



Healthcare Facility Emergency Power Resilience Playbook

Appendix Content

Appendix C - Emergency Power System Assessment Worksheet for Sub-Acute Skilled Nursing Facilities

Los Angeles County sub-acute skilled nursing facilities (SNFs) are strongly encouraged to use this Emergency Power System Assessment Worksheet to capture key details about emergency power system capabilities and potential gaps. This worksheet should be completed by the facility director or the most qualified individual in the absence of a facility director. Completed worksheets should then guide the Emergency Power System Review discussion among facility directors, emergency management officers, and administrators about addressing any vulnerabilities in the facility's emergency power system. The LAC EMS Agency recommends scheduling this meeting as soon as possible and annually thereafter. NOTE: This worksheet is available as a downloadable Word file on the EMS Agency's website.

Emergency Power System Assessment (to be completed by the Facility Director or the most qualified individual in the absence of a facility director)

Part I – Background Questions

Name of facility	
Address of facility	
Name, title, and contact information for the person completing the worksheet	
Number of licensed acute care beds	
Date the worksheet was completed	

Part II – Vulnerability Assessment with Suggested Mitigation Strategies to Address Vulnerabilities. (To be completed by Facility Director or other qualified personnel.) Completed document can help guide the Emergency Power System Review discussion.

Question	Answer	Suggested Mitigation Strategies to Address Vulnerabilities
Number of generators		Many sub-acute SNFs operate with a single generator, a reality reflecting their smaller size compared to hospitals, many of which have multiple generators in their emergency power system. Sub-acute SNFs with a single generator should seriously consider installing a quick-connect device to enable rapid connection of a temporary replacement generator. This is especially important for sub-acute SNFs licensed to provide ventilator support to patients. Because single-generator facilities have no redundant emergency power, the failure of its only generator and the inability to quickly connect a temporary replacement puts patients at greater risk of an emergency evacuation. (See Appendix I for additional information about quick-connect devices.)
Does your facility rely on any generators that exceed 30 years of age?	Yes or No	The suggested useful life of a generator is 30 years, based on Roadmap to Resiliency , a white paper on emergency power resilience published in 2017 by the American Society for Healthcare Engineering and Powered for Patients. Any facility with a generator 30 years or older should develop plans to replace the generator as soon as possible.
Based on current onsite fuel capacity, what is the emergency power system runtime?		The federal government has established 96 hours as the ideal amount of time a skilled nursing facility should be able to operate its emergency power system before refueling. Sub-acute SNFs with less than 40 hours of emergency power run time should ensure that they have a contract with a secondary fuel supplier. (See Appendix S for Generator Fuel Burn Rate chart.)
Do you have a generator service contract in place?	Yes or No	If no, a service contract should be executed immediately with a reputable service provider.

Part II Continued– Vulnerability Assessment with Suggested Mitigation Strategies to Address Vulnerabilities. (To be completed by Facility Director or other qualified personnel.) Completed document can help guide the Emergency Power System Review discussion.

Question	Answer	Suggested Mitigation Strategies to Address Vulnerabilities
Do you have the ability to make an immediate payment to a fuel supplier during a power outage to ensure timely fuel delivery?	Yes or No	During a prolonged power outage, generator fuel supplies may become limited, forcing facilities to rely on fuel suppliers that are not their primary supplier. In these situations, many fuel suppliers will only deliver fuel if they receive payment at the time of delivery. Facilities should be sure they have the means to make immediate payment for a fuel delivery if they do not have established credit with a fuel supplier.
Do you have a generator rental contract in place that assures the delivery of a temporary replacement generator during a power outage?	Yes or No	If no, a contract should be established that includes language guaranteeing the delivery of a temporary generator when needed. Including these clauses in rental agreements carries a cost, which is why many facilities will not implement this type of contract. The only way to ensure that a rental generator will be made available to a facility during an outage is to execute and fund the right type of contract.
Has your facility recently completed any repairs to its emergency power system or are any repairs currently scheduled?	Yes or No	If yes, the facility director should brief the administrator on these repairs.
Has your facility performed maintenance on its emergency power system in accordance with the manufacturer's recommendations?	Yes or No	If any recommended emergency power system maintenance by the manufacturer is not being performed, this should be addressed during the Emergency Power Review discussion and a plan to align maintenance with manufacturer recommendations should be developed.
Do you have a written report addressing recommendations from your generator service provider on repairs or upgrades that should be considered for your emergency power system components?	Yes or No	If yes, have these repairs or upgrades been scheduled? If not, address any impediments to scheduling suggested repairs or upgrades with facility leadership during the Emergency Power System Review discussion. If no, ask your service provider to provide a written report addressing recommended repairs or maintenance to address any known shortcomings in the emergency power system.

Part II Continued– Vulnerability Assessment with Suggested Mitigation Strategies to Address Vulnerabilities. (To be completed by Facility Director or other qualified personnel.) Completed document can help guide the Emergency Power System Review discussion.

Question	Answer	Suggested Mitigation Strategies to Address Vulnerabilities
Do you have a written protocol addressing how emergency power system testing in your facility is conducted?	Yes or No	If no, such a protocol should be developed immediately. This protocol should include explicit communication protocols that provide clinical staff with advanced notice before any generator test is initiated to ensure that monitoring of any life support patients can be arranged during the test.
What levels of investment would be needed to make incremental or significant improvements to your facility's emergency power system?		A facility's generator service provider can be helpful in addressing these questions.
Are there updates to the facility or electrical infrastructure being planned, or that should be considered, that could incorporate needed upgrades to the emergency power system?	Yes or No	If updates to the facility or its electrical infrastructure are being planned, discussions with a Mechanical, Electrical, and Plumbing (MEP) contractor should take place about opportunities to upgrade the facility's emergency power system.
Does your facility maintain a current list of all patients on electric-powered medical devices, including their room numbers?	Yes or No	If no, this practice should be implemented. Maintaining such a list can be extremely helpful when a generator failure occurs during a power outage as it allows first responders to determine whether replacement equipment, i.e., oxygen bottles or other devices, can be supplied from fire department assets or other government caches. To the extent these temporary replacements are available, facilities may not face as much pressure to evacuate while awaiting the repair of a failing or failed emergency power system.
In addition to conducting required testing on backup generators, do you routinely test switchgear equipment including automatic transfer switches?	Yes or No	If no, speak with your generator service provider to assess options for testing switchgear equipment, including automatic transfer switches.
Have you already identified locations for temporary generator installations on your campus?	Yes or No	If no, ask a generator rental provider to visit your facility and make suggestions on the ideal locations for temporary generators. This step will also help determine how much cabling would be needed to connect a temporary generator.

Part II Continued– Vulnerability Assessment with Suggested Mitigation Strategies to Address Vulnerabilities. (To be completed by Facility Director or other qualified personnel.) Completed document can help guide the Emergency Power System Review discussion.

Question	Answer	Suggested Mitigation Strategies to Address Vulnerabilities
Does the sub-acute SNF have a stock of recommended spare parts for its diesel generators or assurances from local diesel distributor to provide spare parts?	Yes or No	If no, work with your generator service provider to identify key parts that should be held in inventory and add them to a facility's inventory or obtain assurances from the service provider that these will be available during an emergency. See the list of key spare parts in Appendix M .
Have appropriate personnel been trained on the manual operation of the diesel generators and overall emergency power system?	Yes or No	If no, schedule a training with your generator service provider as soon as possible to ensure that all engineering staff can manually operate the emergency power system.
Does your emergency power system have any unique cooling or operational requirements that may require special measures during a disaster (heat exchangers, cooling towers, etc.)?	Yes or No	If yes, discuss with your emergency power service provider and ensure that all engineering staff are aware of any unique requirements and can address these during a power outage. If unsure, check with your generator service provider.
Do you have a protocol established with input from your utility for detaching and reattaching to your electric utility during power outages?	Yes or No	If no, speak with your utility to determine what this protocol is. Be sure to document the protocol and ensure that all members of the engineering staff understand how to implement the protocol.
Is your water system dependent on power for water pressure due to building elevation? If so, is your water system supported by emergency power?	Yes or No	If no, ask your generator service provider, or an electrical contractor, whether your current emergency power system could accommodate any pumps needed to ensure proper water pressure. If there is no current capacity, ask for a cost proposal for expanding emergency power to enable the connection of water system pumps.
If your generator and its components, including fuel tanks, are not above the floodplain and safe from other water surges such as dam and water tower breaks, are system components encapsulated and protected from a flood?	Yes or No	If no, work with generator service providers or other contractors to install floodproofing devices.