

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Preliminary Draft Staff Report

Proposed Rule 118.1 – Public Safety Provisions for Stationary Emergency Standby Engines

Proposed Amended Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

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CHAPTER 1 – BACKGROUND

INTRODUCTION

Over the last decade, California has experienced an increase in record-breaking wildfires as wildfire conditions have intensified due to changing weather conditions such as increased temperatures and drought conditions. In 2012, the California Public Utilities Commission (CPUC) ruled that California Public Utilities Code Section 451 and 399.2(a) provides the authority for electric utilities to shut off electric power to reduce the risk of wildfires caused by electrical power infrastructure. As a result, utility distribution companies have begun implementing Public Safety Power Shutoff (PSPS) events to proactively cut power to electrical lines reducing the likelihood that infrastructure would cause or contribute to a wildfire. During a PSPS event, critical service facilities may need to rely on emergency standby engines to continue operations. South Coast Air Quality Management District (South Coast AQMD) regulations require permits for internal combustion engines, including emergency standby engines rated greater than 50 brake horsepower (bhp). Under Rule 1110.2 - Emissions from Gaseous- and Liquid-Fueled Engines, emergency standby engines are exempt from emission limits for oxides of nitrogen (NO_x), volatile organic compounds (VOCs), and carbon monoxide (CO) provided the engine has permit conditions that limit engine operations to 200 hours or less per year. The Rule 1110.2 provisions related to emergency standby engines and the associated permit conditions that limit operating hours were established before implementation of the PSPS program began in 2018 and does not account for the use of emergency standby engines due to PSPS emergency conditions. Proposed Rule 118.1 – Public Safety Provisions for Stationary Emergency Standby Engines (PR 118.1) is intended to address the use of standby engines at critical service facilities during emergencies by allowing the exclusion of emergency standby engine operating hours during PSPS events from counting toward permit limits.

South Coast AQMD Rule 1470 - Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines includes requirements that limit annual maintenance and testing hours for emergency standby engines. Routine maintenance and testing can assure that an emergency standby engine will operate properly during an actual emergency. A water district that provides water delivery and wastewater services has stated that existing Rule 1470 provisions for specific engines do not allow adequate testing to ensure engines operate during emergencies. Proposed Amended Rule 1470 (PAR 1470) will add an optional testing and maintenance schedule to provide water and sewage treatment facilities the ability to average the existing maintenance and testing hour limits over three years for specific engines located in a very high fire hazard severity zone. The option to average testing hours would allow more rigorous maintenance and testing to be conducted in one year without increasing the total maintenance and testing hours over the three years.

REGULATORY HISTORY

Rule 1110.2

Rule 1110.2 was adopted in August 1990 and amended 11 times and is designed to reduce NO_x, VOC, and CO emissions by establishing emission limits for stationary and portable engines rated greater than 50 bhp. Rule 1110.2 establishes NO_x, VOC, and CO emission limits and includes emissions testing, monitoring, reporting, and recordkeeping requirements. Under Rule 1110.2, emergency standby engines, engines used for fire fighting and flood control, and any other

emergency engines approved by the Executive Officer are exempt from meeting NO_x, VOC, and CO emission limits provided that the engine has a permit condition limiting the engine to 200 operating hours¹ or less per year. These exempted emergency engines are also exempt from the Rule 1110.2 emissions testing, monitoring, reporting, and recordkeeping requirements.

Rule 1470

Rule 1470 was adopted on April 2, 2004, to reduce diesel particulate from engines. Rule 1470 includes fuel requirements, emission standards for new engines, and operating requirements and emission standards for in-use (installed before January 1, 2005) and new engines. The Rule also establishes limits on maintenance and testing hours based on the PM emission rate of engines.

Rule 1472

Rule 1472 was adopted on March 7, 2008, to reduce diesel PM emissions from facilities with three or more stationary emergency standby engines. Rule 1472 supplements Rule 1470 by requiring facilities with three or more engines to meet a specific risk level called an Engine Group Index with provisions on calculating the Engine Group Index. The Engine Group Index is based on health risk and facilities required to file a compliance plan are to comply with three different options: reduce Engine Group Index to less than or equal to 1.0, all engines meet a diesel PM emission rate less than or equal to 0.15 g/bhp-hr, or all engines within engine group shall emit diesel PM at a weighted average rate of less than or equal to 0.15 g/bhp-hr.

California Air Resources Board (CARB) Air Toxics Measure for Stationary Compression Ignition Engines

On December 8, 2004, CARB adopted the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines, which establishes requirements to reduce diesel particulate matter and criteria pollutant emissions from stationary diesel-fueled compression ignition engines. California Health and Safety Code Section 39666 requires local air districts to implement and enforce the ATCMs or adopt and enforce equally effective or more stringent ATCM requirements than those adopted by CARB. Rule 1470 is designed to implement the state ATCM. Since Rule 1470 and the state ATCM focus on requirements from single engines, South Coast AQMD staff was concerned about multiple engines at a single location that collectively could create a significant health risk. Rule 1472 is designed to go beyond Rule 1470 and the ATCM as it establishes requirements for facilities with three or more stationary emergency standby engines.

Rules 1470 and 1472 are More Stringent than CARB's ATCM

Rule 1470 establishes requirements that are more stringent than the state ATCM. Specifically, Rule 1470 includes more stringent emission level requirements for new engines less than 50 meters from a sensitive receptor and allows fewer annual maintenance and testing hour limits for health facilities when compared to the state ATCM. Additionally, under Rule 1470 requirements the cleanest engines include permit limits for up to 50 hours annually for maintenance and testing compared to the state ATCM, which allows up to 100 hours. Table 1-1 compares the PM emission limits for new engines less than 50 meters from a sensitive receptor between Rule 1470 and the

¹ Operating hours include all operations such as emergency use, maintenance, and testing

state ATCM to highlight where Rule 1470 is more stringent. Table 1-2 compares the annual maintenance and testing limits between Rule 1470 and the state ATCM to highlight provisions where Rule 1470 is more stringent. In addition, Rule 1472 establishes requirements for facilities with multiple engines to meet the Engine Group Index or file a compliance plan, making these provisions more stringent than the state ATCM which does not establish in-use PM or health risk requirements for facilities with multiple engines.

Table 1-1

Comparison Between Rule 1470 and the ATCM PM Emission Limits for New Engines Near Sensitive Receptors

Engine Size	Rule 1470	State ATCM
50 < HP < 175	0.15 g/bhp-hr	0.15 g/bhp-hr
175 ≤ HP ≤ 750	0.01 g/bhp-hr	0.15 g/bhp-hr
> 750 HP	0.075 g/bhp-hr 0.02 g/bhp-hr	0.15 g/bhp-hr

Table 1-2

Comparison Between Rule 1470 and the ATCM for Annual Maintenance and Testing Hours

Engine	Diesel PM Emission Rate (g/bhp-hr)	Rule 1470	State ATCM
In-use	> 0.4 g	30 hours*	40 hours*
In-use	>0.15 and ≤0.4 g	30 hours*	40 hours*
New	≤0.01	50 hours	Up to 100 hours

*Specific to health facilities

Rule 118

Rule 118 was adopted on December 7, 1995, to allow the Executive Officer to suspend specific South Coast AQMD rules, regulations, or orders during a state or federally declared State of Emergency. Rule 118 applies to any facility, equipment, or process within South Coast AQMD's jurisdiction that is necessary to operate to protect public health and safety during a State of Emergency. Under Rule 118, a suspension may be rule-specific and region-specific depending on the emergency. The rule suspension will be for ten calendar days but may be extended by the Executive Officer if deemed necessary.

PUBLIC SAFETY POWER SHUTOFF EVENTS

According to the California Public Utilities Commission (CPUC), although electric utility infrastructure has historically been responsible for less than ten percent of reported wildfires,

roughly half of the most destructive fires in California history are attributed to power lines.² In 2012, the CPUC ruled that California Public Utilities Code Section 451 and 399.2(a) provides the authority for electric utilities to shut off electric power to protect public safety. Accordingly, electric utilities such as Southern California Edison (SCE), San Diego Gas & Electric (SDG&E), Pacific Gas & Electric (PG&E), Liberty, Bear Valley, and PacifiCorp have de-energized powerlines as a method of fire prevention as powerlines can potentially cause a wildfire during certain weather conditions. According to SCE, the CPUC has directed California's three largest investor-owned utilities (SCE, SDG&E, and PG&E) to coordinate and prepare all customers for power outages during a PSPS event. Because every situation is unique, each utility provider determines when to notify and initiate a PSPS event and how it will be implemented. The utility provider decides when to de-energize power lines by monitoring local fire conditions and considering a combination of weather and environmental factors. These may include but are not limited to high winds and high wind gusts, low humidity levels, dry vegetation, red flag warnings, fire threat to electric infrastructure, and real-time observations.³

On April 19, 2012, the CPUC provided the first PSPS guidance for implementing programs to shut off power for public safety reasons and fire prevention measures.⁴ The CPUC continues to revise PSPS guidelines as part of its continuing actions to mitigate the impacts of PSPS events. After the wildfires in southern California in 2017, the CPUC adopted Resolution ESRB-8, which adds new requirements for utility providers to make all feasible attempts to notify customers before performing a de-energization and requires utilities to submit a post-event report within ten days after each de-energization event.⁵ The most recent PSPS guidelines (D.20-05-051)⁶ were adopted on June 5, 2020. These guidelines examine the PSPS process, direct the utility providers on best practices, and provide a framework for mitigating wildfire risk and the impact on customers when implementing a PSPS event. The CPUC provides updated information on current PSPS guidelines and actions taken to mitigate the impacts of PSPS events through their website at <https://www.cpuc.ca.gov/psps/>.

SOUTHERN CALIFORNIA EDISON

Southern California Edison (SCE) is one of California's largest investor-owned utilities. According to SCE, in 2015, the utility provided electricity to 15 million people in 180 incorporated cities over 15 counties.⁷ The SCE service area includes approximately 50,000 square miles, and a

² California Public Utilities Commission. *Public Safety Power Shutoff (PSPS) / De-Energization*. Retrieved April 21, 2021, from <https://www.cpuc.ca.gov/psps>

³ *Public Safety Power Shutoff: The Power of Being Prepared*. Retrieved April 22, 2021, from <https://prepareforpowerdown.com/>

⁴ *Decision Granting Petition to Modify Decision 09-09-030 and Adopting Fire Safety Requirements for San Diego Gas & Electric Company*. Retrieved May 11, 2021, from https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/165063.PDF

⁵ *Resolution Extending De-energization Reasonableness, Notification, Mitigation and Report Requirements in Decision 12-04-024 To All Electric Investor Owned Utilities* Retrieved May 19, 2021, from <https://docs.cpuc.ca.gov/publisheddocs/published/g000/m218/k186/218186823.pdf>

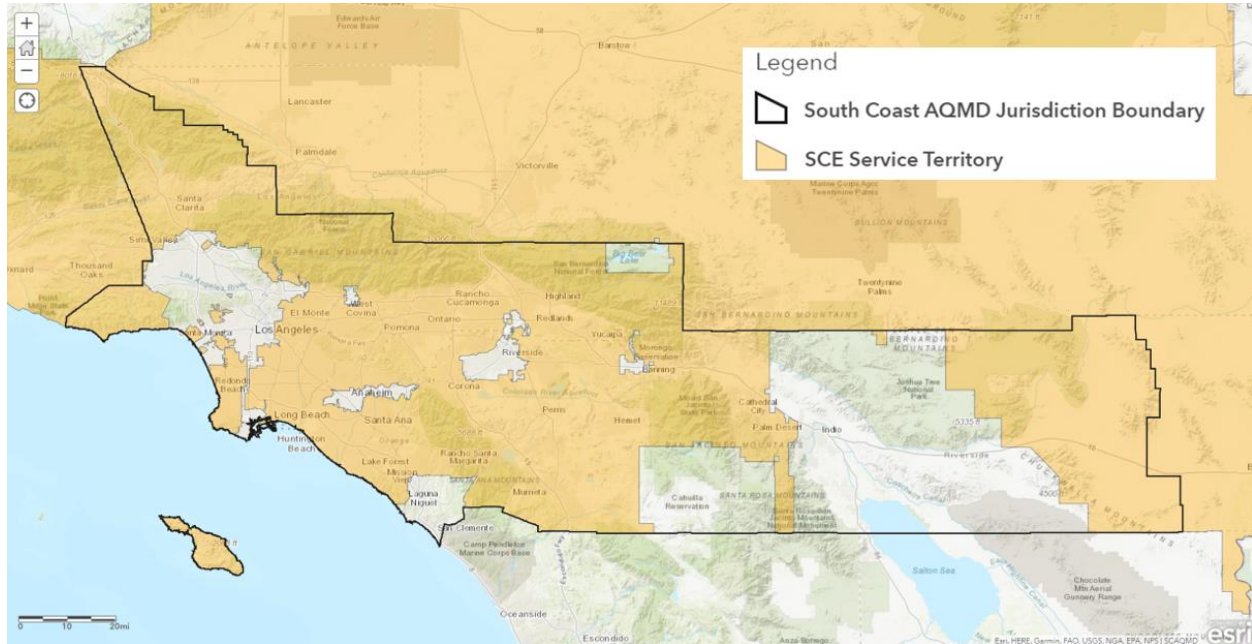
⁶ *Decision Adopting Phase 2 Updated And Additional Guidelines For De-energization of Electric Facilities to Mitigate Wildfire Risk*. Retrieved May 19, 2021, from <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M339/K524/339524880.PDF>

⁷ *Southern California Edison: About Us*. Retrieved April 30, 2021, from <https://www.sce.com/about-us/who-we-are>

map of SCE’s service area within the jurisdictional boundaries of South Coast AQMD is illustrated in Figure 1-1.

Figure 1-1

Southern California Edison Service Territory Within South Coast AQMD Jurisdiction

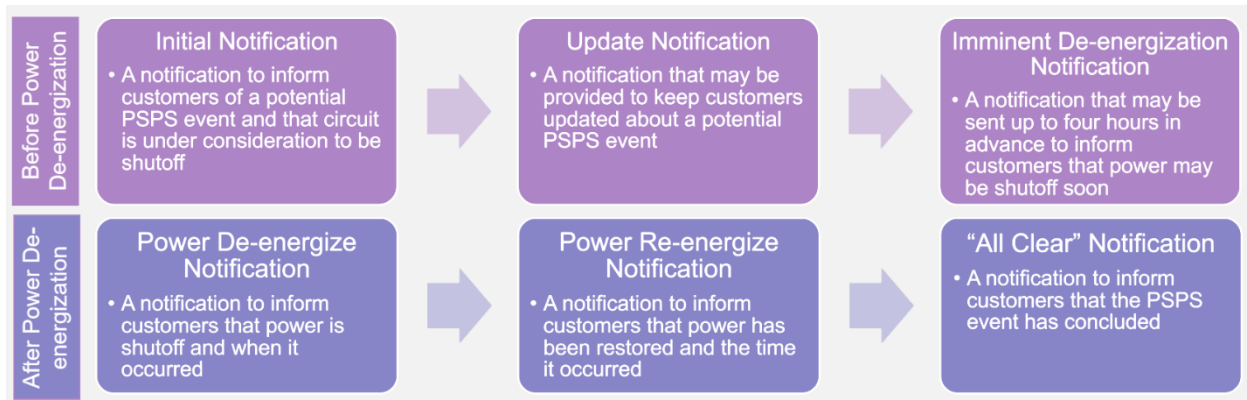


Southern California Edison PSPS Implementation

SCE began implementing PSPS events in 2018. As part of the PSPS process, SCE monitors for extreme weather and high fire danger. When extreme weather is forecast, the PSPS process begins when SCE activates their dedicated PSPS Incident Management Team to coordinate response operations associated with the potential implementation of a PSPS event. As SCE monitors weather forecasts, a range of dates may be established where circuits are under consideration for a de-energization.⁸

Customers are issued an initial notification up to three days in advance of a PSPS event. Subsequently, update notifications may be provided once a day to update customers on the current status of the potential PSPS event. The determination if a PSPS event leads to the de-energization of powerlines is unique to each potential PSPS event and depends on weather conditions. If weather conditions elevate, SCE may issue an imminent de-energization warning to inform customers that power may be shut off in the next one to four hours to reduce the risk of wildfire ignition. Usually, imminent de-energization warnings are sent to customers in advance to provide time to prepare. Although, if weather conditions escalate rapidly, an imminent de-energization warning may not be sent out before power is shut off due to lack of time. A flow chart depicting an overview of SCE’s notification process is illustrated in Figure 1-2.

⁸ De-energization and shut off will be used interchangeably throughout this report

Figure 1-2**Overview of Southern California Edison's PSPS Notification Process**

Receiving an imminent de-energization warning does not confirm that power will be shut off. Therefore, two scenarios can occur after customers receive an imminent de-energization warning: power is not shut off (Scenario A), or power is shut off (Scenario B).

In Scenario A, weather conditions may suddenly improve, and SCE may determine that it is unnecessary to shut off the power. If power is not shut off, the imminent de-energization warning expires after four hours. The circuit of concern will then remain on SCE's monitor list and under consideration for a de-energization event. As weather conditions fluctuate, customers may receive multiple imminent de-energization warnings during a single PPS event.

In Scenario B, after a customer receives an imminent de-energization warning, power is shut off. The power shut off can occur after the first imminent de-energization warning or subsequent ones. When power has been shut off, customers will receive a power de-energize notification detailing which segment of the circuit was shut off, location, and the date and time of shutoff. SCE may issue an imminent re-energization notification detailing an estimated time that power will be restored as weather conditions improve. Once power has been restored, a power re-energization notification is distributed to customers.

Once weather conditions improve, customers that received an initial notification, imminent de-energization warning, or power de-energize notification will receive an all-clear notification regardless if power was shut off or not. The all-clear notifications inform customers that all circuits in the county have been re-energized and that the PPS event is over. If a circuit takes longer to re-energize due to different reasons such as the need for repair, inability to access infrastructure, etc., the circuit may be transitioned to a different event classified as an Operations event. Because of this, some customers may face a delay in getting power restored. However, after power is restored following an Operational event, the customers will receive a notification that power has been restored.⁹

⁹ Southern California Edison Public Safety Power Shutoff Protocol (PSPS) Post-Event Reporting in Compliance with Resolution ESRB8 and PSPS OIR Phase 1 & 2 Requirements December 16 to December 24, 2020.

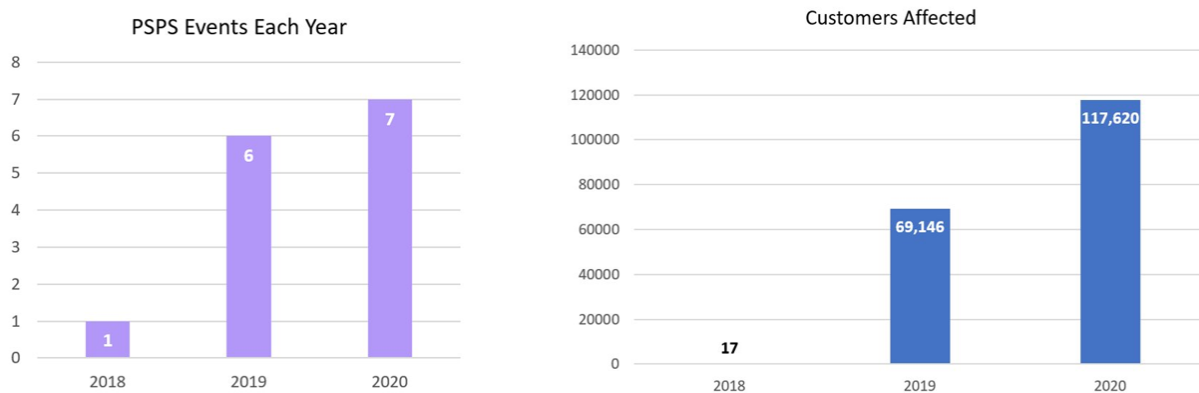
Retrieved June 6, 2021, from <https://www.sce.com/sites/default/files/inline-files/121620%20-%20SCE%20PSPS%20Post%20Event%20Report%20-%20Amended%20Final.pdf>

Southern California Edison PSPS Data

From January 2018 to December 2020, 14 PSPS events occurred within South Coast AQMD’s jurisdiction resulting in circuit de-energization that impacted customers. Overall, there has been an increasing trend in PSPS events, and the number of customers affected each year, as depicted in Figure 1-3. However, while the same circuit can be de-energized in multiple PSPS events throughout the year, the same customers may not be affected each time because only portions of a circuit are shut off. To learn more about a specific PSPS event, SCE is required to release a post-event report after each PSPS event which can be found at the following website <https://www.sce.com/wildfire>.

Figure 1-3

Number of PSPS Events and Customers Affected Each Year



The data in Table 1-3 depicts further details about each PSPS event that occurred from 2018-2020 within the South Coast AQMD. Table 1-3 provides the date of each PSPS event beginning when a circuit was first de-energized and until power to the last circuit was restored, the number of circuits shut off, and the total number of customers affected. Each circuit that is shutoff is unique, and therefore the shutoff duration of each circuit will vary. The fourth column (“Range of Shutoff Duration”) of the table depicts the shortest and longest shutoff duration of any de-energized circuit. The average shutoff duration is calculated by averaging together all the circuits shutoff in a particular PSPS event. The variation between each circuit can also be seen in the number of customers affected. The fifth column (“Range of Customers Affected”) depicts the fewest to the largest number of customers affected by any one circuit.

Table 1-3**Summary Table of PSPS Events Implemented By Southern California Edison Within South Coast AQMD Jurisdiction From 2018 – 2020**

Year	PSPS Event	Circuit Shutoff	Range of Shutoff Duration	Average Shutoff Duration ¹	Range of Affected Customers	Total Affected Customers
2018	Nov 8 – 9	2	16 – 17 hours	~16.5 hours	8 – 9	17
2019	Sep 24	2	6 hours	~6 hours	9 – 76	85
2019	Oct 9 – 12	12	13 – 50 hours	~31 hours	5 – 2,728	4,522
2019	Oct 20 – 21	3	8 – 14 hours	~10 hours	10 – 165	246
2019	Oct 24 – 27	24	14 – 80 hours	~33 hours	5 – 2,205	14,985
2019	Oct 27 – Nov 1	62	6 – 62 hours	~28 hours	2 – 2,408	49,212
2019	Nov 25 – 27	2	20 – 43 hours	~31.5 hours	25 – 71	96
2020	Sep 9 – 11	5	11 – 55 hours	~20 hours	9 – 62	136
2020	Oct 26 – 28	42	7 – 57 hours	~28 hours	5 – 2,366	27,224
2020	Nov 17 – 18	2	25 hours	~25 hours	9 – 165	174
2020	Nov 26 – 28	22	2 – 53 hours	~25 hours	5 – 1,774	10,115
2020	Dec 2 – 4	71	6 – 53 hours	~26 hours	1 – 2,051	29,610
2020	Dec 7 - 9	75	9 – 53 hours	~27 hours	2 – 2,675	33,857
2020	Dec 18 – 24	30	2 – 32 hours	~20 hours	2 – 2,739	16,504

Southern California Edison Wildfire Mitigation

In addition to PSPS events, SCE implements a Wildfire Mitigation Plan that outlines measures to reduce the risk of potential wildfire causing ignitions associated with their electrical infrastructure. According to SCE, the Wildfire Mitigation Plan includes vegetation management and annual inspection of overhead transmission, distribution, and generation equipment in high fire risk areas to identify potential hazards¹⁰. The Wildfire Mitigation Plan also emphasizes installing new or improved devices and technologies as part of the SCE grid design and system hardening activities to minimize the number of customers impacted during a PSPS event. Because monitoring weather

¹⁰ Southern California Edison Wildfire Mitigation Efforts. Retrieved May 27, 2021, from <https://www.sce.com/wildfire/wildfire-mitigation-efforts>

conditions is a method used to predict wildfire risks, plans are also being made to install additional weather stations.

According to SCE, activities for 2021 include refining inspections of high fire risk areas, expanding system hardening activities to make the grid more resilient, improving fire agencies' ability to detect and respond to emerging fires, and establishing central data platforms for next-generation data analytics and governance.¹¹ SCE is continuing to work towards reducing the size, frequency, and duration of PSPS events by implementing these wildfire mitigation strategies and hardening power lines. However, PSPS events will remain as a method of mitigating wildfire risk during extreme fire weather conditions. Further details about the actions SCE is taking to minimize the impacts of PSPS events and their 2021 Wildfire Mitigation Plan can be found at <https://www.sce.com/wildfire/wildfire-mitigation-efforts>.

NEED FOR PROPOSED RULE 118.1

When Rule 1110.2 established the 200-hour limit for emergency engines in 1990, PSPS events did not exist and were not considered part of emergency engine usage. As California is experiencing more intense wildfires in recent decades, utility providers may implement PSPS events more frequently, requiring certain entities that provide critical public services to operate emergency standby engines. It is recognized that during PSPS events, critical service facilities will need to maintain power to provide continuous services for the public and protect public health and safety. Accordingly, critical service facilities may need to operate emergency standby engines above the 200-hour limitation included in South Coast AQMD permits.

Under current South Coast AQMD rules, a facility that exceeds the permitted operating hour limits can petition the South Coast AQMD Hearing Board and file for a variance. PR 118.1 is needed to provide critical service facilities another option for regulatory certainty and relief other than petitioning the South Coast AQMD Hearing Board. PR 118.1 will allow critical service facilities the option to exclude operating hours during PSPS events provided that the Executive Officer is notified when an emergency standby engine exceeds the permitted operating hour limit and supporting documentation is maintained to support a PSPS occurrence. Rule 118 can provide regulatory relief, however, the first step in the process is that a State of Emergency is determined. Since a PSPS event is a preventative measure, operators cannot receive regulatory relief under Rule 118 for operating emergency standby engines during a PSPS event.

NEED FOR PROPOSED AMENDED RULE 1470

During the Woolsey Fire in 2018, a water district needed additional electrical power to maintain critical public services. In response, a mutual aid request was made to receive a portable emergency engine. Although the engine appeared to be kept in proper working order, it was an older engine and the hours of testing and maintenance logged on the engine were unknown. The engine failed during the emergency event resulting in a boil water alert to the community. According to the water district, these events and the associated actions highlighted the need to conduct more

¹¹ 2021 Wildfire Mitigation Plan Update. Retrieved May 27, 2021, from https://download.newsroom.edison.com/create_memory_file/?f_id=601c9eeeb3aed375e1fffa67&content_verified=True

extensive testing on existing engines to better ensure engines are reliable in a PSPS event or wildfire.

PAR 1470 is needed to allow water and sewage facilities to periodically conduct more rigorous maintenance and testing of engines located in a very high fire hazard severity zone. PAR 1470 proposes an alternative testing schedule that will allow water and sewage facilities to conduct more rigorous testing, with no increase in the estimated health risk.

AFFECTED INDUSTRIES/FACILITIES

PR 118.1

PR 118.1 will apply to critical service facilities, including essential public services under Rule 1302, sewage pumping plants, pumping plants used for recycled water as defined in Title 22 - Section 60304 of the California Code of Regulations, natural gas delivery facilities, health facilities as defined in Section 1250 of the California Health and Safety Code, and facilities used exclusively for telecommunications, including radio and cell towers. Based on a review of South Coast AQMD permit data, approximately 2,560 facilities meet the definition of a critical service facility, and from these facilities, there are approximately 3,434 emergency engines. However, the number of facilities that may exceed emergency engine permit operating limits due to PSPS events is unknown as the number of future PSPS events and the specific areas affected is unknown.

PAR 1470

PAR 1470 provisions regarding maintenance and testing hours for engines with a 20-hour limitation will be available to water and sewage facilities with engines located in a very high fire severity zone. The California Fire Hazard and Severity Zones map identifies areas of significant fire hazards based on various factors such as fire history, natural vegetation, terrain, and the typical weather conditions in that area. These hazard areas are based on physical conditions that increase the likelihood that an area will burn over a 30-50 year period. The map is established by the California Department of Forestry and Fire Protection and is depicted in Figure 1-4.

Based on a review of South Coast AQMD permit data, it is estimated that there are up to 359 emergency standby engines with permit conditions that limit maintenance and testing to 20 hours at water and sewage facilities. A review of California Fire Hazard and Severity Zones mapping indicates 94 of those engines are located in a very high fire hazard severity zone and is depicted in Figure 1-5.

PUBLIC PROCESS

Development of PR 118.1 and PAR 1470 is being conducted through a public process. A PR 118.1 and PAR 1470 Working Group was formed to allow the public and stakeholders to discuss details of the proposed rule and provide South Coast AQMD staff with input during the rule development process. The Working Group includes representatives from businesses, environmental and community groups, public agencies, and consultants. South Coast AQMD has held four Working Group Meetings via Zoom videoconference and teleconference due to COVID-19. The meetings held via Zoom were on December 10, 2020, April 8, 2021, May 27, 2021, and July 9, 2021. A Public Workshop is scheduled for July 29, 2021, via Zoom to present the proposed rule and proposed amended rule and receive public comment.

Figure 1-4
Map of California Fire Hazard Severity Zones

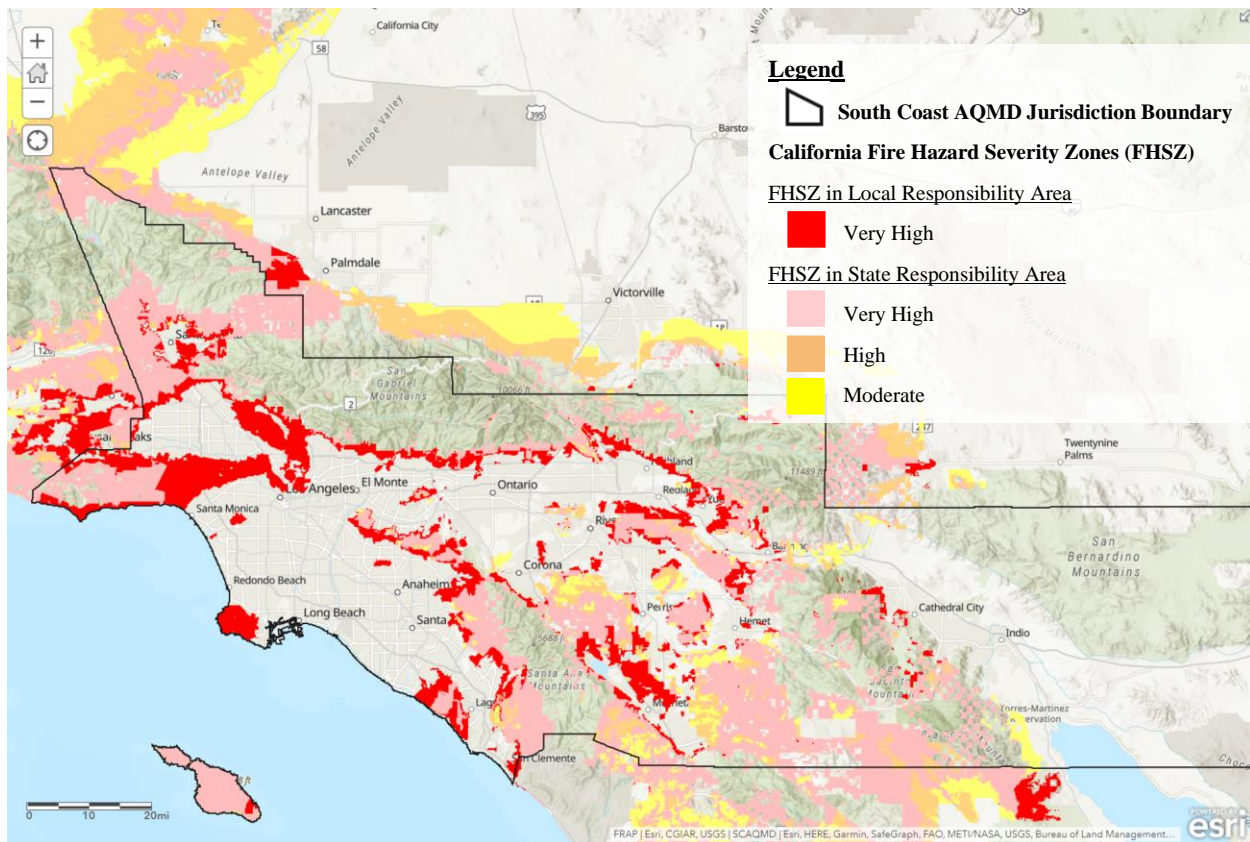
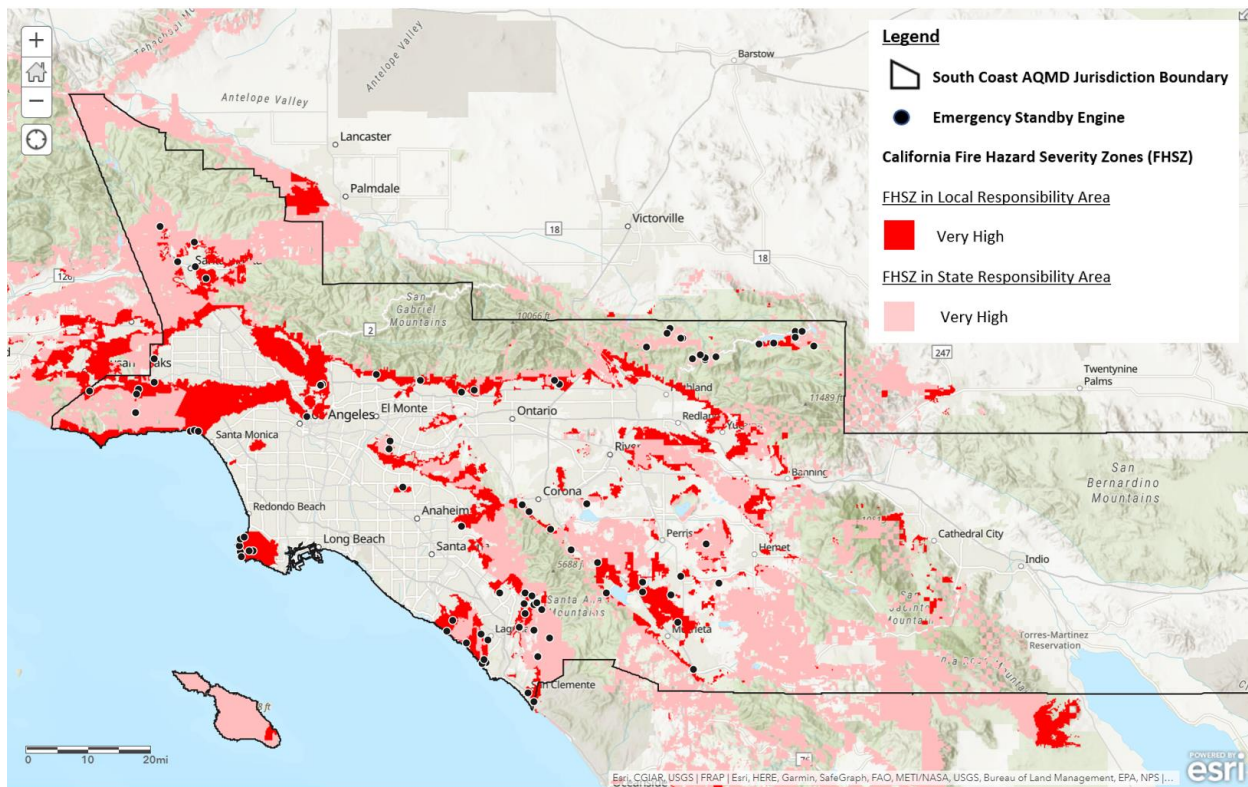


Figure 1-5

**PAR 1470 Water and Sewage Engines With 20 Maintenance and Testing Hours Limits
Located in a Very High Fire Hazard Severity Zone**



CHAPTER 2 – SUMMARY OF PROPOSED RULE 118.1

OVERALL APPROACH

Proposed Rule 118.1 is designed to address the use of emergency standby engines for critical service facilities during PSPS events. PR 118.1 includes a notification process and recordkeeping requirements for facilities that seek to exclude emergency standby engine operation hours.

The following is a summary of PR 118.1 provisions.

Purpose – Subdivision (a)

The purpose of PR 118.1 is to allow an owner or operator of a critical service facility to exclude emergency standby engine operating hours due to a PSPS event. The use of an emergency standby engine during non-PSPS events, such as wildfires or other natural disasters, is not addressed under the proposed rule. Other South Coast AQMD programs have been established for non-PSPS emergencies. For example, if a significant wildfire or natural disaster is experienced, the governor or the federal government can declare a State of Emergency. Under existing South Coast AQMD Rule 118 - Emergencies, the Executive Officer can suspend specific South Coast AQMD rules during a state or federally declared State of Emergency. Additionally, a facility can seek regulatory relief by petitioning the South Coast AQMD Hearing Board and filing for a variance.

Applicability – Subdivision (b)

The applicability of PR 118.1 is to an owner or operator of a critical service facility of an emergency standby engine that has a permit limit of 200 hours per year. PR 118.1 is limited to critical service facilities recognizing the importance of a critical service facility to protect public health and safety during emergencies by providing continuous services.

Definitions – Subdivision (c)

PR 118.1 includes definitions for specific terms. Some definitions are based on other South Coast AQMD rules, while others are unique to PR 118.1. For certain definitions, additional clarification is provided in this section or where the definition is used within a specific subdivision. Please refer to PR 118.1 for actual definitions.

Critical Service Facility

Throughout the rulemaking process, staff worked with the Working Group to develop a critical service facility definition. In general, staff included those facilities that provide a service where continuous operation is needed to protect public health and safety. The definition of a critical service facility goes beyond the definition of “essential public service” used in Rule 1302, which is designed to identify those public service facilities that have specific exemptions under Regulation XIII – New Source Review because they are generally funded by public monies while providing a public service. For PR 118.1, a critical service facility includes essential public services from South Coast AQMD Rule 1302, which includes: publicly owned and operated sewage treatment facilities that are consistent with an approved regional growth plan, prisons, police facilities, fire fighting facilities, schools, hospitals, construction and operation of a landfill gas control or processing facility, water delivery operations, and public transit.

Under the essential public service definition in Rule 1302, water delivery operations are specific to facilities that process and deliver potable water. Additionally, the Rule 1302 essential public service definition for sewage treatment facilities does not include emergency standby engines at

off-site sewage pumping plants. Based on stakeholder input, sewage pumping plants and pumping plants for recycled water as defined in Title 22, Section 60304 of the California Code of Regulations have been included in the PR 118.1 critical service facility definition.

The critical service facility definition also includes health facilities as defined in Section 1250 of the California Health and Safety Code, natural gas delivery facilities, and facilities used exclusively for telecommunications, including radio and cell towers. The critical service facility definition is specific to PR 118.1, and the rule provisions are only for emergency standby engines at these facilities.

Emergency Standby Engine

The emergency standby engine definition is based on the definition from Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines and includes engine use during a loss of power.

Provisions for Excluding Public Safety Power Shutoff Events – Subdivision (d)

Paragraph (d)(1) establishes the provision that allows a critical service facility with an emergency standby engine to exclude engine operating hours during a PSPS event. Subparagraphs (d)(1)(A) and (d)(1)(B) further specify notification and recordkeeping procedures for a facility that operates an emergency standby engine during a PSPS event that is opting to exclude those hours from permit operating limits.

Paragraph (d)(2) establishes the conditions when emergency standby engines operating hours during a PSPS event can be excluded. Under subparagraph (d)(2)(A), operating hours that can be excluded include the de-energization period during a PSPS event beginning from the time power was shut off until the time power was restored.

As previously discussed, SCE will send an imminent de-energization warning notification to customers as weather conditions elevate to provide customers an opportunity to prepare for a possible power shutoff event. After receiving an imminent shutoff warning, facilities may need to prepare for a de-energization event by powering up engines before power is shut off to ensure continuous operation. However, an imminent shutoff notification does not confirm a de-energization event. An imminent shutoff notification would expire after four hours if power was not de-energized. Under the provisions of subparagraph (d)(2)(B), the operating hours that can be excluded will begin with the time an imminent shutoff notification is received until the imminent shutoff notification expires, up to three hours for each imminent shutoff notification received during a PSPS event.

After a de-energization event, specific circuits may take longer to restore if there is a need for repair, inability to access infrastructure, etc. This may prolong power de-energization for some customers. Accordingly, subparagraph (d)(2)(C) specifies that a facility can exclude the emergency engine operating hours during the time power is shut off due to repair activities directly associated with the PSPS event if the utility distribution company can document that power could not be restored due to PSPS related activities.

Notification Requirements – Subdivision (e)

Paragraph (e)(1) establishes the notification requirements for an owner or operator of an emergency standby engine to be eligible to exclude operating hours due to a PSPS event. If an emergency standby engine exceeds the permitted operating hour limit and the owner or operator

elects to exclude engine operation hours during events specified in subparagraphs (d)(2)(A) through (d)(2)(C), the facility must notify the Executive Officer by calling 1-800-CUT-SMOG within 48 hours of knowing about the occurrence. If the use of an emergency standby engine exceeds 200 hours per year after excluding all eligible hours allowed under PR 118.1, the owner or operator is in violation of the annual 200-hour permit limit, and a notification to the Executive Officer is not required as use of the emergency standby engine is outside the scope of PR 118.1. Under circumstances where an emergency standby engine exceeds permit conditions an owner or operator can still seek a variance from the South Coast AQMD's Hearing Board.

Paragraph (e)(2) specifies the necessary information for the owner or operator to provide during a notification. Specifically, when submitting a notification, the owner or operator will convey facility name, facility contact name and phone number, facility identification number, emergency engine permit number, and the estimated hours the facility exceeded the 200-hour annual operating limit due to events specified in subparagraphs (d)(2)(A) through (d)(2)(C).

Summary Report Requirements – Subdivision (f)

Subdivision (f) establishes requirements to prepare an annual report for an emergency standby engine that exceeds the 200-hour operating limits due to a PSPS event. Specifically, under paragraph (f)(1), facilities that seek to exclude operating hours must maintain a report that will be available no later than January 15 following the calendar year when the permitted operating hour limit was exceeded. The owner or operator is not required to submit the report to the South Coast AQMD; however, the owner or operator must maintain the report on site and provide it to the Executive Officer upon request.

Subparagraphs (f)(1)(A) and (B) specify the information and supporting documentation that must be included in the annual report including the total engine operating hours for the calendar year and the total engine operating hours for the calendar year that are associated with a PSPS event. These can be in the form of engine run logs. However, the records will need to differentiate operating hours associated with PSPS events from another use of the emergency engine. Subparagraph (f)(1)(C) specifies that the annual report is to include the date when the Executive Officer was notified that the emergency standby engine exceeded the permit limits. Subparagraph (f)(1)(D) specifies that the facility will also need to maintain documentation from the utility distribution company to support the exclusion of eligible operating hours for each PSPS event. Under clause (f)(1)(D)(i), this documentation will include the dates and times for each imminent shutoff notification if operating hours are to be excluded under the provisions of subparagraph (d)(2)(B). Clauses (f)(1)(D)(ii) and (f)(1)(D)(iii) further require the applicable de-energization notification and power restoration notification to be part of the summary report documentation. The utility distribution company currently provides PSPS related notifications to customers through numerous means, including email notifications and is currently exploring other methods to improve customer notifications of PSPS events. The PR 118.1 summary report can include copies of email notifications or email confirmations from the utility distribution company or copies of information obtained from the utility distribution company website that identify the date and time a facility experienced a de-energization due to a PSPS event and when power was restored.

Paragraph (f)(2) establishes that facilities maintaining records under paragraph (f)(1) need to maintain the records onsite for a minimum of five years and make the information available to the Executive Officer upon request.

CHAPTER 3 – SUMMARY OF PROPOSED AMENDED RULE 1470

OVERALL APPROACH

PAR 1470 provisions regarding engines with an annual limit of 20 hours for maintenance and testing hours will be available to water and sewage facilities with emergency standby engines located in a very high fire severity zone. The proposed amendments would allow these facilities to average the existing annual maintenance and testing limits over three years.

The following is a summary of PAR 1470 provisions.

PROPOSED AMENDED RULE 1470

Definitions – Subdivision (b)

Paragraph (b)(70) - Very High Fire Hazard Severity Zone

The California Department of Forestry and Fire Protection establishes a very high fire hazard severity zone mapping program to identify land with a high fire hazard potential. PAR 1470 includes a reference to this program to narrow the focus of the proposed amendment to engines within those areas. Specifically, paragraph (b)(70) of PAR 1470 defines a very high fire hazard severity zone as a portion of land with a very high degree of fire hazard as established by the California Department of Forestry and Fire Protection according to Public Resources Code 4201-4204 and Government Code 51175-51189. A map showing these areas and the jurisdictional boundaries of South Coast AQMD is included in Chapter 1.

Paragraph (b)(71) – Water and Sewage Facility

As previously mentioned, the scope of PAR 1470 is intended to be narrow to address a specific need for water and sewage facilities to prepare for future emergencies. For the purposes of PAR 1470, water and sewage facilities are defined as a public entity that is responsible for water delivery operations, sewage pumping plants, sewage treatment, or water reclamation.

Requirements – Subdivision (c)

Paragraph (c)(3) of existing Rule 1470 establishes operating requirements and emissions standards for in-use emergency standby diesel engines rated greater than 50 bhp. Subclause (d)(3)(C)(i)(I) further specifies a 20 hour per year limit for maintenance and testing of an emergency diesel engine with a diesel PM rate greater than 0.40 g/bhp-hr. The annual 20-hour limit does not apply to engine operation for emergency use or emissions testing.

PAR 1470 would add a reference to an alternative maintenance and testing schedule to subclause (d)(3)(C)(i)(I). PAR 1470 would also add subclause (d)(3)(C)(i)(III) to establish the alternative maintenance and testing schedule provisions for emergency standby engines with a diesel PM rate greater than 0.40 g/bhp-hr operated by a water or sewage facility within a very high fire hazard severity zone, excluding engines located in SB 535 Disadvantaged Communities as identified by the California Office of Environmental Health Hazard Assessment's CalEnviroScreen. Specifically, the proposed amended rule provisions would allow the owner or operator of a water or sewage facility the option to average the annual 20 hours of operation for maintenance and testing purposes over a consecutive three-year rolling period, provided annual maintenance and testing in any individual year does not exceed 30 hours. Averaging maintenance and testing hours will provide an alternative maintenance and testing schedule that will not increase the total

maintenance and testing hours. Water and sewage facilities that elect to use this alternative maintenance and testing schedule would need to modify existing permits to reflect 20 hours averaged over a consecutive 3-year period, with no year to exceed 30 hours for maintenance and testing. Subclause (d)(3)(C)(i)(III) of PAR 1470 also specifies that the consecutive three-year rolling period would initially start with the calendar year that the permit modification is approved.

CHAPTER 4 – IMPACT ASSESSMENT

AFFECTED SOURCES

PR 118.1

PR 118.1 will apply to critical service facilities which are defined as facilities that include essential public services as defined under Rule 1302, sewage pumping plants, recycled water¹² pumping plants, natural gas delivery facilities, health facilities as defined in Section 1250 of the California Health and Safety Code, and facilities used exclusively for telecommunications, including radio and cell towers. However, the number of future PSPS events and the facilities that may exceed emergency engine permit operating limits due to PSPS events is unknown. For reference, based on a review of 2020 South Coast AQMD Hearing Board activity, there were three cases in which a petitioner submitted a variance request for an emergency standby engine that exceeded the 200-hour permit conditions due to power outages associated with a PSPS event. Two of the variance requests were for single engines, and one variance was for two engines operating at a facility. All three petitioners were critical service facilities as defined in PR 118.1, and each engine was used to provide emergency standby power for a communications tower.

PAR 1470

PAR 1470 allows an alternative testing and maintenance schedule for engines with a 20-hour limitation for water and sewage facilities with engines located in a very high fire severity zone. Based on a review of South Coast AQMD permit data, it is estimated that there are 359 engines at water and sewage facilities with a 20-hour limitation. Of the 359 engines, 94 of these engines are in a very high fire hazard severity zone. Based on consultation with the representatives from the Southern California Alliance of Publicly Owned Treatment Works (SCAP) and the California Municipal Utilities Association (CMUA) which represent many water and sewage facilities, approximately two facilities representing less than 15 engines are expected to utilize the provision.

EMISSIONS IMPACT

PR 118.1

During PSPS events, critical service facilities may need to operate engines despite exceeding the 200-hour limit to provide the public continuous services and protect public health and safety. As previously mentioned, the future number of PSPS events and the facilities that may exceed emergency engine permit limitations is unknown; however, a review of South Coast AQMD Hearing Board cases related to PSPS events in 2020 can provide information on emergency engine emissions.

In 2020, three facilities (Facility A, Facility B, and Facility C) filed for variances due to emergency standby engines exceeding the 200-hour permit condition because of power outages from a PSPS event. All the engines were diesel-fueled, except for Facility B that operated a propane engine. Table 4-1 summarizes hourly emission factors for the engines associated with each of the three Hearing Board cases.

The operation of emergency standby engines during PSPS events at critical service facilities is necessary to protect public health and safety. PR 118.1 does increase emergency standby engine

¹² Recycled water definition included in Title 22, Section 60304 of the California Code of Regulations

operation and would allow the exclusion of operating hours associated with PSPS events from counting towards the current South Coast AQMD permit limitations.

PAR 1470

PAR 1470 will allow fluctuations in annual maintenance and testing hours but does not increase the annual average or total operating hours during the three years. Engine emissions and the estimated cancer risk for diesel particulates are based on 25 years for worker receptors and 30 years for residential and sensitive receptors. By maintaining the same total amount of permitted maintenance and testing hours over three years, the cancer risk for PAR 1470 will remain the same as Rule 1470 and the state ATCM. Since proposal allows up to 30 hours in one year, to be conservative PAR 1470 prohibits use of the alternative maintenance and testing schedule for engines located in a SB 535 Disadvantaged Communities.

Table 4-1

Summary Table of Engine Emission Factors From South Coast AQMD Hearing Board Cases

Facility	Engine HP	Emission Factors (lb/hr)				
		CO	NOx	PM10	RHC	SOx
Facility A	80	0.19	0.51	0.03	0.03	0.001
Facility B	74	0.009	0.01	Negligible	0.025	0.026
Facility C	75	0.05	0.91	0.05	0.17	0.03
Facility C	102	0.255	1.173	0.084	0.08	0.018

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the California Environmental Quality Act (CEQA) and South Coast AQMD's certified regulatory program (Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l) and South Coast AQMD Rule 110), the South Coast AQMD, as lead agency for the proposed project, will prepare the appropriate CEQA documentation for the proposed project in accordance with CEQA requirements.

SOCIOECONOMIC IMPACT ASSESSMENT

A socioeconomic impact assessment will be conducted and released for public review and comment at least 30 days prior to the South Coast AQMD Governing Board Hearing, which is anticipated to be on October 1st, 2021.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

California Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of

necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

Necessity

PR 118.1 is needed to provide critical service facilities with an emergency standby engine that exceeds the annual operating limit due to PSPS events another option for regulatory certainty and relief other than petitioning the South Coast AQMD Hearing Board. Rule 118 will not provide relief for engines operating during a PSPS event since PSPS events are preventative measures and not a state of emergency. PAR 1470 amendments are needed to provide water or sewage facilities with engines located in a very high fire hazard severity zone an alternative maintenance and testing schedule to conduct more rigorous testing to ensure emergency engine reliability.

Authority

The South Coast AQMD Governing Board has authority to adopt PR 118.1 and amend PAR 1470 pursuant to the California Health and Safety Code Sections 39002, 39666, 40000, 40001, 40702, 40725 through 40728.

Clarity

PR 118.1 and PAR 1470 are written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

PR 118.1 and PAR 1470 are in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication

PR 118.1 and PAR 1470 will not impose the same requirements as or in conflict with any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

By adopting PR 118.1 and PAR 1470, the South Coast AQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety code, 40001 (non-vehicular air pollution) and 40702 (adopt regulations & execute duties).

COMPARATIVE ANALYSIS

California Health and Safety Code Section 40727.2 requires a comparative analysis of the proposed rule requirements with those of any Federal or South Coast AQMD rules and regulations applicable to the same equipment or source category. The comparative analysis will be conducted and released in the draft staff report at least 30 days prior to the South Coast AQMD Governing Board Hearing on PAR 1469.1, which is anticipated to be held on October 1, 2021.