



South Carolina Department of Labor, Licensing and Regulation

**Division of Fire and Life Safety**

**Office of State Fire Marshal**

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## LP Gas Site Plan Review and Approval Process

- The Office of State Fire Marshal will perform plan review and licensing inspections on behalf of the Liquefied Petroleum Gas Board (LPGB) in accordance with the SC Code of Law §40-82-50.
- With the exception of Utility Gas Plants, all construction and installation of LP Gas systems also fall within the code enforcement jurisdiction of local Building and Fire Code Officials per §6-9. The licensee must ensure that plan review, permits, and inspection requirements of local officials are complied with.
- Site approval is required for all LP Gas Dealer and LP Gas Reseller sites prior to licensing. Construction documents for LP Gas Dealer and LP Gas Reseller sites are required to be approved prior to construction in accordance with South Carolina Fire Code 6101.3: *Where a single LP-gas container is more than 2000 gallons in water capacity or the aggregate water capacity of LP-Gas containers in more than 4000 gallons, the installer shall submit construction documents for such installation.*
  - Construction documents should be completed in CAD and submitted via the electronic project submission portal in PDF or DWF format. [<https://osfm.llr.sc.gov/>].
- Site plans must provide sufficient detail to demonstrate compliance with NFPA 58 and South Carolina Fire Code (SCFC) for construction and site location requirements. Site plans must demonstrate, at least, the following items:
  1. The name and mailing address of the local fire department responsible for responding to calls for this facility.
  2. The name and street address of the facility containing the proposed system.
  3. The name, address, and telephone number of the owner or owner's representative.
  4. The name, addresses, telephone number, and license number of the contractor installing the system.
  5. A description of each container used, including size and data plate markings per NFPA 58 5.2.8.3(C).
  6. The manufacturer and model number of all components of the storage, filling and dispensing system. Please include the manufacturer's technical information sheets for all components of the propane fuel storage, filling and dispensing system.
  7. A scaled drawing (site plan) showing locations of
    - A. new and existing containers, indicating capacity
    - B. dispensers

- C. fill connections
  - D. piping route between containers and dispensers, fill connections, pumps, compressors, and vaporizers
  - E. buildings on the same property
  - F. fencing and fence height
  - G. property lines (including near and opposite sides of a public way)
  - H. emergency shutoff valves and switches
  - I. vehicle impact protection
  - J. fire extinguishers
  - K. location of warning signs
  - L. location of fire hydrants
  - M. vehicle access points.
8. Drawing(s) of piping layout (i.e. schematic) with valve and fitting details, including material type, schedule, size, design/working pressures, joining method, installation method, and (aboveground/underground) corrosion protection.
9. Container and piping support details sufficient to demonstrate compliance with applicable requirements such as NFPA 58 6.8.3. Foundations must comply with the requirements of the SC Building Code and are subject to local building and zoning code requirements (i.e. floodplain requirements).
10. Location of any pumps, compressors, vaporizers, container heaters, vaporizing burners, or gas-air mixers, including make, model, and manufacturers' numbers. Include manufacturer's cut sheets for all components used in the system.
11. Electrical plan showing enough information to verify compliance with applicable electrical requirements in NFPA 58 6.25.2 and Table 6.25.2.2 and NFPA 70.
12. Details of vehicle impact protection demonstrating compliance with the following:
- A. Vehicular barrier protection (VBP) shall be provided where containers, dispensers, piping, and appurtenances are located within 10 feet of a vehicle thoroughfare or parking location. Where required, VBP shall be installed in accordance with the SCFC. Guard posts shall comply with all of the following requirements:
    - 1. Constructed of steel not less than 4 inches in diameter and concrete filled.
    - 2. Spaced not more than 4 feet between posts on center.
    - 3. Set not less than 3 feet deep in a concrete footing of not less than a 15-inch diameter.
    - 4. Set with the top of the posts not less than 3 feet above ground.
    - 5. Located not less than 3 feet from the protected object.
  - B. Equivalent protection, designed by a South Carolina Licensed Engineer, shall be permitted in lieu of guard posts. Protection shall be a minimum of 3 ft. in height and shall resist a force of 6000 lb. applied 3 ft. above the adjacent ground surface.
13. Details of hazard identification signs per SCFC 5003.5 in accordance with NFPA 704.
14. Completed Fire Safety Analysis (FSA) as required by NFPA 58 6.29.3. The FSA must conform to the NPGA/NFPA analysis manual (forms can be obtained at: <http://www.propane.com/fsa/> )
15. Identification of other protection features or provisions used per NFPA 58 6.29.4, 6.29.5, 6.29.6, and 6.30.

16. Any other information not covered above that is necessary to demonstrate compliance with applicable sections of NFPA 58 related to the system design (such as other requirements in Chapters 5 and 6).

- Construction of the LP Gas System shall not begin until after construction documents have been approved. The OSFM will strive to review all submitted construction documents within 10 days of submittal. If local authorities issue permits and perform inspections, their approvals must be obtained prior to requesting the licensing inspection by OSFM. The licensing inspection will be scheduled by the LP Gas Board Administrator once all licensing requirements, including approval of construction documents, are satisfied.