

BSCP kilns, although some short-term pilot tests of WS have been conducted. The commenters pointed out that injection systems (such as DIFF and DLS/FF) and wet control devices need a certain airflow to operate properly, and different products may require different airflows, some of which could be outside of the range within which the APCD operates properly. In addition, commenters pointed out that during kiln slowdowns (which could be caused by a situation such as an economic slowdown), the APCD may not be able to operate at all because of reduced kiln airflow.

Several commenters expressed concerns about waste disposal. Commenters stated that DIFF and DLS/FF systems produce large amounts of solid waste that is difficult and expensive to dispose of. Commenters stated that WS would not be viable options for many BSCP plants because of wastewater treatment issues (*e.g.*, limited or no sewer access, wastewater treatment costs). Commenters added that recycling of WS wastewater back into the brick body is not an option because of problems created by the soluble salts in the water (*e.g.*, scumming and efflorescence) and because the volume of wastewater generated would exceed process water needs even if recycling were possible.

Commenters also raised concerns about retrofitting existing BSCP kilns with DIFF, DLS/FF, and WS technologies. Commenters pointed out that brick color, the primary factor in brick sales, is affected by kiln airflow. Thus, retrofitting with an APCD that changes the kiln airflow would change the recipes for the manufacture of brick in a tunnel kiln. Thus, years of experience in the colors produced by the unique firing characteristics of a kiln would be lost. Implications are serious if a facility cannot match its existing product line.

The commenters also charged that we did not account for other retrofitting problems associated with installing DIFF, DLS/FF, or WS on older kilns, and the costs associated with these problems. Commenters also described how attempts at retrofitting kilns with these APCD have resulted in significant amounts of kiln downtime and permanent reductions in kiln production capacities. As stated by the commenters, none of the retrofits have been entirely successful in terms of reducing emissions while not disrupting the production process, and several have had dramatic negative impacts on the production process. At one facility that retrofitted two kilns with DIFF, the capacities of the two kilns decreased

from 13.5 cars per day to 12.2 cars per day because of changes in the kiln airflow that resulted from the retrofit. This resulted in a loss of revenue of about \$1 million per year. Another retrofit DIFF (multi-stage injection system) installation at a different facility was reported to be extremely problematic, and the cost of the APCD, which was originally estimated at \$1 million, is now over \$2 million and the system is still not operating correctly more than 2 years later. The facility has experienced numerous problems with the basic design of the unit, including improperly designed dampers and reagent feeding systems. A facility representative stated that the problems are largely due to the fact that few systems have been developed for brick kiln operations; therefore, vendors are still learning (often on the industry's nickel) how to design these systems. In the facility's public comments, they stated that they plan to never build another hot baghouse (DIFF or DLS/FF) due to the massive operating problems associated with them. A retrofit DLS/FF system, the only one that has been attempted in the U.S. to date, also was problematic. The facility stated that they have experienced maintenance and material quality problems that have resulted in kiln downtime. The facility added that the problems stem from the fact that the system is a prototype without a substantial operational, troubleshooting and maintenance history, which has left the facility in the position of having to diagnose and solve the problems as the system operates. In addition, the company that installed this system is no longer quoting systems to the BSCP industry.

Numerous commenters recommended that EPA allow use of DLA. The commenters described the operating benefits of DLA, including ease of operation, low operating cost, little down time, and the ability to handle kiln fluctuations with changing throughputs. Most importantly, DLA do not impact kiln operation. The commenters pointed out that DLA do not require a minimum airflow like DIFF, DLS/FF, or WS technologies. One commenter pointed out that once a DLA is designed for maximum airflow, any fluctuations below this maximum only create more contact time between the kiln exhaust gases and the limestone, which would likely increase the effectiveness of the DLA and would not impact the operation of the kiln. The commenters pointed out that DLA have been used extensively in Europe for many years and also are the most prevalent APCD used in the BSCP

industry in the United States. Many commenters stated that DLA should be allowed if they can meet the BSCP standards. The commenters indicated that plants should not have to request site-specific monitoring parameters for DLA because they are the most prevalent technology. In addition, some commenters discussed the high costs and limited additional HAP reduction associated with replacing existing DLA with a DIFF system.

Several commenters felt that EPA disregarded or "bashed" DLA and disagreed with EPA's conclusions regarding DLA in the preamble to the proposed rule. Specifically, the commenters disagreed that: DLA generate particulate matter (PM) emissions; long-term test data that demonstrate DLA performance over the life of the sorbent are not available; DLA limestone is not continuously replaced; and the performance of DLA decreases as the sorbent is re-used because the ability of the sorbent to adsorb HF and HCl decreases.

We disagree with commenters that the use of DIFF has not been proven in the brick industry. The DIFF and DLS/FF systems are a proven control technology for kilns with a given minimum airflow rate. We do, however, believe that retrofitting existing kilns with DIFF or DLS/FF systems is not feasible in many cases. We recognize that WS may not be practical or low-cost for most facilities, but believe they could be a legitimate option for some facilities (*e.g.*, facilities with sewer access). We acknowledge that retrofitting existing BSCP kilns with certain APCD (particularly those that affect kiln airflow) can alter time-honored recipes for brick color, thereby changing the product. We acknowledge that DLA are used extensively around the world to control emissions from brick kilns. In developing the description of DLA technology for the preamble to the proposed rule, we used the technical data available to us at the time. We had no intention of "bashing" DLA but simply reported the data at hand.

After consideration of the comments received regarding DIFF, DLS/FF, WS, and DLA technologies, we have come to new conclusions regarding the effective application of these devices. We now believe that DLA are the only currently available technology that can be used to retrofit existing kilns without potentially significant impacts on the production process, and we have revised today's final rule accordingly. In addition, we believe that, because of the retrofit concerns that we have identified, it is not technologically and economically feasible for an existing