

impacts on HAP emissions. While this would reduce metallic HAP emissions, it would likely increase emissions of organics based on information in the emissions database.

Another factor considered was the availability of alternative fuel types. Natural gas pipelines are not available in all regions of the U.S., and natural gas is simply not available as a fuel for many industrial, commercial, and institutional boilers and process heaters. Moreover, even where pipelines provide access to natural gas, supplies of natural gas may not be adequate. For example, it is common practice in cities during winter months (or periods of peak demand) to prioritize natural gas usage for residential areas before industrial usage. Requiring EPA regulated combustion units to switch to natural gas would place an even greater strain on natural gas resources. Consequently, even where pipelines exist, some units would not be able to run at normal or full capacity during these times if shortages were to occur. Therefore, under any circumstances, there would be some units that could not comply with a requirement to switch to natural gas.

Similar problems for fuel switching to biomass could arise. Existing sources burning biomass generally are combusting a recovered material from the manufacturing or agriculture process. Industrial, commercial, and institutional facilities that are not associated with the wood products industry or agriculture may not have access to a sufficient supply of biomass materials to replace their fossil fuel.

As discussed previously in this preamble, there is a significant concern that switching fuels would be infeasible for sources designed and operated to burn specific fuel types. Changes in the type of fuel burned by a boiler or process heater (solid, liquid, or gas) may require extensive changes to the fuel handling and feeding system (*e.g.*, a stoker using wood as fuel would need to be redesigned to handle fuel oil or gaseous fuel). Additionally, burners and combustion chamber designs are generally not capable of handling different fuel types, and generally cannot accommodate increases or decreases in the fuel volume and shape. Design changes to allow different fuel use, in some cases, may reduce the capacity and efficiency of the boiler or process heater. Reduced efficiency may result in less complete combustion and, thus, an increase in organic HAP emissions. For the reasons discussed above, we decided that fuel switching to cleaner solid fuels or to liquid or gaseous fuels is not an appropriate

criteria for identifying the MACT floor level of control for units in the boilers and process heaters category.

We also concluded that process changes or work practices were not appropriate criteria for identifying the MACT floor level of control for units in the boilers and process heaters category. The HAP emissions from boilers and process heaters are primarily dependent upon the composition of the fuel. Fuel dependent HAP are metals, including mercury, and acid gases. Fuel dependent HAP are typically controlled by removing them from the flue gas after combustion. Therefore, they are not affected by the operation of the boiler or process heater. Consequently, process changes would be ineffective in reducing these fuel-related HAP emissions.

On the other hand, organic HAP can be formed from incomplete combustion of the fuel. Combustion is defined as the rapid chemical combination of oxygen with the combustible elements of a fuel. The objective of good combustion is to release all the energy in the fuel while minimizing losses from combustion imperfections and excess air. The combination of the fuel with the oxygen requires temperature (high enough to ignite the fuel constituents), mixing or turbulence (to provide intimate oxygen-fuel contact), and sufficient time (to complete the process), sometimes referred to the three Ts of combustion. Good combustion practice (GCP), in terms of boilers and process heaters, could be defined as the system design and work practices expected to minimize organic HAP emissions. The GCP control strategy could include a number of combustion conditions and work practices which are applied collectively to achieve this goal.

While few sources in EPA's database specifically reported using good combustion practices, the data that we have suggests that boilers and process heaters within each subcategory might use any of a wide variety of different work practices, depending on the characteristics of the individual unit. The lack of information, and lack of a uniform approach to assuring combustion efficiency, is not surprising given the extreme diversity of boilers and process heaters, and given the fact that no applicable Federal standards, and most applicable State standards, do not include work practice requirements for boilers and process heaters. Even those States that do have such requirements do not require the same work practices. For example, CO emissions are generally a good indicator of incomplete combustion, and, therefore, low CO emissions might

reflect good combustion practices. Therefore, we considered whether existing CO monitoring requirements and emission limits might be used to establish good combustion practice standards for boilers and process heaters. (As discussed previously in this preamble, CO is also a surrogate for organic HAP emissions in the proposed rule.) The population databases did not contain information regarding whether existing units monitored CO emissions. Therefore, we reviewed State regulations applicable to boilers and process heaters, and then for each subcategory we matched the applicability of State CO monitoring requirements or emission limits with information on the locations and characteristics of the boilers and process heaters in the population database. Ultimately, we found that very few units (less than 6 percent) in any subcategory were subject to CO monitoring requirements or emission limits. We concluded that this information did not allow EPA to identify a level of performance that was representative of good combustion across the various units in any subcategory.

Consequently, EPA was unable to identify any uniform requirements or set of work practices that would meaningfully reflect the use of good combustion practices, or that could be meaningfully implemented across any subcategory of boilers and process heaters. Therefore, EPA is not establishing combustion practice requirements as a part of the MACT floor for existing units. However, we have considered the appropriateness of such requirements in the context of evaluation possible beyond-the-floor options.

In general, boilers and process heaters are designed for good combustion. Facilities have an economic incentive to ensure that fuel is not wasted, and the combustion device operates properly and is appropriately maintained. In fact, existing boilers and process heaters are used typically as high efficiency control devices to control (reduce) emission streams containing organic compounds from various process operations. Therefore, EPA's inability to establish a combustion practice requirement as part of the MACT floor for existing sources in this category should not reduce the incentive for owners and operators to run their boilers and process heaters at top efficiency.

We request comment, and emissions information, regarding whether there are any uniform GCP practices that would be appropriate for minimizing organic HAP emissions from any subcategory of