

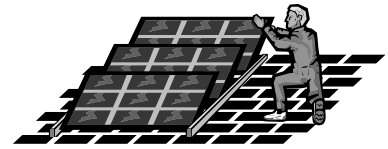


COUNTY OF SAN DIEGO, PLANNING & DEVELOPMENT SERVICES
REQUIREMENTS FOR STAND-ALONE GENERATORS
BUILDING DIVISION

The intent of this guidance document is to clarify the permit requirements associated with stand-alone generators and the means of achieving compliance with these requirements.

A. REQUIREMENTS (BASIC)


1. Permanent stationary generators used as a power source must comply with the County Building Code – including the requirement the unit has appropriate UL2200 certification – and the County Fire Code. Installation also must be sized according to the maximum load demand of its intended use.
2. Permanent generators shall comply with the property line sound level limits of the County Noise Ordinance (Section 36.404). Most off-grid locations have low-density residential or agricultural zoning, and the most stringent requirement is a 1-hour average sound level limit of 45 decibels (dBA) at the property line.
3. If a solar application is used as the principal power source, there may be a requirement for reserve battery or storage capacity to supply a fire sprinkler pump system. A permanent generator may be used as a back-up to charge the batteries in a solar system, but the generator shall be sized accordingly and checked against County Fire Code requirements. Portable generator installations shall be a plug-in type with a self-contained fuel source; portable generators may not serve as a required back-up, stand-alone unit, or for back-feeding a structure's permanent wiring system.



B. PROCEDURES FOR MEETING REQUIREMENTS

1. Submit a plot plan and generator noise specifications to PDS staff. Compliance with County Building Code and County Fire Code requirements will be checked first.
2. If the proposed generator is one of the known units with field data (Onan or Kohler at this time), PDS staff will expedite the processing of the permit if the following criteria are met:
 - a. The minimum acoustical setback for all property lines is achieved for either the unmitigated condition or with a sound enclosure. Please note adjacent commercial, industrial, or high-density residential zones may change the applicable property line sound level limits.
 - b. The property line is at the same elevation or below the generator site.

Generator Requirements

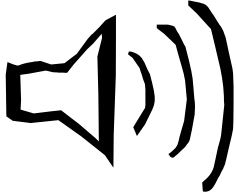
- c. If an enclosure is required, the plot plans shall show its location and specify its material as masonry or 8-inch cmu block walls. Any access door (metal or wood) will face the interior of the permit site and away from the nearest property line. Any cracks or openings in the enclosure walls shall be caulked or filled on the interior façade or side facing the equipment. The center of the generator set shall be located no farther than 5 feet from the enclosure wall nearest to the affected property line. Any wood doors shall be solid core, at least 1¾ inches thick, and equipped with seals and a threshold sweep. The roof covering shall have a class “A” fire rating, and all eaves for sites in Wildland-Urban Interface areas shall be enclosed per PDS handout [#198](#) to meet wildfire-resistive construction provisions.
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- d. Conditions will be added to the permit to require a final inspection confirming the generator has been installed properly; the installation shall be documented with photographs and unit serial numbers.
 - e. The fire authority having jurisdiction shall review any fuel tanks not considered an integral part of the generator. LPG tanks up to 499-gallon water capacity shall be located at least 10 feet away from the generator, buildings, roads, and property lines. Above ground and below ground flammable or combustible liquid tanks must meet County Fire Code standards and be installed under permit from the fire authority having jurisdiction.
3. If the generator is not one of the known units with field data, the applicant shall secure the services of a County-certified acoustical consultant to provide either field data (octave band measurements) of the proposed generator’s noise performance or generate a custom site-specific design of the generator installation.
 - a. With only a letter report of the certified field data, PDS staff will estimate the acoustical setbacks for the particular make and model of generator, both with and without a “standard” enclosure. The applicant would use this information to prepare a plot plan for submittal along with the generator specifications (Go back to step 1).
 - b. For a custom site-specific design, PDS staff will add conditions to the generator permit to ensure the proper installation and final certification of the generator for this site. PDS staff will not design the installation and will require a letter from the consultant – with sufficient supporting evidence – confirming the proposed installation will meet the property line sound level limits (Go back to step 1 and include a consultant letter with the submittal).

Generator Requirements

C. EXAMPLES OF MANUFACTURERS/PRODUCT INSTALLATION – NOISE COMPLIANCE

PDS staff does not endorse or recommend a particular brand of generator, but is only attempting to provide guidance for this type of permit application.

PDS staff has examined noise issues for two vendors (Kohler and Onan) and has compiled recommendations for permanent generator installations that will comply with County noise regulations based on property line distance with or without a simple open enclosure design. A custom application closer to any property line or the selection of other brands or types of generators shall require a permit application to include a letter and site plan from a County-certified acoustical consultant stating the requirements and providing any additional evidence demonstrating the compliance of the proposed installation to County noise regulations. A certification test may be required by the County if there is any question that the proposed design is marginal in nature (lack of field measurements or other supporting evidence).

- ✓ Based on the 45-decibel limit, staff has estimated that an unmitigated Kohler generator set for a residence (10-12 kilowatt capacity) would be located at least 260 feet from the nearest property line. If the same propane or natural gas powered generator set were placed in an open enclosure with 6-foot tall masonry block walls, the minimum distance to the nearest property line would be reduced to 80 feet. These estimates were based on field data and not on the manufacturer's stated specification of 65 decibels (dBA) at a reference distance of 23 feet.
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- ✓ Based on the same 45-decibel limit, staff has estimated that an unmitigated Onan generator set for a residence (12-15 kilowatt capacity) would have to be located at least 500 feet from the nearest property line. If the same propane or natural gas powered generator set were placed in an open enclosure with 6-foot tall masonry block walls, the minimum distance to the nearest property line would be reduced to 160 feet. These estimates were based on representative field data and not on the manufacturer's stated specification of 71 decibels (dBA) at a reference distance of 23 feet.

D. Questions

- ✓ Noise requirements: (858) 694-2960.
- ✓ Building requirements: (858) 565-5920.
- ✓ Fire requirements: County Fire Authority at (858) 974-5999.