formation or installing tubing, packers, or lifting equipment, steps that do not significantly vent natural gas to the atmosphere. This process may also include high-rate flowback of injected gas, water, oil, and proppant used to fracture or re-fracture and prop open new fractures in existing low permeability gas reservoirs, steps that may vent large quantities of produced gas to the atmosphere.

Well workover means the process(es) of performing one or more of a variety of remedial operations on producing petroleum and natural gas wells to try to increase production. This process also includes high-rate flowback of injected gas, water, oil, and proppant used to re-fracture and prop-open new fractures in existing low permeability gas reservoirs, steps that may vent large quantities of produced gas to the atmosphere.

Wellhead means the piping, casing, tubing and connected valves protruding above the earth’s surface for an oil and/or natural gas well. The wellhead ends where the flow line connects to a wellhead valve. Wellhead equipment includes all equipment, permanent and portable, located on the improved land area (i.e. well pad) surrounding one or multiple wellheads.

Wet natural gas means natural gas in which water vapor exceeds the concentration specified for commercially saleable natural gas delivered from transmission and distribution pipelines. This input stream to a natural gas dehydrator is referred to as “wet gas.”

Wood residuals means materials recovered from three principal sources: Municipal solid waste (MSW); construction and demolition debris; and primary timber processing. Wood residuals recovered from MSW include wooden furniture, cabinets, pallets and containers, scrap lumber (from sources other than construction and demolition activities), and urban tree and landscape residues. Wood residuals from construction and demolition debris originate from the construction, repair, remodeling and demolition of houses and non-residential structures. Wood residuals from primary timber processing include bark, sawmill slabs and edgings, sawdust, and peeler log cores. Other sources of wood residuals include, but are not limited to, railroad ties, telephone and utility poles, pier and dock timbers, wastewater process sludge from paper mills, trim, sander dust, and sawdust from wood products manufacturing (including resinated wood product residuals), and logging residues.

Wool fiberglass means fibrous glass of random texture, including fiberglass insulation, and other products listed in NAICS 327993.

Working capacity, for the purposes of subpart TT of this part, means the maximum volume or mass of waste that is actually placed in the landfill from an individual or representative type of container (such as a tank, truck, or roll-off bin) used to convey wastes to the landfill, taking into account that the container may not be able to be 100 percent filled and/or 100 percent emptied for each load.

You means an owner or operator subject to Part 98.

Zinc smelters means a facility engaged in the production of zinc metal, zinc oxide, or zinc alloy products from zinc sulfide ore concentrates, zinc calcine, or zinc-bearing scrap and recycled materials through the use of pyrometallurgical techniques involving the reduction and volatilization of zinc-bearing feed materials charged to a furnace.

§ 98.7 What standardized methods are incorporated by reference into this part?

The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval, and a notice of any change in the materials will be published in the Federal Register. The materials are available for purchase at the corresponding address in this section. The
materials are available for inspection at the EPA Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC, phone (202) 566–1744 and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(a) [Reserved]
(b) [Reserved]
(c) The following material is available for purchase from the ASM International, 9639 Kinsman Road, Materials Park, OH 44073, (440) 338–5151, http://www.asminternational.org.

1) ASM CS–104 UNS No. G10460—Alloy Digest April 1985 (Carbon Steel of Medium Carbon Content), incorporation by reference (IBR) approved for §98.174(b).

2) [Reserved]

(d) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, http://www.asme.org.

1) ASME MFC–3M–2004 Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi, incorporation by reference (IBR) approved for §98.124(m)(1), §98.324(e), §98.354(d), §98.354(h), §98.344(c) and §98.364(e).

2) ASME MFC–4M–1986 (Reaffirmed 1997) Measurement of Gas Flow by Turbine Meters, IBR approved for §98.124(m)(2), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).


4) ASME MFC–6M–1998 Measurement of Fluid Flow in Pipes Using Vortex Flowmeters, IBR approved for §98.124(m)(4), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).


7) ASME MFC–11M–2006 Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters, IBR approved for §98.124(m)(7), §98.324(e), §98.344(c), and §98.354(h).

8) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters, IBR approved for §98.124(m)(8), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).


10) ASME MFC–18M–2001 Measurement of Fluid Flow Using Variable Area Meters, IBR approved for §98.324(e), §98.344(c), §98.354(h), and §98.364(e).

(e) The following material is available for purchase from the American Society for Testing and Material (ASTM), 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, http://www.astm.org.

1) ASTM C25–06 Standard Test Method for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime, incorporation by reference (IBR) approved for §98.114(b), §98.174(b), §98.184(b), §98.194(c), and §98.334(b).

2) ASTM C114–09 Standard Test Methods for Chemical Analysis of Hydraulic Cement, IBR approved for §98.84(a), §98.84(b), and §98.84(c).


5) ASTM D388–05 Standard Classification of Coals by Rank, IBR approved for §98.6.


7) [Reserved]

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(Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, IBR approved for § 98.254(e).


(10) ASTM D1945–03 Standard Test Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for § 98.254(e), § 98.254(d), § 98.324(d), § 98.354(g), and § 98.344(b).

(11) ASTM D1946–90 (Reapproved 2006) Standard Practice for Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 98.74(c), § 98.164(b), § 98.254(d), § 98.254(g), and § 98.364(c).

(12) ASTM D2013–07 Standard Practice for Preparing Coal Samples for Analysis, IBR approved for § 98.164(b).


(15) ASTM D2503–92 (Reapproved 2007) Standard Test Method for Relative Molecular Mass (Molecular Weight) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure, IBR approved for § 98.74(c) and § 98.254(d)(6).


(18) ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke, IBR approved for § 98.74(c), § 98.164(b), § 98.254(b), § 98.254(d), § 98.254(g), § 98.284(c), § 98.284(d), § 98.314(c), § 98.314(d), and § 98.314(f).

(19) ASTM D3288–95 (Reapproved 2005) Standard Test Method for Calculation of Carbon Distribution and Structural Group Analysis of Petroleum Oils by the n-d-M Method, IBR approved for § 98.74(e) and § 98.164(b).


(26) ASTM D5291–02 (Reapproved 2007) Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for § 98.74(c), § 98.164(b), § 98.244(b), and § 98.254(i).

(27) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal, IBR approved for § 98.74(c), § 98.114(b), § 98.164(b), § 98.244(b), § 98.254(i), § 98.294(c), § 98.294(d), § 98.314(c), § 98.314(d), § 98.314(f), and § 98.334(b).

(28) [Reserved]


(30) ASTM D6348–03 Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, IBR approved for § 98.54(b), § 98.124(e)(2), § 98.224(b), and § 98.414(n).
(31) ASTM D6609-08 Standard Guide for Part-Stream Sampling of Coal, IBR approved for §98.164(b).

(32) ASTM D6751-08 Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, IBR approved for §98.6.

(33) ASTM D6866-08 Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis, IBR approved for §98.34(d), §98.34(e), and §98.36(e).

(34) ASTM D6883-04 Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars, Barges, Trucks, or Stockpiles, IBR approved for §98.164(b).

(35) ASTM D7430-08ae1 Standard Practice for Mechanical Sampling of Coal, IBR approved for §98.164(b).

(36) ASTM D7459-08 Standard Practice for Collection of Integrated Samples for the Speciation of Biomass (Biogenic) and Fossil-Derived Carbon Dioxide Emitted from Stationary Emissions Sources, IBR approved for §98.34(d), §98.34(e), and §98.36(e).

(37) ASTM E359-00 (Reapproved 2005)e1 Standard Test Methods for Analysis of Soda Ash (Sodium Carbonate), IBR approved for §98.294(a) and §98.294(b).


(39) [Reserved]


(41) ASTM E1941-04 Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys, IBR approved for §98.114(b), §98.184(b), §98.354(b).

(42) ASTM UOP539-97 Refinery Gas Analysis by Gas Chromatography, IBR approved for §98.164(b), §98.244(b), §98.254(d), §98.324(d), §98.344(b), and §98.354(g).


(f) The following material is available for purchase from the Gas Processors Association (GPA), 6526 East 60th Street, Tulsa, Oklahoma 74143, (918) 493-3872, http://www.gasprocessors.com.

(1) [Reserved]

(2) GPA 2261-00 Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography, IBR approved for §98.134(b), §98.254(d), §98.344(b), and §98.354(g).

(g) The following material is available for purchase from the International Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH–1211 Geneva 20, Switzerland, +41 22 749 01 11, http://www.iso.org/iso/home.htm.
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(3) [Reserved]


(h) The following material is available for purchase from the National Lime Association (NLA), 200 North Glebe Road, Suite 800, Arlington, Virginia 22203, (703) 243–5463, http://www.lime.org.

(1) CO₂ Emissions Calculation Protocol for the Lime Industry—English Units Version, February 5, 2008 Revision—National Lime Association, incorporation by reference (IBR) approved for §98.194(c) and §98.194(e).

(2) [Reserved]

(i) The following material is available for purchase from the National Institute of Standards and Technology (NIST), 100 Bureau Drive, Stop 1070, Gaithersburg, MD 20899–1070, (800) 877–8339, http://www.nist.gov/index.html.

(1) Specifications, Tolerances, and Other Technical Requirements For Weighing and Measuring Devices, NIST Handbook 44 (2009), incorporation by reference (IBR) approved for §98.244(b), §98.254(h), and §98.344(a).

(2) [Reserved]


(1) T650 om-06 Solids Content of Black Liquor, TAPPI, incorporation by reference (IBR) approved for §98.276(c) and §98.277(d).

(2) T684 om-06 Gross Heating Value of Black Liquor, TAPPI, incorporation by reference (IBR) approved for §98.274(b).

(k) The following material is available for purchase from Standard Methods, at http://www.standardmethods.org, (877) 574–1233; or, through a joint publication agreement from the American Public Health Association (APHA), P.O. Box 933019, Atlanta, GA 31193–3019, (888) 329–APHA (2742), http://www.apha.org/publications/pubscontact/.

(1) Method 25400 Total, Fixed, and Volatile Solids in Solid and Semisolid Samples, IBR approved for §98.464(b).

(2) [Reserved]


(2) [Reserved]

(m) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272–0167, http://www.epa.gov.


(4) Emissions Inventory Improvement Program, Volume II: Chapter 18, Methods for Estimating Air Emissions from Chemical Manufacturing Facilities,


(n) The following material is available from the International SEMATECH Manufacturing Initiative, 2706 Montopolis Drive, Austin, Texas 78741, (512) 356–3500, http://ismi.sematech.org.

(1) Guideline for Environmental Characterization of Semiconductor Process Equipment, International SEMATECH Manufacturing Initiative Technology Transfer #06124825A–ENG, December 22, 2006 (International SEMATECH #06124825A–ENG), IBR approved for § 98.94(d), § 98.94(d)(1), § 98.94(e), § 98.94(e)(1), § 98.94(g)(1), § 98.96(f)(4), and § 98.97(b)(1).

(2) Guidelines for Environmental Characterization of Semiconductor Equipment, International SEMATECH Technology Transfer #01104197A–XFR, December 4, 2001 (International SEMATECH #01104197A–XFR), IBR approved for § 98.94(d), § 98.94(d)(1), § 98.94(e), § 98.94(e)(1), § 98.94(g)(2), § 98.96(f)(4), and § 98.97(b)(1).
Environmental Protection Agency


(2) Alaska Geological Province Boundary Map, Compiled by the American Association of Petroleum Geologists Committee on Statistics of Drilling in cooperation with the USGS, 1978, IBR approved for §98.238.


(2) [Reserved]

§ 98.238...

§ 98.9 Addresses.

All requests, notifications, and communications to the Administrator pursuant to this part must be submitted electronically and in a format as specified by the Administrator. For example, any requests, notifications and communications that can be submitted through the electronic GHG reporting tool, must be submitted through that tool. If not specified, requests, notifications or communications shall be submitted to the following address:

(a) For U.S. mail. Director, Climate Change Division, 1200 Pennsylvania Ave., NW., Mail Code: 6207J, Washington, DC 20460.

(b) For package deliveries. Director, Climate Change Division, 1310 L St, NW., Washington, DC 20005.


§ 98.8 What are the compliance and enforcement provisions of this part?

Any violation of any requirement of this part shall be a violation of the Clean Air Act, including section 114 (42 U.S.C. 7414). A violation includes but is not limited to failure to report GHG emissions, failure to collect data needed to calculate GHG emissions, failure to continuously monitor and test as required, failure to retain records needed to verify the amount of GHG emissions, and failure to calculate GHG emissions following the methodologies specified in this part. Each day of a violation constitutes a separate violation.

TABLE A–1 TO SUBPART A OF PART 98—GLOBAL WARMING POTENTIALS

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS No.</th>
<th>Chemical formula</th>
<th>Global warming potential (100 yr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon dioxide</td>
<td>124–38–9</td>
<td>CO₂</td>
<td>1</td>
</tr>
<tr>
<td>Methane</td>
<td>74–82–8</td>
<td>CH₄</td>
<td>21</td>
</tr>
<tr>
<td>Nitrous oxide</td>
<td>10034–97–2</td>
<td>N₂O</td>
<td>310</td>
</tr>
<tr>
<td>HFC–23</td>
<td>75–46–7</td>
<td>CHF₃</td>
<td>11,700</td>
</tr>
<tr>
<td>HFC–32</td>
<td>75–10–5</td>
<td>CHF₃</td>
<td>650</td>
</tr>
<tr>
<td>HFC–41</td>
<td>593–53–3</td>
<td>CHF₃</td>
<td>150</td>
</tr>
<tr>
<td>HFC–125</td>
<td>354–33–6</td>
<td>CH₂F₃</td>
<td>2,800</td>
</tr>
<tr>
<td>HFC–134</td>
<td>359–35–3</td>
<td>CH₂F₃</td>
<td>1,000</td>
</tr>
<tr>
<td>HFC–134a</td>
<td>811–97–2</td>
<td>CH₂F₃</td>
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</tr>
<tr>
<td>HFC–143</td>
<td>430–66–0</td>
<td>CH₂F₃</td>
<td>300</td>
</tr>
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<td>HFC–143a</td>
<td>420–46–2</td>
<td>CH₂F₃</td>
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</tr>
<tr>
<td>HFC–152</td>
<td>624–72–6</td>
<td>CHF₂OHF</td>
<td>53</td>
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