University of Nebraska Lincoln

Safe Operating Procedure

(Revised 1/20)

POWER STATIONARY EMERGENCY GENERATORS – PERMITS AND COMPLIANCE REQUIREMENTS

At the University of Nebraska-Lincoln (UNL), new building construction and major renovation of existing facilities often involve installation of emergency electric power generators. UNL is subject to Lincoln-Lancaster County Health Department (LLCHD) Air Quality Regulations which require issuance of a construction permit prior to installation of an emergency generator regardless of rated capacity or type of fuel (diesel, natural gas, or gasoline). In addition, diesel and gasoline generators are always associated with a fuel supply source (e.g., tank) and most tank installations are subject to permitting by UNL's Building Code Official. Furthermore, EPA imposes certain regulatory requirements on facilities that store greater than threshold quantities of oil. These regulations, Oil Pollution Prevention and Response, are commonly referred to as Spill Prevention Control and Countermeasures (SPCC).

This SOP summarizes permitting and compliance requirements for emergency generators on UNL City and East Campuses, and will be useful to UNL project managers, contractors, and other interested or involved parties. The checklist below can be used by project managers to ensure that permitting and compliance requirements are met. Items in the checklist are further described in the text of this SOP.

	Who	What	When
❒	UNL Project Manager	Contact EHS before setting specifications that involve a fuel tank greater than 1300 gallons in size.	Prior to ordering generator.
❒	UNL Project Manager	Notify EHS of order date and forward copies of manufacturer's operations maintenance manual and EPA emissions certification along with the shop drawings to EHS.	At the time of ordering the generator.
❒	EHS	Submit construction permit application to Lincoln Lancaster County Health Department (LLCHD). Forward copy of application fee invoice to PM.	Permit applications for stationary emergency generators must be submitted at least 60 days prior to installation.

(Created 1/07; Revised 4/07, 6/07, 10/07, 8/09, 6/10, 7/10, 7/12, 3/14)

❒	Contractor	Submit tank installation permit application to UNL's Building Code Official.	At least 10 days prior to the intended date of installation of the tank.
❒	EHS	Forward copy of construction permit issued by LLCHD to Project Manager for construction file.	As received and prior to installation.
❒	Contractor	Install generator, attach fuel lines, and supply power to generator.	Only after permit(s) issued by LLCHD and UNL's Building Code Official.
❒	UNL Project Manager/ Contractor/ or UNL Operator (as assigned/ agreed)	For diesel or gasoline powered generators: order and receive fuel (ULSD w/ ≤15ppm sulfur & minimum cetane index of 40 must be used for diesel generators).	Prior to intended date of initial start up testing.
❒	UNL FMP Building Systems Maintenance/Utilities (or other assigned person)	Conduct routine testing and maintenance of generator. Maintain associated records in on-site logbook.	Continuously.

Emergency Power Generator Air Construction Permit

Stationary generators operated for emergency and readiness testing purposes only are eligible for an emergency generator construction permit. A construction permit is not automatic. UNL must submit an application and the permit may be granted by LLCHD. The permit application is prepared and filed by EHS. A construction permit must be secured prior to commencing any activity associated with actual installation (e.g., setting and hooking up power or fuel lines, etc.).

After the construction permit is issued, emergency power generators must be tracked and operating information recorded to demonstrate that conditions of operation remain within limitations imposed by the construction permit (e.g., hours of use for emergency purposes, testing, and type of fuel) and other applicable regulatory requirements (e.g., New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants). EHS is responsible to maintain a list of generators at each campus. Operators are responsible to maintain operations logs for each individual generator. See the EHS SOP, ***Power Generators – Stationary Emergency Generator Operations and Maintenance Log***.

Portable generators are generally considered off-road engines and not subject to permitting requirements. However, if a portable unit is "installed" at a specific location such that it becomes a "stationary unit" it is subject to certain restrictions. If "installed" and used for a maximum of 7 days (168 hours) in a calendar year AND used solely for the purpose of addressing an immediate emergency condition (such as the result of a natural or man-made disaster) it is not subject to construction permit or construction permit requirements. Authorization for use within these parameters is automatic and an application does not need to be filed with LLCHD. However, if any of these conditions are not met and the unit has been "installed," a construction permit application, as applicable, must be filed within 24 hours with LLCHD.

Emission Standards for Generators
Certain emergency generators are also subject to New Source Performance Standards (NSPS), 40 CFR Subpart IIII or JJJJ, and National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR, Subpart ZZZZ. These regulatory requirements are complex, but the main requirements are summarized below.

- Purchase generators that have been certified by the manufacturer to meet applicable EPA emission standards.
- Adhere to the manufacturer's recommended maintenance schedule for the engine and any emission related device or controls. Maintain records of all such maintenance. EHS recommends placing a copy of the manufacturer's recommendations in the generator logbook.
- Emergency generators are restricted to 100 hours of operation during any consecutive 12-month period for readiness testing and maintenance purposes. In addition, the generator shall not operate for more than 500 hours during any consecutive 12-month period for any reason (including emergency use).
- All engines must have fully operable hour meters. Logs must be maintained to document each use of the engine, to include the number of hours operated and the purpose of the operation (e.g., emergency purpose, testing, or maintenance).
- All diesel engines must use Ultra Low Sulfur Diesel (ULSD) with ≤15 ppm (0.0015%) sulfur content & minimum cetane index of 40.

State Fire Marshal Permits for Fuel Tanks
An installation permit must be secured from UNL's Building Code Official prior to installing (or relocating, even relocation within the confines of the same campus) any petroleum storage tank that is greater than 60 gallons in size.

Spill Prevention Control and Countermeasures (SPCC)
Generators that use natural gas or propane as a fuel source are not subject to SPCC regulations. A generator that uses diesel or gasoline with fuel storage capacity of greater than 55-gallons is subject to SPCC regulations under the following conditions:

- If it is at a location where more than 1,320 gallons of fuel are stored or;
- If it will increase the volume of storage at a location to more than 1,320 gallons.

Following is a brief summary of SPCC regulatory requirements as they pertain to generators.

- Operators must be trained to the location specific SPCC Plan, including but not limited to emergency procedures, inspections, and record-keeping. Training is required upon initial assignment and annually thereafter.
- The generator and ancillary tank/piping/control equipment must be inspected at the prescribed frequency; and fuel transfers must be attended.

- Generators must be secured (i.e., fenced area, locking fuel cap, etc.) and located in an area with adequate lighting.
- Aboveground storage tanks with a capacity of 55-gallons or greater must have secondary containment (e.g., double walled, diking, etc.).
- Inspections and training must be documented.

Storm Water Permitting

Those generators not subject to SPCC are still subject to storm water best management practices. This includes an evaluation by EHS of whether the fuel tank associated with the generator is in a location where discharges could readily reach storm sewers. If the evaluation finds that a risk exists, the generator location will be included in UNL's Stormwater Run-Off Control Plan.