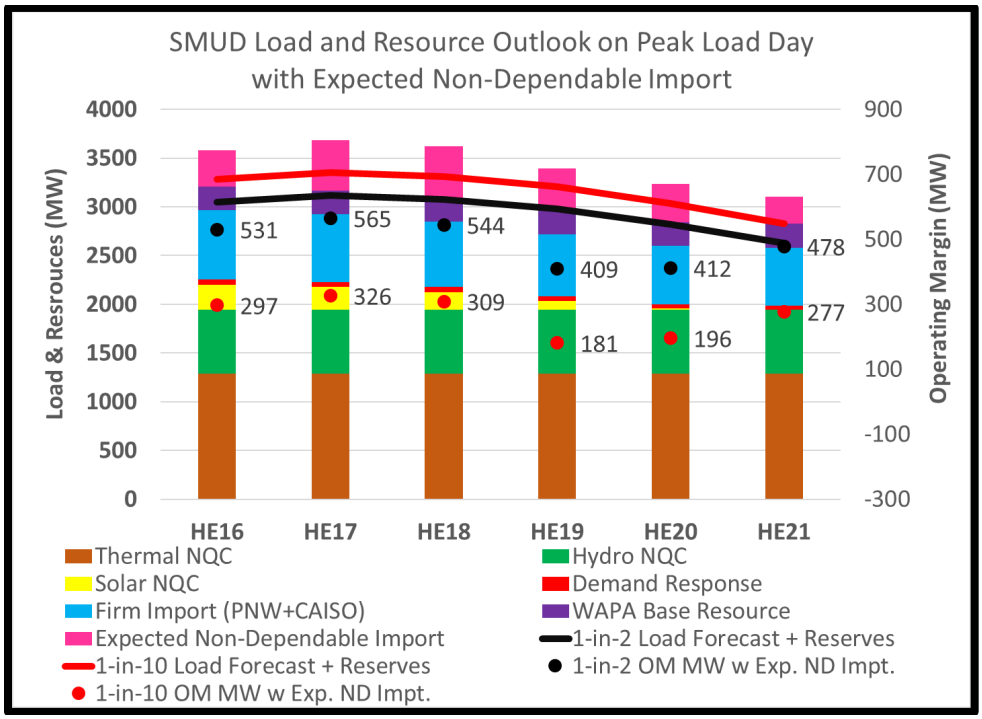

Figure 3-9: SMUD Base Case Load and Resources Outlook on Peak Load Day

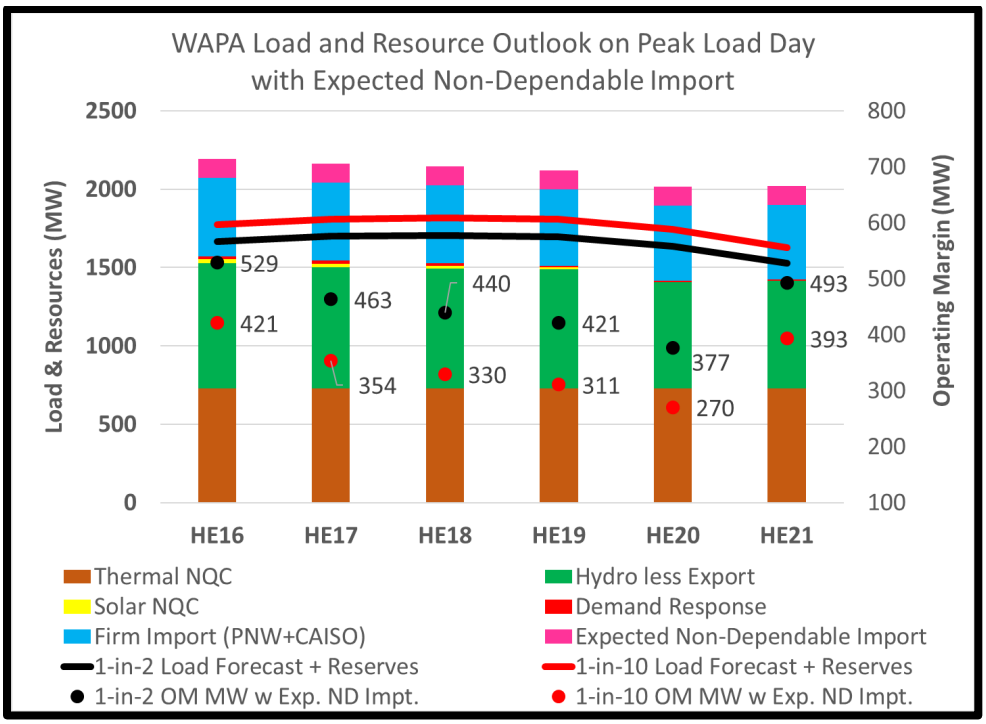

Figure 3-10: WAPA Base Case Load and Resources Outlook on Peak Load Day

The 2022 summer resource supply is similar to the 2021 summer resource supply:

- SMUD's 2022 resource supply is at the same level as 2021 and is estimated to get more non-dependable import based on historical data. Therefore, SMUD's 2022 operating margin is estimated to be higher than 2021 when counting the expected non-dependable import.
- WAPA's 2022 CVP hydro capacity is estimated to be approximately 200 MW less than 2021 due to the worse water conditions. Therefore, WAPA's 2022 operating margin is estimated to be less than 2021.
- Overall, from BANC BA's perspective, the estimated 2022 operating margin is estimated to be at the same level as 2021.

3.9 Monte Carlo Probability Simulation

There are numerous uncertain factors that could affect the actual real-time operating conditions in the upcoming summer, such as unexpected generator outages may occur at any time, water conditions may still change, and extreme heat wave may cause load beyond the 1-in-10 forecast, etc. In order to further evaluate the risks that BANC BA and all BANC entities may encounter in the summer, the Monte Carlo probability simulation is conducted to assess BANC's Loss of Load Probability (LOLP).

The Monte Carlo probability simulation produces a series of random sampling of data based on a mathematical distribution, such as Normal Distribution. Then, the operating conditions are developed based on the randomly sampled data to evaluate the operating risks. The simulated operating conditions are summarized as follows:

- Simulate 2,000 cases for the critical hours HE16~HE21 of the peak load day, representing 2,000 years of simulation.
- Simulate thermal generator outages based on the Average Forced Outage Rate (AFOR) in the past 3 years, i.e., any thermal generator could be forced out of service based on AFOR.
- Simulate hydro generator capacity based on the actual operating capacity in the past 3 similar water years. The hydro generator capacity could be at any level between the minimum level and the maximum level that occurred during the past 3 similar water years.
- Simulate Solar and Wind generation output based on the historical data in the past 3 years. As the solar and wind generation are related to the temperature, solar and wind generation are simulated to be between the maximum and minimum levels in the past 3 years on the days when the temperature exceeded 100 ºF.
- Simulate load demand beyond 1-in-10 peak load forecast.
- Simulate the reduction of non-dependable import when the load is higher than 1-in-10 forecast, indicating a West-Wide heat wave. The non-dependable import will be reduced to zero when the load reaches 1-in-20 forecast and beyond.
- The operating condition definitions in Table 3-2 are used to determine BANC BA status.

As shown in the Table 3-5 through Table 3-7 below, the LOLP study results indicate that

(1) BANC BA has a low risk of 5.45% (or 1 day in 19 years) to be in EEA 3 and an extremely low risk of 0.55% (or 1 day in 182 years) with unserved energy, both of which are lower than the industry LOLP benchmark of 1 day in 10 years.
(2) WAPA maintains sufficient Operating Margin in all 2000 cases
(3) SMUD has a risk of 7.85% (or 1 day in 12 years) not being able to maintain positive Operating Margin. However, SMUD does not have unserved energy until BANC BA has unserved energy.

Table 3-5: BANC LOLP Study Results

BA Status	EEA 2	EEA 3	Unserved Energy
Number of Cases	119	109	11
Probability	5.95%	5.45%	0.55%
Number of Years	1 Day in 17 Years	1 Day in 19 Years	1 Day in 182 Years

Table 3-6: WAPA LOLP Study Results

WAPA Status	OM < DR	OM < 0	Unserved Energy
Number of Cases	0	0	0
Probability	0%	0%	0%
Number of Years	N/A	N/A	N/A

Table 3-7: SMUD LOLP Study Results

SMUD Status	OM < DR	OM < 0	Unserved Energy
Number of Cases	178	157	11
Probability	8.90%	7.85%	0.55%
Number of Years	1 Day in 11 Years	1 Day in 12 Years	1 Day in 182 Years

3.10 Wildfire Outlook

As California is becoming hotter and drier than recent history, these climate changes expand California's wildfire threat area and lengthen the fire season, increasing the risk and the impacts of the wildfires. The wildfire threat has become the No.1 risk to California utility operations. The Carr Fire and the Camp Fire in 2018 caused devastating impacts to people's lives. With a "Critically Dry" 2021-2022 water season, the dry vegetation may expand wildfire risk, potentially impacting the availability of transmission lines and generating units. Potential wildfires in or near the 500 kV line corridors pose a significant risk of derate to the COI (such as the Tucker Fire in July 2019 and the Bootleg Fire in July 2021), and potential wildfires in the mountain areas could affect the availability of hydro generating units (such as the King Fire in 2014 and the Carr Fire in 2018). Public Safety Power Shutdowns (PSPS) are now instituted by California utilities as a measure to mitigate wildfire risks. Under a program to coordinate impacts, the CAISO will provide emergency support to BANC entities in the event where a PSPS impacts the COI and reduces the availability of power to the point of threatening service to load.

According to the National Significant Wildland Fire Potential Outlook released by the Predictive Services National Interagency Fire Center on April 1, 2022, the wildfire risk for June and July is "Above Normal" for Northern California and "Normal" for Southern California as shown in the Figure 3-11 below. The wildfire outlook for August and September will be released on May 1, 2022.

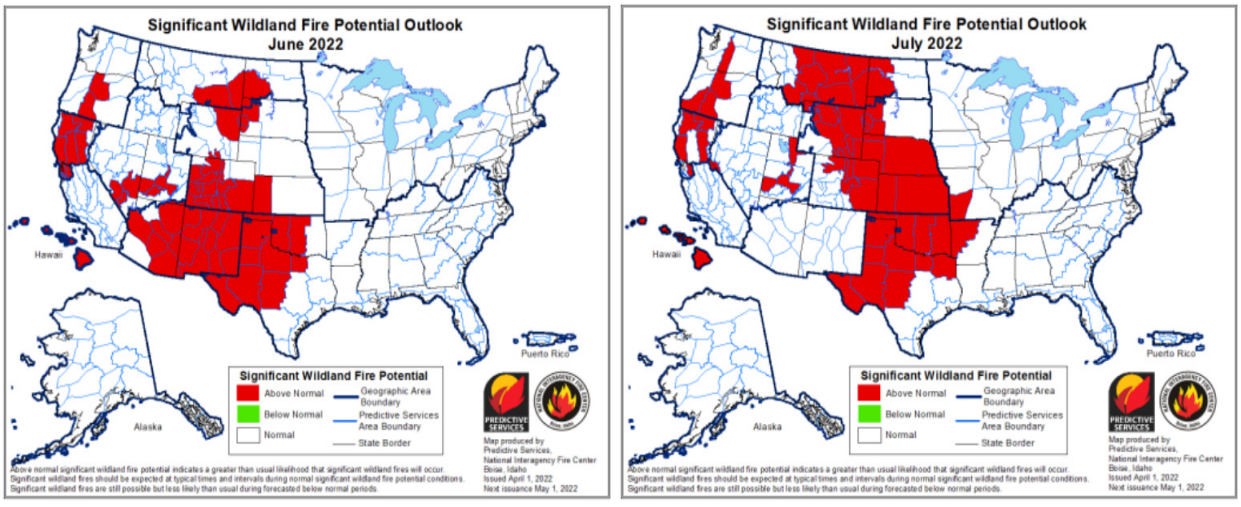

Figure 3-11: U.S. Significant Wildland Fire Potential Outlook for June and July 2022

3.11 Special Operating Scenarios

In addition to the base case analysis and LOLP study, four special operating scenarios are also simulated to assess the potential risks that BANC may face in the upcoming summer.

3.11.1 Loss of Two 500 kV Lines Due to Wildfires

With the "Above Normal" wildfire risk in 2022 summer as shown in Figure 3-11, there will be an above normal risk for COI to be derated due to wildfires. In the past 4 years, the wildfires created significant impacts to the California's transmission grid, such as the Carr Fire in 2018 (taking out nine 230 kV lines), the Tucker Fire in 2019 (taking out two 500 kV lines), the Lake Fire in 2020 (taking out two 500 kV lines), and the Bootleg Fire in 2021 (taking out three 500 kV lines).

In order to capture the significant operational risk, the condition that two of the 500 kV lines in the COI transmission corridor trip due to wildfire is simulated to assess the impacts to BANC entities under both 1-in-2 and 1-in-10 load forecasts. The results are shown in the Figure 3-12 through Figure 3-14 and are summarized as follows:

- With the loss of two COI 500 kV lines, BANC would need to curtail more than 800 MW imports from Pacific Northwest (PNW) region which is approximately 70% of the total imports from PNW.
- Although BANC could still maintain sufficient operating margin under 1-in-2 load, BANC would have a risk of being in EEA 3 under 1-in-10 load.
- Although WAPA could maintain sufficient operating margin under both 1-in-2 load and 1-in-10 load, SMUD would not be able to maintain sufficient operating margin under either 1-in-2 load and 1-in-10 load.

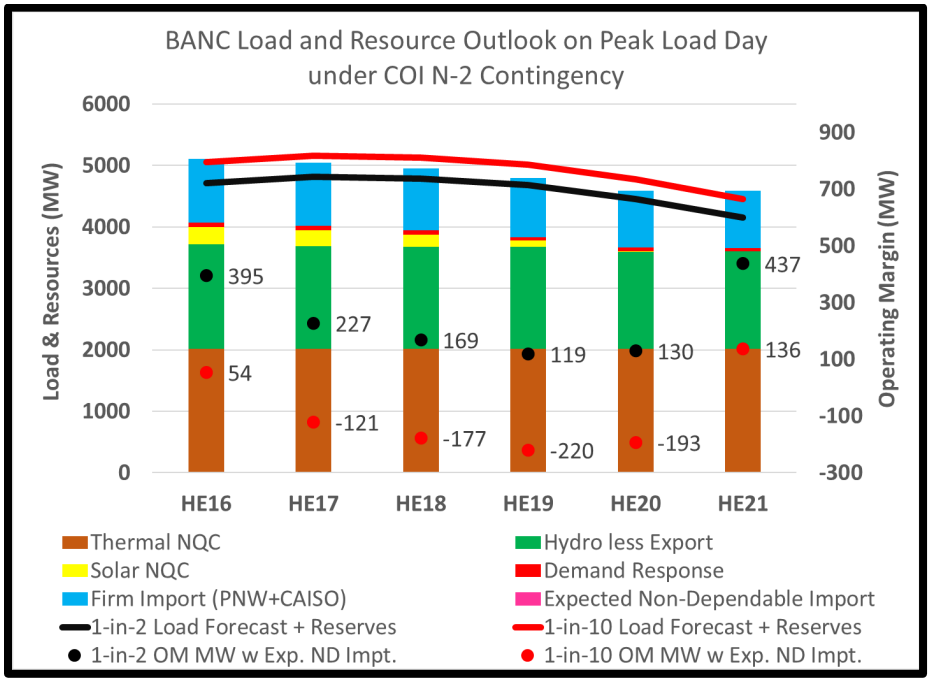

Figure 3-12: BANC Load & Resources Outlook under COI N-2 Contingency Due to Wildfires

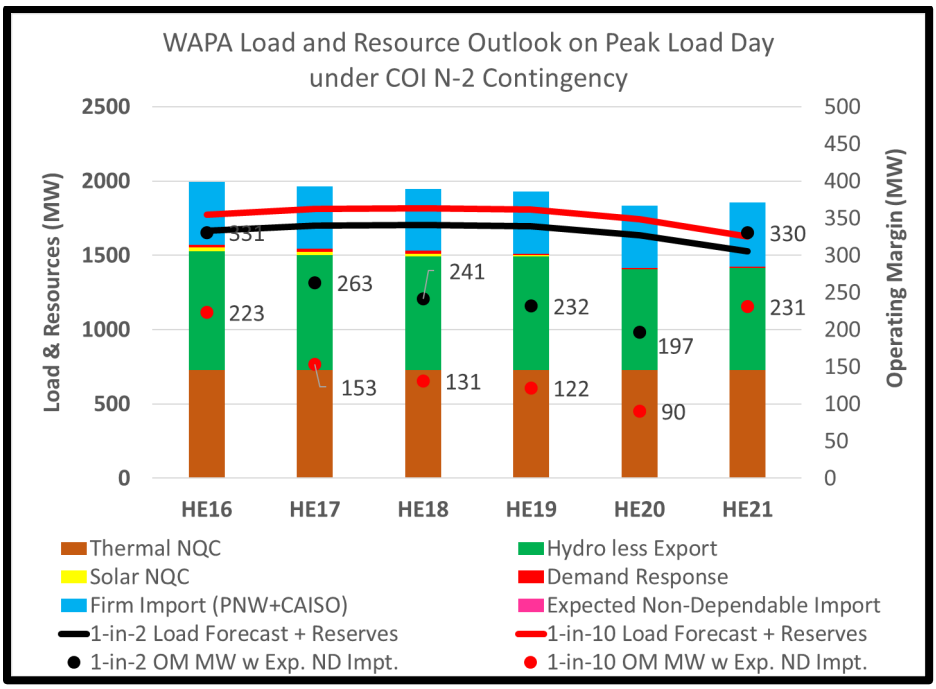

Figure 3-13: WAPA Load & Resources Outlook under COI N-2 Contingency Due to Wildfire

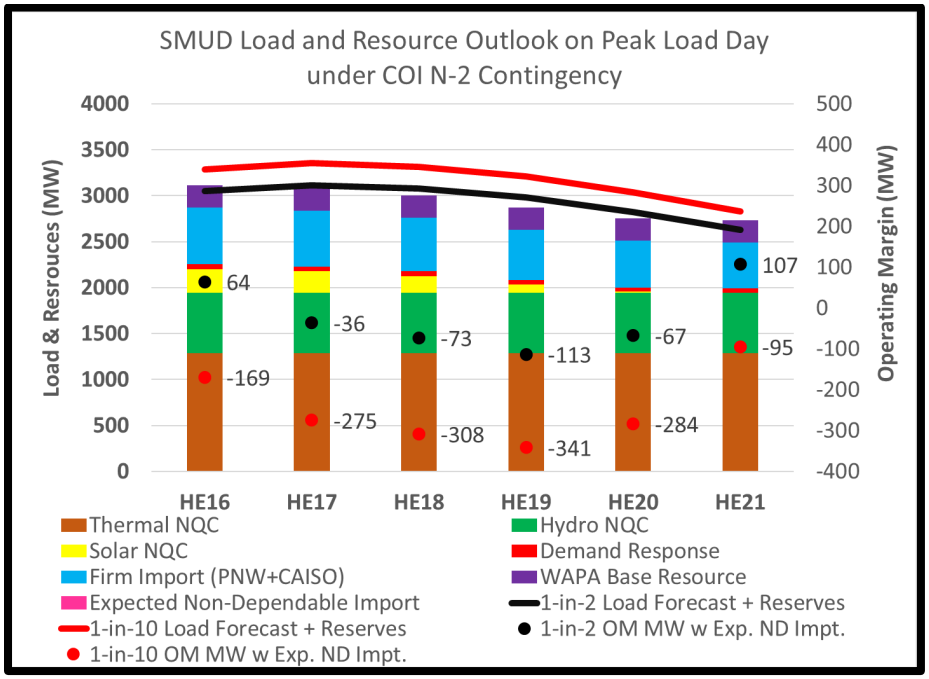

Figure 3-14: SMUD Load & Resources Outlook under COI N-2 Contingency Due to Wildfire

3.11.2 Extreme West-Wide Heat Wave

The BANC entities rely upon the energy and capacity that can be procured in the week-ahead and day-ahead timeframes from PNW and/or CAISO areas to serve load. These energy and capacity are normally available for BANC entities to import. However, they are non-dependable imports as they are not supported by long-term firm contracts. If an extreme west-wide heat wave

causes high loads across the western U.S., those non-dependable energy and capacity may not be available to import.

A special operating scenario is evaluated in this assessment, where it is assumed that an extreme west-wide heat wave impacts the western U.S causing 1-in-20 load in BANC with no non-dependable imports available. The simulated 1-in-20 loads are listed in the Table 3-8 together with the 1-in-2 and 1-in-10 load forecasts as a comparison.

Table 3-8: Simulated 1-in-20 Peak Loads for BANC Entities

	Forecasted 1-in-2 Gross Peak Load (MW)	Forecasted 1-in-10 Gross Peak Load (MW)	Simulated 1-in-20 Gross Peak Load (MW)
SMUD	2950	3176	3240
WAPA Footprint	1563	1664	1693
MID	665	709	725
Roseville Electric	338	389	408
REU	236	238	239
Shasta Lake	36	37	37
Trinity PUD	25	28	29
BANC Total	4513	4840	4933

As shown in the Figure 3-15 through Figure 3-17, the analysis results indicate that SMUD would not be able to maintain sufficient Operating Margin for 1-in-20 load and BANC BA would also be in potential EEA 3 due to negative Operating Margin, although WAPA would still be able to maintain sufficient Operating Margin.

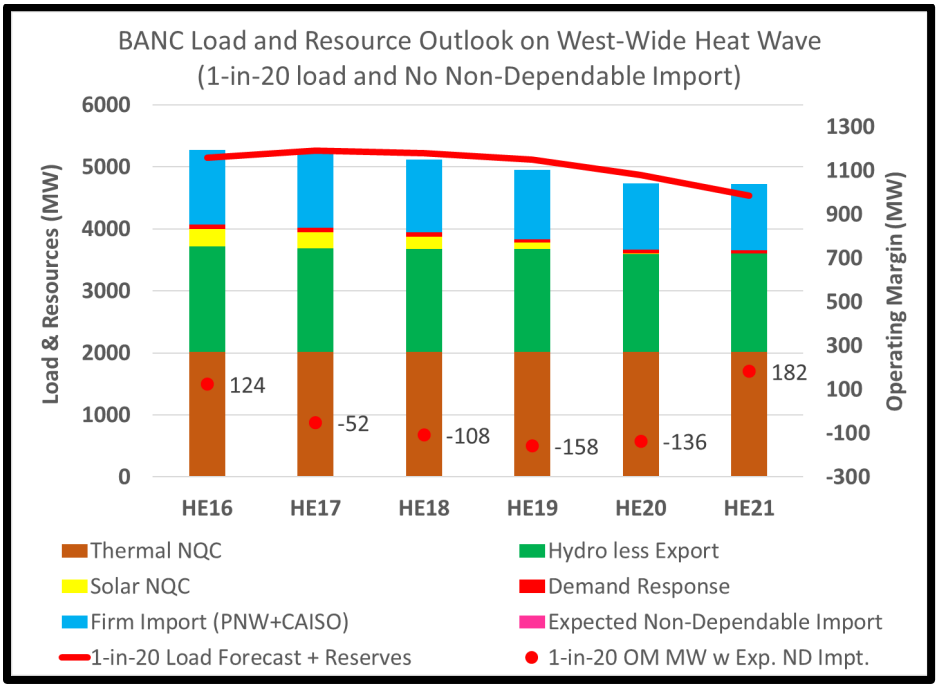

Figure 3-15: BANC Load & Resources Outlook with 1-in-20 Load and No ND Import

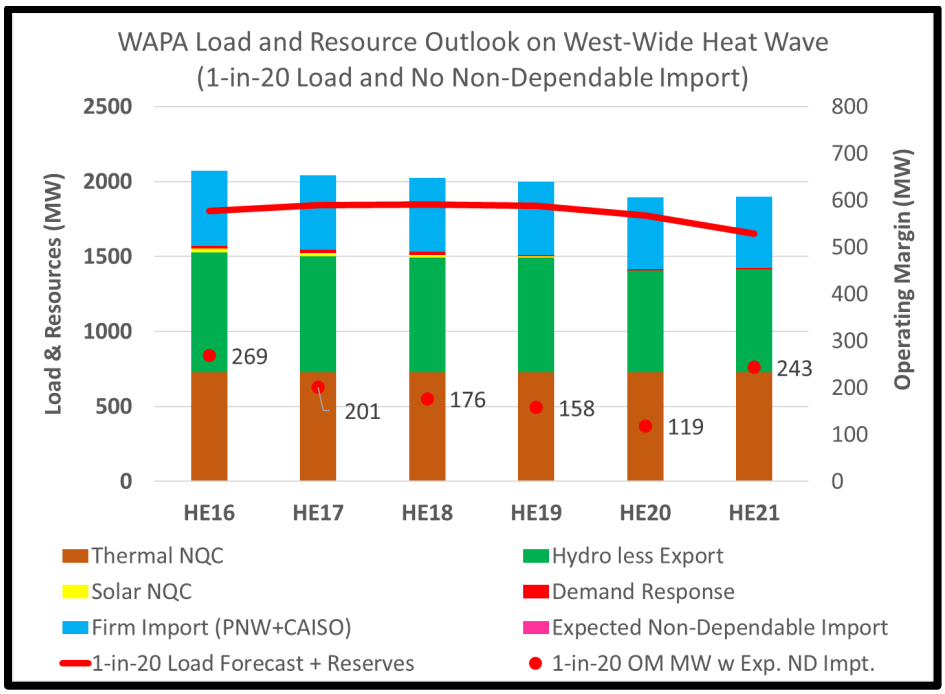

Figure 3-16: WAPA Load & Resources Outlook with 1-in-20 Load and No ND Import

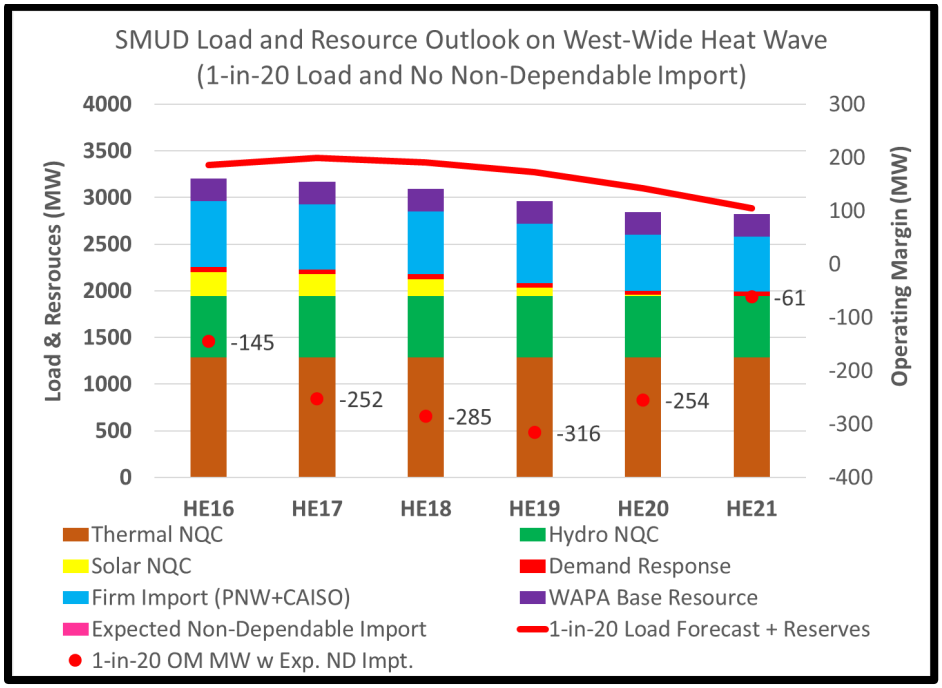

Figure 3-17: SMUD Load & Resources Outlook with 1-in-20 Load and No ND Import

3.11.3 CAISO in EEA 3

As the BANC entities also rely on importing the energy and capacity from the CAISO BAA, some of these imports may be subject to curtailment if the CAISO BA is in EEA 3. The current CAISO market rule is to treat the Price-Taker Exports, Price-Taker Wheels, and Self-Scheduled Load with the same priority in market optimization and they will be curtailed pro-rata if needed.

Therefore, if a rotating load shed event occurred again like August 2020, BANC entities' Price-Taker imports from CAISO would only be curtailed by a minimal amount of 1~4%. SMUD, WAPA, and BANC BA would still be able to maintain sufficient Operating Margins for both 1-in-2 and 1-in-10 load forecasts.

3.11.4 Smoke Impacts Due to Wildfires

During the Carr Fire and Camp Fire in 2018 and a series of wildfires in August 2020, the severe smoke and ash covered the central valley area for many days, reducing the output of solar generation. The analysis estimated that the solar generation could be reduced by 30~50% due to smoke, which would be approximately 90~150 MW reduction during the peak load hours.

However, further analysis showed that the smoke could also reduce the temperature and therefore reduce the load. In the heat wave of August 2020, the original weather forecast was above 110 °F for several consecutive days such that the original peak load forecast was above 4900 MW for BANC. However, due to the smoke cover and delta breeze, the original peak load forecast did not materialize. The estimated peak load reduction by smoke was approximately 3~5%, which was 140~230 MW.

Therefore, at the current solar generation level, the impact of smoke on solar output is less than the reduction on load for BANC. With more and more solar integration within BANC footprint, the impact of smoke on solar output could be more than the reduction on load.

3.12 Engineering Studies

The BANC entities coordinated with the neighboring BAs, TOPs, and RC West and performed the following engineering studies for the 2022 summer:

- California Operating Study Sub-committee (OSS)
- Sacramento Valley Study Group (SVSG)
- Westley Transmission Study Group (WTSG)

The OSS study focuses on COI transfer capability and produces the COI operating nomogram. the SVSG study focuses on determining the Load Serving Capability (LSC) of Sacramento Valley area (SMUD and RSC) and developing associated operating nomograms, and the WTSG study focuses on identifying the import and export limits for MID and TID and developing associated operating nomograms. All studies concluded that BANC will be able to serve the forecasted 2022 summer 1-in-2 and 1-in-10 load demands while meeting NERC/WECC Reliability Standards.

3.13 Conclusions

The 2022 forecasted 1-in-2 and 1-in-10 peak loads for BANC BA are 4513 MW and 4840 MW respectively. Although the 2021-2022 water season is classified as "Critically Dry" due to the less-than-70% precipitation and the less-than-30% snowpack, the summer load and resources assessment and engineering studies show that BANC will be able to meet the forecasted 1-in-2

and 1-in-10 peak loads for the 2022 summer operating season with sufficient Operating Margins and low risks of energy or capacity shortage.

The BANC/SMUD Power System Operators and the System Operators and Dispatchers of WAPA, MID, RSC, & REU have been provided summer readiness training on the updated Operating Procedures to prepare for the 2022 summer operations. Additionally, BANC has coordinated with the State and local agencies, RC West, and neighboring BAs and TOPs to ensure reliable operations for the 2022 summer under normal and emergency system conditions.

777 12th Street 3rd Floor
Sacramento, CA 95814

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

(916) 874-4800

TITLE V FEDERAL OPERATING PERMIT
AND
SMAQMD RULE 201 PERMITS TO OPERATE

TITLE V PERMIT NO:	TV2016-20-01
ISSUED TO:	RagingWire Data Centers, Inc. 1200 Striker Ave. Sacramento, CA 95834
FACILITY LOCATION:	RagingWire Data Centers, Inc. 1200 Striker Ave. and 1312 Striker Ave. Sacramento, CA 95834
PERMIT ISSUED:	December 21, 2018
PERMIT LAST AMENDED:	September 13, 2011
PERMIT EXPIRES:	December 21, 2023
RESPONSIBLE OFFICIAL:	Phillip Sandino V.P. Data Center Operations (703) 840-7707
CONTACT PERSON:	Nick Jones Regional Director of Data Center Operations (916) 286-4048
NATURE OF BUSINESS:	Computer/Data Server Processing [SIC 7376]

Alberto Ayala
SMAQMD Air Pollution Control Officer

by: _____
Steve Mosunic
Air Quality Engineer

TABLE OF CONTENTS

I. PERMIT SUMMARY

This permit serves as a Permit to Operate pursuant to SMAQMD Rule 201 (General Permit Requirements) and SMAQMD Rule 207 (Title V - Federal Operating Permit Program). Requirements identified in the permit as non-federally enforceable are not enforceable by the U.S. EPA or the public. However, they are enforceable by the SMAQMD.

The permit holder's application for this air quality Permit to Operate was evaluated for compliance with SMAQMD, State of California and federal air quality rules and regulations. The following listed rules are those that were found to be applicable at the time of permit review, based on the information submitted with the Title V permit application.

Citation	Description	Rule Adoption Date	Federally Enforceable
SMAQMD Rule 101	General Provisions and Definitions	10-27-2011	Yes
SMAQMD Rule 102	Circumvention	11-29-1983	Yes
SMAQMD Rule 105	Emission Statements	09-05-1996	Yes
SMAQMD Rule 108	Minor Violation (not SIP approved)	10-01-1998	No
SMAQMD Rule 201	General Permit Requirements (SIP approved)	11-20-1984	Yes
SMAQMD Rule 201	General Permit Requirements (not SIP approved)	08-24-2006	No
SMAQMD Rule 202	New Source Review (SIP approved)	11-20-1984	Yes
SMAQMD Rule 202	New Source Review (Not SIP approved. SIP approval of 11-20-84 version was withdrawn on 08-19-2011.)	08-23-2012	No
SMAQMD Rule 207	Title V - Federal Operating Permit Program (Not SIP approved but rule is applicable as part of U.S. EPA approval of the SMAQMD Title V program)	07-28-2011	Yes

I. PERMIT SUMMARY

Citation	Description	Rule Adoption Date	Federally Enforceable
SMAQMD Rule 213	Federal Major Modifications (It is not a SIP approved rule, but the requirements within it are part of EPA's NSR reform and are thus federally applicable)	03-23-2006	No
SMAQMD Rule 214	Federal New Source Review	08-23-2012	Yes
SMAQMD Rule 301	Permit Fees - Stationary Source (Not SIP approved but Title V fees in rule applicable as part of U.S. EPA approval of the SMAQMD Title V program)	07-25-2013	Yes (Title V provisions only)
SMAQMD Rule 302	Hearing Board Fees	02-05-1998	No
SMAQMD Rule 306	Air Toxic Fees	05-23-2013	No
SMAQMD Rule 307	Clean Air Act Fees	09-26-2002	Yes
SMAQMD Rule 401	Ringelmann Chart	04-05-1983	Yes
SMAQMD Rule 402	Nuisance	08-03-1977	No
SMAQMD Rule 403	Fugitive Dust	11-29-1983	Yes
SMAQMD Rule 404	Particulate Matter	11-20-1984	Yes
SMAQMD Rule 405	Dust and Condensed Fumes	11-29-1983	Yes
SMAQMD Rule 406	Specific Contaminants	11-29-1983	Yes
SMAQMD Rule 407	Open Burning	11-29-1983	Yes
SMAQMD Rule 412	Stationary Internal Combustion Engines Located at Major Stationary Sources of NOx	06-01-1995	Yes
SMAQMD Rule 420	Sulfur Content of Fuels	11-29-1983	Yes
SMAQMD Rule 441	Organic Solvents	11-29-1983	Yes

I. PERMIT SUMMARY

Citation	Description	Rule Adoption Date	Federally Enforceable
SMAQMD Rule 442	Architectural Coatings (SIP approved)	09-24-2015	Yes
SMAQMD Rule 451	Surface Coating of Miscellaneous Metal Parts and Products	10-28-2010	No
SMAQMD Rule 460	Adhesives and Sealants	11-30-2000	No
SMAQMD Rule 466	Solvent Cleaning	10-28-2010	Yes
SMAQMD Rule 601	Procedure before the Hearing Board (not SIP approved)	02-05-1998	No
SMAQMD Rule 602	Breakdown Conditions: Emergency Variance (not SIP approved)	12-06-1978	No
SMAQMD Rule 801	New Source Performance Standards (not SIP approved)	05-26-2011	No
SMAQMD Rule 904	Airborne Toxic Control Measures	05-24-2018	No
U.S. EPA New Source Performance Standards (NSPS)	NSPS for Stationary Compression Ignition IC Engines 40 CFR 60 Subpart IIII (begin at 60.4200)	07-11-2006 (A)	Yes
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	NESHAP for Reciprocating IC Engines 40 CFR 63 Subpart ZZZZ (begin at 63.6580)	08-20-2010 (A)	Yes
U.S. EPA 40 CFR 68 (begin at 68.1)	Chemical Accident Prevention Provisions 40 CFR 68 (begin at 68.1)	04-09-2004 (A)	Yes
U.S. EPA 40 CFR 82 Subpart F (begin at 82.150)	Protection of Stratospheric Ozone - Recycling and Emissions Reduction 40 CFR 82 Subpart F (begin at 82.150)	04-13-2005 (A)	Yes

(A) Most recent U.S. EPA promulgation date.

I. PERMIT SUMMARY

Future changes in prohibitory rules may establish more stringent requirements that may, at the SMAQMD level, supersede the conditions listed here. For Title V purposes however, the federally enforceable requirements are those found in the Title V permit. Federally enforceable provisions of the Title V permit do not change until the Title V permit is revised.

II. FACILITY DESCRIPTION

Permit Background

Permit Action	Date	Federal Title V Permit No.
Initial Permit issued:	09-13-2011	TV2010-20-01
1st Administrative Amendment	Subsumed*	TV2010-20-01A
2nd Administrative Amendment	Subsumed*	TV2010-20-01B
3rd Administrative Amendment	Subsumed*	TV2010-20-01C
1st Renewal Permit issued:	XX-xx-XXXX	TV2016-20-01
1st Administrative Amendment	Subsumed*	TV2016-20-01A

*Subsumed under permit TV2016-20-01

Current Permitting Action

This first permit renewal action will be assigned the permit number TV2016-20-01. In addition, four administrative amendment (TV2010-20-01A, TV2010-20-01B, TV2010-20-01C, and TV2016-20-01A) were received to update the responsible official.

Since the last permit renewal, RagingWire Enterprise Solutions, Inc. changed their name to RagingWire Data Centers, Inc.

Also as part of this renewal, all permits previously listed under the Future Federally Enforceable requirements section will be moved to the Federally Enforceable Requirements section.

Facility Description

The applicant operates two adjacent facilities that contain data process servers. Data process servers are electronic devices that provide digital storage and computing capabilities. The applicant provides a facility with specific environmental and electrical parameters to house these data process servers. To provide a high reliability of constant environmental and electrical parameters, IC engine driven electric generators are used in the event of loss of usable power from the serving utility. An organization that procures RagingWire Data Centers, Inc.'s services can for a fee place their data process servers at the facility.

In order to provide for the uninterrupted operation of the data servers, as well as HVAC equipment, the facility has installed 40 standby IC engines. An IC engine that is designated standby or emergency is defined as an IC engine that is limited in the numbers of hours it can run to maintain integrity of the system or maintenance, and operate in the event of a power failure, or emergency. These IC engines drive generators that provide power in the event that the serving utility cannot provide adequate quality of power to maintain the integrity of the data process servers or environmental control equipment. Data process servers, as with any electronic equipment optimally run at a constant temperature and humidity, but produce heat. To remove this heat, the applicant has HVAC equipment to accomplish this task, such as cooling towers, air handlers, chillers, and heaters.

II. FACILITY DESCRIPTION

There are two buildings adjacent to each other where the applicant operates the business. One building is at 1200 Striker Ave, Sacramento, CA and the other is 1312 Striker Ave, Sacramento, CA. Since both buildings are located on contiguous properties, the emissions from the buildings will be aggregated and considered one facility. Sixteen IC engines are currently installed at 1200 Striker Ave., Sacramento, CA. In addition, twenty four IC engines are installed at 1312 Striker Ave., Sacramento, CA.

The facility will contain 40 diesel fired IC engines. There are two air pollution control devices to control NOx emissions connected to two of the IC engines. A Selective Catalytic Reduction device, or SCR, is an air emission control device that reduces the amount of NOx emissions from the exhaust of the IC engine by converting it to nitrogen and water in the presence of ammonia. The SCRs were installed to meet SMAQMD Rule 202 Section 301, Best Available Control Technology or BACT requirements. Thirty - seven IC engines meet SMAQMD BACT requirements imposed at the time of application without the addition of emissions control equipment. The IC engine permitted under Permit No. 19408 is restricted in hours of operation in order to not trigger BACT requirements. The IC engines are permitted to operate for a limited amount of hours to preserve the integrity of the specific IC engine or the electrical infrastructure (defined as maintenance) and as well as a disruption in power quality (defined as emergency). The IC engines are typically permitted by SMAQMD to operate 50 hours per year for maintenance. The IC engines are limited by local district permit to operate less than 200 hours per year for both emergency and maintenance per IC engine. The overall facility is permitted by SMAQMD to not exceed 45.5 tons per year of NOx. All the IC engines operate on diesel fuel certified by CARB. Currently, diesel fuel certified by CARB has a sulfur content of 0.0015%.

To be considered emergency equipment and to avoid triggering offsets, SMAQMD Rule 202 Section 110 limits total usage of the IC engine to less than 200 hours per year. The State of California *Air Toxic Control Measure for Stationary Diesel Fueled Engines* (ATCM) limits maintenance and testing of each IC engine to less than 50 hours per year. All the IC engines at the facility are at a minimum compliant with this requirement. There are other limiting factors that limit the operation of the IC engines further below this amount. The applicant has built up the facility through a series of distinct projects. At times the applicant has taken various emission caps.

Maintenance and Support Activities:
These activities are performed for the purpose of maintenance, repair, and upkeep of the facility equipment and grounds. Examples of these types of activities include welding, degreasing, use of lubricants, forklift activity, architectural coating, grounds maintenance, vehicle traffic, work performed by contractors, etc.

Storage Tanks:
This facility stores diesel fuel and other petroleum based products as well as urea.

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

TITLE V PERMIT MODIFICATIONS AND RENEWAL

1. The permit holder must submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for renewal no later than 12 months prior to the expiration date of the Title V permit.
   [SMAQMD Rule 207 Section 301.3]

2. The permit holder must submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for minor Title V permit modification when applicable. The application must be submitted after receiving any required preconstruction permit from the SMAQMD and before commencing operation associated with the Minor Title V permit modification.
   [SMAQMD Rule 207 Section 301.5]

3. The permit holder must submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for Significant Title V permit modification when applicable. The application must not be submitted prior to receiving any required preconstruction permit from the SMAQMD but no later than 12 months after commencing an operation associated with the Significant Title V permit modification. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation.
   [SMAQMD Rule 207 Section 301.6]

4. The permit holder must submit to the SMAQMD Air Pollution Control Officer timely updates to the Title V application as new applicable federal requirements become applicable to the source.
   [SMAQMD Rule 207 Section 302.1]

5. The permit holder must submit to the SMAQMD Air Pollution Control Officer any additional information necessary to correct any incorrect information in the Title V permit application upon becoming aware of such incorrect submittal or if the applicant is notified by the SMAQMD Air Pollution Control Officer of such incorrect submittal.
   [SMAQMD Rule 207 Section 302.2]

6. The permit holder must submit to the SMAQMD Air Pollution Control Officer any additional information relating to the Title V application within 30 days if such information is requested in writing by the SMAQMD Air Pollution Control Officer.
   [SMAQMD Rule 207 Section 302.3]

7. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted and the stationary source complies with SMAQMD Rule 207 Sections 303.1(a), (b), (c), and (d), in which case the existing Title V permit will remain in effect until the Title V permit renewal has been issued or denied.
   [SMAQMD Rule 207 Section 303.2]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

8. Any Title V application form, report, or compliance certification submitted pursuant to a federally enforceable requirement in this permit must contain certification by a responsible official. The certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
   [SMAQMD Rule 207 Section 304]

9. This Title V permit has a 5-year fixed term from the date of issuance. The Title V permit will have a new 5-year fixed term from the date of final action on reopening if the responsible official chooses to submit to the SMAQMD a complete Title V application for renewal upon reopening of the Title V permit pursuant to Sections 411 or 412 of SMAQMD Rule 207, and the Title V permit is renewed according to the administrative procedures listed in SMAQMD Rule 207 Sections 401 through 408.
   [SMAQMD Rule 207 Section 306]

PERMIT COMPLIANCE

10. The permit holder must comply with all conditions of the Title V permit.
    [Basis: SMAQMD Rule 207 Section 305.1(k)(1)]

11. It may not be a defense for a permit holder in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Title V permit.
    [Basis: SMAQMD Rule 207 Section 305.1(k)(2)]

12. This Title V permit may be modified, revoked, reopened and reissued, or terminated for cause.
    [Basis: SMAQMD Rule 207 Section 305.1(k)(3)]

13. The permit holder must furnish to the SMAQMD Air Pollution Control Officer, within a reasonable time, any information that the SMAQMD Air Pollution Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit pursuant to SMAQMD Rule 207 Section 411, or to determine compliance with this Title V permit. Upon request, the permit holder must also furnish to the SMAQMD Air Pollution Control Officer copies of records required to be kept by conditions of this permit or, for information claimed to be confidential, the permit holder may furnish such records directly to the U.S. EPA along with a claim of confidentiality.
    [Basis: SMAQMD Rule 207 Section 305.1(k)(4)]

14. Noncompliance with any federally enforceable requirement in this Title V permit is grounds for Title V permit termination, revocation and reissuance, modification, enforcement action or denial of the Title V permit renewal application. Any violation of the Title V permit will also be a violation of SMAQMD Rule 207.
    [Basis: SMAQMD Rule 207 Section 305.1(k)(5)]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

15. A pending Title V permit action (e.g. a proposed permit revision) or notification of anticipated noncompliance does not stay any permit condition.
[Basis: SMAQMD Rule 207 Section 305.1(k)(6)]

16. This Title V permit does not convey any property rights of any sort or any exclusive privilege.
[Basis: SMAQMD Rule 207 Section 305.1(k)(7)]

17. Upon presentation of credentials and other documents as may be required by law, the permit holder must allow the SMAQMD Air Pollution Control Officer or an authorized representative to perform all of the following:

    A. Enter upon the stationary source's premises where this source is located, where emissions related activity is conducted or where records must be kept under the conditions of this permit;

    B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

    C. Inspect at reasonable times, the stationary source, equipment (including monitoring and air pollution control equipment), practices and operations regulated or required under this permit, and;

    D. As authorized by the Federal Clean Air Act, sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with the permit conditions or applicable federal requirements.

    [Basis: SMAQMD Rule 207 Section 413.1]

REPORTS AND RECORD KEEPING

18. **Monitoring Reports**

    A. The permit holder must submit to the SMAQMD Air Pollution Control Officer at least once every six months, unless required more frequently by an applicable requirement, reports of all required monitoring. All instances of deviations from Title V permit monitoring conditions must be clearly identified in such reports.

    B. The reporting periods for this permit are January 1 through June 30 and July 1 through December 31. The reports must be submitted by July 30 and January 30 of each year respectively.

    C. All required reports must be certified by the responsible official and must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
    [Basis: SMAQMD Rule 207, Section 501.1]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

19. The following records must be continuously maintained onsite for the most recent five year period for each respective unit and must be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly, quarterly and yearly records must be made available within 30 days of the end of the reporting period.
[Basis: SMAQMD Rule 201, Section 302]

Frequency	Information To Be Recorded for Each Respective Engine
When Operated	A. Date and Time. B. Purpose – Either maintenance (M) or Emergency (E) C. Numbers of hours of operation. D. For the IC engine permitted under P/O 19408, number of minutes of operation. E. For IC engine permitted under P/O 19408, if operated for both emergency and maintenance, on the same day, calculation of daily NOx emission, by using calculation found in Condition B-4 Item 2 footnote C.
Monthly	F. Total numbers of hours of operation for each operating mode (hours/month) G. Total NOx emissions based on the rolling average for the year for the facility, 1200 Striker & 1312 Striker Ave.
Quarterly	H. Total numbers of hours of operation for each operating mode (hours/quarter) I. Total emissions per emission cap.
Yearly	J. Total number of hours of operation for each operating mode (hours/year) K. Total emissions per emission cap.
All fuel deliveries	L. Retain fuel purchase records that account for all fuel purchases for use in the IC engines. Fuel purchase records must include: i. Identification of type of fuel (ie. Carb Diesel, alternative diesel, ect.). ii. Quantity of fuel purchased. iii. Signature of person receiving fuel. iv. Signature of fuel provider indicating that fuel was delivered.

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

Frequency	Information To Be Recorded for Each Respective Engine
All times	M. The following records must be maintained at all times: i. Permit number of each stationary IC engine. ii. Manufacturer, model number and rating in horse power of each stationary IC engine. iii. If testing, maintain copies of most recent emission tests including data and results reported as ppmv NOx @15% O2 and pounds NOx per unit time.

20. **Compliance Reports**

A. The permit holder must submit to the SMAQMD Air Pollution Control Officer and U.S. EPA (Air-3, U.S. EPA, Region IX) on an annual basis, unless required more frequently by additional applicable federal requirements such as Section 114(a)(3) and 504(b) (42 U.S.C. Sections 7414(a)(3) and 7661c(b)) of the Federal Clean Air Act, a certification of compliance by the responsible official with all terms and conditions contained in the Title V permit, including emission limitations, standards and work practices.

B. The reporting period for this permit is January 1 through December 31. The report must be submitted by January 30 of each year.

C. All required reports must be certified by the responsible official and must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

D. The compliance certification must include the following:

i. The identification of each term or condition of the Title V permit that is the basis of the certification.

ii. The method(s) used for determining the compliance status of the source, currently and over the reporting period, and whether such method(s) provides continuous or intermittent data.

iii. The status of compliance with the terms and conditions of the Title V permit for the period covered by the certification, based on the method designated in Section D(ii) of this condition.

iv. Such other facts as the SMAQMD Air Pollution Control Officer may require to determine the compliance status of the source.

v. In accordance with SMAQMD Rule 207 Section 305, a method for monitoring the compliance of the stationary source with its emissions limitations, standards and work practices.

[Basis: SMAQMD Rule 207 Section 413.4]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

21. The permit holder must notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes any emergency, as defined in SMAQMD Rule 207 Section 212, as soon as reasonably possible, but no later than one hour after its detection. If the emergency occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, the report of the emergency must be made at the commencement of the next regular working day. The notification must identify the time, specific location, equipment involved and, to the extent known, the cause(s) of the occurrence.
    [Basis: SMAQMD Rule 207 Section 212 & 501.2]

22. The permit holder must report within 24 hours of detection any deviation from a federally enforceable Title V permit condition not attributable to an emergency. In order to fulfill the reporting requirement of this condition, the permit holder must notify the SMAQMD Air Pollution Control Officer by telephone followed by a written statement describing the nature of the deviation from the federally enforceable permit condition.
    [Basis: SMAQMD Rule 207 Section 501.3]

23. All monitoring data and support information required by a federally enforceable applicable requirement must be kept by the stationary source for a period of 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by the federally enforceable applicable requirement in the Title V permit.
    [Basis: SMAQMD Rule 207 Section 502.3]

RINGELMANN CHART

24. Except as otherwise provided in SMAQMD Rule 401 Section 100, the permit holder must not discharge into the atmosphere, from any single source of emission whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is:

    A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
    B. Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than No. 1 on the Ringelmann Chart.

    [Basis: SMAQMD Rule 401 Section 301]

PARTICULATE MATTER

25. The permit holder must take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions may include, but are not limited to:

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.

B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which can give rise to airborne dusts.

C. Other means approved by the SMAQMD Air Pollution Control Officer.
[Basis: SMAQMD Rule 403 Section 301]

26. Except as otherwise provided in SMAQMD Rule 406, the permit holder must not discharge into the atmosphere, from any source, particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot).
[Basis: SMAQMD Rule 404 Section 301]

27. The permit holder must not discharge into the atmosphere in any one hour from any source whatsoever dust or condensed fumes in total quantities in excess of the amount shown in the "Table for Process Weight and Allowable Discharge" of SMAQMD Rule 405.
[Basis: SMAQMD Rule 405 Section 301]

28. The permit holder must not discharge into the atmosphere particulate matter from the burning of any kind of material containing carbon in a free or combined state, from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas calculated to 12% carbon dioxide (CO2) at standard conditions.
[Basis: SMAQMD Rule 406 Section 302]

SULFUR COMPOUNDS

29. The permit holder must not discharge into the atmosphere, from any single source of emission whatsoever, sulfur compounds, in any state or combination thereof, exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO2): 0.2% by volume.
[Basis: SMAQMD Rule 406 Section 301]

30. Except as otherwise provided in SMAQMD Rule 420 Section 110, the permit holder must not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight.
[Basis: SMAQMD Rule 420 Section 301]

ARCHITECTURAL COATING AND SOLVENT CLEANING

31. Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs, must meet the requirements of SMAQMD Rule 442.
[Basis: SMAQMD Rule 442]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

32. All VOC-containing materials must be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired. **[SMAQMD Rule 442 Section 304]**

33. The permit holder must comply with the requirements of SMAQMD Rule 466 Solvent Cleaning when using volatile organic compounds for the cleanup of architectural coating application equipment or for other applications of solvent cleaning at the facility. **[SMAQMD Rule 466]**

34. The permit holder must keep a record of all architectural coatings purchased that are not clearly labeled as complying with the VOC content limits contained in SMAQMD Rule 442. Compliance in these cases can be determined by maintaining records of the manufacturer's certifications or by Material Safety Data Sheets (MSDS) that demonstrate compliance with the VOC limits of SMAQMD Rule 442. **[SMAQMD Rule 442 and SMAQMD Rule 207 Section 305]**

COMPLIANCE

35. Compliance with the conditions of the Title V permit will be deemed compliance with all applicable requirements identified in the Title V permit. **[Basis: SMAQMD Rule 207 Section 307]**

EQUIPMENT BREAKDOWNS

36. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the following conditions are met:

    A. The affirmative defense of an emergency must be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

        i. An emergency occurred and that the permit holder can identify the cause(s) of the emergency.

        ii. The permitted facility was at the time being properly operated.

        iii. During the period of the emergency the permit holder took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Title V permit.

        iv. The permit holder submitted notice of the emergency to the SMAQMD Air Pollution Control Officer within two working days of the time when emissions limitations were exceeded due to the emergency. The notice must contain a description of the emergency and corrective actions taken.

    B. In any enforcement proceedings, the permit holder seeking to establish the occurrence of an emergency has the burden of proof.

    [Basis: SMAQMD Rule 207 Section 414]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

37. The permit holder must notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes an emergency as defined in SMAQMD Rule 207 Section 212 as soon as reasonably possible, but no later than one hour after its detection. If the emergency occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, their report of the emergency must be made at the commencement of the next regular working day. The notification must identify the time, specific location, equipment involved and to the extent known, the cause(s) of the occurrence.
[Basis: SMAQMD Rule 207 Section 501.2]

PAYMENT OF FEES

38. The fee for (1) the issuance of a Title V operating permit, (2) the annual renewal and inspection of a Title V operating permit, (3) the modification of a Title V operating permit or (4) an administrative Title V permit amendment must be assessed in accordance with SMAQMD Rule 301, Section 313.
[SMAQMD Rule 207 Section 305.7 and SMAQMD Rule 301 Section 313]

39. After the provisions for granting permits as set forth in SMAQMD Rule 207 have been complied with, the permit holder will be notified by mail of the fee due and payable and the date the fee is due. If the fee is not paid by the specified due date, the fee will be increased by one half the amount and the applicant/permit holder will be notified by mail of the increased fee. If the increased fee is not paid within 30 days after notice the application/permit will be canceled and the applicant/permit holder will be notified by mail.
[Basis: SMAQMD Rule 207 Section 305.7 and Rule 301 Section 401]

CLEAN AIR ACT FEES

40. After the U.S. EPA determines that the SMAQMD has failed to demonstrate attainment of the one hour ozone ambient air quality standard by the attainment year, the permit holder, operating any major stationary source of VOC or NOx, must pay the Clean Air Act fees specified by the SMAQMD Air Pollution Control Officer in accordance with SMAQMD Rule 307.
[Basis: SMAQMD Rule 307]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

EMISSION STATEMENTS

41. The permit holder, when operating any stationary source that emits 25 tons or more per year of VOC or NOx of actual emissions, must annually provide the SMAQMD Air Pollution Control Officer with a written emission statement showing actual emissions of VOC and NOx from that source.
[Basis: SMAQMD Rule 105]

ACCIDENTAL RELEASES

42. If subject to Section 112(r) of the Federal Clean Air Act and 40 CFR 68, the permit holder must register and submit to the U.S. EPA the required data related to the risk management plan (RMP) for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the Federal Clean Air Act as amended in 40 CFR 68.130. The list of substances, threshold quantities and accident prevention regulations promulgated under 40 CFR 68 do not limit in any way the general duty provisions under Section 112(r)(1) of the Federal Clean Air Act.
[Basis: 40 CFR Part 68]

43. If subject to Section 112(r) of the Federal Clean Air Act and 40 CFR 68, the permit holder must comply with the requirements of 40 CFR Part 68 no later than the latest of the following dates as provided in 40 CFR 68.10(a):

    A. June 21, 1999,

    B. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or

    C. The date on which a regulated substance is first present above a threshold quantity in a process.

    [Basis: 40 CFR 68]

44. If subject to Section 112(r) of the Federal Clean Air Act and 40 CFR 68, the permit holder must submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR 68.
[Basis: 40 CFR 68]

45. If subject to Section 112(r) of the Federal Clean Air Act and 40 CFR 68, the permit holder must annually certify compliance with all applicable requirements of Section 112(r) of the Federal Clean Air Act as part of the annual compliance certification as required by SMAQMD Rule 207 Section 413.4.
[Basis: 40 CFR 68]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES)

46. The permit holder, when opening appliances containing CFCs for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
[Basis: 40 CFR 82 Subpart F]

47. Equipment used during the maintenance, service, repair, or disposal of appliances containing CFCs must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
[Basis: 40 CFR 82 Subpart F]

48. The permit holder, when performing maintenance, service, repair or disposal of appliances containing CFCs must be certified by an approved technician certification program pursuant to 40 CFR 82.161.
[Basis: 40 CFR 82 Subpart F]

EMISSION LIMITATIONS

49. The permit holder must not exceed the following emissions limitations:
[Basis: SMAQMD Rule 201, Section 302]

Equipment	**NOx Emission Limit**
Permitted IC engines located at 1200 Striker Ave & 1312 Striker Ave, quantity 40 IC engines.	45.5 tons (91,000 lbs) of NOx per rolling 12 month period.
Permitted IC engines located at 1312 Striker Ave, quantity 24 IC engines.	24.4 tons (48,800 lbs) of NOx per rolling 12 month period.
Permitted IC engines located at 1200 Striker Ave, quantity 16 IC engines.	24.4 tons (48,800 lbs) of NOx per rolling 12 month period.
IC engines permitted under SMAQMD permits 19408, 19409, 19410.	5,000 lbs of NOx emissions per quarter.
IC engines permitted under SMAQMD permits 20279, 20280, 20282, 20283, 20284, 20285, 20286, 20287, 20288.	5,000 lbs of NOx emissions per quarter.

EQUIPMENT OPERATION

50. Each IC engine may only be fueled with a CARB-approved diesel fuel or a fuel that meets the CARB requirements in 17 CCR Section 93115.5.
[Basis: SMAQMD Rule 201, Section 303.1]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

51. Each IC engine must be equipped with a non-resetting hour meter with a minimum display capability of 9,999.
[Basis: SMAQMD Rule 201, Section 303.1 and 405]

52. To determine whether the engine complies with opacity requirements, the Air Pollution Control Officer or designee may require the permit holder to operate each IC engine during a SMAQMD inspection. The inspection will be conducted during daylight hours, and each IC engine must be operated at maximum anticipated load and from a cold start condition.
[Basis: SMAQMD Rule 201, Section 405]

53. Unless authorized by SMAQMD, for purposes other than emergency operation, only one IC engine may operate at any single time at 1312 Striker Ave and 1200 Striker Ave. The following exclusions apply to this condition
a) Facility wide operational test where all or some of the engines operate at the same time occurring no more often than once every calendar year and for less than 30 minutes
b) Electrical infrastructure upgrades or repairs requiring multiple IC engines to operate.
[Basis: SMAQMD Rule 201, Section 302]

IV. *NON*-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

APPLICABILITY:

1. The requirements outlined in this section pertain to the SMAQMD Rule 201 Permits to Operate and are not part of the Title V permit.
   [Basis: General Rule limitation]

SMAQMD RULE 201 PERMIT RENEWAL

2. Permits to Operate issued to RagingWire Data Centers, Inc., pursuant to SMAQMD Rule 201 (non-Title V Permits to Operate), must be renewed annually on January 23 and upon payment of the permit renewal fee established pursuant to SMAQMD Rule 301.
   [Basis: SMAQMD Rule 301]

3. The SMAQMD Air Pollution Control Officer must review every SMAQMD Rule 201 Permit to Operate upon annual renewal, pursuant to California Health and Safety Code Section 42301(c), to determine that permit conditions are adequate to ensure compliance with, and the enforceability of, SMAQMD rules and regulations applicable to the article, machine, equipment or contrivance for which the permit was issued. Applicable SMAQMD rules and regulations must include those which were in effect at the time the permit was issued or modified, or which have subsequently been adopted and made retroactively applicable to an existing article, machine, equipment or contrivance, by the SMAQMD Board of Directors. The SMAQMD Air Pollution Control Officer must revise the conditions, if such conditions are not consistent, in accordance with all applicable SMAQMD rules and regulations.
   [Basis: California Health and Safety Code Section 42301(c)]

GENERAL

4. The SMAQMD Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials must be permitted:

   A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit to operate.

   B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate.

   C. To inspect any equipment, operation, or method required in this Permit to Operate.

   D. To sample emissions from the source or require samples to be taken.
   [Basis: SMAQMD Rule 201, Section 405]

5. Legible copies of all SMAQMD Rule 201 permits must be maintained on the premises with the equipment.
   [Basis: SMAQMD Rule 201, Section 401]

6. The facility may not discharge air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which

IV. *NON*-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
[Basis: SMAQMD Rule 402, Section 301]

EQUIPMENT OPERATION

7. The equipment must be properly maintained and operated in accordance with the information submitted with the application and the manufacturer's recommendations at all times.
[Basis: SMAQMD Rule 201, Section 405 and Rule 202, Section 408.1]

8. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3 of the Health and Safety Code of the State of California or the Rules and Regulations of the SMAQMD.
[Basis: SMAQMD Rule 201, Sections 303.1, 405]

9. The exhaust stack of each IC engine must exit vertically and must not be obstructed during engine operation. A flapper-type rain cap is permitted provided it does not impede the vertical exhaust flow. Stack height and diameter must be consistent with any health risk assessment performed.
[Basis: SMAQMD Rule 201, Section 405 and Rule 402, Section 301]

EQUIPMENT BREAKDOWNS:

10. The permit holder must notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes a breakdown, as defined in SMAQMD Rule 602 Section 201, as soon as reasonably possible, but no later than one hour after its detection. If the breakdown occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, the report of breakdown must be made at the commencement of the next regular working day. The notification must identify the time, specific location, equipment involved and, to the extent known, the cause(s) of the occurrence.
[Basis: SMAQMD Rule 602]

11. Upon notification of the breakdown condition, the SMAQMD Air Pollution Control Officer must investigate the breakdown condition in accordance with uniform written procedures and guidelines relating to logging of initial reports on appropriate forms, investigation, and enforcement follow-up. If the occurrence does not constitute a breakdown condition, the SMAQMD Air Pollution Control Officer may take appropriate enforcement action.
[Basis: SMAQMD Rule 602]

12. An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period is 96 hours) will constitute a violation of any applicable emission limitation or restriction prescribed by the SMAQMD Rules and Regulations; however, the SMAQMD Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to his satisfaction that a breakdown condition exists and the following requirements are met:

IV. *NON*-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

A. The notification required in SMAQMD Rule 602 Section 301.1 is made; and

B. Immediate appropriate corrective measures are undertaken and compliance is achieved, or the process is shutdown for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment for which the period is 96 hours). If the owner or operator elects to shut down, rather than come into immediate compliance, (s)he must nonetheless take whatever steps are possible to minimize the impact of the breakdown within the 24 hour period; and

C. The breakdown does not interfere with the attainment and maintenance of any national ambient air quality standard.

[Basis: SMAQMD Rule 602]

13. An occurrence which constitutes a breakdown condition must not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period is 96 hours), unless an emergency variance has been obtained.
[Basis: SMAQMD Rule 602]

14. If the breakdown condition will either require more than 24 hours to correct or persists longer than the end of the production run (except for continuous air pollution monitoring equipment, for which the period is 96 hours) the owner or operator may, in lieu of shutdown, request the SMAQMD Air Pollution Control Officer to commence the emergency variance procedure set forth in SMAQMD Rule 602 Section 304.
[Basis: SMAQMD Rule 602]

15. No emergency variance will be granted unless the chairperson of the SMAQMD Hearing Board or other designated member(s) of the SMAQMD Hearing Board finds that:

A. The occurrence constitutes a breakdown condition;

B. Continued operation is not likely to create an immediate threat or hazard to public health or safety; and

C. The requirements for a variance set forth in California Health & Safety Code Sections 42352 and 42353 have been met;

D. The continued operation in a breakdown condition will not interfere with the attainment or maintenance of the national ambient air quality standards.

[Basis: SMAQMD Rule 602]

16. At any time after an emergency variance has been granted, the SMAQMD Air Pollution Control Officer may request for good cause that the chairperson or designated member(s) reconsider and revoke, modify or further condition the variance. The procedures set forth in SMAQMD Rule 602 Section 304.1 govern any further proceedings conducted under this request.
[Basis: SMAQMD Rule 602]

IV. *NON*-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

17. An emergency variance will remain in effect only for as long as necessary to repair or remedy the breakdown condition, but in no event after a properly noticed hearing to consider an interim or 90 day variance has been held, or 15 days from the date of the subject occurrence, whichever is sooner.
    [Basis: SMAQMD Rule 602]

18. Within one week after a breakdown condition has been corrected, the owner or operator must submit a written report to the SMAQMD Air Pollution Control Officer on forms supplied by the SMAQMD Air Pollution Control Officer describing the causes of the breakdown, corrective measures taken, estimated emissions during the breakdown and a statement that the condition has been corrected, together with the date of correction and proof of compliance. The SMAQMD Air Pollution Control Officer may, at the request of the owner or operator for good cause, extend up to 30 days the deadline for submittal of the report described in this subsection.
    [Basis: SMAQMD Rule 602]

19. The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown did occur. If the owner or operator fails to provide sufficient information, the SMAQMD Air Pollution Control Officer will undertake appropriate enforcement action.
    [Basis: SMAQMD Rule 602]

20. Any failure to comply, or comply in a timely manner, with the reporting requirements established in SMAQMD Rule 602 Sections 301.1 and 401 will constitute a separate violation of SMAQMD Rule 602.
    [Basis: SMAQMD Rule 602]

21. It will constitute a separate violation of SMAQMD Rule 602 for any person to file with the SMAQMD Air Pollution Control Officer a report which falsely, or without probable cause, claims that an occurrence is a breakdown condition.
    [Basis: SMAQMD Rule 602]

22. Severability - if any provision, clause, sentence, paragraph, section or part of these conditions for any reason is judged to be unconstitutional or invalid, such judgment will not affect or invalidate the remainder of these conditions.
    [Basis: SMAQMD Rule 101]

ARCHITECTURAL COATING

23. Unless applied by an aerosol can or contained within a volume of one liter or less any person who supplies, sells, offers for sale or manufactures any architectural coating for use within the District, as well as any person who applies or solicits the application of any architectural coating within the District must meet the requirements of SMAQMD Rule 442.
    [Basis: SMAQMD Rule 442 (05-24-2001 version)]

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified under the following sections apply to the following equipment:

1. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 15495
Manufacturer:	Caterpillar
Model No.	3516B
Serial No.	6HN01216
Engine BHP:	2,876 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2000
Tier:	Tier 1
EPA Family No.	YCPXL69.OERK (From CARB Executive order U-R-1-103)
Location:	1200 Striker Ave.

2. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 15963
Manufacturer:	Caterpillar
Model No.	3516B
Serial No.	6HN01330
Engine BHP:	2,876 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2000
Tier:	Tier 1
EPA Family No.	YCPXL69.OERK (From CARB Executive order U-R-1-103)
Location:	1200 Striker Ave.

3. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 19104
Manufacturer:	Caterpillar
Model No.	3516B
Serial No.	6HN.1254
Engine BHP:	2,876 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2000
Tier:	Tier 1
EPA Family No.	YCPXL69.OERK (From CARB Executive order U-R-1-103)
Location:	1200 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

4. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 19409
Manufacturer:	Cummins
Model No.	XQSK60-G6 Non Road 1
Serial No.	33163718
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2006
Tier:	Tier 1
EPA Family No.	5CEXL060.ABA
Location:	1200 Striker Ave.

Exhausted through SCR APC device (P/O 19585) to meet BACT standards

5. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 19410
Manufacturer:	Cummins
Model No.	XQSK60-G6 Non Road 1
Serial No.	33163622
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2006
Tier:	Tier 1
EPA Family No.	5CEXL060.ABA
Location:	1200 Striker Ave.

Exhausted through SCR APC device (P/O 19586) to meet BACT standards

6. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 19408
Manufacturer:	Cummins
Model No.	2000DQKC
Serial No.	C040616638
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2004
Tier:	Tier 1
EPA Family No.	5CEXL060.ABA
Location:	1200 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

7. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20279
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33167241
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060AAD
Location:	1200 Striker Ave.

8. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20280
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33167380
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060AAD
Location:	1200 Striker Ave.

9. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20282
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	75779-93
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060AAD
Location:	1200 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

10. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20283
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	75779-94
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060AAD
Location:	1200 Striker Ave.

11. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20284
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33176023
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2008
Tier:	Tier 2
EPA Family No.	8CEXL060.AAD
Location:	1200 Striker Ave.

12. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20285
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33175727
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2008
Tier:	Tier 2
EPA Family No.	8CEXL060.AAD
Location:	1200 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

13. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20286
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33173817
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2008
Tier:	Tier 2
EPA Family No.	8CEXL060.AAD
Location:	1200 Striker Ave.

14. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20287
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33175193
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2008
Tier:	Tier 2
EPA Family No.	8CEXL060.AAD
Location:	1200 Striker Ave.

15. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 20288
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33170830
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060AAD
Location:	1200 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

16. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21579
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33175768
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2008
Tier:	Tier 2
EPA Family No.	8CEXL060.AAD
Location:	1200 Striker Ave.

17. SELECTIVE CATALYTIC REDUCTION AIR POLLUTION CONTROL DEVICE

Permit No.: P/O 19585
Controlling emission from IC engine 19409
Location: 1200 Striker Ave.

18. SELECTIVE CATALYTIC REDUCTION AIR POLLUTION CONTROL DEVICE

Permit No.: P/O 19586
Controlling emission from IC engine 19410
Location: 1200 Striker Ave.

19. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21352
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33170876
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

20. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21366
Manufacturer:	Cummins
Model No.	QSKTA60-GE
Serial No.	33171019
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2007
Tier:	Tier 2
EPA Family No.	7CEXL060.AAD
Location:	1312 Striker Ave.

21. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21367
Manufacturer:	Cummins
Model No.	QSKTA60-G6
Serial No.	33183408
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2010
Tier:	Tier 2
EPA Family No.	ACEXL060.AAD
Location:	1312 Striker Ave.

22. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21368
Manufacturer:	Cummins
Model No.	QSKTA60-G6
Serial No.	33176889
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2008
Tier:	Tier 2
EPA Family No.	8CEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

23. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21369
Manufacturer:	Cummins
Model No.	QSKTA60-G9
Serial No.	33183548
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2010
Tier:	Tier 2
EPA Family No.	ACEXL060.AAD
Location:	1312 Striker Ave.

24. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21370
Manufacturer:	Cummins
Model No.	QSKA60-G6
Serial No.	33187888
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2011
Tier:	Tier 2
EPA Family No.	BCEXL060.AAD
Location:	1312 Striker Ave.

25. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21371
Manufacturer:	Cummins
Model No.	QSKA60-G6
Serial No.	33192834
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

26. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 21372
Manufacturer:	Cummins
Model No.	QSKA60-G6
Serial No.	33193284
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

27. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22348
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	61113-343
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

28. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22349
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33196078
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

29. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22350
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33196316
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

30. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22351
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33196301
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

31. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22352
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198190
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

32. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22353
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33197570
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

33. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22354
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33197808
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

34. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22355
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198524
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

35. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22356
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198266
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

36. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22357
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33197558
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

37. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22358
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33197997
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2013
Tier:	Tier 2
EPA Family No.	DCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

38. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22359
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33197860
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

39. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22360
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198332
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

40. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22361
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198010
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC REQUIREMENTS – EQUIPMENT LIST

41. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22362
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198596
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

42. IC ENGINE, EMERGENCY USE

Permit No.:	P/O 22363
Manufacturer:	Cummins
Model No.	QSK60-G6
Serial No.	33198517
Engine BHP:	2,922 bhp @ 1,800 RPM
Fuel Type:	CARB diesel
Driving:	Electrical generator
Model Year:	2012
Tier:	Tier 2
EPA Family No.	CCEXL060.AAD
Location:	1312 Striker Ave.

V. EQUIPMENT SPECIFIC – REQUIREMENTS IC ENGINE, EMERGENCY USE (P/O 15495) 1200 STRIKER AVE.

B-1. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from the IC engine (P/O 15495) may not exceed the following limits:
[Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1	1,268	1,268
NOx	6.9	8,750	8,750
SOx	0.16	209	209
PM10	0.4	507	507
CO	8.5	10,779	10,779

(A) Emission factor for NOx, VOC, PM10, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.05% sulfur by weight in the fuel.
(B) Emissions based on 2876 hp, 200 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engine (P/O 15495) may operate only for the following purposes and must not operate more than the following hours.
[Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation	
	hours/quarter	hours/year
Maintenance Purposes (A)	30	30
All Operation – Maintenance and Emergency (B)	200	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator, the facility's electrical distribution system or when required by SMAQMD to verify compliance with applicable rules and regulations.
(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

V. EQUIPMENT SPECIFIC – REQUIREMENTS IC ENGINE, EMERGENCY USE (P/O 15963) 1200 STRIKER AVE.

B-2. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from the IC engine (P/O 15963) may not exceed the following limits:
   [Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1	1,087	1,268
NOx	6.9	7,499	8,750
SOx	0.16	174	203
PM10	0.1	109	129
CO	8.5	9,237	10,779

(A) Emission factor for NOx, VOC, PM10, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.05% sulfur by weight in the fuel.
(B) Emissions based on 2876 hp, 171.4 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engine (P/O 15963) may operate only for the following purposes and must not operate more than the following hours.
   [Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation	
	hours/quarter	hours/year
Maintenance Purposes (A)	50	50
All Operation – Maintenance and Emergency (B)	171.4	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator, the facility's electrical distribution system or when required by SMAQMD to verify compliance with applicable rules and regulations.
(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

V. EQUIPMENT SPECIFIC – REQUIREMENTS IC ENGINE, EMERGENCY USE (P/O 19104) 1200 STRIKER AVE.

B-3. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from the IC engine (P/O 19104) may not exceed the following limits:
[Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1	634	1,268
NOx	6.9	4,375	8,750
NOx + VOC	6.9	4,375	8,750
SOx	0.16	101	203
PM10	0.149	94	189
CO	8.5	5,389	10,779

(A) Emission factor for NOx, VOC, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.05% sulfur by weight in the fuel. PM10 based on SMAQMD T-BACT standard.
(B) Emissions based on 2,876 hp, 100 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engine (P/O 19104) may operate only for the following purposes and must not operate more than the following hours.
[Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation	
	hours/quarter	hours/quarter
Maintenance Purposes (A)	50	50
All Operation – Maintenance and Emergency (B)	100	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator, the facility's electrical distribution system or when required by SMAQMD to verify compliance with applicable rules and regulations.
(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

V. EQUIPMENT SPECIFIC – REQUIREMENTS IC ENGINE, EMERGENCY USE (P/O 19408) 1200 STRIKER AVE.

B-4. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from the IC engine (P/O 19408) may not exceed the following limits: **[Basis: SMAQMD Rule 202]**

Pollutant	Emission factor (A) g/hp-hr	Emission Limits			
		lb/day Maintenance operation (1/4 load) (E)	lb/day Emergency operation (full load) (F)	lb/qtr (C)	lb/year (D)
VOC	1	1.3	1.3	119	474
NOx	6.9	8.9	8.9	818	3,271
		Maintenance plus emergency operation cannot exceed 9.9 lb/day			
SOx	0.1645	0.003	0.003	0.4	0.9
PM10	0.149	0.2	0.2	18	71
CO	8.5	11	11	1,007	4,030

(A) Emission factors for VOC, NOx, and CO emission factor are based on U.S. EPA tier 1 emission standards. PM10 emission factor is based on T-BACT standards. SOx emission factor is based upon fuel with 0.05% sulfur by weight.
(B) Not used.
(C) Maximum calculated by assuming in a given quarter the maximum emissions occur when the IC engine is run for emergency purposes. 12 min/day 92 days/quarter 2922 hp.
(D) Maximum calculated by assuming in a given year the maximum emissions occur when the IC engine is run for emergency purposes 2,922 hp 12 min/day 92 days/quarter 4 quarters/year.
(E) Maintenance operation load emissions are based on 731 hp 48 min/day .
(F) Emergency operation load emissions are based on 2,922 hp 12 min/day.

V. EQUIPMENT SPECIFIC – REQUIREMENTS IC ENGINE, EMERGENCY USE (P/O 19408) 1200 STRIKER AVE.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engine (P/O 19408) may operate only for the following purposes and must not operate more than the following hours:
[Basis: SMAQMD Rule 202]

Type Of Operational Hours	Maximum Allowable Operation		
	minutes/day	hours/quarter	hours/year
Maintenance purposes (A)	48	50	50
Actual interruption of power by the serving utility	12	18.4	73.6
All operation - maintenance, actual interruption of power by the serving utility (B), and source testing	See footnote (C)	50	122

(A) Maintenance purposes is defined as: the operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator or the facility's electrical distribution system

(B) Actual interruption of power is defined as: when electrical service from the serving utility is interrupted by an unforeseeable event.

(C) The IC engine must not exceed 9.9 lbs per day of emissions as calculated by the following formula:

$$(0.1853*m) + (0.741*e) < 9.9$$

m = Minutes of maintenance operation

e = Minutes of emergency operation

3. The IC engine must not be operated for maintenance purposes under loads greater than ¼ of the IC engine output (731 HP output)
[Basis: SMAQMD Rule 202]

V. EQUIPMENT SPECIFIC – REQUIREMENTS

(2) IC ENGINES, EMERGENCY USE (P/O 19409, 19410)
(2) APC DEVICES - SCR UNIT (P/O 19585, 19586)
1200 STRIKER AVE.

B-5. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from each IC engine (P/O 19409 & 19410) may not exceed the following limits.
   [Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1	1,031	1,288
NOx	4.8	4,947	6,184
NOx + VOC	4.8	4,947	6,184
SOx	0.16	170	212
PM10	0.15	155	193
CO	2.6	2,680	3,349

(A) Emission factor for NOx, VOC, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.005% sulfur by weight in the fuel. PM10 based on SMAQMD T-BACT standard.
(B) Emissions based on 2,922 hp, 160 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engines (P/O 19409 & 19410) may operate only for the following purposes and must not operate more than the following hours.
   [Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation for Each Engine	
	hours/quarter	hours/quarter
Maintenance Purposes (A)	50	50
All Operation – Maintenance and Emergency (B)	160	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator. The facility's electrical distribution

V. EQUIPMENT SPECIFIC – REQUIREMENTS

(2) IC ENGINES, EMERGENCY USE (P/O 19409, 19410)
(2) APC DEVICES - SCR UNIT (P/O 19585, 19586)
1200 STRIKER AVE.

system or when required by SMAQMD to verify compliance with applicable rules and regulations.

(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

3. The APC SCR unit (P/O 19585) must be operational at all times when the IC engine (P/O 19409) is in operation.
[Basis: SMAQMD Rule 202]

4. The APC SCR unit (P/O 19586) must be operational at all times when the IC engine (P/O 19410) is in operation.
[Basis: SMAQMD Rule 202]

5. A minimum of 10 gallons of urea must be stored for each SCR unit at all times.
[Basis: SMAQMD Rule 202]

6. Each IC engine (P/O 19409 & 19410) may not be operated at less than 10% load.
[Basis: SMAQMD Rule 202]

TESTING REQUIREMENTS

7. A NOx and VOC source test for each engine must be conducted every fifth year starting in 2012 to ensure compliance with the emission limit. Each source test must be conducted under the following conditions:

   A. A source test plan must be submitted for written approval at least 30 days prior to the source test date.
      i. Include a detailed description and diagram of sampling equipment.
      ii. All ports must be located and constructed as per applicable U.S. EPA or CARB requirements. Please specify that the flow measurements and sampling ports locations will be at least 8 pipe diameters downstream and 2 pipe diameters upstream from any flow disturbance such as a bend or t. Inlet samples and flow rate locations must be taken downstream of all inlet flows such as dilution air inlets
   B. SMAQMD must be notified of the date and time of the source test at least seven days prior to the source test date
   C. The IC engine must be operated as close as physically possible to its rated power output during the source test. A resistive load bank must be used to meet the load requirement. Other loading requirements may apply.
   D. A written source test report must be submitted within 60 days of the test date.
   [Basis: SMAQMD Rule 202]

V. EQUIPMENT SPECIFIC – REQUIREMENTS (10) IC ENGINES, EMERGENCY USE (P/O 20279, 20280, 20282-20288, 21579) 1200 STRIKER AVE.

B-6. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from each IC engine (P/O 20279, 20280, 20282 – 20288, 21579) may not exceed the following limits:
   [Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1.0	1,037	1,288
NOx	4.8	4,978	6,184
NOx + VOC	4.8	4,978	6,184
SOx	0.005	5	7
PM10	0.15	155	192
CO	2.6	2,697	3,350

(A) Emission factor for NOx, VOC, PM10, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.0015% sulfur by weight in the fuel.
(B) Emissions based on 2,922 hp, 161 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engines (P/O 20279, 20280, 20282 – 20288, 21579) may operate only for the following purposes and must not operate more than the following hours.
   [Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation for Each Engine	
	hours/quarter	hours/quarter
Maintenance Purposes (A)	50	50
All Operation – Maintenance and Emergency (B)	161	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator, the facility's electrical distribution system or when required by SMAQMD to verify compliance with applicable rules and regulations.
(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

V. EQUIPMENT SPECIFIC – REQUIREMENTS (5) IC ENGINES, EMERGENCY USE (P/O 21352, 21366 - 21369) 1312 STRIKER AVE.

B-7. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from each IC engine (P/O 21352, 21366 - 21369) may not exceed the following limits
[Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1.0	1,288	1,288
NOx	4.8	6,184	6,184
NOx + VOC	4.8	6,184	6,184
SOx	0.005	7	7
PM10	0.15	192	192
CO	2.6	3,350	3,350

(A) Emission factor for NOx, VOC, PM10, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.0015% sulfur by weight in the fuel.
(B) Emissions based on 2922 hp, 200 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engines (P/O 21352, 21366 - 21369) may operate only for the following purposes and must not operate more than the following hours.
[Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation for Each Engine	
	hours/quarter	hours/quarter
Maintenance Purposes (A)	50	50
All Operation – Maintenance and Emergency (B)	200	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator, the facility's electrical distribution system or when required by SMAQMD to verify compliance with applicable rules and regulations.
(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

V. EQUIPMENT SPECIFIC – REQUIREMENTS (19) IC ENGINES, EMERGENCY USE (P/O 21370 – 21372, 22348 - 22363) 1312 STRIKER AVE.

B-8. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the SMAQMD, U.S. EPA, and the public.

EMISSIONS LIMIT REQUIREMENTS

1. The emissions from each IC engine (P/O 21370 - 21372, 22348 - 22363) may not exceed the following limits:
   [Basis: SMAQMD Rule 202]

Pollutant	Emission Factor (A) grams/hp-hr	Emission Limits (B)	
		lb/quarter	lb/year
VOC	1.0	1,288	1,288
NOx	4.8	6,184	6,184
NOx + VOC	4.8	6,184	6,184
SOx	0.005	7	7
PM10	0.15	192	192
CO	2.6	3,350	3,350

(A) Emission factor for NOx, VOC, PM10, and CO from the emission standards for this size IC engine. SOx emission factor based on 0.0015% sulfur by weight in the fuel.
(B) Emissions based on 2,922 hp, 200 hours/quarter and 200 hours/year of operation.

EQUIPMENT OPERATION REQUIREMENTS

2. The IC engines (P/O 21370 - 21372, 22348 - 22363) may operate only for the following purposes and must not operate more than the following hours.
   [Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation for Each Engine	
	hours/quarter	hours/quarter
Maintenance Purposes (A)	50	50
All Operation – Maintenance and Emergency (B)	200	200

(A) Maintenance purposes is defined as: The operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator, the facility's electrical distribution system or when required by SMAQMD to verify compliance with applicable rules and regulations.
(B) Emergency is defined as: When electrical service from the serving utility is interrupted by an unforeseeable event.

VI. INSIGNIFICANT EMISSIONS UNITS

The following systems and equipment are considered insignificant emissions units and are not subject to equipment specific requirements. However, these units are required to comply with all applicable general requirements.

Equipment Category As Listed in the Title V List and Criteria Adopted 03-1985	**Equipment**	**Basis for Exemption**
A. Fugitive Emission Sources Associated with Insignificant Activities	1. 5,000 gallon water storage tank 2. Chill water expansion tank 1980 gallons with air separator 3. Chill water expansion tank 1000 gallons with air separator	1 - 3. Insignificant air pollutant sources from these sources
B. Combustion and Heat Transfer Equipment	1. 250,000 BTU/hr heating unit and exclusively fired with natural gas. (qty 1) 2. 400,000 btu/hr heating unit for makeup air exclusively fired with natural gas - separate processes (qty 8) 3. 5 Hp pressure washer, fuel: gasoline 4. Forklift, fuel: propane 5. Propane Fired Barbeque	1 ,2, 5. <5,000,000 Btu and exclusively fired with natural gas or LPG (propane) 3,4. Piston-type internal combustion engine with rating <50bhp.
C. Cooling Towers	1. Cooling Towers at 2,700 GPM - Quantity 3 2. Cooling Towers at 3,600 GPM - Quantity 3 3. Cooling Towers at 3,800 GPM – Quantity 9	1 – 3 <10,000 GPM and are not used to cool process water, water from barometric jets or water from barometric condensers
D. Printing and Reproduction Equipment	Office Printers, Fax and copiers	Insignificant air pollutant emissions source
E. Food Processing Equipment	None	N/A
F. Plastic and / or Rubber Processing Equipment	None	N/A

VI. INSIGNIFICANT EMISSIONS UNITS

Equipment Category As Listed in the Title V List and Criteria Adopted 03-1985	**Equipment**	**Basis for Exemption**
G. Storage Containers, Reservoirs, and Tanks – Fuel, Fuel Oil and Asphalt	1. See Table 3 for diesel fuel and motor oil	Diesel Fuel and motor oil storage capacity of <19,800 gallons with specific gravity >0.8251
H. Storage Containers, Reservoirs, and Tanks – General Organic and VOC-Containing Material	Urea Storage Tank for SCRs	Insignificant air pollutant emissions source
I. Storage Containers, Reservoirs, and Tanks – Inorganic Material	1. See Table 4	Insignificant air pollutant emissions source
J. Storage Containers, Reservoirs, and Tanks – Liquefied Gases	1. Carbon Dioxide Tanks 2. Propane Tanks	1 - 2. Insignificant air pollutant emissions source
K. Compression and Storage of Dry Natural Gas	None	N/A
L. Transfer Equipment	1. Urea tank has two transfer systems for injection of urea for SCR units	Insignificant air pollutant emissions source
M. Adhesive Application	None	N/A
N. Surface Coating	None	N/A
O. Solvent Cleaning	None	N/A
P. Abrasive Blasting	None	N/A
Q. Brazing, Soldering, Welding and Cutting Torches	None	N/A
R. Solder Leveler, Hydrosqueegee, Wave Solder Machine, or Drag Solder Machine	None	N/A
S. Metal Products	None	N/A
T. Aerosol Can Puncturing or Crushing	None	N/A

VI. INSIGNIFICANT EMISSIONS UNITS

Equipment Category As Listed in the Title V List and Criteria Adopted 03-1985	**Equipment**	**Basis for Exemption**
U. Biotechnology Manufacturing	None	N/A
V. Textile Dyeing, Stripping or Bleaching	None	N/A
W. Laboratory Fume Hoods and Vents	None	N/A
X. Refrigeration Units	1. 900 ton chillers Quantity 3 2. 1,200 ton chillers Quantity 3 3. 1,725 ton chillers Quantity 6	1 - 3. Not used in conjunction with air pollution control equipment

Table 3 – Tanks for Diesel Fuel

Tank / Container ID#	**Contents**	**Capacity (gal)**
Diesel Fuel Storage Tank	Diesel	10,000
Diesel Fuel Storage Tank qty 10	Diesel	12,000 each
Gen1 Belly Tank for Diesel Fuel	Diesel	1,000
Day Tank Diesel Fuel qty 40	Diesel	360 each

Table 4 Tanks and Containers for Other Products

Tank / Container ID#	**Contents**	**Capacity (gal)**
Transformer Oil Filled qty 5	Mineral Oil	2,233 each
T-6 Transformer Oil Filled	Mineral Oil	636
Voltage Regulator qty 9	Mineral Oil	303 each
Radiators associated with emergency diesel generators @1200 Striker Ave and 1312 Striker Ave (qty 40)	Propylene Glycol	80 each
Urea Storage Tank for SCRs	Urea	1000
Lead acid batteries – 2400 jars @ 1200 Striker and 1860 jars @ 1312 Striker	Sulfuric Acid 10-30% by weight	10 each
Emergency Generators 1 L sumps qty 40	Lubricating Oil	74 each

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

Acronyms, abbreviations and units of measure used in this permit are defined as follows:

ASTM
American Society for Testing and Materials

BACT
Best Available Control Technology.

CAA
The federal Clean Air Act.

CARB
California Air Resources Board.

CFC
Chloro-fluoro-carbons. A class of compounds responsible for destroying ozone in the upper atmosphere.

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO
Carbon monoxide.

CO2
Carbon dioxide.

ERC
Emission reduction credit.

Federally Enforceable
All limitations and conditions which are enforceable by the Administrator of the U.S. EPA including those requirements developed pursuant to 40 CFR Part 51, Subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (HAP) and Part 72 (Permits Regulation, Acid Rain) including limitations and conditions contained in operating permits issued under a U.S. EPA approved program that has been incorporated into the California SIP.

NESHAP
National Emission Standards for Hazardous Air Pollutants (see 40 CFR Parts 61 and 63).

NOx
Nitrogen oxides.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

NSPS
New Source Performance Standards. U.S. EPA standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the federal Clean Air Act and implemented by 40 CFR Part 60 and SMAQMD Regulation 8.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and SMAQMD Rule 202. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O_2
Oxygen.

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of VOC, NOx, SO2 and PM10.

PM
Particulate matter.

PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns.

$PM_{2.5}$
Particulate matter with aerodynamic equivalent diameter of less than or equal to 2.5 microns.

P/O
Permit to Operate

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the SMAQMD is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the federal Clean Air Act and implemented by 40 CFR Part 52.

ROC
Reactive organic compounds.

SCR
Selective catalytic reducer. An Air pollution control devise used to control NOx emissions.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

SIP
State Implementation Plan. CARB and SMAQMD programs and regulations approved by U.S. EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the federal Clean Air Act.

SMAQMD
Sacramento Metropolitan Air Quality Management District.

SOx
Sulfur dioxides

Title V
Title V of the federal Clean Air Act. Title V requires the SMAQMD to operate a federally enforceable operating permit program for major stationary sources and other specified sources.

TSP
Total suspended particulate.

U.S. EPA
The federal Environmental Protection Agency.

VOC
Volatile Organic Compounds.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

UNITS OF MEASURE:

BTU	=	British Thermal Unit
cfm	=	cubic feet per minute
cm	=	centimeter
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
kg	=	kilogram
max	=	maximum
m2	=	square meter
min	=	minute
mm	=	millimeter
MM	=	million
ppmv	=	parts per million by volume
ppmw	=	parts per million by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
quarter	=	calendar quarter
RVP	=	Reid vapor pressure
scfm	=	standard cubic feet per minute
yr	=	year

News Release

SMUD® Sacramento Municipal Utility District
916-732-5111 or media@smud.org

Power ALERT

For Immediate Release: September 1, 2022

SMUD asks customers to conserve electricity

In alignment with Governor Newsom's state of emergency order and the California Independent System Operator's extended alerts, The Sacramento Municipal Utility District (SMUD) asks customers to limit their use of electricity this afternoon due to high temperatures, heavy demand for electricity and tight power supplies across the state.

Customers can help by raising thermostat settings on air conditioners to 80 degrees, particularly during the hours of **4:00 p.m. and 9:00 p.m.**, and limiting the use of major appliances and turning off unnecessary lights.

Commercial and industrial customers are asked to reduce the use of lighting not essential for safety purposes in garages, hallways, lobbies, warehouses and displays. The minimized use of office equipment, supply and exhaust fans, circulating pumps, and maintenance and repair equipment will also allow lower the demand for electricity.

About SMUD

As the nation's sixth-largest, community-owned, not-for-profit electric service provider, SMUD has been providing low-cost, reliable electricity to Sacramento County for more than 75 years. SMUD is a recognized industry leader and award winner for its innovative energy efficiency programs, renewable power technologies and for its sustainable solutions for a healthier environment. Today, SMUD's power supply is on average about 50 percent carbon free and SMUD has a goal to reach zero carbon in its electricity production by 2030. For more information on SMUD's Zero Carbon Plan and its customer programs, visit smud.org.

# # #