

112(c)(1) to periodically revise the list in response to new information. Under the provisions specified in section 112(c)(1), which the commenter believes are wholly separate from the delisting procedure in section 112(c)(9), EPA has the authority and the latitude to remove a previously listed source category from the MACT standard source category list.

*Response:* In the preamble to the proposed rule for semiconductor manufacturing, we acknowledged receipt of the pre-proposal request to remove the Semiconductor Manufacturing source category from the list of source categories and indicated we would respond in the final rulemaking (67 FR 30852, May 8, 2002).

Section 112(d)(1) of the CAA directs EPA to promulgate regulations for categories of major sources of HAP emissions. We interpret section 112(a) as requiring consideration of all emissions sources in determining major source status. Thus, if a source emits 10 tons or more per year of any single HAP or 25 tons or more per year of any combination of HAP, it is a major source. Similarly, if a source is co-located with sources in other categories and the aggregate emissions of the combined sources is 10 or more tons per year of a single HAP or 25 tons or more per year of any combination of HAP, that group of co-located sources is a major source. This interpretation is consistent with the legislative history on the definition of "major source," which indicates clearly that all portions of a major source are subject to MACT even if, standing alone, individual portions of that source would not qualify as major. [136 Cong. Rec. S. 16927 (October 27, 1990)].

The definition of major source also includes provisions to assure that stationary sources which would otherwise be subject to the emissions standards are not excluded from control requirements as the result of arbitrary subdivision or description of the source. A stationary source potentially subject to an emissions standard because it emits a listed air pollutant is to be defined to include all emission points and units of such source located within a contiguous area and under common control.

Because the statute instructs EPA to consider co-located sources as major sources, we believe we must list and promulgate standards for source categories that are major sources as a result of co-location. Accordingly, when we published the initial list of source categories, we "includ[ed] categories of major sources where there was reasonable certainty that at least one stationary source is a major source or

where sources in the category [were] commonly located on the premises of major sources." (57 FR 31576, July 16, 1992). The EPA continues to believe that major source determinations must be based on facility-wide emissions and that a major source can be either a stand alone major source or co-located with other sources that in combination emit or have the potential to emit over the major source threshold.

We disagree with the commenter's reading of the preamble to the IPCT MACT standard. In promulgating the MACT standard, we said that even though no individual source in the IPCT source category is itself a major source, we promulgated a MACT standard in light of IPCT being co-located with other major sources of HAP (59 FR 46339, September 8, 1994). The IPCT MACT provides clear precedent both for promulgating a semiconductor MACT standard and to not remove the Semiconductor Manufacturing source category from the list of source categories.

Accordingly, because section 112(d) requires EPA to promulgate MACT standards for all major sources, and since the Semiconductor Manufacturing source category is a category of major sources, albeit, because existing sources are co-located with other sources that in combination emit or have the potential to emit over the major source thresholds, EPA will not revise the list of source categories to remove the Semiconductor Manufacturing source category.

Finally, we also believe this source category is not static and that changes (either economic or process) may trigger operational changes that could result in increased HAP emissions. Thus, it is not entirely clear whether those sources that are currently "synthetic area sources" will continue to be "synthetic area sources." And accordingly, it is not inconceivable that the MACT standards promulgated today will eventually be applicable to more than the one currently co-located facility. In addition, there is always the possibility of new major sources being constructed in the future.

*Comment:* One commenter requested that EPA reconsider delisting this source category using *de minimis* principles under section 112(c)(1) of the CAA. The commenter proposed exemption of all nonmajor semiconductor process units from regulation in a manner consistent with the approach to applicability in section 112(g) of the CAA.

*Response:* The commenter's suggested *de minimis* cutoff levels are inconsistent with the CAA's prescribed method for

determining the MACT floor. We do not believe that the CAA authorizes exempting an emission source solely due to the low annual emissions from that source. The outlet concentration limits for both inorganic and organic emissions serve as the minimum applicable limits for the affected sources. If the outlet concentration is below the applicable emission limit, no controls are required to demonstrate compliance.

#### IV. What Are the Final Standards?

##### A. What Is the Source Category?

The Semiconductor Manufacturing source category includes operations used to manufacture p-type and n-type semiconductors and active solid-state devices from a wafer substrate. Research and development activities located at a site manufacturing p-type and n-type semiconductors and active solid-state devices are integrated into the manufacturing process (that is, they are not stand alone operations), and these are included in the definition of semiconductor manufacturing. Examples of semiconductor or related solid-state devices include semiconductor diodes, semiconductor stacks, rectifiers, integrated circuits, and transistors. The source category includes all manufacturing from crystal growth through wafer fabrication, and test and assembly.

The crystal growing stage is where crystalline wafers of silicon or other specific semiconducting materials are manufactured for use as the substrate in the wafer fabrication process. Crystal growing begins with storage of the raw materials (usually trichlorosilane, which is refined from ordinary sand) and ends with the final polishing of a wafer.

The wafer fabrication process is where a group of integrated circuits are created on the wafer through a series of pattern-forming processes. Wafer fabrication begins at the point where the wafer receives its first protective oxidative layer and ends when a functional integrated circuit or circuits have been created on a wafer.

The test and assembly process is the final step in the integrated circuit manufacturing process and begins when a wafer is cut into individual chips. The chips are then mounted onto a metal frame, connected to the leads, and enclosed in a protective housing. The process endpoint is the last test performed at an assembly facility to verify proper function of a completed integrated circuit housing.