

Description:

The purpose of the section is to highlight the current applicable UMD Design Standards for the design, selection and installation of Emergency Power Units.

Related Sections:

- 26 32 00 Lighting - Interior
- 26 09 00 Electrical Controls

Effective Date:

January 1, 2023

Applicable Standards:

- 40 CFR Part 70 - State Operating Permit Programs
- COMAR 26.11- Air Quality
- UMD –ESSR: <https://essr.umd.edu/air-quality-permitting-fact-sheet>

Special Requirements:

Due to specific O&M requirements associated with power generation systems, their designed inclusion into any new UMD project should not be assumed. The incorporation of any type of supplemental emergency power generation system into any new construction project must be confirmed/approved by UMD project management before its design inclusion.

The start-up and commissioning of any fuel powered generation system requires review and permit approval by the UMD ESSR department. Notification of any pending design and installation must be addressed separately from UMD P&C. Contact the assigned UMD PM for coordination.

General Requirements:

- Emergency power for the following systems is required:
 - Fire Alarm
 - Security
 - Emergency Lighting
 - Telephone Service
 - UFAMS
 - Other systems as may be needed and/or identified by the University.

Lighting equipment pertaining to code required illumination shall be also supported by an emergency generator. All mechanical and electrical rooms having disconnecting or air handling equipment shall have 50% of connected lighting served by an emergency circuit. All lighting shall be switchable at entry to room.

Where applicable, new loads shall be connected to existing generators to maximize the use of existing equipment. All laboratories utilizing chemicals shall be provided with emergency lighting.

- Designers are to calculate the size/load of the power generator system based upon the connected load include any alternate plus 20 percent should spare capacity for future expansion.
- Provide for and show a generator set with automatic transfer switch, manual by-pass, start/stop control system, remote alarm annunciator, battery charger, and other accessories for a complete working system.
- Fuel to power the generator shall be selected on the basis of cost and availability with a preference for natural gas followed by fuel oil and propane gas.
- Additionally, designers are required to:
 - Incorporate a weather protected enclosure that meets noise abatement standards adequate for the project and any adjacent to buildings.
 - Position/select a location that minimizes noise impact to programed spaces within the building, as well as adjacent existing buildings.
 - Design generator exhaust as to not discharge in a fashion to causes it to enter any building's air handling system, into pedestrian walkways or near building entrances.

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- Generator rooms/areas must be large enough to enable repairs. Room access doors must be large enough to permit removal and replacement of the generator without having to dismantle the generator in any way.
- The generator shall be designed to run for several hours while the building is in use/occupied; therefore, the generator must be properly exhausted and sound-proofed so as not to interfere with the building's usage.
- Overhead lighting (on an emergency circuit) is required in the generator room or within the weather protected enclosure (exterior) while the generator is operational.