

combustion temperatures, insufficient air (oxygen) contact with fuel due to limited turbulence, and changes to the combustion process due to load swings or feed changes.

Good combustion practices typically encompass several elements such as the proper operation of the combustion process, routine inspection and performance analysis of the process, and preventative maintenance. More specific examples of GCP indicating the range of existing practices are listed below:

- Maintain operator logs;
- Develop procedures for startup, shutdown, and malfunction;
- Perform periodic evaluations or inspections;
- Perform burner or control adjustments/tune-ups;
- Monitor and maintain concentrations of carbon monoxide (CO), oxygen (O<sub>2</sub>), or carbon dioxide (CO<sub>2</sub>) in compliance with site-specific concentration limits in the combustion exhaust;
- Monitor and maintain combustion temperatures above a site-specific minimum value;
- Monitor fuel/air metering;
- Comply with a CO or total organic carbon (TOC) emission limit;
- Maintain proper liquid fuel atomization;
- Monitor fuel quality and handling procedures;
- Maintain combustion air distribution; and
- Maintain fuel dispersion.

Although all indurating furnaces need to use GCP to minimize PIC emissions, determining what precisely is GCP involves site-specific determinations for each furnace. For example, some indurating furnaces have been required to install NO<sub>x</sub> emission controls such as low NO<sub>x</sub> burners. The basic method used in reducing NO<sub>x</sub> emissions is a reduction in combustion temperature, which is the opposite strategy needed for minimizing PIC (*i.e.*, increasing combustion temperature). Thus, due to differences in furnace design, operation, firing fuel, process controls, and air pollution control equipment, one set of GCP established for one type of indurating furnace may be different from those needed for another type of indurating furnace.

In addition, State operating permits for the taconite indurating furnaces do not require any specific set of GCP. However, based on discussions held with industry representatives, all sources already use a wide variety of work practices (*e.g.*, existing Standard Operating Procedures) to maintain proper and efficient operation of each indurating furnace. See the July 11,

2003 memorandum, "Meeting Minutes on Good Combustion Practices with Taconite Industry Representatives." Sources have a strong and inherent economic incentive to ensure that fuel is not wasted, and that the combustion device operates properly and is appropriately maintained. The lack of a uniform approach to assuring combustion efficiency is not surprising given the differences of indurating furnace designs, and the fact that existing Federal/State standards do not include GCP requirements for indurating furnaces.

Thus, we have determined that site-specific GCP are the MACT floor for formaldehyde emissions from existing sources. In evaluating potential beyond-the-floor options, we considered the only known at-the-stack technology for the control of formaldehyde emissions at concentrations of less than 1 ppm—thermal catalytic oxidation, which was described earlier. However, as discussed previously, given the significant issues of technical feasibility (*e.g.*, low exhaust gas temperatures, high volumetric flow rates of exhaust gas, and low concentrations of formaldehyde), adverse environmental impacts in the form of increased energy use, and the tremendous additional cost associated with use of this technology, we determined that a standard based on use of thermal catalytic oxidation was not a viable beyond-the-floor option. Since there is no other form of emission control or work practice to control formaldehyde emissions from indurating furnaces, the site-specific GCP documented in the operation and maintenance plan were also determined as the MACT floor for formaldehyde emissions from new indurating furnace sources.

We further find that under CAA section 112(h)(1), it is not feasible to prescribe or enforce an emission standard for HAP because at-the-stack controls are not feasible (as explained earlier), and monitoring parameters related to GCP can only meaningfully result in minimization of PIC emissions if such monitoring parameters are quantified on a site-specific basis.

Since it is not possible to identify any uniform requirements or set of work practices that would meaningfully reflect the use of GCP, the final rule requires each source to identify site-specific work practices for each indurating furnace and to document these GCP in an operation and maintenance plan in accordance with § 63.9600 of the final rule. A GCP control strategy could include a number of combustion conditions and work practices which, applied collectively,

promote good combustion performance and minimize the formation of formaldehyde/PIC emissions. Thus, the MACT requirement for these sources is to use GCP, and for each source to develop an operation and maintenance plan that details appropriate operating parameters for each of the following elements of GCP, or explains why such operating parameters are either inappropriate or unnecessary for the source ("inappropriate" or "unnecessary" to be determined by the degree to which PIC formation from fuel combustion in the furnace is minimized):

- Proper operating conditions for each indurating furnace (*e.g.*, minimum combustion temperature, maximum CO concentration in the furnace exhaust gases, burner alignment, or proper fuel-air distribution/mixing).
- Routine inspection and preventative maintenance and corresponding schedules of each indurating furnace.
- Performance analyses of each indurating furnace.
- Keeping applicable operator logs.
- Keeping applicable records to document compliance with each element.

A source's compliance with its startup, shutdown, and malfunction plan also will contribute to GCP.

A final determination that the values established in the operation and maintenance plan are appropriate GCP for the source would then be achieved by submitting the plan to the Administrator on or before the compliance date that is specified in § 63.9583 of the final rule for the affected source. The operation and maintenance plan must explain why the chosen elements and work practices are considered GCP for the affected source. The quantified parameters (*e.g.*, furnace operating temperature) contained in the plan become enforceable operating conditions unless and until the Administrator acts to establish new parameters.

The Administrator will evaluate the demonstration and determine whether the chosen elements and work practices minimize the formation of formaldehyde (and other PIC) and so constitute GCP for the furnace. The Administrator will review the adequacy of the site-specific procedures and the records to demonstrate that the plan constitutes GCP. If the Administrator determines that any portion of the plan is not adequate, we can reject those portions of the plan and request additional information addressing the relevant issues.