

UPDATED INFORMATIVE DIGEST

DISTRIBUTED GENERATION CERTIFICATION REGULATION

SECTIONS AFFECTED

Amendments to title 17, California Code of Regulations, sections 94200 to 94214.

BACKGROUND

Senate Bill (SB) 1298 (chaptered in 2000) required the Air Resources Board (ARB) to establish a distributed generation certification program for electrical generation technologies that are exempt from local air district permits. SB 1298 mandated that the ARB establish at least two levels of emission standards for affected distributed generation (DG) technologies. The law required that the first set of standards be effective no later than January 1, 2003, and reflect the best performance achieved in practice by existing DG technologies that are exempt from district permits. The law also required that, by the earliest practicable date, the standards be made equivalent to the level determined by the ARB to be the best available control technology (BACT) for permitted central station power plants in California. The emission standards were to be expressed in pounds per megawatt hour (lb/MW-hr) to reflect the efficiencies of various electrical generation technologies.

Pursuant to SB 1298, the Board adopted a DG Certification regulation in 2001. The ARB staff proposed interim standards for 2003 and recommended that 2007 be considered the earliest practicable date for DG applications to meet central power plant emissions standards. In addition to establishing emission standards, the DG Certification regulation included testing protocols, calculation procedures, and other specified requirements that manufacturers must satisfy to certify DG technologies.

Generally, microturbines up to 250 kilowatts (kW), engines less than 50 horsepower (hp), and fuel cells are exempt from district permits. Although small engines are exempt from district permits, most engines used in distributed generation applications are larger and therefore require district permits. Consequently, the regulation has so far only affected fuel cells and microturbines. These types of technologies were just entering the California market when the Board adopted the DG Certification regulation in 2001.

Because of uncertainties at the time regarding the development and deployment of DG technologies, the ARB staff included in the regulation a requirement to conduct a technology review within a few years to evaluate the status of the DG certification program and determine if revisions were warranted. The proposed amendments are a result of that review process.

DESCRIPTION OF THE REGULATORY ACTION

Emissions Durability and Testing Requirements

The amendments require manufacturers, when preparing the application package, to identify key components of the DG unit that are most critical to ensuring compliance with the certified emission limits, such as fuel injectors, rotors, seals and bearings for a microturbine, and fuel cell stacks and catalysts for fuel cells. In addition, the manufacturer will be required to keep records relating to how often these components are replaced and submit the records to the ARB upon request. In this manner, ARB staff will be able to track durability of equipment in the field.

The ARB made a number of changes to the testing requirements and parameters to improve and clarify the testing requirements and better reflect actual in-the-field operations of affected technologies. The amendments require manufacturers to test at only 100 percent load versus the three-load testing that was previously required. Testing for volatile organic compounds (VOCs) will now be conducted using South Coast Air Quality Management District test method 25.3. Manufacturers will no longer be required to test each individual DG unit for emissions of nitrogen oxides (NOx) prior to commercial use. Manufacturers will be required to use a specific method to calculate recoverable heat if a combined heating and power (CHP*) credit is being used to meet a standard. And, finally, the generator output measured during the source test will be based on net power output, not the gross output of the unit, to more accurately represent the actual available power from the unit.

Addition of Waste Gas Emission Standards

The amendments added requirements to enable technologies fueled with waste gases (landfill, digester, and oil-field waste gases) to be certified under this program. The regulation as previously written, although allowing for fuels other than natural gas to be used for certification, did not contain a practical method in which to accomplish this. The composition of waste fuels varies from site to site and season to season, which makes it challenging to issue statewide certifications on these variable fuels. Therefore, local air districts have had to issue permits to otherwise permit-exempt equipment because the DG Regulation did not provide a reasonable mechanism to obtain certification. The ARB brought these waste gas applications into the DG certification program where they appropriately belong.

To certify these permit-exempt waste gas applications, ARB staff developed surrogate fuel compositions based on data submitted to the ARB for landfill gases, digester gases,

* Combined heat and power (CHP) refers to the total amount of useful energy obtained from the DG equipment. It is the sum of the electrical output of the unit plus the amount of waste heat utilized in a productive manner, such as heating water or providing heat to industrial processes. These combined energy outputs are used to calculate the total megawatt-hours produced, and are therefore used when determining the emissions in pounds per megawatt-hour.

and oil-field waste gases. Manufacturers will be required to use these surrogate gases for certification testing. Whereas ARB staff identified 2007 as the earliest practicable date for DG technologies fueled with natural gas to meet central power plant emission standards, staff proposed 2013 to be the earliest practicable date to meet these standards for DG technologies fueled with waste gas. Furthermore, ARB staff set interim standards for waste-gas applications in 2008, as staff had done for natural gas in 2003.

The waste-gas emission standards are presented in Table 1:

Table 1: Waste Gas Emission Standards

Pollutant	Emission Standard (lb/MW-hr)	
	On or after January 1, 2008	On or after January 1, 2013
NO _x	0.5	0.07
CO	6.0	0.10
VOCs	1.0	0.02

Other Amendments

The amendments eliminated the PM standard in the current 2007 emission standards, clarified that the current 2007 standards would apply only to natural gas and LPG units, and added a definition for LPG.

The amendments changed the fee structure of the program to fully cover costs to the State to implement this program, as allowed by SB 1298. Initial certification application fees under the amendments increased from \$2,500 to \$7,500. Staff had estimated \$2,500 per application when the DG certification program was being developed in 2001, but subsequent experience with the program has shown the original fee estimate to be inadequate to recover the cost of implementing the DG certification program.

The current fee assessment for recertification is \$2,500. The ARB maintained that fee for DG units that do not require a source test for recertification. The ARB assessed a fee of \$7,500 for DG units that require a source test for recertification.

Previously, applicants seeking voluntary certification for DG technologies that did not emit an air contaminant were not charged any application fee. The ARB assessed a fee of \$2,500 for manufacturers seeking voluntary certification. At the time of the hearing, the ARB had not received any applications for voluntary certifications. To provide an incentive for the development and deployment of clean technologies—technologies that can meet the 2013 waste-gas standards before January 1, 2008—the ARB will exempt these manufacturers from the initial application fee.

The amendments extend the certification duration from four to five years, although waste gas-fueled technologies certified to the 2008 interim standards after January 1, 2008, will expire on December 31, 2012.

The ARB expanded the allowable exemptions to the regulation to include units operated by the manufacturer prior to sale in California, and units that are part of a research operation that the Executive Officer has approved. The amendments clarified that all portable electrical generation technologies are exempt from this program, not just those that are registered in the ARB's Portable Equipment Registration Program. These other portable DG units are already regulated under other ARB and federal Environmental Protection Agency (EPA) programs.

The ARB modified the inspection and enforcement provisions in the regulation, modified and added terms in the definitions section, and made other editorial changes throughout the regulation. These changes were considered to be non-substantive and were intended to improve and clarify the DG Certification regulation.

COMPARABLE FEDERAL REGULATIONS

The certification program and the proposed amendments are not required by federal law or regulation. There are no comparable federal regulations covering the certification of emissions from small DG technologies.