

TABLE 9-2.—POINT SOURCE MODEL INPUT DATA (EMISSIONS) FOR PSD NAAQS COMPLIANCE DEMONSTRATIONS

Averaging time	Emission limit (#/MMBtu) <sup>1</sup>	×	Operating level (MMBtu/hr) <sup>1</sup>	×	Operating factor (e.g., hr/yr, hr/ day)
Proposed Major New or Modified Source					
Annual & quarterly .....	Maximum allowable emission limit or federally enforceable permit limit.		Design capacity or federally enforceable permit condition.		Continuous operation ( <i>i.e.</i> , 8760 hours). <sup>2</sup>
Short term (≤ 24 hours) .....	Maximum allowable emission limit or federally enforceable permit limit.		Design capacity or federally enforceable permit condition. <sup>3</sup>		Continuous operation ( <i>i.e.</i> , all hours of each time period under consideration) (for all hours of the meteorological data base). <sup>2</sup>
Nearby Source(s) <sup>4,6</sup>					
Annual & quarterly .....	Maximum allowable emission limit or federally enforceable permit limit. <sup>5</sup>		Actual or design capacity (whichever is greater), or federally enforceable permit condition.		Actual operating factor averaged over the most recent 2 years. <sup>7,8</sup>
Short term (≤ 24 hours) .....	Maximum allowable emission limit or federally enforceable permit limit. <sup>5</sup>		Actual or design capacity (whichever is greater), or federally enforceable permit condition. <sup>3</sup>		Continuous operation ( <i>i.e.</i> , all hours of each time period under consideration) (for all hours of the meteorological data base). <sup>2</sup>
Other Source(s) <sup>6,9</sup>					
Annual & quarterly .....	Maximum allowable emission limit or federally enforceable permit limit. <sup>5</sup>		Annual level when actually operating, averaged over the most recent 2 years. <sup>7</sup>		Actual operating factor averaged over the most recent 2 years. <sup>7,8</sup>
Short term (≤ 24 hours) .....	Maximum allowable emission limit or federally enforceable permit limit. <sup>5</sup>		Annual level when actually operating, averaged over the most recent 2 years. <sup>7</sup>		Continuous operation ( <i>i.e.</i> , all hours of each time period under consideration) (for all hours of the meteorological data base). <sup>2</sup>

<sup>1</sup> Terminology applicable to fuel burning sources; analogous terminology (*e.g.*, #/throughput) may be used for other types of sources.

<sup>2</sup> If operation does not occur for all hours of the time period of consideration (*e.g.*, 3 or 24 hours) and the source operation is constrained by a federally enforceable permit condition, an appropriate adjustment to the modeled emission rate may be made (*e.g.*, if operation is only 8 a.m. to 4 p.m. each day, only these hours will be modeled with emissions from the source. Modeled emissions should not be averaged across non-operating time periods).

<sup>3</sup> Operating levels such as 50 percent and 75 percent of capacity should also be modeled to determine the load causing the highest concentration.

<sup>4</sup> Includes existing facility to which modification is proposed if the emissions from the existing facility will not be affected by the modification. Otherwise use the same parameters as for major modification.

<sup>5</sup> See paragraph 9.2.3(c).

<sup>6</sup> See paragraph 9.2.3(d).

<sup>7</sup> Unless it is determined that this period is not representative.

<sup>8</sup> For those permitted sources not in operation or that have not established an appropriate factor, continuous operation (*i.e.*, 8760) should be used.

<sup>9</sup> Generally, the ambient impacts from non-nearby (background) sources can be represented by air quality data unless adequate data do not exist.

## 9.2 Background Concentrations

### 9.2.1 Discussion

a. Background concentrations are an essential part of the total air quality concentration to be considered in determining source impacts. Background air quality includes pollutant concentrations due to: (1) Natural sources; (2) nearby sources other than the one(s) currently under consideration; and (3) unidentified sources.

b. Typically, air quality data should be used to establish background concentrations in the vicinity of the source(s) under consideration. The monitoring network used for background determinations should conform to the same quality assurance and other requirements as those networks established for PSD purposes.<sup>91</sup> An appropriate data validation procedure should be applied to the data prior to use.

c. If the source is not isolated, it may be necessary to use a multi-source model to establish the impact of nearby sources. Since sources don't typically operate at their maximum allowable capacity (which may include the use of "dirtier" fuels), modeling is necessary to express the potential contribution of background sources, and this impact would not be captured via monitoring. Background concentrations should be determined for each critical (concentration) averaging time.

### 9.2.2 Recommendations (Isolated Single Source)

a. Two options (paragraph (b) or (c) of this section) are available to determine the background concentration near isolated sources.

b. Use air quality data collected in the vicinity of the source to determine the

background concentration for the averaging times of concern. Determine the mean background concentration at each monitor by excluding values when the source in question is impacting the monitor. The mean annual background is the average of the annual concentrations so determined at each monitor. For shorter averaging periods, the meteorological conditions accompanying the concentrations of concern should be identified. Concentrations for meteorological conditions of concern, at monitors not impacted by the source in question, should be averaged for each separate averaging time to determine the average background value. Monitoring sites inside a 90° sector downwind of the source may be used to determine the area of impact. One hour concentrations may be added and averaged to determine longer averaging periods.