

four subcategories of clay ceramics kilns: Ceramic tile or sanitaryware tunnel kilns with design capacities less than 9.07 Mg/hr (10 tph) of fired product, ceramic tile or sanitaryware tunnel kilns with design capacities equal to or greater than 9.07 Mg/hr (10 tph) of fired product, ceramic tile roller kilns, and periodic kilns.

2. R&D Kiln Definition

One commenter requested that we change the definition of research and development kiln so that it is consistent with the definition of R&D in section 112(c)(7) of the CAA and most other NESHAP. Therefore, today's final rule includes a revised definition of research and development kiln that is consistent with section 112(c)(7) of the CAA and other NESHAP.

3. Facilities Co-Located With Major Sources

Commenters indicated that considering a clay ceramics facility a major source because it is co-located with a major source (under a separate NESHAP) puts those facilities at a competitive disadvantage with competitors operating facilities that are not co-located. We understand these commenters' concerns. However, section 112 of the CAA requires us to regulate HAP emissions from all major source facilities, regardless of the processes or operations that make those facilities major sources. Thus, today's final rule applies for both co-located and stand-alone clay ceramics manufacturing facilities that are major sources.

B. Existing Source MACT

Four commenters concurred with the existing MACT floor of "no emissions reductions" for existing clay ceramics sources. To the contrary, one commenter charged that EPA has simply set MACT floors based on control technology type and that EPA did not identify the relevant best performers and set floors reflecting their average emission level. The commenter noted that factors other than control device type affect emissions and that EPA must consider all non-negligible factors in setting MACT floors and considering beyond-the-floor measures. The commenter stated that if EPA believes it is unworkable to consider all factors, then perhaps EPA should base standards on actual emissions data which reflects all the factors influencing a source's performance.

We reevaluated our existing source MACT determinations following proposal based on consideration of factors other than APCD type. We agree

that factors other than APCD type (*e.g.*, kiln design, fuel type, raw materials, additives and surface coatings) can affect emissions from clay ceramics kilns. We acknowledged the effect of kiln design on emissions by creating separate subcategories for periodic, roller, and tunnel kilns. We maintain that low-HAP raw material use is not a viable MACT option because, similar to the BSCP industry, all facilities use product-specific raw materials that are integral to the various products. Changes in raw materials would change the end products, and because of this, it would not be feasible for facilities to meet requirements based on the use of low-HAP raw materials. With respect to requiring kilns to fire low-HAP fuels, all clay ceramics kilns for which we have information are fired with natural gas or propane. Therefore, we are not concerned that a requirement to use natural gas (or equivalent fuel) to fire all existing kilns would have any impact on the end products of existing kilns, as would be the case in the BSCP industry. Therefore, the MACT floor for all existing clay ceramics periodic kilns, tunnel kilns, and roller kilns is based on firing the kilns with natural gas or an equivalent fuel (such as propane or other clean-burning fuel), and we added a work practice standard to the final rule that covers this requirement. We considered developing emission limitations based on firing natural gas, but the available data are insufficient for us to determine the contribution of kiln fuel to HAP emissions, and we believe that a work practice standard is the only feasible means of addressing the commenter's concern that we did not consider options besides APCD use.

C. New Source MACT

At proposal, we concluded that MACT for new and reconstructed periodic kilns was "no emissions reductions." We concluded that MACT for new and reconstructed tunnel and roller kilns was the level of control achievable with a DIFF, DLS/FF, or WS because the best-controlled similar source (a BSCP tunnel kiln) had this level of control.

Following proposal, several commenters argued that clay ceramics kilns are different from BSCP kilns, and that EPA should not consider BSCP tunnel kilns to be the best-controlled similar source. The commenters noted that clay ceramics kilns typically have much lower throughput than BSCP kilns and that the exhaust from clay ceramics kilns contains lower pollutant concentrations than BSCP kiln exhaust. Commenters stated that the lower pollutant concentrations in clay

ceramics kiln exhaust would result in the inability to achieve high removal efficiencies. The commenters suggested that the proposed control technologies are not transferable to clay ceramics kilns and noted that none of the technologies are currently in use on domestic clay ceramics kilns. The commenters suggested that the best-controlled similar source should come from the sources in the clay ceramics source category, which would result in a new source MACT floor of "no emissions reductions" for clay ceramics kilns.

One commenter stated that, whereas brick products are fired unglazed, most sanitaryware products have a ceramic glaze applied before firing, which melts in the kiln, evenly covering the surface of the piece, helping to seal the surface and hinder the emission of by-products typically associated with the clay raw material.

One commenter suggested that MACT for new clay ceramics kilns be applied only to large kilns (*i.e.*, kilns with a design capacity equal to or greater than 9.07 Mg/hr (10 tph) of fired product). The commenter suggested (based on their conversation with an APCD vendor) that DIFF systems may not be readily available for small (less than 9.07 Mg/hr (10 tph)) clay ceramics kilns.

One commenter requested that EPA distinguish between ceramic tile tunnel and roller kilns. The commenter stated that the two major design differences between BSCP periodic and new BSCP tunnel kilns are the same dissimilarities exhibited between clay ceramics tunnel and roller kilns. The commenter also provided reasons why clay ceramics roller kilns are different from BSCP tunnel kilns. The commenter stated that BSCP tunnel kilns are made of brick lined with refractory materials, have a high profile (tall) design, and require setting and stacking product on rail cars which move on floor rails. Bricks are fired on a 15 to 24 hour cycle. Ceramic tile roller kilns are designed in modular units with a low (short) profile (which affects the excess airflow), have different firing curves and flow characteristics, process a single row of tile moved by roller, and utilize high velocity burners for turbulent airflow. The tiles are not stacked and are fired on a 40 to 60 minute cycle. The commenter stated that firing time has a significant effect on the evolution of HF emissions (roller kilns exhibit significantly lower HF emissions) and provided detail of firing curves/emission estimates for the two types of kilns. In addition, the commenter stated that APCD available for BSCP tunnel