EPA believes that this change makes the rule more flexible for regulated sources, while still ensuring that the EPA has a mechanism for determining compliance with the emission limits at any given time.

The final rule requires sources that use a packed-bed scrubber to meet the emission limit must measure the velocity pressure at the inlet to the control system as well as the pressure drop across the device. The relationship between pressure drop and packed-bed scrubber performance is less reliable than the relationship between pressure drop and composite mesh-pad system performance because of the lower pressure drop in packed-bed scrubbers. Therefore, the EPA also requires sources using packed-bed scrubbers to monitor the velocity pressure at the inlet to the control device. This requirement will ensure that the gas velocity through the control system is maintained in accordance with vendor recommendations and, along with the pressure drop monitoring, will ensure that the control system is properly operating.

The requirement that sources using packed-bed scrubbers monitor the chromium concentration in the scrubber water has been eliminated, because the EPA concluded that monitoring of the velocity pressure at the control device inlet and the pressure drop across the device was sufficient to demonstrate compliance with the emission limits when packed-bed scrubbers are used.

Compliance monitoring requirements for fiber-bed mist eliminators have been added in the final rule because these devices could likely be used to meet the emission limitations, and some fiberbed mist eliminators are known to be in use. Sources that use a fiber-bed mist eliminator to meet the emission limit must measure the pressure drop across the fiber-bed unit, as well as the pressure drop across the control device upstream of the fiber-bed unit that is in place to prevent plugging.

As discussed above, several changes have been made to the monitoring requirements specified in the proposed rule based on the EPA's review of comments received on the proposed rule and further investigation of which process parameters relate best to proper performance of the control systems. The final compliance monitoring requirements are found in § 63.343(c) of the final rule.

2. Work Practice Standards for Add-on Air Pollution Control Devices

In the proposed rule, Operation and Maintenance (O&M) requirements for add-on air pollution control devices consisted of adding makeup water to packed-bed scrubbers, requiring washdown of composite mesh pads, and various inspections for both types of control devices. The majority of comments focused on the requirements associated with makeup water for packed beds and washdown for composite mesh pads. Several commenters suggested alternatives for the requirements for adding makeup water to packed-bed scrubbers. The commenters disagreed that makeup water can or should be added to the top of the scrubber. Others questioned the need to use fresh water in scrubbers and composite mesh pads because doing so increased wastewater flows. Other commenters requested that the final rule define the term "fresh water."

In the final rule, the O&M requirements have been replaced with work practice standards that address O&M practices [§63.342(f)]. The final rule continues to require sources using packed-bed scrubbers to meet an emission limit and ensure that all makeup water is fresh and supplied to the unit at the top of the packed bed. The EPA considers this requirement essential to meeting the prescribed emission limit. During source testing conducted by the EPA to establish the performance level of packed-bed scrubbers, it was noted that a system equipped with an overhead spray system that periodically cleaned the packing with fresh water performed much better than a system without such cleaning. Based on those results, the EPA believes that without the requirement that makeup water be fresh and added to the top of the packed bed, scrubbers will not continuously meet the required emission limit even if the scrubber met the limit during the initial performance test and is operated within the appropriate ranges of pressure drop and velocity pressure. For clarification, the term fresh water is defined in the final rule.

There were 11 comments on the washdown requirements for composite mesh-pad systems. Several of these commenters indicated that the specified washdown frequency was either impractical, infeasible, or unnecessary. Seven commenters suggested washdown requirements for composite mesh-pad systems be site-specific, as recommended by vendors, or apply only if pressure drop determinations indicate the potential presence of chromic acid buildup. Two commenters indicated that the washdown water will likely exceed the quantity of water that can be recycled, thus resulting in a wastewater stream that needs to be treated.

In the final rule, the EPA has revised the requirement that sources complying with an emission limit by using a composite mesh-pad system perform washdown of the pads. The EPA believes that washdown is an essential part of composite mesh-pad system operation; if proper system maintenance such as washdown does not occur, there will be a decline in system performance. However, instead of specifying a washdown frequency, the revised rule specifies that washdown be conducted in accordance with manufacturers recommendations as part of a facility's O&M plan. The EPA recognizes that vendor designs for these systems vary significantly, and the requirements for washdown are based on the design of the unit and the operation of the plating tanks. The frequency of washdown is dependent upon the position of the pad in the control unit. Pads located in the front portions of the unit are exposed to higher chromium concentrations and, therefore, require washdowns more frequently than those located in the back of the unit. Washdown practices recommended by manufacturers vary from continuous in some cases to a maximum of once every 1 to 2 weeks.

The EPA has also added work practice standards for fiber-bed mist eliminators in the final rule because these control devices are likely to meet the emission limitations, and are known to be in use by sources affected by these standards. The work practice standards identified for fiber-bed mist eliminators are analogous to those identified for the composite mesh-pad system. Washdown requirements for fiber-bed units will depend on the efficiency of the prefiltering device and the operation of the plating tanks. Fiber-bed units installed downstream of more efficient prefiltering systems, such as packed-bed scrubbers, will require less frequent washdown than those using a less effective prefiltering device because of the lower inlet loading to the unit. Most vendors of fiber-bed units recommended monitoring of the pressure drop as a means of gauging when the unit needs to be washed down. If an increase in pressure drop is observed, then the unit will be washed down to remove any chromium built up on the fiber elements.

3. Frequency of Monitoring for Add-on Air Pollution Control Devices

Fourteen commenters indicated that the daily monitoring of add-on air pollution control devices is unnecessary, particularly for small sources, and suggested that at least some of the monitoring be required on only a weekly, monthly, or quarterly basis.