

dust sampling. For example, the same pump and sampling train are used (sample pump, hose, cyclone holder, Dorr-Oliver 10 mm nylon cyclone), and the pumps must be pre- and post-calibrated at the same 1.7 liters per minute flow rate. Sampling for both respirable dust and DPM is for the full shift, and the same chain-of-custody procedures must be followed for handling the cassettes. For both respirable dust and DPM, the miners with the highest expected exposure will be targeted for sampling, and much of the same information will need to be documented in the sampler's field notes (mine, date, person conducting sampling, person being sampled, sources of exposure, controls used, etc.).

As with respirable dust sampling, compliance sampling, for DPM would be personal rather than a combination of personal, area, and occupational. Also, since the surrogate for DPM would be EC instead of TC, the sampling complications associated with avoiding OC interferents are eliminated (e.g. sampling too close to smokers, sampling too close to sources of drill oil mist, etc.).

Mine operators should already be familiar with MSHA's sampling procedures for respirable dust. Because respirable dust sampling and DPM sampling will be so similar, and because numerous DPM sampling training opportunities will be made available across the industry, MSHA expects few if any mines will be unable to conduct their own DPM sampling or to comply with the DPM sampling requirements of this standard. Regarding the issue of mine operator DPM sampling being an added burden on mine safety and health staff, MSHA acknowledges that it is almost unavoidable that some staff time will need to be allocated to DPM sampling. However, MSHA does not believe that this added burden will be significant for most mines. A specific DPM monitoring schedule is not included in the standard. Mine operators are required to monitor as often as necessary to verify continuing compliance. Once compliance has been verified, MSHA would not anticipate that extensive additional monitoring would be required. However, if conditions affecting DPM emissions or in-mine DPM concentrations change significantly, such as by the addition of new equipment or changes in the ventilation system, the mine operator would be expected to verify that these changes have not resulted in DPM overexposures.

(c) Is there experience with DPM sampling in other industries and other countries?

One commenter suggested that many coal mine operators know enough about sampling to influence the outcome, and that MSHA should therefore use a combination of personal, area and occupational sampling to properly evaluate the levels of DPM in the ambient atmosphere. However, as noted above, MSHA believes it has sufficient enforcement authority to appropriately deal with any incidents of deliberate sample tampering, should they arise.

Other commenters were aware that a group in Canada (DEEP) has been researching technology to reduce DPM in occupational settings and mentioned the EPA studies on diesel exposure. They did not feel the EPA sampling was applicable to occupational exposure assessments. Some of them felt that MSHA should stay its DPM enforcement until the DEEP study and NIOSH research yielded more data.

MSHA is also aware of these studies and considered them during this rulemaking. The Agency believes that there is sufficient information available to support feasibility of the proposed $308_{EC\mu g/m^3}$ interim limit, as discussed previously in this preamble under Technological and Economic Feasibility. As a result of the settlement agreement, MSHA allowed mine operators to take an additional year after the effective date of the existing interim DPM concentration limit during which mine operators could begin to install appropriate controls to reduce DPM concentrations.

H. Section 57.5062 Diesel Particulate Matter Control Plan

Existing § 57.5062 requires mine operators to establish a DPM control plan, or modify the plan, upon receiving a citation for an overexposure to the concentration limit in § 57.5060. A single citation triggers the plan. A violation of the plan is citable without consideration of the current DPM concentration level. The operator must demonstrate that the new or modified plan will be effective in controlling the DPM concentration to the limit. The existing rule also sets forth a number of other specific details about the plan, including a description of controls that the operator will use to maintain the DPM concentration; a list of diesel-powered units maintained by the mine operator; information about each unit's emission control device; demonstration of the plan's effectiveness; verification sampling; retention of a copy of the control plan at the mine site for the duration of the plan plus one year; and a plan duration of three years from the date of the violation resulting in establishment of the plan.

In accordance with the DPM settlement agreement, MSHA agreed to publish a notice of proposed rulemaking to revise current § 57.5062. The settlement agreement, however, did not specify how MSHA should revise this section. In the ANPRM, MSHA requested comments and ideas from the mining community as to how the control plan requirements should be revised.

Some commenters stated that there was no reason for MSHA to change this provision. These commenters emphasized that control plans are good industrial hygiene practice and should be the standard of practice for the mining industry. Other commenters felt strongly that the control plan was unnecessary in light of MSHA's intent to propose its long-standing hierarchy of controls for metal and nonmetal exposure-based standards. Some commenters opposed to a control plan stated that the purpose of the existing control plan was to prevent chronic excursions above the allowable concentration limit rather than allowing these excursions as part of the daily DPM control scheme. These commenters believed that the controls in place are sufficient to protect miners from DPM overexposures without introducing a cumbersome plan approval process. They further stated that MSHA could accomplish this through existing mechanisms such as section 104(b) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 814) sanctions currently employed for failure to abate violations.

Other commenters opposing a control plan stated that not only was it unnecessary, but it also imposed upon mine operators unwarranted costs. They suggested that MSHA assess compliance by the operator's environmental monitoring and MSHA compliance sampling. Furthermore, following a hierarchy of controls approach would ensure miners' protection during non-compliance. They stated that formal plans would add little or nothing to established systems.

Some other comments that MSHA received on its question of whether to retain the control plan in a final rule included two which stated that a control plan was not necessary if mine operators put forth good-faith efforts in complying with the standard; and, that MSHA could monitor an operator's good faith efforts and obtain supporting documentation during regular inspections.

MSHA also asked in its ANPRM whether there was any benefit derived from retaining the control plan since the Agency intended to propose its long-