

**Bay Area Air Quality Management District**

**939 Ellis Street  
San Francisco, CA 94109**

**Proposed Amendments to  
Regulation 2 (Permits) Rule 1 (General Requirements) and  
Regulation 9 (Inorganic Gaseous Pollutants) Rule 8 (Nitrogen  
Oxides and Carbon Monoxide from Stationary Internal  
Combustion Engines)**

**Staff Report**

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**Prepared by:**

**William DeBoisblanc  
Steve Hill  
Permit Services Division**

**Reviewed by:**

**Robert N. Kwong  
District Counsel**

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## **STAFF REPORT**

### **Proposed Amendments to Regulation 2 (Permits) Rule 1 (General Requirements) and Regulation 9 (Inorganic Gaseous Pollutants) Rule 8 (Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines)**

#### **Executive Summary**

The current energy emergency declared by Governor Gray Davis on January 17, 2001, and the increasing concern over the air quality impact and toxicity of diesel particulate matter that may be generated from the increased use of emergency standby engines during the energy emergency are the primary justifications for this proposed District rule amendment action. The impact of increased criteria and toxic air emissions from the use of emergency standby engines is at the forefront of the attention of all of the state's local air pollution control districts.

Currently, the Bay Area AQMD is the only major air district in California that doesn't require permits to construct or operate for emergency standby engines. This proposed rulemaking action is designed to make such engines subject to District permit requirements. It is expected that having all of these engines in the permit system will allow the District to more fully evaluate the quantity of ozone precursors and diesel particulate matter emitted by these sources of air pollution.

District staff is recommending elimination of current permit exemption for "standby engines" in District Rule 2-1-114 and in its place is proposing to add requirements for the operation of "emergency standby engines" to Regulation 9, Rule 8. After these changes, all internal combustion engines, greater than 50 brake horsepower, will be subject to District permit requirements regardless of the operator's purpose for that engine. However, most engines affected by the loss of exemption will not require air pollution control retrofitting because they will continue to be used only in the event of an emergency and for short test periods for reliability purposes.

If on the other hand, facilities, who voluntarily choose to operate their engines prior to an actual blackout in a Stage 2 or 3 power alert in exchange for cheaper power or for a guarantee that they will not be blacked out, may be required by District regulations to retrofit these engines with best available diesel particulate and nitrogen oxides (NOx) emission controls.

Based on numerous public comments on the proposed rule amendments by interested parties and careful review by District staff, a number of substantive changes have been made to the proposed amendments.

The estimated number of emergency backup generators in the District ranges from 5 to 10 thousand units. From data collected by the Air Resources Board, it is believed that essentially all of these engines are diesel fuel fired and the average size of these engines is about 350 horsepower.

The key points of the District staff rule amendment proposal are as follows:

- The current exemption for “Standby engines” in Regulation 2, Rule 1 would be deleted and Regulation 9, Rule 8 would be amended to establish Hours of Operation requirements for Emergency Standby Engines.
- Unlimited operation of the backup generators would be allowed in the event of a blackout or other emergency uses defined in the rule.
- Most emergency standby engines would also be allowed up to 100 hours of reliability-related use (e.g., for testing or for startup just prior to a blackout).
- However, engines located at Essential Public Services, such as medical facilities, fire, police, airports, water and sewage operations would be allowed 200 hours of discretionary use. This additional allowance proposed for Essential Public Services recognizes the fact that use of these engines may be necessary to protect the health and safety of the Bay Area public.

The allowance of 100 and 200 hours of reliability-related or discretionary use for operators of these engines in general and for Essential Public Services, respectively, should be more than adequate for response to blackouts that affect the facility, even under the worst-case blackout scenarios now predicted for this summer. The allowance will not allow a facility to rely on use of engines to participate in a utility-sponsored curtailment program, however.

It should be noted that since May 17, 2000 when Regulation 2, Rule 1 was last amended to address the permit status of “standby engines,” new emergency standby engines greater than 50 HP have been subject to the District’s Risk Management Policy which may have restricted annual hours of operation in order to pass a Toxic Risk Screening Analysis. The allowable hours of operation for these engines, in non-blackout periods, would have depended on the results of this Toxic Risk Screening Analysis performed in accordance with the District’s Risk Management Policy. This regulatory approach would remain unchanged as a result of the proposed amendments.

District staff have been discussing the use of diesel emergency standby engines on a regular basis with the Governor's staff, CalEPA, the California Independent System Operator ("ISO"), the California Energy Commission, the ARB, state legislative staff members, other local air pollution control districts, and diverse stakeholder/interest groups. The ISO, and to some extent, the Governor's staff, have been exploring both the air pollution impacts of emergency standby engine use, and their potential to perhaps prevent or alleviate rolling blackouts. To date, the Davis Administration's public position on this issue has been limited to a letter from the Executive Officer of the Air Resources Board which described the use of diesel emergency standby engines to prevent blackouts as "inappropriate." District staff will closely follow and report on any action by the Davis Administration regarding the use of backup generation to preclude or mollify an actual blackout.

### ***Introduction***

The proposed amended regulations eliminate the exemption for emergency standby engines currently contained in District Regulation 2-1-114.2.3. As a result, all persons who own and/or operate existing emergency standby engines will be required to obtain a District permit to operate such an engine. It is expected that the permitting effort will be complete before Summer, 2002. New emergency standby engines will be subject to District New Source Review and will need to meet current NO<sub>x</sub> and particulate matter emission control requirements. Operators will be required to report usage of such engines to the District on an annual basis.

Pursuant to District Rule 2-1-424 – Loss of Exemption or Exclusion,<sup>1</sup> the District will inform operators of emergency standby engines of applicable requirements. The District has not yet conducted systematic outreach to emergency engine operators. As a result, many emergency standby engine operators may have used these engines for non-emergency uses in order to participate in utility-sponsored curtailment programs (i.e., voluntary load shedding) in exchange for reduced electric rates. Studies by the State of California show that a single large diesel engine produces higher ozone precursor emissions than even a central station power plant. The District staff is also concerned about the increase in particulate matter emissions from the use of these generators – diesel particulate matter is deemed a toxic air contaminant by the State of California. Potential emission reductions from this proposal have not been quantified. One of the goals of this program is to collect information to create an accurate emission inventory from this stationary source category. The principal immediate benefit

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<sup>1</sup> Rule 2-1-424 states in pertinent part that, "Within 90 days of written notification by the APCO of the need for a permit, any person who operates a source which does not require a District permit who loses an exemption or exclusion because of changes in federal, California or District laws or regulations shall submit a complete permit application for the subject source . . . ."

from this proposal will be an unquantifiable but significant reduction in public exposure to toxic diesel particulate emissions..

## **Purpose of These Revisions**

During the summer of 2000, unprecedented demand on the region's power supply resulted in a rolling blackout in Contra Costa county, as well as several days of Stage 3 alerts. During the winter of 2000/2001 the region experienced three weeks of Stage 3 alerts peppered with blackouts and threats of blackouts. Many people found it necessary to operate emergency power generators.

Many other people suddenly became interested in buying emergency power generators.

A clean emergency power generator that burns diesel fuel emits more than 20 times as much NO<sub>x</sub> per kw-hr as a new well-controlled power plant. An older, dirtier diesel engine emits 200 times as much NO<sub>x</sub>. NO<sub>x</sub> is a precursor for smog.

Emergency power generators that burn diesel fuel also emit diesel particulate. The California Air Resources Board has identified diesel particulate as a Toxic Air Contaminant. This contaminant has a cancer potency that results in unacceptable cancer risks from engines operated for as little as 30 hours per year.

In order to better assess and regulate the air quality impact of these new developments, the District staff needs to collect reliable information about the number of existing engines, their age, and their use. In order to minimize the air quality impact of these new emergency standby engines, the application of new source review, especially the Best Available Control Technology requirement, is needed. In order to communicate with engine operators about new and existing applicable requirements, a comprehensive list of operators needs to be compiled and maintained.

Incorporation of these sources into the District's existing permit program is expected to accomplish these goals.

## **Socioeconomic Impacts of Rulemaking**

Section 40728.5, subdivision (a) of the California Health and Safety Code (H&SC) requires districts to assess the socioeconomic impacts of amendments to regulations that, "...will significantly affect air quality or emissions limitations, that agency shall, to the extent data are available, perform an assessment of the socioeconomic impacts of the adoption, amendment, or repeal of the rule or regulation." District staff has determined, given the lack of relevant and available data on this source category, the requirements for an extensive socioeconomic analysis as set forth in Section 40728.5 do not apply in this rulemaking project. It is important to note that one of the major goals of the proposed amendments

and the District's permit program is to gather the information necessary to make such a socioeconomic assessment.

Permitting programs generate revenue and allow for analysis and the imposition of applicable controls, administrative and monitoring requirements through permit conditions.

Operators of sources which were previously exempt from District permits will incur additional permitting costs if they are no longer exempt. This rule revision will impose an additional regulatory requirements on existing sources in the form of a record-keeping requirement.

New engines will be subject to few new requirements. They will be subject to the Best Available Control Technology (BACT) requirements for NO<sub>x</sub>, but most new engines marketed in California are designed to meet this requirement. They will be subject to the District's Risk Management policy, but they are already subject. Although many engines appear to qualify for the exemption in 2-1-114.2.3, in fact the toxic backstop provision contained in Regulation 2-1-316 means that any new or modified engine must undergo risk assessment to determine the allowable hours of operation to keep risk within acceptable limits. For these sources, the proposed elimination of the exemption results in payment of a fee to cover the administrative costs of risk assessment, a requirement to document operation, and no other change.

Some new engines on the market may experience difficulty meeting District standards for new sources without limits on hours of operation. Engine purchasers can ensure the greatest flexibility by selecting the cleanest engines available.

Under Health and Safety Code § 40920.6, the District is required to perform an incremental cost analysis for any proposed best available retrofit control technology rule. If applicable to this proposed rulemaking activity, the District is required to: (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the District must "calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option."

District staff has determined that this section of the Health and Safety Code is not applicable to the proposed amendment. The proposed amendment is not a best available retrofit control technology rule. The proposed amendment will require existing exempt engines to obtain permits, but will not require additional controls. The proposed amendment will require new engines to obtain permits, and subject them to stringent control requirements, but new engines are already subject to these control requirements. New engines capable of meeting the

District's NO<sub>x</sub>, CO and TBACT standards will, in general, be more expensive than those that cannot.

Health and Safety Code Section 40727.2 imposes requirements on the adoption, amendment, or repeal of air district regulations. The law requires a district to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change. Where the district proposal does not impose a new standard, make an existing standard more stringent, or impose new or more stringent administrative requirements, the district may simply note this fact and avoid additional analysis.

These proposed amendments do not impose any different standards. They do, however, impose additional administrative requirements by requiring some previously exempt sources to obtain permits.

## **Environmental Impacts of the Rulemaking**

Pursuant to the California Environmental Quality Act (Public Resources Code section 21000, et seq.), the District is the Lead Agency for the described project. The District has prepared an initial study, and, on the basis of the study, has determined that the project may have potentially significant effects on the environment, but application of the District's Risk Management Policy to the proposed project would result in avoiding or mitigating the effects to a point where clearly no significant effect on the environment would occur. Therefore, the District is proposing to use a mitigated negative declaration for this project pursuant to Public Resources Code § 21064.5 and CEQA Guidelines §§ 15369.5 and 15074.

## **Statutory Findings**

Pursuant to Section 40727 of the California Health and Safety Code (H&SC), regulatory amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments are:

- Authorized by H&SC Sections 40000, 40001, 40702, 40709 through 40714.5, 40725 through 40728, 40918, and 42300 et seq., 40 CFR Part 51, 42 USC §7410, 42 USC §7503
- Written or displayed so that its meaning can be easily understood by the persons directly affected by it;
- Consistent with other District rules, and not in conflict with state or federal law;
- Non-duplicative of other statutes, rules, or regulations; and

## Conclusion

The proposed amendments have met all legal noticing requirements and have been discussed with all interested parties. District staff recommends adoption of the amendments as proposed.

## Discussion of Proposal

In broad strokes, staff proposes to eliminate the existing exemption from permits for emergency standby engines. By doing so, the following benefits will be gained:

- ◆ The District will develop an inventory of engines. This can be used to assess the impacts of various regulatory and energy proposals that involve these sources.
- ◆ The District will develop a list of emergency standby engine owners. This will facilitate communication with owners, and improve participation of this group in the development of regulatory and energy proposals that affect them.
- ◆ Current widespread violations of existing District regulations affecting these sources will be curtailed, with a corresponding benefit to the air quality and the public. The extent and magnitude of this benefit cannot be quantified with current information.
- ◆ New emergency standby engines will be subject to new source review, specifically the BACT requirement, and to the District's Risk Management Policy.. It is expected that emissions from these sources and their impact on public health will be minimized.
- ◆ The District's future regulatory activity for this source category will be funded by affected sources.

These benefits will not be without costs, however.

- ◆ New and replacement emergency standby engines will be more expensive due to emission controls
- ◆ A large fraction of the affected operators are public agencies. Any increase in the cost of replacing engines will affect capital budgets. Any increase in the costs associated with obtaining and complying with permits will affect operating budgets.
- ◆ Many engine operators are businesses that have not had previous contacts with the District. As a result, the District effort to inform and assist these businesses will be substantial.

The staff has considered these impacts in developing this proposal. This report presents regulatory and procedural proposals to minimize the undesirable impacts while accomplishing the overall goals of the program. Alternatives that were considered but not incorporated are described as well.

### ***Programs in Other Districts***

The staff proposal includes elements currently in place in other local air pollution control districts in California.

- ◆ South Coast Air Quality Management District:
- ◆ San Diego Air Quality Management District
- ◆ Monterey County Air Pollution Control District

### ***Definitions***

The effectiveness and clarity of any regulation requires clear and precise definitions of key terms and phrases. The following terms have new definitions:

- ◆ Emergency standby engine (9-8-230)
- ◆ Emergency Use (9-8-231)
- ◆ Reliability-related activities (9-8-232)
- ◆ Essential public service (9-8-233)

### **Impacts of the Proposal**

The proposal has several benefits, but will also impose restrictions and costs. These are discussed in detail below.

### **Environmental Impacts**

The proposed rule amendments will benefit air quality in the Bay Area by reducing emissions of NO<sub>x</sub> and toxic air contaminants.

Emission reductions from this proposal have not been quantified. One of the goals of this program is to collect information to create an inventory. The principal immediate benefit from this proposal will be an unquantifiable but significant reduction in public exposure to toxic diesel particulate emissions. This reduction will be achieved by increased compliance that will result when engine operators are informed of the existing restrictions on emergency standby engine use.

Elimination of the 200-hour limit on emergency use of engines will not result in increased emissions. This is true for several reasons. First, the current 200-hour limit is unenforceable. The District does not have the resources or information necessary to ensure compliance. Second, the appropriate use of these engines (response to emergencies) means that the engines will be used as needed, whether or not there is a regulatory limit on their use. Staff recommends that the District focus on communicating with operators, to educate them about appropriate and compliant use. Finally, the limited information available to the District about use of these engines is that historical use has typically been less than 100 hours per year; the current situation is anomalous, and once the power supply has been stabilized the use of emergency generators should return to normal.

The application of New Source Review requirements to new engines will result in a significant amount of avoided emissions, as compared to the emissions from engines that would be installed in the absence of regulations. Staff has estimated that the resulting avoided NO<sub>x</sub> emissions for a typical engine will be about 200 lb/year. As a result of the energy crisis, the District is receiving applications for more than 20 emergency standby engines per week. The avoided emissions associated with 6 months worth of applications would be 46 TPY (0.1 TPD).

The overall air quality impact from the amendments, including the conversion program, is less than significant.

Pursuant to the California Environmental Quality Act (Public Resources Code section 21000, et seq.), the District is the Lead Agency for the described project. The District has prepared an initial study, and, on the basis of the study, has determined that the project will not have a significant effect on the environment.

## **Regulatory/Procedural Impacts**

### *Existing emergency standby engines*

Under the proposal, existing emergency standby engines will lose their current exemption from permits under District Rule 2-1-114. The current exemption applies to emergency standby engines that are used no more than 300 hours per year. Any engine that is **on site** before the effective date of this proposed revision will be considered to be an existing engine. Any engine that is on site on or after the effective date of this proposed revision will be considered to be a new engine. Any unpermitted existing engine larger than 250 hp which cannot meet the definition of emergency standby engine will be considered to be a new engine.

The recent energy crisis demonstrated the principal problems with the exemption. First, a hard limitation on allowable hours of operation, no matter how generous, may result in the engine being unavailable when needed. Second,

considerable confusion existed concerning the actual definition of “emergency”. This confusion persists. The proposed definition will end the uncertainty.

The staff’s proposal will allow existing emergency engines to be used as originally intended: to protect critical equipment and operations during a genuine emergency (e.g., a power outage). Engines intended to provide emergency power will be permitted to operate when power is lost.

The staff’s proposal will not allow the use of emergency standby engines to supplement utility generation (the power grid) to avoid power outages. These engines are far too dirty to be used for this purpose. The environmental impact of one typical server farm’s diesel backup is equivalent to that of a new 500 MW power plant.

**Permit application:** With the loss of permit exemption, operators of existing engines will be required to submit an application describing their engine and its current operation. The District has developed a streamlined application form for these engines. (Appendix I: Standby Engine Permit Application). Engines that have lost their exemption due to the regulation change will receive permit conditions based upon the requirements that qualified them for their original permit exemption: 100 hours per year of testing and reliability preparation, and unlimited hours under actual emergency conditions. Engine use at facilities that have a contract with their energy supplier that grants a reduced rate in exchange for voluntary curtailment of energy use is considered to be discretionary. The facility operator is choosing to operate these engines.

Engines smaller than 250 hp that were installed prior to May 17, 2000 will not have a limitation on hours of operation. This is because such engines were exempt prior to that date regardless of intended use. Engines installed after that date will be subject to the restrictions described in the previous paragraph.

Engines that cannot meet these conditions will be treated as new sources, *because they never, in fact, qualified for the exemption*. Staff understands that some confusion over the definition of “emergency” has existed in the past (one of the main goals of the present proposal is to eliminate this confusion). As a result, the treatment of existing engines (loss of exemption vs. new source review) will be based upon the operator’s proposed *future* operation.

Staff proposes to send letters to facilities with emergency standby engines notifying them of the need for permit applications within three months of adoption of the amendments. Permit applications will be due 90 days after the notice is received. Loss of exemption permits will be processed by technicians and interns, and permits issued automatically. New source review permit applications will be reviewed by a team of permit engineers assigned to the task. The impact on routine permit processing should not be significant. The influx of permit application is planned to coincide with a reduction in the effort for initial issuance of Title V permits. The engines may be operated while under review.

### *Conversion to Discretionary Use*

Earlier drafts of the Staff proposal included an option for conversion of an existing emergency standby engine to discretionary use for the duration of the emergency. Under this proposal, if the operator is willing to install particulate controls and meet the District's Risk Management Policy, the engine would have required neither add-on controls nor offsets for NO<sub>x</sub>.

Rather than create a special program for conversions, Staff now recommends reviewing such proposals under existing New Source Review requirements. This will mean that converted engines must comply with the Risk Management policy. It will also mean that BACT (and possibly offsets) for NO<sub>x</sub> will be applicable.

The District has always considered BACT for a modified source to be the same as that for a new source. This is because any increase in production should occur at the cleanest sources in the Bay Area. If an existing source is being modified to increase production, it should either be brought up to standard or replaced.

Staff proposes to make a very limited deviation from this policy. Staff has evaluated the cost of retrofit NO<sub>x</sub> controls, and has determined that, for this limited purpose, the cost of controls greatly exceeds the benefits from emission reductions. In consideration of the current energy emergency, the expectation that it will be short-lived, and the cost of controls, staff propose to identify converted engines as a distinct category for the purposes of BACT. NO<sub>x</sub> controls will be assessed for this category on a case-by-case basis, considering hours of operation and length of service, and tailpipe NO<sub>x</sub> controls will be required only if cost-effective.

### *New Emergency Standby Engines*

New engines will be subject to the District's New Source Review program. Operators will be able to choose between two modes of operation: Emergency Standby, and Discretionary use.

Emergency Standby engines will be allowed to operate for up to 100 hours per year (or fewer hours, if needed to meet the Risk Management Policy) for reliability-related activities and in anticipation of imminent emergency conditions. Operation during actual emergencies will not be restricted, nor will it be considered in the risk assessment. Engine operators will be required to install meters to measure usage, and will be required to log usage.

Any engine that cannot comply with the Emergency Standby restrictions will be treated as a discretionary engine. Annual hours of operation will be limited by permit condition, and all emissions will be included in the risk assessment. Engine operators will be required to install meters to measure usage, and will be required to log usage.

**Permit application:** District staff proposes to use the existing permit application procedure for new engines.

### *Portable Engines*

#### **Operational Impacts**

**Permit requirements:** Under the proposed amendments, any portable engine larger than 50 hp requires a permit to operate (or registration under the State portable equipment registration program). A portable engine is any engine, other than one used to provide motive power, that is intended to be used in more than one location. Evidence of portability includes mounting on a pallet or trailer.

Rental engines fall into this category. Each rental engine will require a permit. It is the responsibility of the engine operator to ensure that the engine has a permit. Note that Regulation 2-1-405 (Posting of Permit to Operate) requires that a copy of the permit be accessible to the operator. In most cases, the engine owner will be the permit holder. The permit to operate a portable engine may include limitations on the amount of fuel used or hours of operation at any site (based on risk). The permit may also contain a restriction prohibiting use within 1000 feet of a school, in order to satisfy the notification requirements under state law.

Risk for rental engines will be based upon a worst-case analysis using non-site specific meteorology and the individual engine emission characteristics. The engine will be assumed to be located at the fenceline, and the point of maximum impact will be assumed to be a sensitive (residential) receptor. Engine use will be limited accordingly.

**Recordkeeping:** Some commenters expressed concern that the requirement to document engine use during an emergency could compromise emergency response. This concern was based upon the belief that operators would need to interrupt emergency activities to record engine usage. Sewers would overflow and houses would burn while engine operators were entering fuel usage data into engine logs.

The staff proposal requires emergency engines to be equipped with usage meters that function **automatically**. If logs are properly kept during maintenance engine operation, the minimal information needed to document emergency use (starting and ending meter readings, date and nature of emergency) can be recorded at leisure after the end of the emergency.

Recordkeeping is necessary in order to provide accurate information on engine use, and to demonstrate compliance with limitations on non-emergency use of engines. Some commenters suggested continuing a usage-based exemption; implementation of that proposal would require the same recordkeeping.

**Notification:** Under Health & Safety Code §42301, the District is required to notify schools, the families of students, and the school's neighbors before issuing a permit to a source of toxic air contaminants that will be operated within 1000 feet of a school. This section applies to portable sources that receive District permits. The notification requirement is spelled out in District Regulation 2-1-412. Its applicability to portable sources is confirmed in Regulation 2-1-220.4.

The purpose of the notification requirement is to provide school communities with notice before potentially toxic sources are operated nearby.

There is a need for utilities to bring an engine to a location for very short periods of time in order to repair broken water or power lines. The engines are needed to power compressors which drive jackhammers. These engines are typically less than 100 hp, and are on site for fewer than 72 hours. In the interest of public safety, repairs cannot wait for the 30-day notice period to pass.

To address this issue, the proposed amended rule exempts such short-term engine use from permits. This, in turn, will prevent the notice requirement of 2-1-412 from being triggered.

### **Economic Impacts**

Under the staff proposal, new engines will be subject to District new source review requirements (Regulation 2 Rules 1 and 2). Some of the economic implications of this are:

- ◆ New engines and replacement engines may be more expensive due to BACT control requirements. Engines will have to meet requirements for combustion control (limiting NO<sub>x</sub> and particulate emissions). New engines that meet these requirements cost more than comparable new engines that do not. Used engines will probably not be able to meet District standards.
- ◆ Some engines in some locations will require catalytic filters to remove particulates (in order to meet the District's risk management criteria). Depending to some extent on engine size, this could add \$15,000 to the cost of a small engine, and as much as \$100,000 to the cost of a very large one.
- ◆ Large projects with multiple engines will be subject to District offset requirements. A 2,000 HP diesel engine, operated for 100 hours per year, will emit 1.5 TPY of NO<sub>x</sub>. Small facilities (emissions less than 15 TPY) do not need to provide offsets. Larger facilities installing more than one engine should expect to provide their own offsets (the District currently provides offsets for facilities with emissions less than 50 TPY, but the emission credit bank is nearly depleted). Offsets purchased on the open market may cost above \$10,000 per ton, if available at all.

The increased cost of replacement engines provides a driving force for keeping existing engines in service longer. It might also lead an operator to purchase fewer engines than might otherwise be purchased. This, in turn, might affect the reliability of existing engines and the amount of emergency power available.

The APCO recently revised the risk management policy affecting emergency standby diesel engines to address precisely this issue. The revision does two things: it ignores the toxic impacts of emergency use (for the purposes of determining the acceptability of the engine), and it allows an engine with a catalytic filter to have an impact from non-emergency use that is ten times higher than the 10-in-a-million significance level. As a result of the first revision, most new engines will be approved without catalytic filters; as a result of the second revision, an engine with a catalytic filter will almost always be approvable.

### ***Project Alternatives***

The staff proposal is not the only option available to address the goals of the project. Stakeholders have suggested alternatives to some of the elements of the proposal. Staff has incorporated many suggestions into the proposal; those that were suggested but not incorporated, and the reasons for their exclusion, are presented below.

### **Alternative 1: Registration program (in lieu of permit program)**

The District may implement a registration program under Regulation 1-410. The differences between a registration program and a permit program are shown in the table below.

	Permit program	Registration program
Application process	Engine data; application fee	Same
Application review time	~60 days	No review.
Annual data collection	Hours of operation; hours of emergency use	Same
Annual fee	\$120	None (could be the same with a rule change)
NSR: BACT	Required (6.9 g/hphr for NOx, 0.15 gm/hphr for PM10)	none
NSR: Toxics Rvw	Required	None

NSR: Offsets	Required if facility emissions > 15 TPY	None
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The main difference between a permit program and a registration program for standby emergency generators is the applicability of New Source Review requirements for new engines. New source review ensures that new equipment (including replacement equipment) is the cleanest available. In addition, the new source risk management program ensures that health risks from new equipment are insignificant. The routine permit review requires between 45-60 days for District processing.

A registration program would result in avoidable additional pollution due to the use of dirtier-than-necessary engines. A registration program would allow new public exposure to unacceptable levels of toxic air pollutants. In many cases, minor revisions to the project could result in acceptable impacts. Pre-construction permit review would identify such projects.

A permit program, therefore, results in additional environmental benefits that cannot be achieved by a registration program. The additional costs associated with purchase of cleaner engines are justified by the reduced impacts on public health.

## **Alternative 2: Exemptions from regulatory requirements**

### *2A: Exemptions for key essential public service*

Operators of municipal water and wastewater systems suggested that engines used for essential public services merit special treatment. These are engines used by public agencies for critical public health and safety purposes (flood control, fire protection, water supply). Some of the suggested exemptions are:

- ◆ An exemption from permits for engines used for essential public services. Use a one-time registration program instead.
- ◆ An exemption from NSR for new or replacement engines in essential public service.
- ◆ An exemption from one or more specific elements of NSR (BACT, offsets, Toxics review) engines in essential public service.

Staff does not propose exemption for essential public engines. The concerns about health impacts from existing diesel engines apply to these engines as well. The permit regulation will not interfere with the use of these engines under actual emergency circumstances. Engines capable of complying with District BACT requirements without expensive add-on controls exist in all sizes; it is unlikely

that the District's permit requirements will make engine purchase substantially more difficult.

The proposed amendments restrict non-emergency or emergency standby engines use to 100 hours per year. Many commenters suggested that it was easily possible that this time could be used up by operating engines between the time that the utility warns that a blackout is imminent and the time that a blackout occurs (or the warning is called off). Many operators, upon receiving such a warning, would transfer their power demand from the grid to their engines. This would be prudent because even a momentary suspension of power supply can cause control systems to crash and result in air emissions from emergency shutdowns, expensive loss of unfinished production runs, and dangerous conditions in sewage treatment plants.

These potential impacts are not restricted to essential public services.

These impacts should be avoided if possible. On the other hand, we want to avoid reliance on emergency standby engines as a tool for avoidance of rolling blackouts.

The proposed amendments allow for up to 100 hours of reliability-related operation for non-essential services. Operation of engines before a blackout occurs counts towards that 100 hours. The problem identified by the water supply and treatment operators is that the cumulative time between warnings and rolling blackouts could exceed 100 hours per year. Arguments supporting this possibility include the actual experience in January and February of this year, when the region went through 32 consecutive days of Stage 3 alerts; during that period, several "warnings" of impending blackouts were issued, but few blackouts occurred; more than half of the warnings of imminent rolling blackouts issued by the ISO are false alarms; the governor has ordered the ISO to increase the lead time for warnings from 30 minutes to an hour or more, and the ISO expects that to result in 4 out of 5 warnings to be false alarms; and a block remains vulnerable until a blackout actually occurs.

On the other hand, there are 14 blocks; once a facility has been blacked out, it will be some time before its turn comes up again; even if there is a blackout warning every day throughout the summer which lasts for one hour before being cleared or implemented, the total number of hours is still less than 100, and will be distributed over the 14 blocks.

As a result, the District has determined that the probability of post-warning engine operation consuming more than the allowed 100 hours is negligible. In order to ensure that public water supplies and sewage treatment are not threatened, the District has increased the allowance to 200 hours for essential public services.

### *2B: Exemptions for voluntary curtailment*

Some commenters suggested that the District should allow emergency standby engines to be used to allow facilities to reduce their demand on the utility power supply grid (“voluntary curtailment”). They suggest that this permission could be limited, for example, to apply only in situations where the ISO has called a “Stage 2” or “Stage 3” alert, or has actually begun rolling blackouts.

Staff does not support this suggested alternative. The emissions per kilowatt-hour from a diesel generator are grossly higher than those from a modern power plant. NO<sub>x</sub> emissions are 20 times higher (or more). Toxic diesel particulate emissions can, in just a few hours, exceed the Proposition 65 significance levels. The governor has explicitly stated on many occasions that air quality is not to be compromised in the quest for solutions to the energy crisis. *Executive Order D-14-00*, 8/2/00; *Executive Order D-28-01*, 3/7/01.

### *2C: Delay implementation until after energy crisis is “over”*

At a minimum, immediate engine registration and data collection is essential for agency understanding of the impact of engine use. The fact that engine use may change after this summer is not a valid argument for delaying collection of information. The sharp increase in engine purchases also lends urgency to implementation of clear rules regarding their emissions and conditions of use. Finally, widespread misunderstanding of the current requirements indicates that outreach and compliance assistance is necessary. The staff proposal addresses all of these issues. Delay would not.

## **Proposed Revisions**

### **Require permits for Standby Engines**

**2-1-114 Exemption, Combustion Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, only if the source does not emit pollutants other than combustion products, and those combustion products are not caused by the combustion of a pollutant generated from another source, and the source does not require permitting pursuant to Section 2-1-319.

#### 114.2 Internal Combustion Engines and Gas Turbines:

- 2.1 Internal combustion (IC) engines and gas turbines with a maximum output rating less than or equal to 50 hp.
- 2.2 Internal combustion (IC) engines and gas turbines used solely for instructional purposes at research, teaching, or educational facilities.
- 2.3 Portable internal combustion engines which are at a location for less than 72 consecutive hours and ~~standby internal combustion engines and standby gas turbines meeting the following criteria:~~
  - ~~2.3.1 The engine or turbine is operated for no more than 200 hours in any calendar year, plus an additional 100 hours per calendar year for the purposes of maintenance and testing.~~
  - ~~2.3.2 The engine or turbine is not operated at a facility with a power supply contract which offers a lower rate in exchange for the power supplier's ability to curtail energy consumption with prior~~

~~notice-~~

- 2.4 Any engine mounted on, within, or incorporated into any vehicle, train, ship, boat, or barge used to provide propulsion for the vehicle, train, ship, boat, or barge. Facilities which include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo.
- 2.5 Any engine mounted on, within, or incorporated into any vehicle, train, ship, boat, or barge used to provide propulsion for the vehicle, train, ship, boat, or barge and which is also used to supply mechanical or electrical power to ancillary equipment (e.g., crane, drill, winch, etc.) which is affixed to or is a part of the vehicle, train, ship, boat, or barge. Facilities which include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo.

(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)

Staff proposes elimination of the exemption for standby emergency generators, and modification of the exemption for portable engines.

Based upon discussions between staff and engine operators, it has become clear that the District's emergency standby generator exemption has been greatly misunderstood and, as a result, numerous standby generators have operated under conditions which invalidate their exempt status. The potential health impact due to emissions from improperly operated engines have recently become extremely important, as the utility deregulation program has created big economic incentives to operate engines under non-emergency conditions.

Additionally, the existing language has been interpreted to allow the operation of a very large (100 MW) and dirty (10 to 20 times more pollution than from a power plant equipped with BACT) power plant, without any District permit review.

The principal justification for the historical exemption of these engines was that their extremely limited operation resulted in a relatively small impact, and it was therefore not worth the expense and effort to regulate these engines.

The energy crisis has changed circumstances so that the assumption of insignificant engine use is no longer valid. Furthermore, anticipation of further outages has resulted in a considerable increase in the number of engines. Finally, the toxicity of emissions from these engines is now believed to be considerably higher than previous estimates.

For all of these reasons, it is important that the District be aware of the location and use of these engines; that operators be informed of the legal limits on their use; and that new engines be as clean as possible. While the energy crisis lends urgency to this effort, the toxicity of engine emissions means that even the historically limited use of these engines poses a health risk that merits oversight.

Staff propose to require permits for all standby engines, new and existing, larger than 50 hp (except for engines registered under the CARB portable equipment registration program). This requirement is consistent with current permit requirements in the other major California Districts. Additionally, all new diesel engines will be subject to the District's risk management program. This program allows for three tiers of emission control:

1. The project is acceptable if the annual emissions would result in an incremental cancer risk equal to or less than one in a million.
2. The project is acceptable if the engine emits less than 0.15 gm/bhp-hr and the annual emissions would result in an incremental cancer risk equal to or less than ten in a million.
3. The project is acceptable if the engine emits less than 0.15 gm/bhp-hr, followed by a catalyst-based diesel particulate filter, and the annual

emissions would result in an incremental cancer risk equal to or less than one hundred in a million.

The risk assessment considers only the impact of emissions during engine testing and reliability operations. Emissions occurring during emergencies are not included.

Existing engines will, as a result, become registered with the District. We will be able to inform standby engine operators of the conditions under which they can legally operate their engines. Those who wish to operate their engines for purposes other than emergency standby power production will be informed of the requirements for doing so.

The exemption for portable engines has been altered to require permits for all but the most limited use. The justification for the permit requirement is the same as for emergency standby engines. From a regional perspective, the potential impact of portable engines is much greater, because the annual hours of use are likely to be much higher.

A limited exemption for engines that remain onsite for fewer than 72 consecutive hours has been retained. The purpose of this is to allow very brief use of engines without triggering the requirement for public notice under Regulation 2-1-412 (Public Notification, Schools). This exemption will allow, for example, the water utility to bring compressors in to operate jackhammers in order to repair damaged pipes near school property, without having to provide notice of the operation of a source of toxic pollutants. The limited duration of the engine's presence, as well as the need for immediate response to repair damaged utilities, justifies this exemption.

Note that these engines still require operating permits. They remain at the home base for more than 72 consecutive hours. They simply do not require a permit before being used briefly at a specific site.

## New Exemptions

- 9-8-101** **Description:** This rule limits the emissions of nitrogen oxides and carbon monoxide from stationary internal combustion engines ~~fired on gaseous fuels or any combination of gaseous and liquid fuels. This rule does not apply to emergency standby engines excluded under Regulation 1-110.2.~~
- 9-8-110** **Exemptions:** The requirements of ~~this rule~~ Sections 9-8-301, 302, and 502 shall not apply to the following:
- 110.1** Engines rated by the manufacturer at less than 250 brake horsepower output rating.
  - 110.2** Engines fired exclusively by liquid fuels including, but not limited to, diesel fuel, gasoline, and methanol.
  - 110.3** Engines used directly and exclusively for the growing of crops or the raising of fowl or animals.
  - 110.4** Emergency standby engines.

New sections have been added to Regulation 9, Rule 8. This is the existing regulation that covers internal combustion engines. These new sections provide definitions and clarification of the records that must be kept to ensure that emergency standby engines are appropriately use.

Regulation 9-8 currently applies to engines using gaseous fuels. The scope of the regulation needs to be expanded to include liquid-fuel fired engines. Staff does not propose to change the requirements for gaseous engines, nor does staff propose to apply standards for gaseous fuels to liquid-fuel fired engines.

In order to accomplish this, modifications to the applicability and exemption sections of the rule have been proposed.

### **New Definitions**

**9-8-230 Emergency Standby Engine:** Any engine that is exclusively operated:

- 230.1 For emergency use; and
- 230.2 For reliability-related activities.

Emergency standby engines are defined as engines that are operated under emergency conditions (defined in 9-8-231) and reliability related activities (defined in 9-8-232).

**9-8-231 Emergency Use:** the use of an emergency standby engine during any of the following:

- 231.1 In the event of loss of regular natural gas supply;
- 231.2 In the event of failure of regular electric power supply;
- 231.3 Flood mitigation;
- 231.4 Sewage overflow mitigation;
- 231.5 Fire;
- 231.6 Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.

Emergency use is defined. The list includes the emergency conditions identified by commenters, and by definitions in the South Coast AQMD and San Diego APCD rules. There are other definitions of “emergency” (for example, the definition from the California Code of Regulations Art V chap 9 div 3 Title XIII (Motor Vehicles). Staff has considered and rejected definitions that are open-ended and vague.

**9-8-232 Reliability-related activities:** Either:

- 232.1 Operation of an emergency standby engine to test its ability to perform for an emergency use; and
- 232.2 Operation of an emergency standby engine during maintenance of a primary motor.

The proposal allows the use of emergency standby engines for up to 100 combined hours for testing and “reliability-related activities.” This allows the

operator to start the engine up in advance of a blackout to avoid momentary interruption of power (which can have substantial impact on some manufacturing processes. The proposal does not, however, provide enough hours to allow a facility to rely upon emergency standby generators as a basis for participation in most utility-sponsored curtailment programs. Engines used to support such participation must be permitted for discretionary use.

**9-8-233 Essential Public Service:**

- 233.1 A sewage treatment facility, and associated collection system, which is publicly owned and operated;
- 233.2 Water treatment and delivery operations;
- 233.3 Public transit;
- 233.4 Police or fire fighting facility;
- 233.5 Airport runway lights; or
- 233.6 Hospital or other medical emergency facility.

Staff believes that 100 hours of reliability-related operation will be more than adequate under even the most pessimistic predications of blackouts this summer. Nevertheless, in order to ensure that public safety is not compromised, essential public services will be allowed 200 hours of reliability-related operation for emergency standby engines. The proposed definition lists the activities that qualify for the additional hours.

**New standards**

**9-8-330 Emergency Standby Engines, Hours of Operation:** A person may only operate an emergency standby engine under the following circumstances:

- 330.1 for emergency use for an unlimited number of hours ; and
- 330.2 for reliability-related activities so long as total hours of operation for this purpose do not exceed 100 hours in a calendar year, or limitations contained in a District permit, whichever is lower.

Existing emergency standby engines that are currently exempt must continue to meet the definition of emergency standby, or be treated as a modified source. The standard limits discretionary use to 100 hours per year of reliability-related activities (newly defined in 9-8-232), and allows use during emergencies for as long as the emergency continues.

**9-8-331 Essential Public Service, Hours of Operation:** An essential public service may only operate an emergency standby engine under the following circumstances:

- 331.1 for emergency use for an unlimited number of hours; and
- 331.2 for reliability-related activities so long as total hours of operation for this purpose do not exceed 200 hours per calendar year, or hours of operation limits set forth in a District permit, whichever is less.

Staff believes that 100 hours of reliability-related operation will be more than adequate under even the most pessimistic predications of blackouts this summer. Nevertheless, in order to ensure that public safety is not compromised,

essential public services will be allowed 200 hours of reliability-related operation for emergency standby engines.

### **New monitoring requirements**

**9-8-530 Emergency Standby Engines, Monitoring and Recordkeeping:** Each emergency standby engine shall be equipped with a non-resettable totalizing meter that measures hours of operation or fuel usage. All records shall be kept for at least two years, and shall be available for inspection by District staff upon request. The operator shall keep a monthly log of usage that shall indicate the following:

530.1 Hours of operation (total)

530.2 Hours of operation (emergency)

530.3 For each emergency, the nature of the emergency condition.

The main purpose of these revisions is to gather information about engine use. The proposed recordkeeping requirements are similar to those required in other California Districts.

## **Response to Comments**

### ***Comment letters from Wastewater Treatment Facilities***

The following wastewater treatment facilities submitted a single comment letter (two versions):

Dublin San Ramon Services District  
 East Bay Dischargers Authority  
 East Bay Municipal Utility District  
 Fairfield-Suisun Sewer District  
 City of Millbrae  
 North San Mateo County Sanitation District  
 City of Palo Alto  
 San Francisco International Airport  
 San Francisco Public Utilities Commission  
 City of San Jose  
 City of Santa Rosa  
 South Bayside System Authority  
 West County Wastewater District

1. Comment: Definitions of "emergency" and "key essential public service" should be included.  
*See 9-8-231 for definition of "emergency conditions." See 9-8-234 for definition of "essential public service"*
2. Comment: Standby engines for key essential public service should be exempt from permits.  
*We disagree. The only valid policy argument supporting this suggestion is that the increased cost of controls for new engines would result in*

*purchase of fewer engines than are needed to ensure safety (or, alternatively, retention of older engines beyond a reliable age). This issue is discussed in the section on ALTERNATIVES.*

3. Comment: District should consider a registration program similar to San Diego Air Pollution Control District Rule 12.  
*A registration program would not accomplish all of the goals of the staff proposal, and would require substantial new District procedures. The District is not able to implement such procedures at this time. See the discussion in ALTERNATIVES.*
4. Comment: New and replacement emergency s/b engines <720 hours/year should not trigger BACT, NSR, offsets, risk management.  
*This would not achieve all of the benefits of the staff proposal. See discussion in ALTERNATIVES.*
5. Comment: Emission at pump stations should not count towards Title V totals.  
*They don't, unless the pump station is onsite.*
6. Comment: Regulatory & financial burden of permit program should be fully documented.  
*See discussion under IMPACTS.*
7. What are the documentation requirements?
  1. *Engine data (initial application)*
  2. *Annual update (log data: hours of operation, both total and emergency)*
8. What is the cost of retrofits?  
*Cost of the totalizing usage meter (the only required retrofit) is not known, but is expected to be minor compared to the capital cost of the engine.*
9. What are the added costs for normal replacements?  
*Cost of purchase of BACT-compliant engine over dirty diesel: <> % (range)*  
*Cost of catalytic filter (if required): \$<> per engine.*  
*We expect less than 10% of new engines will require filters.*
10. Will risk management requirements prevent siting of multiple engines?  
*No. The recent liberalization of risk management criteria for these engines ensures that an application for a collection of well-controlled engines will be approvable.*
11. Comment: Unlimited use of engines for voluntary power use curtailment should be allowed.  
*The District supports curtailment. Curtailment means reduction of energy*

*USE. The District does not support use of dirty diesels to supplement power supplies. See the discussion under ENERGY.*

12. Comment: The permit requirement will not improve air quality or reduce air pollution. Therefore there is no gain or benefit to public from permit requirement.  
*The permit requirement ensures that new engines are as clean as reasonably possible. The permit requirement ensures that operators will not inadvertently believe that firing their dirty diesels to help avert blackouts is appropriate or allowed. The permit requirement ensures that all engine operators are treated fairly and consistently. The new definitions and monitoring requirements in Regulation 9-8 will also contribute towards improved communication.*
13. Comment: The recordkeeping requirement is unnecessary and unrealistic. Requiring recordkeeping for essential public services will slow emergency response. This could lead to sanitary sewer overflows or fire suppression water shortages.  
*The recordkeeping requirement will not affect emergency response in any way. The information required is simple and can be documented after the emergency is over.*
14. Comment: Voluntary curtailment in response to Governor's plea should not be penalized.  
*There may be a misunderstanding about the Governor's Executive Orders and requests. First, the governor has not, to date, authorized violation of any air pollution laws or regulations pursuant to his authority under the state of emergency. Second, the use of emergency engines in non-emergency situations is NOT curtailment. Curtailment is a reduction in use, not a substitution of one power source for another. The District will inform permit holders if the District's regulations are changed, suspended, or otherwise altered by State law (including Executive Orders).*
15. Comment: District should delay implementation until after the energy crisis is over.  
*Staff respectfully disagrees. There is anecdotal evidence of widespread non-compliance with existing standards that must be addressed as soon as possible. Some of the proposed solutions to the energy crisis will result in significant public exposure to toxic air contaminants. Many businesses are considering participation in ISO- and utility-sponsored demand reduction programs and are basing their decision, in part, upon the belief that use of diesel engines is allowed.*
16. Comment: The discussion should be expanded to cover portable IC engines and standby gas turbines.  
*The section on portable engines (not completed in the draft staff report)*

*has been added. The number of standby gas turbines is too small to merit a special discussion.*

17. Comment: Are TBACT-compliant engines available in all sizes?  
*Yes. CARB-certified engines are available at 200 bhp and greater. EPA certified engines are available in smaller sizes.*
18. Comment: Evaluation of standby engines should be different than that of other engines:
1. BACT should be different  
*The merits of the NSR core policy that new equipment should be the cleanest available has been discussed at length elsewhere. In recognition of the urgency of the energy system, and in anticipation of its temporary nature, the District has proposed special treatment of existing diesel standby engines that are converted to non-emergency use. Existing engines may be permitted for non-emergency use for the duration of the emergency if particulate emissions are controlled using a particulate filter. The District will evaluate BACT for NO<sub>x</sub> such engines on the basis of an incremental cost effectiveness evaluation. Staff has found that, under these conditions, the cost of NO<sub>x</sub> control retrofits will probably be prohibitive, and therefore not required.*
  2. Offsets & Toxics impact should be based on expected hours of operation instead of actual or max  
*The District recently revised its risk management policy as applied to emergency standby engines. The toxics screen is now based on reliability-related emissions and excludes emissions during emergencies.*
19. Comment: Many POTWs have been asked by the Governor and the ISO to curtail their energy use in order to ease the strain on the state power grid.  
*See response to Comment 11.*
20. Comment: Anything that prevents blackouts should be encouraged. The harm resulting from blackouts greatly exceeds any potential harm from excess air pollution. Use of emergency standby engines to reduce strain on the grid are proactive and benefit the public by preventing emergencies caused by power outages.  
*Involuntary curtailment need not create emergencies. Indiscriminate curtailment can create emergencies. Staff believes that any harm attributable to blackouts can be eliminated through appropriate planning by the utilities and the ISO to target blackouts so that emergencies are avoided. Therefore, staff does not believe that it is necessary for the District to voluntarily suspend its regulations in response to this situation.*

*The utilities have taken preliminary steps to prevent harm due to blackouts by sheltering critical public services (hospitals, fire departments, and police) from rolling blackouts. A great deal more can be done. For most users, an unexpected blackout of short duration is an inconvenience. For some, it can be economically disastrous, with warning, however, a graceful shutdown can be achieved that prevents wasted production. The remaining few for whom even a forewarned blackout could prove disastrous, operation exist within the current system. For example, in the short term they can be exempted from rolling blackouts; in the medium term, clean peaker turbines can be installed; in the long term, medium to large power consumers can install clean, dedicated, local power production. This "distributed generation" concept is receiving more and more support, as an equitable way of matching the burdens of power production with the benefits of power consumption.*

**Comment letter from Bay Area Air Toxics Group (1/31/01)**

21. Comment: Define "emergency" and "key essential public service" as follows:

**Emergency:** The actual or threatened existence of conditions of disaster or extreme peril to the provision of essential public services and public safety that are beyond the control of the engine or equipment unit operator, its officers, employees, and contractors, and that require the immediate temporary operation of standby engines or equipment units to help alleviate the threat to public health and safety.

**Key Essential Public Service:** Engines or equipment necessary to maintain the operation of systems essential to public health and safety, such as power, municipal wastewater, water, transportation, transmission or distribution systems.

*The suggested definitions are too broad. They come from SCAQMD Rule 118, which allows the APCO to selectively suspend individual SCAQMD regulation during an emergency. They are not appropriate for use/interpretation by engine operations.*

22. Comment: Exempt new and existing emergency standby engines operated by key essential public services from permits.  
*See responses to Comment 2.*
23. Comment: Consider Regulation 1 registration program instead of Reg 2 permit program (similar to SDCAPCD Rule 12).  
*See responses to Comment 3.*

24. Comment: Exempt replacement engines from NSR, BACT, offsets, risk management.  
*See responses to Comment 4.*
25. Comment: Use of emergency standby engines for voluntary curtailment activities should not count against a facility's discretionary operation hours.  
*See responses to Comment 20.*
26. Comment: Emissions at pump stations should not count against a facility for Title V inventories.  
*See responses to Comment 5.*
27. Comment: Permit and NSR requirements for emergency standby engines would cause conflicts with the RWQCB over siting of emergency standby engines.  
*We are unaware of any such conflicts.*

***Comment letter from Contra Costa Water District (1/26/01)***

28. Comment: Essential public services should be exempt from permits.  
*See responses to Comment 2.*
29. Comment: There is no gain or benefit to the public due to issuance of permits.  
*See discussion in the staff report under IMPACTS.*
30. Comment: Permitting of existing sources will hinder facility's ability to provide the general public with water. Documentation of operations during emergencies will be difficult.  
*No hypothetical situation has been suggested where this would be true.*
31. Comment: It will be difficult to ensure compliance with permit conditions for equipment loaned to other agencies.  
*Equipment sharing arrangements can be documented to avoid innocent error.*
32. Comment: NSR requirements will discourage purchase of new and replacement equipment.  
*This may be true. Staff believe that the additional costs are justified. See the discussion in IMPACTS.*

***Comment letter from Pacific Gas & Electric (1/31/01)***

33. Comment: The District should not restrict the operation of engines operating within 1000 of a school boundary.  
*This limitation is required by state law, which requires notification before*

*operating a source that emits toxics within 1000 feet of a school. Portable sources can be moved to such a location after obtaining a site-specific permit, following notification. Section 2-1-114.3 has been amended to allow an engine that is onsite for fewer than 72 hours to avoid the need for a permit for that site, and therefore to avoid the notification requirement.*

34. Comment: The District should simplify application forms and allow spreadsheet submittal to for operators of multiple engines.  
*Staff agrees. See Appendix I.*

**Comment letter from Pacific Gas & Electric (2/2/01)**

35. Comment: The District should postpone elimination of the exemption until after Summer 2001.  
*See discussion under alternatives*
36. Comment: The District should pursue a registration program rather than a permit program.  
*See discussion under alternatives*
37. Comment: A clear definition of what constitutes “passing the District’s risk screening analysis” means is needed  
*Staff concurs. See discussion under Proposed Revisions.*

**Comment letter from Silicon Valley Manufacturing Group (1/31/01)**

38. Comment: The District should pursue a one-time registration program rather than a permit program.  
*See response to Comment 3.*
39. Comment: Issuance of permit will change the status of the engines under Title V.  
*This is not entirely correct. Permit issuance per se does not affect the emissions from the engines. Deletion of the 200 hour limit, however, will eliminate an enforceable limit restricting emissions and the engines “potential to emit” (used to determine Title V applicability) will be presumed to be 500 hours of operation. The operator can control this effect, however, by voluntarily accepting operating limits.*

Comment: The current TBACT levels are not achievable in all sizes of engines.

*Not correct. There are dozens of models currently available, ranging in size from less than 30 hp to more than 3000 hp. See, for example: California Air Resources Board, Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, Appendix 5: List Of U.S. EPA Certified Engines Meeting the Proposed 0.1 G/Bhp-Hr Emission Limit, October 2000.*

40. Comment: Replacement of existing engines should not trigger new source review.  
*See response to Comment 4.*
41. Comment: Evaluation of toxic impacts should be based upon historic or expected levels, not maximum permitted levels.  
*The District's Risk Management policy was recently changed to base toxic risks on testing and reliability operation. The emissions due to emergency use are not considered.*
42. Comment: The District should compare emissions from standby engines with emissions from other stationary and mobile diesel engines.  
*Staff concurs. This will be one use to which collected data will be put.*
43. Comment: The District should compare emissions from response to ISO requests for non-curtailment use of these engines to avoid curtailments versus anticipated emissions from generators during a blackout.  
*Staff does not have data on engine use during rolling blackouts. For example, we cannot say if, for every 100 MW of blackout; there are 5 or 45 MW of generator use. We expect it to be at the lower end. We can, however, say with confidence that use of 100 MW of back up generators is needed to avoid 100 MW of blackout. It is therefore clear that engine pollution from blackout avoidance is greater than engine pollution from blackouts. Of greater concern is the problem of emissions due to process upsets caused by sudden blackouts. Competent system management, and adequate pre-blackout notification procedures, by the ISO and utilities should minimize this problem.*
44. Comment: Is there going to be a compliance advisory regarding the monitor maintenance requirements?  
*Yes. Training will be provided to the inspectors, and a compliance advisory will be distributed. It will be posted on our website, and distributed to Permit Assistance Centers*
45. Comment: Firewater needs to be added as an emergency use.  
*Staff concurs. See 9-8-231.2*
46. Comment: Add "and overflows" to flooding emergency conditions.  
*Staff concurs. See 9-8-231.1*
47. Comment: Are natural gas engines IC engines? How are they affected?  
*Yes. They are also subject to the regulation and loss of exemption.*
48. Comment: Definition of emergency is contained Art V chap 9 div 3 Title XIII (Motor Vehicles).

“(f) Emergency means any situation arising from sudden and reasonably unforeseen natural disaster such as earthquake, flood, fire, or other acts of God, or other unforeseen events beyond the control of the portable engine or equipment unit operator, its officers, employees, and contractors that threatens public health and safety and that requires the immediate temporary operation of portable engines or equipment units to help alleviate the threat to public health and safety.”

*The principal problem with this definition is that it is simultaneously too broad and too restrictive. The scope of covered events is too broad; the restriction on “unforeseen events” would exclude the current all-too-foreseeable energy supply disruptions. Key concepts from this definition have been included in the Staff proposal.*

49. Comment: What will the cost of permit fees be?  
*\$120/year/engine. See Regulation 3 Schedule B.*
50. Comment: What about Title V permit fees?  
*\$140/source/year at Title V facilities. See Regulation 3 Schedule P.*
51. Comment: Will source tests be required for new engines?  
*Only for engines that are not certified by CARB (or EPA for engines <200HP).*
52. Comment: What will the permit process be?  
*See discussion under Regulation IMPACTS*
53. Comment: The effort to bring existing engines into the permit program should be spread out over time.  
*Staff will balance urgent need for communication with availability of resources for permit processing.*
54. Comment: Create a portable engine permit program.  
*The District already has a portable engine permit program.*
55. Comment: What implications would converting diesel engines to natural gas have?  
*If emissions of any pollutant would increase as a result, permits will be required. If increased pollutant is emitted at more than 10 lb/highest day, BACT will apply to that pollutant.*
56. Comment: Consider exemption for key essential public service engines. (exempt from BACT; exempt from permits)  
*See response to comment 2 and discussion under ALTERNATIVES*

57. Comment: Consider Regulation 1 registration program instead of Reg 2 permit program.  
*See response to comment 3 and discussion under ALTERNATIVES*
58. Comment:
59. Comment: How will this proposal affect engines used for non-firm loads?  
*No effect. Engines used for non-firm loads have NEVER been exempt. Engines (larger than 250 hp) which exemption has been claimed, but which are used to allow continued operation of non-firm loads during curtailment, will be subject to NSR and possible penalties. Engines which cease such use will be permitted as emergency standby engines.*
60. Comment: Emergency pumping of fuel from diesel tanks into buses when power is out should be given special treatment.  
*This has been added to definition of "essential public service." 9-8-235.3*
61. Comment: Exempt emergency standby for essential public services from risk management requirements.  
*See discussion under "ALTERNATIVES".*
62. Comment: Will existing engines be subject to District Toxics NSR?  
*Not if they meet definition of Emergency Standby Generators, nor if they are smaller than 250 hp.*
63. Comment: Does this affect engines for cranes, loaders, etc.?  
*No, these engines are considered to be motor vehicles.*
64. Comment: How does this affect portable engines? Portable compressors?  
*Portable engines that are not registered by ARB are subject to exactly the same requirements as non-portable engines. ARB has indicated that portable engines that are registered as emergency standby engines under its program may be used in the event of rolling blackouts to generate emergency power at facilities that are experiencing (or shortly expected to experience) a blackout. Michael P. Kenney, letter to Air Pollution Control Officers, 2/21/01.*
65. Comment: Would same operational limitations apply to engine fuel conversions?  
*Yes. Note that the principal factor limiting diesel engine use, particulate emissions, is not important for gaseous fuels.*
66. Comment: How are hours counted for engines that are shared by more than one agency?

*They are cumulative (they apply to the engine). Because only reliability/testing hours are limited, this should not be a problem.*

67. Comment: Retrofit technology does not exist that will meet BACT standards.  
*Retrofits are not required for formerly exempt engines.*
68. Comment: Does the District have adequate resources to process 10,000 new applications?  
Yes.
69. Comment: How will the applications deal with operators with many, many engines? Spreadsheets? Separate applications for each source?  
*Spreadsheets. See appendix I*
70. Comment: Many POTWs manage remotely located engines. Will each of these engines have its own site #; how will the emissions be reflected in plant totals for cumulative increase, Title V, offsets, etc.  
*Treatment of offsite engines for Title V is governed by definition of "facility".*
71. Comment: Who is responsible for having a permit for a rental unit? Who is responsible for permits for engines brought onsite by contractors?  
*See response to Comment 111.*
72. Comment: Will permitting existing engines affect Title V permits?  
*No. Engine emissions are currently included in Title V totals.*
73. Comment: What is the difference between registration and permitting?  
*See discussion under "Alternatives".*
74. Comment: How will engines be treated differently (based on date of installation)  
*Engines that are installed after the effective date of the regulation will be subject to NSR. Engines > 250 hp that were installed prior to the effective date of the regulation as emergency standby engines, but which do not meet the definition of emergency standby engine, will be subject to NSR. Engines installed after May 17, 2000 are subject to the District's Risk Management Program.*
75. Comment: What requirements will apply to new engines?  
*NSR: BACT, Offsets, Risk Management.*
76. Comment: Does use of engines for voluntary curtailment count towards 100 hours  
Yes.

77. Comment: CARB certifications indicate that use of California diesel will reduce particulate emissions. Will this be considered?  
Yes.
78. Comment: What modifications of existing engine will result in the engine being subject to NSR?  
*Use of an emergency standby engine >250 hp beyond the definition.  
Moving non-portable engine to new site (OK to move elsewhere on same facility). Increasing emissions if already limited by permit.*
79. Comment: Are permits required for engines subject to ISO curtailment agreements?  
Yes.
80. Comment: What are the procedures for a site-specific risk assessment?  
*See the risk assessment section of the District website.*
81. Comment: Will exceeding the 5 TPY limit trigger NSR for existing engines?  
*Not for any engine installed prior to May 17, 2000.*
82. Comment: What are the rules for portable engines?  
*Some as for stationary engines except risk management rule is more complicated (hours of use limited per site; the permit may be conditioned to prohibit use near a school; the risk assessment is based upon a conservative, non-site-specific analysis).*
83. Comment: Is modification of air/fuel ratio a change that triggers NSR review?  
*Yes, if it increases emissions of any pollutant beyond already permitted levels.*
84. Comment: Is 5 TPY limit per pollutant or total?  
*Per pollutant.*
85. Comment: If a facility provides offsets for max usage, but never experiences worst-case outages, are the offsets gone forever?  
*No. See Reg. 2-2-605.4 for applicable rules.*
86. Comment: Would the District accept CARB certification for risk screening?  
*Yes. In fact, we require it.*
87. Comment: As engines have been recertified for different uses, CARB has not updated executive order letters to reflect emissions for these uses.  
*Staff will work with ARB to minimize this problem.*

88. Comment: If you lower particulates to meet TBACT, NO<sub>x</sub> goes up. If engine mfr uses combustion controls to meet NO<sub>x</sub>, and filter to meet particulate, what testing will be required? Will we assume 70% reduction? *We will assume that a properly-designed particulate filter will achieve 70% control. We will continue to work with ARB to validate this assumption.*

**Comments from the May 11 Workshop**

89. Comment: We need to use our standby generator to power up our critical building electrical systems (i.e., computer mainframes, customer service consoles, etc.) when we service our main 21,800 volt electrical system and other parts of our facility electrical grid. Does this mean that the usage of our standby generator to bypass load from our utility for building electrical system maintenance purposes will be considered "discretionary" use which will require the conversion of our permit designation to "discretionary"? *This use would fall within the definition of reliability-related use.*

**Comment Letter from Martinez Cogen (6/7/01)**

90. Comment: We operate two startup engines that are exempt under the existing exemption (because the old exemption 2-1-114.2.3 did not specify the use of exempt engines). We disagree that these engines, which will not meet the definition of emergency standby engines, ought to be treated as new engines subject to new source review. We recommend that the existing exemption remain in place and that better language, focusing on Emergency Standby Engines, be developed. *These engines were not exempt from permits before May 17, 2000. The May 17 revised exemption, however, did apply to your low-usage engine. In view of the low usage, and the intervening period of exemption, the District will consider your engine to be subject to the loss of exemption provisions when the amendments are approved.*

**Comment Letter from CB Richard Ellis (6/11/01)**

91. Comment: The definition of emergency conditions (9-8-231) should be expanded to include power quality problems (eg, power surges and sags): "Multiple surges or sags in the voltage provided by the utility within a 30-minute period, outside the voltage ranges specified in CPUC regulation and tariffs, until the cause of such fluctuations is corrected, or if the cause cannot be determined, until voltage has been stable within tariffed ranges for a period of six hours." *An unstable voltage supply would be considered to be a failure of the regular power supply. See response to comment 108. However, operation of an engine once voltage fluctuations ceased would be considered*

*“reliability related activities,” and would count towards the allowance for such operations.*

**Comment Letter from Bay Area Air Toxics Group (BAAT) (6/14/01)**

92. Comment: Section 9-8-233 defined the start of involuntary curtailment to be ‘when the utility informs the operator that power reduction is imminent (“30-minute warning”).’ However, under the Rolling Blackout Advance Warning Plan proposed by Governor Davis on May 24, 2001, utilities will have to give a 1-hour notice of a power outage. The 30-minute warning should therefore be changed to a 1-hour warning.  
*The staff recommendation has changed to limit emergency use to actual blackout conditions. The change in warning procedure is a good example of the reason for this change. By increasing the warning from 30 minutes to one hour, the Governor has guaranteed a dramatic increase in false alarms, and therefore in unnecessary engine emissions.*
93. Comment: Section 9-8-322 dealing with emergency standby engine conversion will expire on January 1, 2003. It is unrealistic to expect that the energy crisis will be resolved in less than two years. The sunset date should be set at 1/1/2005. The District can still sunset earlier if appropriate.  
*See response to next question.*
94. Comment: Section 9-8-322 dealing with emergency standby engine conversion will expire on January 1, 2003. It is unrealistic to expect that the energy crisis will be resolved in less than two years. The sunset date should be set at 1/1/2005. The District can still sunset earlier if appropriate.  
*The engine conversion proposal has been deleted. Engines may still be converted, but they will be reviewed under the District’s NSR rule.*
94. Comment: The conversion regulation requires use of a particulate filter. It therefore precludes equivalent alternative technologies, such as engine rebuilds and use of alternative fuels.  
*Shifting the engine conversion alternative from the control regulation to NSR accomplishes this goal.*
95. Comment: The revision will place unnecessary new permitting and record-keeping requirements on thousands of small portable engines. These requirements will place a very significant strain on the resources of water and wastewater agencies, as well as distracting personnel from what should be their primary focus in an emergency—solving the problem. Portable equipment should be exempt from permit requirements.  
*Thousands of small engines represent a potentially significant public exposure to toxic emissions. In order to assess the impact, it is critical that the District obtain and maintain information about these engines.*

**Comment Letter from Golden Gate University (6/15/01)**

96. Comment: The definition of emergency conditions (9-8-231) is too broad, because it would allow unlimited hours of operation during certain non-blackout conditions.  
*The original proposal allowed operation after a reliable warning of imminent blackout. This was not a blank check for diesel operations. Engines could be operated only after the utility had notified the operator that a rolling blackout was imminent. However, because the notification procedure is subject to political manipulation, and as a result the number of false alarms could be substantially higher than recent experience would suggest, the proposal has been revised to count any non-blackout operation towards the reliability-related activity allowance.*
97. Comment: We are concerned about the catchall “emergency” provision that allows the APCO to approve operation of standby engines under “any other unforeseen event that threatens public health and safety.” This would allow the APCO to consider a facility’s claim of economic hardship based on increased energy costs.  
*No, it does not. Economic impacts due to increased energy costs do not meet the criterion of a “threat to public health and safety.” Nevertheless, staff has determined that the discretion provided by this section may result in a potentially significant impact that would require more CEQA analysis than a negative declaration. As a result, the provision has been deleted from the proposal.*
98. Comment: No definition of “critical” motor has been provided.  
*The language has been change to refer to failure of a “primary” motor. Some emergency standby engines back up for other equipment (eg, fuel pumps, compressors, etc.) This provision acknowledges and permits this intended use.*
99. Comment: The conversion provision should be deleted.  
*The conversion provision has been deleted. Engine conversions will be subject to NSR (including BACT and offsets). BACT evaluations will consider, however, the limited nature of converted engine use and cost of retrofit controls when determining BACT.*
100. Comment: The potential impacts of toxic diesel particulate emissions following conversion are too significant to ignore.  
*Staff agrees. The provision did not ignore them. A converted engine is no longer considered to be an emergency standby engine, and no longer qualifies for unlimited emergency use. A converted engine receives an absolute limit on total hours of operation, limited by risk and/or offsets.*
101. Comment: Current violations should be enforced. The District could achieve compliance and emission reductions simply by informing facilities of “existing restrictions” and enforcing them now.

*The proposed revisions grew out of the District's efforts to do precisely that. In the course of preparing the notices and other elements of the outreach program, we realized that the bases for engine exemption were not enforceable. Some engines lose their exemption based on usage, yet there is no clear recordkeeping requirement. The current debate over what actually constitutes an emergency demonstrates the need for precise regulatory definition. Therefore, although some of the emission reductions could be achieved by enforcing some of the existing requirements, most could not.*

**Comment Letter from EBMUD (6/15/01)**

102. Comment: The new permitting and recordkeeping requirements for small portable engines will result in an unreasonable expense with little or no benefit. Examples of such engines include welding machines, air compressors, chippers, concrete saws, and compaction equipment. There is no technology available for retrofit of these engines.  
*The administrative costs of recordkeeping and permitting are compared to the capital costs of engine purchase and the personnel costs in operating and maintaining the equipment. There is no proposal to require retrofits or replacements for these engines. Most of the examples would not be considered "emergency standby engines," and therefore would not need to differentiate between emergency and non-emergency use.*

**Comments from the July 6 Workshop (6/15/01)**

103. Comment: Will the District perform risk assessments for all engines?  
*No. The District will perform risk assessments pursuant to its Risk Management Policy. The requirement for risk assessments applies only to engines installed after May 17, 2000.*
104. Comment: Will engines at facilities (e.g., Lawrence Livermore National Laboratory) with mutual aid agreements with other agencies qualify as emergency engines?  
*The definition of emergency engine allows such an engine to qualify, provided its use meets all applicable requirements.*
105. Comment: Can the definition of essential public service be broadened to cover water treatment facilities and wastewater collection as well as sewage treatment and water delivery?  
*The definition has been expanded to read as follows:*

**9-8-233**

**Essential Public Service:**

- 233.1 A sewage treatment facility, and associated collection system, which is publicly owned and operated;
- 233.2 Water treatment and delivery operations;
- 233.3 Public transit;
- 233.4 Police or fire fighting facility;

- 233.5 Airport runway lights; or
- 233.6 Hospital or other medical emergency facility.

106. SCAQMD adopted a 500 hours and Sacramento adopted a 400 hour limit for essential public services. The District should raise the 200 hours allowed for reliability-related activities to match.

*SCAQMD and Sacramento count emergency use towards those totals. Thus the other limits should be compared to 200 hours of "reliability-related" use plus UNLIMITED emergency use. We believe the proposed approach makes better air quality and practical sense: no limit on the use that arises from circumstances beyond the operator's control, but limits on the relatively discretionary hours of use.*

107. The District eliminated the proposed language allowing use of emergency standby engines during voltage fluctuations. That language should be restored.

*The revised language defines "emergency use" to include "failure of **regular** power supply." Fluctuation of voltage that results in the power supply being unusable constitutes a failure or loss of the regular, or normal, supply of electricity.*

108. Does an instruction from the utility or CAL ISO to reduce load a failure of power supply?

*No. Unless the facility is blacked out, hours operated under those conditions (i.e., a call by a utility or CAL ISO to reduce load to prevent a possible blackout) counts as "reliability related" use.*

109. What type of recordkeeping would be needed for portable non-emergency engines?

*Only total hours of use or fuel usage. Because these engines are non-emergency engines, there is no need to keep track of emergency vs non-emergency use. The required logs will be a monthly log of use, plus an annual summary of that use. The specific requirements will be administered by the District through permit conditions or compliance advisory.*

110. Who is responsible for permits for portable engines? The engine owner, or the facility owner?

*The engine operator is responsible for ensuring that the engine has necessary permits. Where the engine operator is different than the engine owner, especially if the engine owner merely rents or leases the engine to different users, the engine user may be cited if the engine does not have the necessary permits, even though the engine owner has primary responsibility to obtain a permit.*

111. The recordkeeping requirements should be clarified.

*Detailed guidance on this and other compliance-related issues will be*

*contained in a compliance advisory, prepared and distributed shortly after rule adoption.*

112. When must engine operators apply for a permit?  
*New engines require permits before installation. Operators will be required to submit applications within 90 days of being contacted by the District.*
113. The permit fees for small engines could have a substantial impact on some facilities (with many engines). Will the District consider reduced fees for smaller engines? Suggestion: 3 year fee cycle, reduced fees.  
*The proposal will be considered during the next review of the permit fee regulation (early 2002). Any reduction that is adopted will be in effect before permits are due for annual renewal.*
114. What happened to the language on engine conversions?  
*The language was deleted. Engine conversions will be reviewed as modifications of existing sources under existing New Source Review requirements. Engine conversions will be subject to NSR requirements, including BACT and offsets.*
115. How will the District identify affected facilities?  
*The District has obtained lists of holders of permits for diesel storage tanks from the CUPAs. The District will send compliance advisories to all of these facilities, plus all facilities with District permits, plus any trade organizations that can help get the word out. We are also working with engine suppliers to make sure that their customers are aware of District requirements.*
116. Small engines have a difficult time meeting 0.15 gm/hp-hr.  
*Most new engines can get a reasonable number of hours of operation; biodiesel may be a viable alternative for these engines.*

**Comment Letter from BAAT (7/11/01)**

117. The permit fees for small engines could have a substantial impact on some facilities (with many engines). The District should consider exempting engines under 117 hp from permit requirements.  
*The exact exemption level is an arbitrary choice. Staff recommend 50 hp because: 1) it is a level used by other California Districts; and 2) it is a level being considered by CARB as a threshold for regulation.*
118. The District should consider reduced fees for smaller engines.  
*See response to comment 114.*
119. The definition of essential public services should be expanded to cover collection of wastewater, and treatment and storage for water distribution

systems.

*The staff proposal has been modified consistently with this comment.*

120. Increase allotment for reliability-related use at essential public services to 400 hours.

*See response to comment 107.*

#### ATTENDEES AT THE 1/19/01 WORKSHOP

<b>Name</b>	<b>Company/Agency</b>
Jeff Palmes	Able EW
Mallory Nestor	AC Transit
Scott Nixon	Agilent Technologies
Jacqueline Kepke	BAAT Group
Jay Witherspoon	BAAT Group
B.P. Baleham	BART
Anne-Marie Bakker	Berlex Biosciences
Will Uriytt	CAL DHS
Lisa Carter	California Diesel and Power
John Mariand	Camp Dresser & Mckee
Teri Peterson	Cargill
Terry Liarraga	Chevron
Alex Stiem	Chevron
David Belk	Chevron
Sam Saito	Chevron
Hensen Rahmgren	Chevron
David Potten	Chevron Energy Solution
Edwards Alegrie	Chevron Energy Solutions
George Horn	Chevron Real Estate Management
Scott Edwards	Chevron USA
Damian Davis	City of S.F. – Airport
John Griffer	City of San Jose
Steve Richardson	Clorox Co.
Dave Omoto	Contra Costa Water District
John Borocasrd	Cremun West
John McWilliams	CUMMINS West, Inc.
Richand MacArthur	CUMMINS West, Inc.

<b>Name</b>	<b>Company/Agency</b>
Susan Suzoci	EBMUD
John Schruder	EBMUD
Jay Raggid	Electric Test Inc.
Mike Smylie	ENVIRON
Mike Schuttz	ENVIRON
K. Wheeler	Equilon Refining
Greg Tonkin	FLCO Electronics
Brad Meyers	Fremont Properties
Lee Cover	Hanson Permanente Cement
Anna Payne	Hewlett-Packard
Hugh Manini	IBM Corporation
Arman Nikfar	Intel
Kraig Kurucz	INTEL Corp
Jim Christy	Kasima Construct
Lochlin Caffey	Keller Lawton Landfill
Dave Armstrong	LLNL
Kristen Korbus	Lockheed Martin
Charles Wagenselle	Mid-Peninsula Water
Michael Anderson	Mid-Peninsula Water
Tim Johnson	MQ Power Corp.
Bob Neal	Owens-Brockway Glass Containers
Bill Lutz	Peterson Power
Tysen Earhant	Peterson Power
Ted Holcombe	PG&E
Tim Leong	Port of Oakland
Gail Staba	Port of Oakland
Roya Bocorgne	Pratt & Whitney
Stephen Gomez	Rochr Bioscience
John Brown	Rosendim Electric
Robert Holland	Sandia National Laboratories
Linvs Farias	SBC Services
Ken Kaufman	SBSA
Karl Lany	SCEC
Ahmad Houshmand	SCVWD
Randall Smith	SF PUC

<b>Name</b>	<b>Company/Agency</b>
Butch Byers	SLAC
Janet Melander	Sonoma County Water
Mary Lavin	Sonoma Developmental Center
Jean Janus	SSI
Craig Barny	Stanford
Leroy Sims	Stewart & Steven Sev.
Steve Marenzana	U.C. Berkeley
Greg Haet	U.C. Berkeley
Dennis Moulton	United Airlines
Ran Matheson	Vallejo Sanitation
Robt Suzuki	VTA
Cris Logia	Water Pollution Control Division
Mike Jackson	Wells Fargo NCOC

## **Appendix I: Standby Engine Permit Application**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

**939 Ellis Street . . . San Francisco, CA 94109. . . (415) 749-4990**

1.Plant Name	(If unknown, leave blank) Plant No:
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Source Number	Engine Make,	Engine Model,	Engine Year	Horsepower	Date of Engine Installation	Requested hours of operation (non-emergency)	Emission Factors (District use only) gm/hp-hr				
							Particulate	Organic	NOx	SO2	CO

Person completing this form:	Date :
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## **Appendix II: Risk Management Policy for Diesel-Fueled Engines**

## **Bay Area AQMD Risk Management Policy for Diesel-Fueled Engines(Revised March 2, 2001)**

This document summarizes criteria that have been established by the APCO for approval of permits for new/modified diesel-fueled, reciprocating, engines ("diesel-fueled engines"). These criteria have been established under Section A(iii) of the District's Risk Management Policy based on risk management considerations, and do not supercede any other applicable District Rules and Regulations. Definitions of key terms used in this policy shall be consistent with those given in Risk Management Policy for Permitting of New Stationary Diesel-Fueled Engines, California Air Resources Board, October 2000.

The APCO has determined that proposed projects with permitted diesel-fueled engines meeting one or more of the following three criteria are acceptable without further risk management considerations. Risks are to be calculated using the applicable Unit Risk Factor for diesel particulate matter (PM) at the point of maximum residential or maximum off-site worker exposure, whichever is greater. For emergency standby engines, risks are to be calculated for all engine operation excluding periods when operation is required due to failure of normal power line service or for the emergency pumping of water for either fire protection or flood relief.

- A. The project is acceptable if the annual emissions associated with the project would result in an incremental cancer risk equal to or less than 1.0E-06 (one in a million), were the exposure to continue for 70 years.
- B. The project is acceptable if: (1) the annual emissions associated with the project would result in an incremental cancer risk greater than 1.0E-06 (one in a million) and equal to or less than 1.0E-05 (ten in a million), were the exposure to continue for 70 years; and (2) TBACT has been applied to permitted sources. TBACT for diesel-fueled engines is as follows:
  - a) TBACT is a low emitting, spark-ignited, gas-fueled engine with lean burn combustion or rich burn with Non-Selective Catalytic Reduction (see District's *BACT/TBACT Workbook*). A diesel-fueled engine will be permitted only if a gas-fueled engine, or electric motor, is not practical (e.g., a remote location without natural gas availability or electric power, the engine is to be used exclusively for emergency standby purposes, or only a diesel-fueled engine will meet the portability and/or power/torque/rpm requirements of the application under review).
  - b) If a diesel-fueled engine is shown by the permit applicant to be necessary, then TBACT is a CARB or EPA certified engine with a PM certified level (or equivalent emission rate) no greater than 0.1 g/bhp-hr.<sup>1</sup>

The project is acceptable if: (1) the annual emissions associated with the project would result in an incremental cancer risk greater than 1.0E-05 (ten in a million) and equal to or less than 1.0E-04 (one hundred in a million), were the exposure to continue for 70 years; and (2) TBACT has been applied to permitted sources; and (3) all reasonable

## **Bay Area AQMD Risk Management Policy for Diesel-Fueled Engines(Revised March 2, 2001)**

risk reduction measures have been applied to permitted diesel-fueled engines. TBACT and all reasonable risk reductions measures for diesel-fueled engines are as follows:

- a) TBACT is a low emitting, spark-ignited, gas-fueled engine with lean burn combustion or rich burn with Non-Selective Catalytic Reduction (see District's *BACT/TBACT Workbook*). A diesel-fueled engine will be permitted only if a gas-fueled engine, or electric motor, is not practical (e.g., a remote location without natural gas availability or electric power, the engine is to be used exclusively for emergency standby purposes, or only a diesel-fueled engine will meet the portability and/or power/torque/rpm requirements of the application under review).
- b) If a diesel-fueled engine is shown by the permit applicant to be necessary, then TBACT is a CARB or EPA certified engine with a PM certified level (or equivalent emission rate) no greater than 0.1 g/bhp-hr.<sup>1</sup>
- c) All reasonable risk reduction measures are: (1) a catalyst-based diesel particulate filter (DPF) that has been demonstrated to reduce diesel PM mass emissions by at least 70 percent (any fuel additives used should be evaluated for potential health risks, and copper-based additives should be avoided); and (2) a stack with a vertical exit that is located at least 15 feet above grade, unless the permit applicant can demonstrate that such a stack is infeasible.

A permit applicant may apply alternative and/or additional emissions control (e.g., diesel oxidation catalysts, ultra-low sulfur diesel fuel) or other risk reduction measures (e.g., maximizing source/receptor separation distances, modifying operating hours to minimize public exposure) as necessary to reduce risks to acceptable levels specified in one of the three listed criteria above (A, B, or C). All engines not equipped with a DPF must be "plumbed" to facilitate the installation of a DPF at a future date.

Permit applications not meeting one of the above criteria shall be routed to the APCO with a recommendation for denial. The permit engineer shall collect any additional information regarding the project requested by the APCO that will be considered in the risk management process.

### FOOTNOTE:

<sup>1</sup> A PM certified level no greater than 0.1 g/bhp-hr means an emission level of 0.15 g/bhp-hr or less as determined during a steady-state engine certification test (ISO 8178).