

4.4.1 Sampling of gaseous fuels

Appendix D divides gaseous fuels into three categories: (1) pipeline natural gas (PNG); (2) natural gas; and (3) other gaseous fuels. The distinction between PNG and natural gas is in the fuel sulfur content. Natural gas may have as much as 20 grains of total sulfur per 100 standard cubic feet (i.e., 20 gr/100 scf), but to qualify as PNG, the total sulfur content of the gas must not exceed 0.5 gr/100 scf. The Appendix D fuel sampling and analysis requirements for gaseous fuels are as follows:

- For PNG and natural gas, annual sampling of the total sulfur content²⁰ is required, unless a valid fuel contract is in place documenting that the fuel meets the definition of PNG or natural gas. If such a contract exists, the owner or operator may choose not to perform the annual sampling—however, the maximum total sulfur content specified in the contract (often 20 gr/100 scf) must then be used to calculate the SO₂ emissions.
- The GCV of PNG or natural gas must be determined monthly, with certain exceptions for units that operate infrequently.
- For other gaseous fuels transmitted by pipeline, the required frequency of total sulfur sampling²⁰ is hourly, unless the results of a 720-hour demonstration²¹ show that the fuel qualifies for less frequent (i.e., daily or annual) sampling.
- The GCV of other gaseous fuels transmitted by pipeline must be determined daily, or hourly unless the fuel is demonstrated ²¹ to have a low GCV variability, in which case monthly sampling is sufficient.
- For other gaseous fuels delivered in shipments or lots, each shipment or lot must be sampled for sulfur content²⁰ and GCV.

Acceptable ASTM and GPA sampling and analysis methods for gaseous fuels are referenced in sections 2.3.3.1.2 (for fuel sulfur content) and 2.3.4 (for fuel GCV) of Appendix D.