

EMERGENCY ELECTRICAL POWER GENERATOR CITY OF SANIBEL DEVELOPMENT PERMIT APPLICATION

APPLICATION NO. _____ DP FILING DATE: _____ ACCEPTED BY: _____ FEE PAID: _____

OTHER APPLICATIONS FILED WITH THIS REQUEST: _____

- No development permit is required for the operation of a portable electrical power generator.
- A development permit and building/electrical permits are required for the installation of a permanently installed electrical power generator.

PART I. PARCEL IDENTIFICATION

TAX STRAP NUMBER: _____ -46- _____ -T _____ - _____ . _____

STREET ADDRESS OF PROPERTY: _____

PART II. OWNER/APPLICANT INFORMATION

NAME OF OWNER: _____

OWNER ADDRESS: _____

OWNER E-MAIL ADDRESS: _____

OWNER PHONE NO: Home _____ Business _____ Fax _____

NAME OF APPLICANT: _____

APPLICANT ADDRESS: _____

APPLICANT E-MAIL ADDRESS: _____

APPLICANT PHONE NO: Home _____ Cell/ _____ Business _____ Fax _____

APPLICANT'S INTEREST IN PROPERTY: _____

PART III. PROVIDE A BRIEF DESCRIPTION OF THE PROPOSED DEVELOPMENT:

As an option to submitting a CERTIFIED SOUND ATTENUATION PLAN, complete the following equation for calculating the Generator's Sound Pressure Level [dB(A)] at the Property Line - Generator's corrected dB(A) = Gen + A + B + C

The calculations shall be based on the generator manufacturer's sound pressure level data ("Gen"), the distance the generator unit is placed from the closest point of the nearest property line ("A"), its' proximity to applicant's existing structures, such as a wall of the applicant's home, ("B"), and whether a sound wall, located adjacent to the generator unit, is used for noise abatement ("C").

Generator's corrected dB(A) _____ = _____ + _____ + _____ + _____ .

The input for the terms "A", "B" and "C" in the Generator Sound Pressure Level [dB(A)] at the Property Line Equation are provided in the procedures provided in the attached Guide for Calculating Sound Pressure Levels for Emergency Electrical Power Generators and in Section 126-1305 of the Land Development Code.

PART IV. ATTACHMENTS CHECKLIST:

The information and attachments requested as part of this application are the minimum necessary to determine compliance with the requirements of The Sanibel Plan and the Land Development Code (LDC). The City may require additional information, at any time during the application process, to determine compliance with the requirements of the Sanibel Plan and the LDC. Provide three copies of all surveys and plans. For a complete explanation of each item, refer to the Planning Department handout entitled "instructions for Permits and Other Applications of the Sanibel Land Development Code".

- DEED** (Copy)
- OWNER'S AUTHORIZATION** (Certified – Form available in City Planning Department)
- SURVEY** (SCALE 1"=20', showing all current site improvements)
- SITE DEVELOPMENT PLAN – SCALE 1" = 20'**
(Site development plan shall include the sound barrier wall, if needed to meet the allowable maximum permissible sound pressure levels established in Section 126-1306, and is to demonstrate compliance with all required setbacks from property lines and indicate the relationship of the generator's location to any dwelling unit or structure within 20 feet of the generator.)
- IDENTIFICATION OF THE GENERATOR'S MANUFACTURER**, model name and number, and load capacity or running watts.
- MANUFACTURER'S CERTIFICATION OF SOUND PRESSURE (NOISE) LEVEL** expressed in dB(A) at 7 meters (23 feet), with the generator operating under normal or average load.
- PLAN FOR SCREENING GENERATOR from view from off the subject property**
- ** CERTIFIED SOUND ATTENUATION PLAN.** Certification shall be by (1) a board certified member of the Institute of Noise Control Engineering; or (2) by an individual who has been qualified as an expert witness in the field of acoustics or noise control engineering by a court of competent jurisdiction; or (3) by an individual who has demonstrated competence in the in the field of acoustics or noise control engineering through a combination of education, training, and experience.
- ** CERTIFICATION OF SOUND PRESSURE (NOISE) LEVELS ANTICIPATED AT THE SUBJECT'S' PROPERTY LINES** expressed in dB(A). Certification shall be by (1) a board certified member of the Institute of Noise Control Engineering; or (2) by an individual who has been qualified as an expert witness in the field of acoustics or noise control engineering by a court of competent jurisdiction; or (3) by an individual who has demonstrated competence in the in the field of acoustics or noise control engineering through a combination of education, training, and experience.
- RESULTS OF USING THE EQUATION FOR CACLULATION OF SOUND PRESSURE LEVELS FOR THE EMERGENCY ELECTRICAL POWER GENERATOR.** (Refer to attachment for equation and examples.)
- VEGETATION PLAN** (if any native vegetation is impacted by the development)
- PROVISION FOR TIME DELAY ENGINE START SWITCH PROGRAMMABLE UP TO 30-MINUTES** either integrated into the transfer switch or other generator control circuit or installed as an add-on.
- OTHER INFORMATION REQUIRED FOR COMPLIANCE WITH THE LAND DEVELOPMENT CODE:**

** The applicant can elect to forgo requirements for the certified sound attenuation plan and certification of sound pressure (noise) levels anticipated at the subject's property lines provided that the calculated sound pressure level at the applicant's property line is 78 dB(A) or less, according to the equation provided on page 1 (PART III) of this application form. The applicant needs to note that the completion certificate for the electrical power generator will not be issued until the City has measured the actual sound pressure level of the installed generator and determined that it complies with the standards found in Land Development Code Section 126-1306, regardless of the results of the Equation for calculating the "Generator's Sound Pressure Level [dB(A)] at the Property Line".

******* CERTIFICATION *******

I hereby certify that the information contained in this application and the attachments hereto are true and correct to the best of my knowledge and belief. Furthermore, I acknowledge that the City has the right to inspect the subject property in conjunction with this development permit application. (Please advise the City of any restrictions or limitations on the inspections.)

SIGNATURE OF OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE DATE



City of Sanibel

Planning Department

June 2008

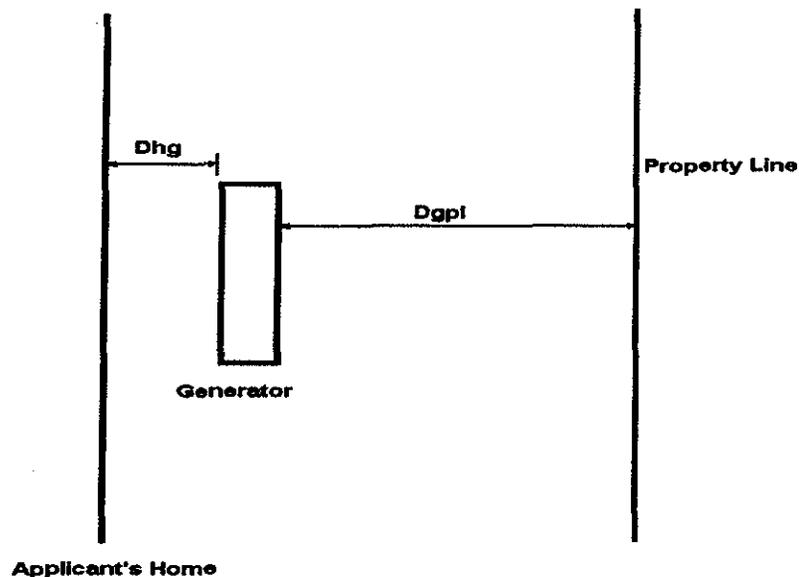
Guide for Calculating Sound Pressure Levels for Emergency Electrical Power Generators

The sound pressure level shall be computed using the following equation for calculating the “Generator’s Sound Pressure Level [dB(A)] at the Property Line”:

$$\text{Generator's corrected dB(A)} = \text{Gen} + A + B + C$$

The calculations shall be based on the generator manufacturer’s sound pressure level data (“Gen”), the distance the generator unit is placed from the closest point of the nearest property line (“A”), its proximity to the applicant’s existing structures, such as a wall of the applicant’s home (“B”), and whether a sound wall, located adjacent to the generator unit, is used for noise abatement (“C”). The distances from the applicant’s home (or other structure) to the generator (“B” or D_{hg}) and the distance from the generator to the closest point of the nearest property line (“A” or D_{gpl}) are defined in Figure 1 below:

Figure 1. Reference Distances Necessary for Generator Noise Calculation



Four major components are necessary for estimating the generator’s sound level at the applicant’s property line:

“Gen” = the generator Manufacturer’s sound level data. These data must be in the form of A-weighted sound level, or dB(A), at 7 meters (23 feet) from the generator in a free-field environment.

- “A” = a correction for the closest actual distance from the generator’s surface to the applicant’s property line
- “B” = a correction for reflective sound based on the distance the generator is located relative to the wall of a structure or the applicant’s home
- “C” = a correction for a sound barrier constructed such that it fully blocks the line of sight to the generator when viewed from the applicant’s property line (if applicable).

The input for the terms “A”, “B” and “C” in the Generator Sound Pressure Level [dB(A)] at the Property Line Equation are provided in Tables 1 through 3, respectively.

Table 1. Correction (“A”) for Distance from Generator to Property Line

<u>Actual Distance from Generator to closest point of nearest Property Line in feet (dqpl)*</u>	<u>Distance Correction (A)</u>
5 **	+11 dB(A)
6 **	+10 dB(A)
7 **	+9 dB(A)
8 **	+8 dB(A)
9 **	+7 dB(A)
10	+6 dB(A)
12	+5 dB(A)
14	+4 dB(A)
16	+3 dB(A)
17	+2 dB(A)
20	+1 dB(A)
23	0 dB(A)
27	-1 dB(A)
30	-2 dB(A)
33	-3 dB(A)
37	-4 dB(A)
43	-5 dB(A)
46	-6 dB(A)
53	-7 dB(A)
60	-8 dB(A)
66	-9 dB(A)
73	-10 dB(A)
83	-11dB(A)
92	-12 dB(A)

*Select distance equal to or just less than the actual distance the generator is located from the closest point to the nearest property line. For example, if the generator’s closest surface is located at an actual distance of 45 feet from the property line, a value corresponding to the 43 feet correction [minus -5dB(A)] from Table 1 must be used.

**The minimum setback from a property line is 10 feet.

Table 2. Correction (“B”) for Reflected Sound from Applicant’s Home

<u>Distance from Generator to Home or closest structure in feet (dhg)*</u>	<u>Reflection Correction (B)</u>
Closer than or equal to 5 feet	+3 dB(A)
Further than 5 feet and closer than or equal to 10 feet	+2 dB(A)
Further than 10 feet and closer than or equal to 20 feet	+1 dB(A)
Further than 20 feet	+0 dB(A)

Table 3 Correction (“C”) for Presence of a Sound Barrier Wall

<u>Will a Sound Barrier Wall be Used?</u>	<u>Sound Barrier Correction (C)**</u>
Yes	-5 dB(A)
No	0 dB(A)

**** A sound barrier wall can only be used for input in the calculation of the “Generator’s Sound Pressure Level [dB(A)] at the Property Line Equation” for an emergency electrical power generator that is located so that the bottom of the generator is no higher than four feet above the finished grade of the ground. The sound barrier wall must extend from the ground to a minimum of two feet higher than the top of the generator and extend a minimum of two feet past the sides of the generator. A sound barrier wall must have no gaps, holes or penetrations. Walls of masonry, concrete block or wood construction meeting the above requirements are considered adequate. Foliage is not an adequate sound barrier.**

EXAMPLES

Examples using the equation for calculating the “Generator’s Sound Pressure Level [dB(A)] at the Property Line”

Example 1.

An applicant wishes to place an emergency electric generator on his property. The generator’s manufacturer provides data indicating a sound level of 65 dB(A) will be obtained at a distance of 23 feet. The applicant plans on placing the generator 6 feet from his home (Dhg) and the generator’s closest surface will be located a distance of 15 feet from the closest location of the property line (Dgpl). The applicant does not intend to use a sound barrier wall.

Use Equation for Generator’s Sound Pressure Level [dB(A)] at Property Line:

$$\text{Generator's corrected dB(A)} = \text{Gen} + A + B + C$$

$$\text{Gen} = 65 \text{ dB(A)}$$

$$A = +4 \text{ dB(A) (from Table 1)}$$

$$B = +2 \text{ dB(A) (from Table 2)}$$

$$C = 0 \text{ dB(A) (from Table 3)}$$

$$\text{Generator's corrected dB(A)} = 65 + 4 + 2 + 0 = 71\text{dB(A)}$$

Example 2.

An applicant would like to place an emergency electric generator on his property. The generator’s manufacturer provides data indicating a sound level of 74 dB(A) will be obtained at a distance of 23 feet. The applicant plans on placing the generator 5 feet from his home (Dhg) and the generator’s closest surface will be located a distance of 48 feet from the closest location of the property line (Dgpl). The applicant intends to construct a sound barrier wall around the generator unit that meets the criteria provided in Table 3 of this section.

Use Equation for Generator’s Sound Pressure Level [dB(A)] at the Property Line:

$$\text{Generator's corrected dB(A)} = \text{Gen} + A + B + C$$

$$\text{Gen} = 74 \text{ dB(A)}$$

$$A = -6 \text{ dB(A) (from Table 1)}$$

$$B = +3 \text{ dB(A) (from Table 2)}$$

$$C = -5 \text{ dB(A) (from Table 3)}$$

$$\text{Generator's corrected dB(A)} = 74 - 6 + 3 - 5 = 66\text{dB(A)}$$

COMPLIANCE

When the use of the equation for calculating the “Generator’s Sound Pressure Level [dB(A)] at the Property Line” does not result in a sound pressure level of 78dB(A)s or less, the applicant has the alternative to relocate the proposed siting of the generator or prepare a certified sound attenuation plan that certifies the sound pressure (noise) levels anticipated at the subject’s property lines. This sound attenuation plan must be certified by a board certified member of the Institute of Noise Control Engineering, an individual who has been qualified as an expert witness in the field of acoustics or noise control engineering by a court of competent jurisdiction or an individual who has demonstrated competence in the field of acoustics or noise control engineering through a combination of education, training, and experience.

Regardless of which method is used (the equation or the sound attenuation plan) to demonstrate that the sound pressure level of the installed generator at the closest point of the nearest property line, no completion certificate or other final City approval shall be issued for a permanently installed emergency electrical power generator until the City has measured the sound pressure level of the-permitted generator and determined that it does not exceed the maximum permitted sound pressure levels of emergency electrical power generators.