



**Agenda Item No. 12.**

**Staff Report**

**Date:** July 9, 2020

**To:** Mayor McMillan and Council Members

**From:** Patrick Streeter, Planning and Building Director

**Subject:** Town Council considers adoption of Resolution No. 2169 establishing a Town policy for the operation of generators

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**Recommendation**

Town Council adoption of Resolution No. 2169 approving the Operation of Generators Policy.

**Background and Discussion**

Catastrophic wildfires have unfortunately increased in occurrence in recent years and utility transmission lines have been identified as the cause of many such events. In response, PG&E has implemented a Public Safety Power Shutoff (PSPS) program which includes the deenergizing of portions of the electrical grid during high fire severity weather events. Marin County has experienced several such PSPS events, including an event beginning October 26, 2019, in which the Town of Ross lost power for three days. PG&E has been taking steps to improve the electrical grid to reduce the frequency and scope of PSPS events, but it can be assumed that additional power outages will occur in the coming years.

On December 12, 2019, the Town Council received a presentation on existing noise regulation in the Town of Ross. The staff report and minutes from the December meeting are included in this report as Attachment 2. At the meeting it was explained that the Town of Ross does not have specific regulations pertaining to generators. Fixed, standby generators are generally permitted provided that they are installed outside of property setbacks. It is assumed that portable generators are not allowed as their operation would exceed the Town's noise standards. Town policy is silent on the use of fixed or portable generators during power outages, PSPS events, or other emergency situations.

During the December 12<sup>th</sup> meeting, Council directed staff to prepare a policy memo that would allow the use of portable generators during emergency and PSPS events. The Council did not reach consensus as to whether the operation of generators would be allowed to occur 24 hours

per day during these events or whether there should be time limitations. It should be assumed that community members with a medical need, including medical devices or medication that must be refrigerated, would be excepted from any time limitations. To help inform the Council's decision on the proposed policy, staff ran a town-wide online survey from June 22<sup>nd</sup> to June 30<sup>th</sup>. The results of the survey are included in Attachment 3. While the majority of respondents (55.6%) preferred that there be no time restrictions on the use of generators, 43.7% of responses were in favor of some type of limitation.

In the past year, the Town and City Councils of several other Marin County jurisdictions have held meetings and taken action to address the use of generators:

On September 16, 2019, the Mill Valley City Council approved an ordinance that exempts from its noise standards backup generators used during a prolonged power outage or emergency as declared by the City, state or a local governmental agency. The ordinance allows generators for commercial use to run 24 hours/day during prolonged power shutoffs or emergencies, but recommends that they be shut off if practical to minimize the disturbance of neighbors. Generators for residential use must comply with setback of the underlying zone, be placed in an area that is least disruptive to neighbors, and they shall not be operated during the hours of 9 pm to 7 am except as required for health or medical need. The ordinance limits testing of emergency generators to the hours between 9 am and 8 pm. (Mill Valley Municipal Code section 7.16.080(D); Mill Valley Ordinance available at [https://cityofmillvalley.granicus.com/MetaViewer.php?view\\_id=2&clip\\_id=1420&meta\\_id=66907](https://cityofmillvalley.granicus.com/MetaViewer.php?view_id=2&clip_id=1420&meta_id=66907))

The Town of Corte Madera updated its noise ordinance in November 2019 after several public meetings. The ordinance explicitly exempts from the noise regulations use of emergency equipment, including generators used during power outages. (Corte Madera Noise Ordinance available at [https://library.municode.com/ca/corte\\_madera/ordinances/code\\_of\\_ordinances?nodeId=992447](https://library.municode.com/ca/corte_madera/ordinances/code_of_ordinances?nodeId=992447))

In November 2019, the San Rafael City Council adopted an ordinance exempting standby generators used during utility power outages from the City's noise regulations. (San Rafael City Council staff report and ordinance available at [https://cityofsanrafael.granicus.com/MetaViewer.php?view\\_id=38&clip\\_id=1708&meta\\_id=148764](https://cityofsanrafael.granicus.com/MetaViewer.php?view_id=38&clip_id=1708&meta_id=148764)).

On March 4, 2020, the Fairfax Town Council considered whether to introduce an ordinance to regulate the use and noise levels associated with standby and portable generators. However, the item was continued and has not been on the agenda since the initial brief discussion. <https://storage.googleapis.com/proudcity/fairfaxca/uploads/2020/02/Item-15-Ord-noise-generators-Att-A.pdf>

On May 20, 2020, the City of Larkspur adopted an ordinance exempting standby generators operated during power outages from the city's noise restrictions. According to the staff report, diesel and gas fired emergency generators are not exempted from the noise limits, or permitted by the Fire Department, as many of these units may increase fire risk. (Larkspur Ordinance text and staff report available at <https://www.ci.larkspur.ca.us/DocumentCenter/View/11321/71-Generator-Noise-Ordinance> ).

On June 23, 2020, the Town of San Anselmo held a study session to consider the Town's Noise Ordinance as it relates to standby generators. After a discussion, the Council decided to keep the existing Noise Ordinance as is and to educate community members about alternatives to combustion-powered generators.  
[https://sananselmo-ca.granicus.com/GeneratedAgendaViewer.php?view\\_id=1&clip\\_id=422](https://sananselmo-ca.granicus.com/GeneratedAgendaViewer.php?view_id=1&clip_id=422)

Based on review of previous Council discussion, the results of the June survey, and consideration of the actions of other jurisdictions, staff has prepared a draft Operation of Generators Policy. The draft policy does not include time limits on operation of generators during PSPS and other events, but they can be included if the Council so wishes. A draft option of the policy that includes the most popular time restriction cited in the survey has been included in Attachment 1 for the Council's consideration.

#### **Alternative actions**

The Council may choose to modify the draft policy memo or continue the item for further discussion. If the Council takes no action, then staff will continue to make interpretations on a case by case basis pursuant to the Town's existing noise policies.

#### **Fiscal, resource and timeline impacts**

No fiscal impact anticipated other than staff time.

#### **Environmental review (if applicable)**

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15378, actions that include general policy making are not considered projects under CEQA.

#### **Attachments**

1. Resolution No. 2169 adopting the Operation of Generators policy
2. Staff Report & Minutes – Noise Regulation Discussion, December 12, 2019
3. Generator Survey, June 2020
4. Generator regulation in Marin County jurisdictions
5. Marin County Generator Information Sheet

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# ATTACHMENT 1

# TOWN OF ROSS

## RESOLUTION NO. 2169

### A RESOLUTION OF THE TOWN OF ROSS ADOPTING AN OPERATION OF GENERATORS POLICY

**WHEREAS**, catastrophic wildfires have unfortunately increased in occurrence in recent years and utility transmission lines have been identified as the cause of many such events; and

**WHEREAS**, PG&E, the local utility provider has implemented a Public Safety Power Shutoff (PSPS) program which includes the deenergizing of portions of the electrical grid during high fire severity weather events; and

**WHEREAS**, Marin County has experienced several such PSPS events, including an event beginning October 26, 2019, in which the Town of Ross lost power for three days; and,

**WHEREAS**, during power outage events, members of the community often rely on fixed and portable generators to power their homes, appliances, and devices; and,

**WHEREAS**, the Town of Ross does not have specific regulations pertaining to generators; and,

**WHEREAS**, at its December 12, 2019, meeting, the Ross Town Council directed staff to prepare a policy memo that would allow the use of portable generators during emergency and PSPS events.

**NOW, THEREFORE, BE IT RESOLVED**, that the Town Council of the Town of Ross does hereby resolve as follows:

Section 1. The Operation of Generators Policy, attached hereto and incorporated here as Exhibit A, is hereby adopted by the Town of Ross.

Section 2. This action is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15378, which states that actions including general policy making are not considered projects under CEQA.

The foregoing Resolution was duly and regularly adopted by the Ross Town Council at its regular meeting held on the 9<sup>th</sup> day of July 2020, by the following vote:

**AYES:**

**NOES:**

**ABSENT:**

**ABSTAIN:**

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Julie McMillan, Mayor

**ATTEST:**

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Linda Lopez, Town Clerk

Exhibit A: Operation of Generators Policy

## Option 1



### Operation of Generators Policy

#### Permanent Generators

The Town of Ross does not prohibit the installation of a generator provided the generator complies with the following:

1. The generator will need to conform to the Town's setbacks (e.g., front, rear, side) or request a Minor Exception per Chapter 18.45 for the Ross Municipal to allow the generator to be installed in a side yard or rear yard setback in conformance with the Minor Exception regulations(see attachment for reference).
2. Ensure the generator would not exceed the Town's noise standard of 55 decibels at the property lines. Noise attenuation of the generator would most likely be required to ensure conformance with the Town's noise standards.
3. Conform to all floodplain and California Mechanical Code requirements.

#### Operation of Generators During Power Outages

The operation of permanent and portable generators during power outages and Public Safety Power Shutoff (PSPS) events is allowed and may exceed the Town's noise standard. The following requirements are applicable:

1. The placement of generators must comply with the setbacks of the applicable zoning district and be placed in an area that is least disruptive to neighbors.
2. Operation of generators at night should be kept to a minimum.
3. An electrical permit and installation of a transfer switch is required before any generator can be connected to a building's electrical system.

## Option 2



### Operation of Generators Policy

#### Permanent Generators

The Town of Ross does not prohibit the installation of a generator provided the generator complies with the following:

1. The generator will need to conform to the Town's setbacks (e.g., front, rear, side) or request a Minor Exception per Chapter 18.45 for the Ross Municipal to allow the generator to be installed in a side yard or rear yard setback in conformance with the Minor Exception regulations(see attachment for reference).
2. Ensure the generator would not exceed the Town's noise standard of 55 decibels at the property lines. Noise attenuation of the generator would most likely be required to ensure conformance with the Town's noise standards.
3. Conform to all floodplain and California Mechanical Code requirements.

#### Operation of Generators During Power Outages

The operation of permanent and portable generators during power outages and Public Safety Power Shutoff (PSPS) events is allowed and may exceed the Town's noise standard. The following requirements are applicable:

1. The placement of generators must comply with the setbacks of the applicable zoning district and be placed in an area that is least disruptive to neighbors.
2. Operation of generators is permitted between the **hours of 6 AM and 9 PM**. Muffled or otherwise "quiet" generators that do not exceed the Town's noise standard at the property line, as well as generators that must be operated by medical necessity may operate outside of these hours.
3. An electrical permit and installation of a transfer switch is required before any generator can be connected to a building's electrical system.

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## ATTACHMENT 2



## Staff Report

**Date:** December 12, 2019

**To:** Mayor Brekhus and Council Members

**From:** Heidi Scoble, Planning and Building Director

**Subject:** Discussion and Direction regarding the Town's Noise Regulations and Standards

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### Recommendation

Town Council receive a presentation on the existing noise regulations and provide direction to staff as to whether the current regulations and standards are sufficient or should be amended to address the use of portable and fixed generators during power outages.

### Background and Discussion

At the November 14, 2019 meeting, the Council requested staff to provide a discussion of the Town's noise regulations as a result of the Pacific Gas and Electric Public Safety Power Shutoff (PSPS) the Town of Ross experienced on October 26, 2019 through October 29, 2019.

In researching the Town's records, the Town has been regulating noise since 1967 (see Attachments 3 and 4). The noise regulations were originally written to prohibit "Unnecessary Noises or sounds which are annoying to persons of ordinary sensitiveness, or which are so harsh or so prolonged or unnatural, or unusual in their intensity, time, or place of occurrence as to occasional discomfort to the inhabitants of this Town or any number thereof", and thus established regulations to address Auto Body Repair, Power-driven Machinery, Musical Instruments, Animals and Fowl, a requirement for exhaust pipe for gasoline or other similar substances for motive power. The noise regulations also addressed "Prohibited Hours" for noise generating uses.

The Town's regulations have remained relatively the same since 1967. Only amendments, additions, and reformatting of the regulations have been made to enhance the language of the section related to "Unnecessary noises generally permitted" (Section 9.20.010), in addition to amendments to the hours of operation for portable gasoline engine powered blowers, amendments to the construction hours related to "Prohibited Hours", and provisions for the Public Works Director to grant exceptions to certain regulations (e.g., permission to operate

portable gasoline engine powered blowers) and under certain conditions, such as when “neighbors do not object”. The Town’s comprehensive noise regulations to date can be found in Chapter 9.20, Unnecessary Noise, of the Ross Municipal Code (See Attachment 1). Note, the Town’s noise regulations do not currently address noise related to air conditioning units or the operation of generators.

Apart from the noise regulations contained in Chapter 9.20 of the Ross Municipal Code, the Town’s General Plan that was adopted in 2007, addresses noise in Part IV of the General Plan titled “Assuring the Health and Safety of the Community.” Specifically, the Town’s General Plan includes 5 noise related policies as follows:

**5.6 Noise/Land Use Compatibility Standards.** The Land Use/Noise Compatibility Standards (see Figure 8) apply to the siting and design of new structures and substantial remodels. Any project that is located in a “conditionally acceptable” or “normally unacceptable” noise exposure area will be required to prepare an acoustical analysis. Noise mitigation features may be required by the Town.

**5.7 Noise Standards for Exterior Residential Use Areas.** The noise standard for exterior use areas (such as backyards) in residential areas is 55dB (decibels) Ldn (a day-night weighted 24-hour average noise level). All areas of Ross meet this standard except for those properties located along Sir Francis Drake Boulevard. General Plan policy requires that any new residential construction meet this standard

**5.8 Interior Noise Standards.** Protect the community against the effects of intrusive and unhealthy exterior noise sources. Establish interior noise standards for new residential and residential health care projects of 40dB (Ldn) for bedrooms and 45dB (Ldn) for other rooms — decibel levels determined based on a day-night weighted 24-hour average noise level.

**5.9 Noise Generated by Commercial Projects.** Design of commercial projects should be sensitive to noise impacts on surrounding neighborhoods.

**5.10 Traffic and Construction Noise.** Require mitigation of construction and traffic noise impacts on the ambient noise level in the Town.

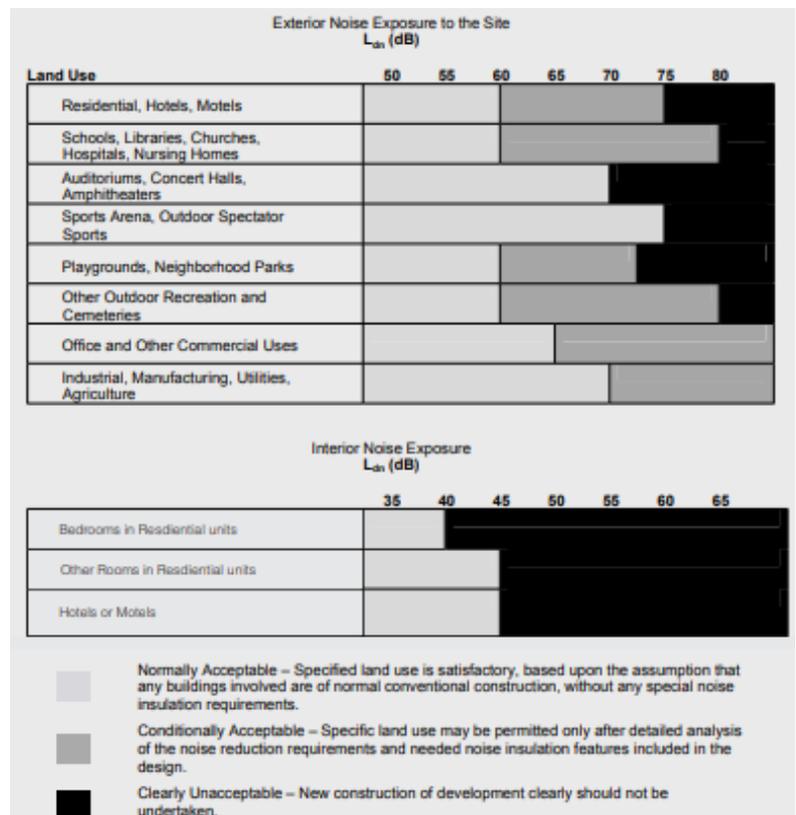


Figure 8

### **How does the Town of Ross Regulate Generators and Air Conditioning Units?**

The Town's noise regulations do not specifically address air conditioning units and/or permanent generators. However, Section 9.20.090, "Permit required when no other procedure is applicable", provides a permit process to allow noises prohibited by the Chapter when it is found to be in the public interest. The Town's current practice is to issue Mechanical/Electrical/Plumbing Permits for air conditioning units and generators if the air conditioning units and generators meet the Town's setbacks. An acoustical analysis per General Plan Policy 5.7 is not required because it is assumed the Town's setbacks provide a sufficient distance to the abutting property, thus reducing any noise impacts associated with the air conditioning units or generator. If the air conditioning units and generators are proposed within a setback, then a Minor Exception will be required per Chapter 18.45. A Minor Exception can only be approved with the air conditioning units and generators conform to the Town's General Plan Policy 5.7 and the abutting neighbor has provided a letter consenting to the reduced setback.

During the recent PSPS, the Town issued a Compliance Order to abate a noise violation associated with a generator at 78 Shady Lane. The Town is currently working with the property owner of 78 Shady Lane to relocate and attenuate the noise associated with the generator so that it will not exceed 55 decibels.

### **How are other Marin communities addressing generators during emergency situations, such as a PSPS?**

Out of the 11 municipalities (including the Town of Ross) and the County, only the City of Mill Valley, the Town of Corte Madera, and the City of Novato expressly permit the use of generators during emergency events, including PSPS. Town of Corte Madera and the City of Novato allow the use of generators during emergency situations without restrictions, where as the City of Mill Valley only allows generators for residential uses to be operable from 7:00AM to 9:00PM unless a bona fide health or medical need requires the generator to operate 24-hour. Commercial use of generators during an emergency is permitted to be operable 24-hours a day. However, with the exception of the County of Marin noise regulations, which do not have any specific noise thresholds for the use of generators, all of the other Marin municipalities require generators to operate based on a defined noise threshold (See Attachment 2).

### **What next?**

Given the existing noise regulations and General Plan policies and how other Marin communities are regulation noise related to air conditioning units and/or generators, the question for consideration is whether the Town Council finds the existing noise regulations to be acceptable or whether the Town Council would like staff to return back to the Town Council with amendments to the noise regulation? If the Town Council would like the noise regulations to be amended, please provide staff with a list of the proposed changes (e.g., use of generators during emergency situations, the use of portable generators during emergency situations, placing noise thresholds on generators or air conditioning units that are either more restrictive than the

current 55 decibel standard, or allow slightly higher noise threshold for air conditioning units and/or generators).

**Fiscal, resource and timeline impacts**

No fiscal impact anticipated other than ordinance preparation.

**Environmental review (if applicable)**

Non-applicable

**Attachments**

1. Chapter 9.20, Unnecessary Noise
2. Summary of Marin County, Cities and Towns Regulating Generators
3. Summary of all Noise Ordinances Adopted by the Town of Ross
4. Ordinance Nos. 267, 465, 447, 553, 554, 599

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Mayor Brekhus asked if they have generators, would people have coverage. Public Works Director Simonitch noted that the geography in Ross is very challenging. If the next tower in Kentfield or San Anselmo were not operating, they would have the ability to call out and receive calls within the town, but it is a localized condition in Ross and it would depend on the condition of the rest of the grid for incoming and outgoing calls beyond the Town limits.

Mayor Pro Tempore McMillan wanted to know the status in terms of the State legislature mandating backup generators for cell towers in light of the massive communication failures that everyone experienced. Public Works Director Simonitch responded that State legislature are pushing for that and it is actively being looked at in the State of California legislature, but staff is not aware of the status.

Council Member Kuhl discussed the battery backup red flashing lights. Public Works Director Simonitch stated they have a choice to program how that will operate during a power outage. If they wanted a full signal cycle it will wear down the batteries quicker.

Mayor Pro Tempore McMillan asked if there is an opportunity to request that PG&E pay for the generators, if not, she wanted to explore. Public Works Director Simonitch had no idea, but they have a \$20,000 grant opportunity to purchase generators.

Mayor Brekhus asked staff if other towns are installing generators. Public Works Director Simonitch responded in the affirmative. Most have battery backup. Agencies that have transportation network tied in with Caltrans and Hwy 101 are waiting to see if Caltrans will power up those intersections with generators. Staff is looking into what other agencies are doing in terms of cell tower interruption.

Police Chief Masterson indicated that the Disaster Council citizen group (*Ross Ready*) is researching the feasibility of hand held radios for neighborhoods to use for communication in PSPS and other emergency events. Mayor Pro Tempore McMillan hoped this would help facilitate block captains to support disaster preparedness.

Mayor Brekhus opened the public hearing on this item, and seeing no one wishing to speak, the Mayor closed the public portion and moved onto the next agenda item.

**11. Town Council discussion of the Town's Noise Regulations, and direction to staff for future code amendments.**

Planning and Building Director Heidi Scoble summarized the staff report and recommended that the Council receive a presentation on the existing noise regulations and provide direction to staff as to whether the current regulations and standards are sufficient or should be amended to address the use of portable and fixed generators during power outages.

Mayor Pro Tempore McMillan asked staff if the regulations have been working. Planning and Building Director Scoble responded in the affirmative. They have received only one complaint in regard to the use of a generator during the PSPS, otherwise not many complaints.

Council Member Robbins asked if the goal is to not have property owners noise audible to the neighbors, then 55 is too loud in that regard. If the decibel count is 55 at the property line that

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neighbor is hearing noise. Planning and Building Director Scoble stated the question is what would the Town like to see as a noise threshold. Normal conversation would range between 45 and 55 depending on tone of the voice. It is a question of what does the Council see as being a nuisance or not. Noise regulations in general are very challenging since there is not a one size fits all. Most communities do not have noise regulations. If the goal is to keep Ross a serene community and not a lot of white noise, then there is merit to creating regulations to attenuate noise-producing machines.

Mayor Brekhus found it surprising that the noise regulations would allow the operation of power-driven machinery and portable gasoline engine-powered blowers to be exempt from properties that are over one acre in size. Even if it is a large property, there will still be noise, so why is there an exception. Seems surprising in her view. Planning and Building Director Scoble noted that the Council could amend the language if so desired. Scoble stated that the regulations were modified in 2000 to allow for the permit with neighbor support. It is the Town's policy if there is neighbor support then the project could be approved with a finding accordingly. Staff also noted that a reasonable accommodation still must meet the Town's health and safety standards. The Council could create a regulation or a written policy to permit generators to identify the location and hours of operation.

Council Member Robbins wanted to separate emergency generators since emergency generators would be temporary and not the same as air conditioning units, pool equipment or leaf blowers. Planning and Building Director Scoble noted that the City of Novato allows generators as a policy and not a codified code amendment, during emergency situations. Mill Valley also has amended its regulations to allow specific times and locations where generators could be operated.

Mayor Brekhus did not believe she knows enough to make an informed decision. She expressed concern about the smell of gasoline.

Council Member Kuhl added that one of the town's did not enforce such noise regulations. He who governs least, governs best. He desired more information as well. He wanted to make sure people can have an appropriate response during an emergency. Particularly, he has misgivings trying to set a decibel level. It will drive them nuts if they try to enforce it in regard to emergencies. Council Member Robbins felt the Town should not regulate emergency generators.

Mayor Brekhus opened the public hearing on this item.

Peter Nelson, Circle Drive resident, believe these outages are going to occur more frequently. During the last outage his neighbor has a Tesla battery and it was great as they recharge daily and it is quiet.

There being no further public testimony on this item, the Mayor closed the public portion and brought the matter back to the Council for discussion and action.

Mayor Pro Tempore McMillan agreed with Council Member Kuhl's comments. They should explore more guidelines about portable generators. She has three Tesla batteries in their basement, but during the last outage they were not hooked up and they are not cheap, so she is not sure that is a good alternative.

Mayor Brekhus does not know enough to provide direction. This must be reviewed and figured out, but she's not able to provide direction tonight.

Council Member Robbins stated it is the Council, staff and Advisory Design Review (ADR) to decide if something works for a property, and not if it's okay for a neighbor, since it will set up hostility, it is unnecessary and not consistent. She would be happy to take neighbor approval out of the ordinance. There is no need to regulate emergency generators. She believed the 55 decibels is high and it would be helpful to have a standard decibel level and it should be quieter than 55. She wanted to review what is a reasonable level in Ross. Town Attorney Benjamin Stock noted that the Council could direct staff to draft a policy. Mayor Brekhus agreed it should not be applied to emergencies.

Council Member Kuhl wanted to minimize the regulating, but make it clear during emergency situations there are no rules. Aside from that, they will not gain much and might make things unpleasant if they write a lot of detailed regulations. Limit on construction noise is not feasible in regard to decibel levels. Council Member Robbins felt it would apply to air conditioning units and pool equipment.

Mayor Pro Tempore McMillan felt this would cause huge controversy since it is so subjective.

The Council had no further comments on this item and moved onto the next agenda item.

**12. Town Council consideration of introduction of Ordinance No. 702, an Ordinance of the Town of Ross amending Ross Municipal Code Chapter 15.36 "Flood Damage Prevention," providing information on administrative procedures for FEMA/NFIP map revisions.**

Public Works Director Richard Simonitch summarized the staff report and recommended that the Council hold a public hearing and consider introduction and first reading of Ordinance No. 702 to amend Ross Municipal Code (RMC) Chapter 15.36 (Flood Damage Prevention) to adopt by reference the Town of Ross Flood Damage Prevention Ordinance.

Mayor Brekhus opened the public hearing on this item, and seeing no one wishing to speak, the Mayor closed the public portion and brought the matter back to the Council for action.

Mayor Brekhus asked for a motion.

**Council Member Kuhl moved and Council Member Robbins seconded, to introduce and approve Ordinance No. 702. Motion carried unanimously. (Russell absent)**

*The Council moved up agenda item 14 to be heard next.*

**Public Hearings on Planning Projects.**

**14. 39 Fernhill Avenue, Use Permit Amendment No. 19-0003 UP, and Town Council consideration of adoption of Resolution No. 2140 to allow a Use Permit Amendment pursuant to Section 18.60.080 of the Ross Municipal Code to modify condition of approval number 5 of Town Council Resolution No. 1042 relating to the imposition of**

# ATTACHMENT 3

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## Town of Ross Generator Survey – July 9, 2020

Background The Town of Ross has been regulating noise, in the Municipal Code, since 1967. The noise regulations were originally written to prohibit "Unnecessary Noises or sounds which are annoying to persons of ordinary sensitiveness, or which are so harsh or so prolonged or unnatural, or unusual in their intensity, time, or place of occurrence as to occasion discomfort to the inhabitants of this Town or any number thereof." The Town's General Plan also addresses noise, including a limit of 55 decibels (24-hour average) at the property line. The Town's regulations do not address generators specifically. This short survey is meant to gather initial feedback from community members to inform the Town Council's conversation about regulating portable and permanent generators in Ross.

### I am (check all that apply):

| Answer             | 0% | 100% | Number of Responses | Response Ratio |
|--------------------|----|------|---------------------|----------------|
| A resident of Ross |    |      | 238                 | 97.5%          |
| Employed in Ross   |    |      | 4                   | 1.6%           |
| Other              |    |      | 3                   | 1.2%           |
| <b>Totals</b>      |    |      | <b>244</b>          | <b>100%</b>    |

### Should the use of portable generators be allowed in Ross?

| Answer   | 0% | 100% | Number of Responses | Response Ratio |
|--|----|------|---------------------|----------------|
| Yes, year-round.   |    |      | 42                  | 17.0%          |
| Yes, but only during an emergency like a Public Safety Power Shutoff (PSPS). |    |      | 191                 | 77.6%          |
| No, portable generators should not be permitted in Ross.                     |    |      | 12                  | 4.8%           |
| No Responses   |    |      | 1                   | <1%            |
| <b>Totals</b>  |    |      | <b>246</b>          | <b>100%</b>    |

### If the use of generators is permitted during an emergency like a PSPS, generators (permanent or portable) should be allowed to operate during the following hours\*:

| Answer                      | 0% | 100% | Number of Responses | Response Ratio |
|-----------------------------|----|------|---------------------|----------------|
| No time restrictions        |    |      | 137                 | 55.6%          |
| 7am to 7 pm                 |    |      | 21                  | 8.5%           |
| 6am to 9pm                  |    |      | 34                  | 13.8%          |
| 6am to 11pm                 |    |      | 23                  | 9.3%           |
| Only during daylight hours  |    |      | 7                   | 2.8%           |
| Only from sunset to sunrise |    |      | 3                   | 1.2%           |
| Other                       |    |      | 20                  | 8.1%           |
| No Responses                |    |      | 1                   | <1%            |
| <b>Totals</b>               |    |      | <b>246</b>          | <b>100%</b>    |

### Text Block:

\*Generators are allowed to run 24 hours for those with a demonstrated medical need.

## Comment Fields

Survey Name: Portable Generators Survey

### 1. I am (check all that apply): - Other responses

#### Answer

Live on the border

Property owner and potential return resident

former resident of 20 years

### 3. If the use of generators is permitted during an emergency like a PSPS, generators (permanent or portable) should be allowed to operate during the following hours\*: - Other responses

#### Answer

Only if it complies with 55 dB limit in general plan

Season/outside temperature dependent

8am to 8pm

9-5

sunset to 9pm

8am to 8 pm

2pm - 4 pm

7 am to 9 pm w sound limits

A couple hours a day.

I'm not sure which but there should be a limit

Depends on proximity of neighbors & decibels

7am to 11 pm

Noon to 1PM

12pm to 3pm

limit to 4-5 hours a day, perhaps 8-11am

7am to 10pm

I am not sure

yes hen we lose our electricity and heating due to emergencies

No time restrictions for medical emergencies. If pleasure, limit 7-7

short as possible

### 4. Additional Comments: - Responses

#### Answer

I define "emergency" as any loss of power, whether PSPS or any other power outage. I can't imagine why anyone would run a generator when there isn't a power outage., and when there is a power outage a generator should be able to run 24 hrs a day.

Continuity of electrical service in Ross has been variable historically. Now with the stability and reliability of PG&E matters of ongoing doubt, residents need to be able to install alternative energy sources within the broader safety regulations adopted by the state of California.

It is essential that the town allows generators without all the BS red tape. We have a pandemic and PSPs which is a recipe for disaster. We had no power for almost 4 days last year. People need to be able to stay gone and work and live safely.

In full support of use of generators

With PSPS it is so important that properties of every size be able to access power.

Sound control and noise limits need to be part of allowing the use of emergency generators. Registration and compliance with all current BAAQMD generator requirements need to be part of the Town of Ross permit application process. The location emergency generators should be limited to areas that minimize the impact of neighbors.

Generators are extremely noisy. Ability to use generator and the location of generator should be subject to Town approval of noise level that does not negatively impact neighbors, including testing once generator is in operation There needs to a requirement that limits noise level. Existing generators should not be grandfathered.

I am assuming your focus is on gas powered generators. I have a solar generator which makes no noise or fumes

I am more concerned about the safety of the generators, the possibility of fire from the gas in the generator. I am concerned that the generator will be stored with gas during the eyar when not in use.

During the power shut off very loud generators were placed by residents at the edge of their own property. These should be enclosed to reduce noise and located so they are least likely to bother neighbors.

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| <p>Generator noise output varies, e.g. the following would satisfy the general plan noise limit and so would not need to be limited. Residents should be encouraged to use solar panels and battery backup systems, and also get good quality generators ahead of time.</p> <p><a href="https://powerequipment.honda.com/generators/models/eu2200">https://powerequipment.honda.com/generators/models/eu2200</a></p> |
| <p>I agree with the 24 hr allowance of generators in times of personal/medical emergency or public emergency power shut offs.</p>  |
| <p>Generators should be allowed with no time restrictions in order to make sure that landline telephone (with VOIP service) and Internet function during a PSPS. Otherwise there is a major safety issue if somebody needs to contact emergency services. During the last PSPS, Verizon Wireless service did not work (batteries ran out/no fuel at cell site).</p>  |
| <p>Placement of generators and sound proofing of generators should be considerations in making a policy</p>  |
| <p>Today we need a power source 24/7 for all households</p>  |
| <p>The noise level of generators can vary so a specific limit should be imposed. Also, it would be advisable to not allow them within at least 25' from the property line.</p> <p>Thank you</p>  |
| <p>Our part time neighbors at Upper Toyon have a generator that comes on automatically when the power goes down and remains on until power is restored. They spend more than half the year at a residence in Florida and might not get the mail about the survey.</p>  |
| <p>People should consider either solar/battery or permanent generators with noise reduction</p>  |
| <p>I would be VERY ANGRY if time restrictions were put on a generator during an emergency like a PSPS. Last year it was extremely cold at night and that's how we were able to stay warm.</p>  |
| <p>There shouldn't be a restriction or limits when there is a power outage.</p>  |
| <p>Neighbors on both sides of me have generators and it is so loud at night it is impossible to sleep. There must be an overnight shut-off period with the exception of medical need.</p>  |
| <p>The issue is regulation and monitoring of generators, not bans. Unfortunately I can point out generators on Norwood and Shady Lane that are public nuisances in terms of visual and sonic problems. Generators should be hidden and enclosed in adequate baffles. There should be a strict limit on decibels allowed.</p>   |
| <p>I've had a generator for twelve years. There have never been complaints.</p>  |
| <p>This should also include weather/tree loss of power.</p>  |
| <p>The noise limit should be raised to allow the use of at least commonly marketed 20kw generators. No one wants to use generators, but we should all be able to power our homes sufficiently to provide AC, refrigeration, dishwashers, computers, etc in case of storms, shut offs, etc., and especially now that SIP orders are or will be in effect</p>  |
| <p>This is my attempt at the balancing act between user's needs and the undeniably unpleasant (and constant) noise of the generators</p>   |
| <p>For permanent generators (many of which already exist), it would be very difficult to restrict operable hours as they often function automatically when there is a power interruption. Any time limited restrictions would entail current generator owners to retire their devices and potentially a large part of their electrical systems.</p>  |
| <p>Maybe consider limitations based upon how close the generator is to your neighbors</p>  |
| <p>Sound should not exceed a certain decibel level on any property line with a neighbor.</p>   |
| <p>We have been trying to get approval for a backup generator for months I think the problem has been getting one that meets the 55 dB 25 feet away we have checked all manufacturers and they say 65-70 dB at 25 feet so it seems impossible to meet the requirement</p>  |
| <p>I have a fixed (permanent) generator that I installed behind a sound-absorbing wall within my setback. My immediate neighbor said that he could not hear my generator running during the last PSPS. We all need to be considerate!</p>  |
| <p>During the power shut offs people also need heat in their homes when it is cold outside. Without power in the evening houses can become freezing cold.</p>  |
| <p>While we are reviewing noise in Ross, let's consider restricting the use of power blowers or at least enforcing current restrictions.</p>   |
| <p>Those with solar electric and batteries should be encouraged.</p>   |
| <p>Is there a noise limit that could be applied? Some generators are more disruptive than others in my opinion.</p>  |
| <p>During the PGE some neighbors ran very loud generators 24/7. Sleep was severely impacted. Neighbors were very close to conflict over this.</p>  |
| <p>Seems there should be some provision for varying noise levels of different generators. Really noisy perhaps not permitted or only permitted during certain hours. Is there a noise rating you could require for operation?</p>  |
| <p>Why isn't a policy already in place (we had fires that caused power outages in each of the last two years)?</p> <p>Generators used during limited hours should be with significant noise abatement.</p> <p>One generator per household.</p> <p>Regulate type of generator based on decibels like you already do for gas-powered blowers.</p>  |
| <p>Neighbors at Woodside Way have a generator. During the last power shutoff it was left on 24 hrs a day for days. It was extremely noisy and disruptive. There has to be time restrictions on the use of generators and limits on the sound decibel levels of the noise they produce. Existing generators should not be grandfathered in.</p> <p>All should comply</p>  |
| <p>I have a portable generator that I have used since 2005. To restrict generators' times of use defeats their purpose. The power is used for much more than keeping the food safe. Three important additional purposes are lighting, communications and cleanliness (washer &amp; dryer). I'm sure there are more, but those are the four most important to me.</p>   |

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| #2 should include use when your power is shut off for any reason, not just due to a PSPS. I will be very upset if you attempt to regulate hours of usage during a PSPS. We have no control of when PGE flips the switch meaning we could be without power for many hours if you create such windows. You must have something better to focus on in this crisis   |
| So much is situation specific. If a blackout runs a day, having hot water or keeping food from spoiling is not a big deal. If it goes for days, the use of generators become more important. In either situation, shutting them off by 10:00pm should carry people into the next day. They are noisy at night and should be shut off.                            |
| I  |
| It's really important to put in exceptions for standard Ross setbacks. It's not equitable for people on large lots to have power during blackouts and for homes on smaller lots not to have power due to draconian setback requirements. Access to power is so important to all Ross residents.  |
| Keeping our residence and critical appliances is important to our safety, especially if we must shelter in place. We don't have the option of going to offices in the city for recharging mobile devices, internet access, or even showering. What can the Town of Ross do to insure internet access will remain online (assuming we can run power to our home)  |
| give out free ear plugs :-)  |
| Given the impact of climate change and now fire danger in Marin and the safety of our residents, it's imperative that residents are prepared for PSPS outages. And generators must be allowed for any Ross resident during this time. Leaving to stay at a hotel or elsewhere or living without power for days is just not a solution. We must be flexible!      |
| During the PSP in 2019, the outage was multiple days. We did not have heat in our home due to lack of power. All the food in our refrigerator spoiled due to the lack of power. Power is a basic need and during a time of crisis (e.g., PSP) basic needs should be met over a noise concerns.   |
| Town should provide guidance on sound restrictions asap because I and others are moving ahead with purchases and it would be incredibly unfair to make illegal when people bought in good faith  |
| Our neighbor has a built in gas powered generator that ran 24/7 during the PG&E shelter in place. IMO it is just as loud as a gas powered generator  |
| We applaud you for doing this survey and potentially rethinking some of the Ross codes and how they are applied. We appreciate our beautiful town but too often hear of how exceedingly difficult our codes can make things be compared to other similar towns. We hope to keep the integrity of Ross while making our codes more manageable and understandable! |
| The portable generator I own is for emergency use only. I do need to test the system every few months to make certain it is in working condition - when I needed it during an emergency.   |
| Are generators effective if turned off part of every day??   |
| Please consider restricting/eliminating leaf blowers!  |
| i think you should not allow the really loud old ones  |
| As long as some kind of noise restriction is applied, similar to heating/cooling & pool equipment, I see no reason to limit usage. Noise and any exhaust pollutants would be my only issue. Most newly installed run off gas with fuel back up. So perhaps during emergencies noise restrictions should be lifted.   |
| Although operating hours would be nice, during an emergency it will be a burden to home owners to coordinate generator use with the timing of appliance (fridge/freezer) need. Therefore, I voted for no time restrictions during emergency use. If year round use was approved, operating hours should be restricted to 8-5 on weekdays & 9-4 on Saturday.      |
| There is a big difference between the noise produced by a permanent generator and a portable one. This survey should be two separate surveys--one for portable generators and one for permanent generators.  |
| We have a medical need<br>Resident requiring 24 hour oxygen  |
| We need to plan for wildfires and PGE power shut offs, so my opinion is that it is unrealistic to not allow residents to have generators. Putting time restrictions is fine in my opinion. Thank you for doing the survey, and thank you for your service to our town!   |
| It would not be reasonable or logical to NOT allow generators during power outages   |
| There should not be any limitation on permanent, natural gas or propane generators.  |
| Also should include guidelines on the proximity requirements from installed resident to neighbors.   |
| If the concern is noise, you should focus on that. If Ms. Ross Citizen has a generator that no one can hear or that is no louder than an air-conditioning unit, she should be able to use it without restriction. If it's loud enough to bother the neighbors, some overnight restrictions would be in order. It shouldn't be a yes/no situation.                |
| PSPS events will not be with us forever. PG&E is working to provide alternatives (natural gas-generator substations, or fuel cell) to power the grid, so this is not a long-term issue. I'd urge the Town to not rashly pass rules until we get a better sense of the problem. If noise is the issue, leaf blowers are a much bigger problem.                    |
| Thank you for your thoughtful consideration of this important issue. If the well-being of our residents is a priority, we support allowing people to do what's necessary in times of power outages.  |
| Backup generators should absolutely be allowed. They should be allowed in the setback, near property line, if meeting strict decibel requirements. This can be accomplished by allowing them to be placed in structures that have sound attenuation capabilities and meet staff level architectural design guidelines.   |
| let's create sensible rules for the PSPS periods   |
| portables for a special event or power outage  |
| During a power outage people are not disturbed by generator noise  |
| There are quiet alternatives. Solar with battery backup.   |
| This is fun. I think I'll do it again.   |
| I hate generators almost as much as their owners.  |
| Property owners should be allowed to use a quiet portable or permanent generator during an emergency, as described above. Having a generator installed should be a quick and simple process without a long application or expensive permit fees. The purpose would be to provide refrigeration, hot water, internet, and basic needs.                            |

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| Let's not overthink this. This stupid state finds a way to complicate and make things a lot more difficult than needed and would be great if Ross could be a voice of common sense. . We all pay way too much to live here as is and the noise for 48/-72 is well worth the six it provides and not up to big brother to decide what is ok. thanks!!!! |
| As a breastfeeding mother, it was devastating to lose my food supply for my child during a previous outage. Going into the next fire season and rain / storm season, I would like to have the comfort that an external generator could keep our freezer cold enough to protect that supply of milk for the baby.                                       |
| We saved thousands of dollars of medical supplies last year with a portable generator.   |
| A permit should be enforced for generator use so only the low noise models are allowed.  |
| All of our neighbors have loud, older generators. Would new regulations effect already installed systems?  |
| Portable generators are an important means -- for many safety, communications, and medical reasons -- to cope with emergencies and with the increasing PSPS's we all face. It would be insane overreach to restrict them or their use in these emergency and PSPS situations.  |
| the noise pollution is really bad during the scheduled power outages. They shouldn't be allowed to run 24 hours  |
| We should lower the decibel level to 45  |
| I assume that there are regulations regarding permissible noise output - decibel rating or similar. If not I suggest they be strongly considered.  |
| During storms, or emergencies we believe they should be used.  |
| Generators should be limited to an approved decibel sound rating   |
| We moved to Ross for the quiet and town's embracing of natural and quiet. Emergency use only, or not at all, otherwise it will change the uniqueness and charm of Ross   |
| Hi Patrick,<br>I like the shortness of this survey. However, I think you should have clarified that you are talking about low noise generators as opposed to construction level generators. The former should have no time restrictions while the latter should be limited to 07:00 to 19:00.  |
| If people are concerned about the noise of generators during a crisis causing them not to be able to sleep, I would suggest they purchase a white-sound machine for their bed side. That's a much easier problem to solve than the problem of a household not having power, their food spoiling, or being too cold/too hot.                            |
| Permit should be required, process should include neighbor notification and input, and meet all Town code requirements.  |
| Tesla makes a solar silent battery backup as part of a permanent installation. My neighbor has one. Works beautifully. No need for loud portable generators. Loud generators ruin the only good thing about power outages, the quiet.  |
| Can the city sponsor some workshops so people can learn more about installations energy storage and solar to avoid internal combustion engine generators'  |

# ATTACHMENT 4

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|              | <b>Permits Generators during PSPS or Emergency Events to Exceed Noise Ordinance</b> | <b>Instrument</b>   |
|--------------|---|---|
| Ross         | Yes   | Permanent generators require a mechanical permit and must be outside of setbacks. Must conform to the General Plan maximum of 55 dba at the property line.  |
| Novato       | Yes   | Written policy to not enforce City's Noise Ordinance- Not Codified  |
| Corte Madera | Yes   | Noise regulations do not apply to standby equipment or machinery operated in an emergency situation as well as generators used in emergency periods, such as power outages.   |
| Mill Valley  | Yes   | For prolonged Power outages, allows generators to operate 24-hours a day for commercial uses and allows generators for residential uses to be operable from 7:00AM to 9:00PM unless a bona fide health or medical need requires the generator to operate 24-hour.   |
| San Anselmo  | Yes- Only if deemed an emergency. Otherwise, must comply with noise standards       | Limited to 70 dba at property lines when used in emergency situations. Emergency situation is not defined. Codified.  |
| Larkspur     | Yes- Only if deemed an emergency<br><br>Otherwise, must comply with noise standards | <p>Must comply with the below noise regulations:</p> <ul style="list-style-type: none"> <li>• 40 dBA* 10PM-7AM</li> <li>• 50 dBA* 7AM-10PM</li> </ul> <p>Exempts mechanical device, apparatus or equipment related to or connected with emergency activities or emergency work, but emergency activities or emergency work are not defined. Working on a policy interpretation to define "emergency activities or emergency work".</p> <p>Temporary/portable generators permitted but are required to follow noise ordinance.</p> |
| Tiburon      | No<br><br>Yes   | <p>Permanent generators require Design Review and conformance with General Plan Noise Element policy of a weighted sound level of no more than 55 dba</p> <p>Temporary/portable generators permitted.</p>   |
| Belvedere    | No  | Requires Design Review and compliance with Noise Ordinance of 55 dba.   |
| Sausalito    | No  | Must conform to the City's noise regulations. Accordingly, any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device @ property line shall not exceed the following noise regulations:  |

|            |  |  |
|------------|--|--|
|            |  | <ul style="list-style-type: none"> <li>• 50 dBA* 10PM-7AM</li> <li>• 55 dBA* 7PM-10PM</li> <li>• 60 dBA* 7AM – 7PM</li> </ul> <p>* Maximum noise values are 5 dB above ambient base noise levels.</p>  |
| Fairfax    | No   | <p>Fixed generators need to conform to the City’s noise regulations (50 dBA during the daytime and 40 dBA during the nighttime) unless the following exemptions apply:</p> <ul style="list-style-type: none"> <li>• Emergency repair work</li> </ul> <p>Construction related activities during the hours of 8:00AM to 6:00PM Monday through Friday, and 9:00AM to 4:00PM on weekends.</p>  |
| San Rafael | <p>Yes- Only if deemed an emergency</p> <p>Otherwise, must comply with noise standards</p> <p>No</p> | <p>Fixed generators need to conform to the City’s noise regulations (50 dBA constant during the daytime and 40 dBA constant during the nighttime) unless the following exemptions apply:</p> <ul style="list-style-type: none"> <li>• Emergency vehicle responses and all necessary equipment utilized for the purpose of responding to an emergency, or necessary to restore, preserve, protect or save lives or property from imminent danger of loss or harm;</li> <li>• Emergency repair work performed by, or at the request of, a property owner on his or her private property, where the delay required to obtain an exception permit under this chapter would result in substantial damage, personal injuries, or property loss to the owner, provided that such emergency work shall be subject to such reasonable conditions as may be imposed by authorized city employees to mitigate the noise level of the activity.</li> </ul> <p>Portable generators are not permitted.</p> |
| County     | Yes- Only if deemed an emergency   | <p>Only addresses construction related noises and noises generated by emergency work. Emergency is defined by the County as “A sudden, unexpected occurrence demanding immediate action to prevent or mitigate loss of, or damage to life, health, property, or essential public services.”</p>  |

# ATTACHMENT 5

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## BACK-UP POWER FACT SHEET (SOLAR PLUS BATTERY STORAGE AND GENERATORS)

Due to PG&E's need to mitigate wildfire risk through Public Safety Power Shutoff (PSPS) events, customers may experience outages more frequently. Solar photovoltaic systems coupled with battery storage and generators can provide residents with additional control over powering their home, allowing them to keep at least essential devices (such as medical equipment, refrigeration, air conditioning, electric heating, lighting, electric well pumps) powered during outages. Each option has strengths and challenges homeowners should consider before making any purchase.

### Solar Plus Battery Storage

Most residential solar systems are "grid tied," meaning that when power is shut off in the area even homes with solar panels lose power (with the exception of some solar systems that include backup capability for an emergency circuit). Adding battery storage to a home with solar allows that home to retain power during a grid outage.

#### **Added Benefits of Solar Plus Battery Systems**

- **Energy Arbitrage:** under a Time of Use Utility Rate, battery systems can charge at times of the day when electricity is cheap, and power the home when energy is more expensive. This enables a battery system to pay for itself over time.
- **No Fuel Required:** in the event of a multiple-day power outage, a home with solar and a battery system will charge the battery during the day and use the stored energy at night. With a proper load design, and sufficient sunlight, this cycle will repeat itself each day.
- **No greenhouse gas (GHG) emissions, noise, or required regular maintenance** (as compared to generators).

#### **Costs, Sizing, and Other Considerations**

- **Incentives:** when combined with solar, battery systems can be eligible for tax breaks (check with your tax advisor) and a rebate from the California Self-Generation Incentive Program: [www.selfgenca.com](http://www.selfgenca.com).
- **Sizing for Your Home, Cost, Critical Loads:** The ultimate cost of a battery system depends on the capacity needed and variables related to your specific installation. The average single-family home has an electrical load of 18.5 kWh per day. Depending on your needs and budget, a battery system can be sized to service the entire home, or only "critical loads" (refrigerator and a small office, as an example).

#### **Permit Requirements**

- Marin County Mechanical Permit Required
- Scaled Site Plan: illustrating proposed location of equipment in relation to the property lines and existing structure(s).
- Manufacturer's Equipment Information
- Electrical Line Diagram

#### **Portable Batteries**

Portable backup batteries do not require a building permit and are more affordable than mounted battery systems. The cost of portable batteries is a function of their capacity; higher capacity batteries can power large home appliances and can range from \$1,000 to \$3,000. For example, a 1,045 Wh rated portable battery can power the average refrigerator for 17 hours.

## Emergency Back-Up Generators

### Temporary (Portable) Generators

A building permit is generally not required for use of portable generators when powering household appliances using an outdoor-rated extension cord. A building permit **is required** for a portable generator connected to the house wiring directly via a transfer switch.

### Additional Considerations (Portable Generators)

- California Fire Code states that no more than 10 gallons of fuel should be stored onsite in a Department of Transportation-approved container.
- Generators should be used in well ventilated outside areas and away from all doors, windows and vents.
- Never use a generator in an attached garage, even with the door open.
- Make sure to install carbon monoxide (CO) alarms in your home. Follow the manufacturer’s instructions for correct placement and mounting height.
- Turn off generators and let them cool down before refueling. Never refuel a generator while it is hot.
- FACT: deaths due to CO poisoning associated with generators have spiked in recent years as generator sales have risen.

### Residential Permanently Mounted Generators

A building permit is required for the installation of any permanently mounted generator. Submittal requirements:

- Scaled Site Plan: demonstrating proposed location of equipment in relation to the property lines and existing structure(s), and including location of an exterior emergency shut-off that will isolate the generator from the residence
- Manufacturer’s Equipment Information
- An electrical schematic and plumbing schematic for the gas line.
- If the property is located in the flood zone, additional requirements may apply.

### Comparison of Backup Options

|                        | <b>Battery</b>   | <b>Portable Generator</b>                            | <b>Permanent Generator</b>                           |
|------------------------|--|--|--|
| <b>Cost</b>            | \$1,500 - \$15,000 <sup>1</sup>  | \$500 - \$2,300                                      | \$5,500 - \$7,000                                    |
| <b>Potential Loads</b> | Essential loads <sup>2</sup>   | Essential loads                                      | Whole house  |
| <b>Lifespan Est.</b>   | 10 years (MWh or Cycles)   | 1 – 3 Years  | 5 years  |
| <b>Noise</b>           | None   | Yes  | Yes  |
| <b>Added Value</b>     | Under Time of Use Rate – can sell power back to the grid when not need for back-up – Depends on the equipment selected | None   | None   |
| <b>Fuel</b>            | None – if charged from a PV system or from the Grid (\$)   | Gasoline/Diesel/Propane (\$\$\$)                     | Diesel/Propane/ Natural Gas (\$\$\$)                 |
| <b>Maintenance</b>     | None   | Must be run periodically; Oil change every year (\$) | Must be run periodically; Oil change every year (\$) |
| <b>Emissions</b>       | None   | Yes  | Yes  |

<sup>1</sup> Does not include the cost of solar PV equipment.

<sup>2</sup> Critical loads can include lights, refrigerator, some outlets.