

micrograms per cubic meter of air is economically feasible for the metal and nonmetal mining industry. Demonstrating economic feasibility does not guarantee the continued viability of individual employers. It would not be inconsistent with the Mine Act to have a company which turned a profit by lagging behind the rest of an industry in providing for the health and safety of its workers to consequently find itself financially unable to comply with a new standard; *Cf. United Steelworkers*, 647 F.2d at 1265. Although it was not Congress' intent to protect workers by putting their employers out of business, the increase in production costs or the decrease in profits would not be sufficient to strike down a standard. *Industrial Union Dep't.*, 499 F.2d at 477. On the contrary, a standard would not be considered economically feasible if an entire industry's competitive structure were threatened. *Id.* at 478; see also, *AISI-II*, 939 F.2d at 980; *United Steelworkers*, 647 F.2d at 1264–65; *AISI-I*, 577 F.2d at 835–36. This would be of particular concern in the case of foreign competition, if American companies were unable to compete with imports or substitute products. The cost to government and the public, adequacy of supply, questions of employment, and utilization of energy may all be considered.

MSHA determined that an elemental carbon PEL comparable to the existing concentration limit, along with primacy of engineering and administrative controls as proposed would reduce the cost for compliance required under the existing rule, and industry agrees. Industry commenters stated that operator costs will be reduced since MSHA would be changing the DPM surrogate from TC to EC which would reduce the likelihood of contamination and eliminates the necessity to re-sample. MSHA describes its finding in this preamble under section VIII, "Summary of Costs and Benefits," and in more detail in section X, "Regulatory Impact Analysis." A more comprehensive version is available in the Preliminary Regulatory Economic Analysis on MSHA's web site.

MSHA also believes that the proposed effective date of 30 days for a final rule is feasible for underground mine operators in this sector since the EC surrogate standard is comparable to the existing TC surrogate standard which has been in effect since July 2002. Additionally, as a result of a DPM partial settlement agreement mine operators were given an additional year to begin to develop a written strategy of how they intended to comply with the interim DPM concentration limit.

Operators with DPM levels above the concentration limit were to begin to order and install controls to be in compliance by July 20, 2003.

Nevertheless, MSHA recognizes that, in a few cases, individual mine operators, particularly small operators, may have difficulty in achieving full compliance with the interim limit immediately because of a lack of financial resources to purchase and install engineering controls. However, MSHA expects that these mine operators will be able to achieve compliance with the recommended interim limit of 308 micrograms. Whether controls are feasible for individual mine operators is based in part upon legal guidance from the Federal Mine Safety and Health Review Commission (Commission). According to the Commission, a control is feasible when it: (1) Reduces exposure; (2) is economically achievable; and (3) is technologically achievable. *Secretary of Labor v. Callanan Industries, Inc.*, 5 FMSHRC 1900 (1983). In determining the technological feasibility of an engineering control, the Commission in *Callanan* has ruled that a control is deemed achievable if, through reasonable application of existing products, devices, or work methods, with human skills and abilities, a workable engineering control can be applied. The control does not have to be an "off-the-shelf" item, but it must have a realistic basis in present technical capabilities. *Ibid.* at 1908.

In determining the economic feasibility of an engineering control, the Commission has ruled that MSHA must assess whether the costs of the control is disproportionate to the expected benefits, and whether the costs are so great that it is irrational to require its use to achieve those results. The Commission has expressly stated that cost-benefit analysis is unnecessary in order to determine whether a noise control is required. *Ibid.*

Consistent with Commission case law, MSHA considers three factors in determining whether engineering controls are feasible at a particular mine: (1) The nature and extent of the overexposure; (2) the demonstrated effectiveness of available technology; and (3) whether the committed resources are wholly out of proportion to the expected results. A violation under the final standard would entail an Agency determination that a miner has been overexposed, that controls are feasible, and that the mine operator failed to install or maintain such controls. According to the Commission, an engineering control may be feasible even though it fails to reduce exposure

to permissible levels contained in the standard, as long as there is a significant reduction in a miner's exposure. *Todilto Exploration and Development Corporation v. Secretary of Labor*, 5 FMSHRC 1894, 1897 (1983). In *Todilto*, the Commission ruled that engineering controls may also be feasible even though they fail to reduce exposure to permissible levels contained in the standard, as long as there is a significant reduction in exposure.

Current data establishes that DPF systems are extremely efficient in that they reduce elemental carbon emissions from the tailpipe of a piece of diesel powered equipment by as much as 99%. MSHA believes that this is an exceptionally high efficiency rate for a single engineering control in the mining industry. Therefore, MSHA intends to identify the source or sources of DPM emissions leading to a miner's overexposure. A mine operator would be required to install a single control or a combination of controls that is capable of reducing the miners' DPM exposure by 25%.

MSHA evaluated various engineering and administrative controls and their related costs. Mine operators would have the flexibility under the proposed rule to select the type of engineering and administrative controls of their choice in order to reduce a miner's exposure to the DPM limit. MSHA, however, believes that the most cost effective control would be to install DPF systems due to their high rate of efficiency, especially with respect to EC.

If MSHA finds that a miner is overexposed to the DPM standard, and determines that engineering and administrative controls are feasible, and that the operator failed to install or maintain such controls, MSHA would issue a citation to the mine operator for overexposing the miner to DPM. The citation would include an appropriate abatement date for installing feasible controls. In the interim, a respiratory protection program would be required while controls are being installed. As long as miners' DPM exposures are reduced to or below the DPM limit, mine operators have the flexibility under the proposed rule to choose the engineering or administrative controls that best suit the mines' circumstances. MSHA emphasizes that it is available to provide compliance assistance to mine operators to help them select appropriate control methods for reducing miners exposures based upon demonstrated experience.

MSHA asked for comments concerning what type of technical assistance the Agency should provide to mine operators in retrofitting DPM