

questions and concluded that, while technical issues remain, there were no technical hurdles identified that would prevent market introduction of high-efficiency aftertreatment devices on schedule.

The need to reduce sulfur in nonroad diesel fuel is driven by the requirements of the exhaust emission control technology that we project will be needed to meet the proposed standards for most nonroad diesel engines. The challenge in accomplishing the sulfur reduction is driven by the capacity to implement the needed refinery modifications, and by the costs of making the modifications and running the equipment. Today, a number of refiners are acting to provide low sulfur diesel to some markets. We believe that controlling the sulfur content of highway diesel fuel to the 15 ppm level is necessary, feasible, and cost-effective.

Additionally, there are health and welfare benefits associated with the initial step of reducing the sulfur level of nonroad, locomotive, and marine diesel fuel to 500 ppm. This proposed action will provide dramatic, immediate reductions in direct sulfate PM and SO₂ emissions from the in-use fleet. As described in this proposal, we believe this fuel control strategy is a cost-effective air quality solution as well.

3. Basis for Action Under the Clean Air Act

Section 213 of the Act gives us the authority to establish emissions standards for nonroad engines and vehicles. Section 213(a)(3) authorizes the Administrator to set standards for NO_x, VOCs, or carbon monoxide, to reduce ambient levels of ozone and carbon monoxide which "standards shall achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the engines or vehicles." As part of this determination, the Administrator must give appropriate consideration to cost, lead time, noise, energy, and safety factors associated with the application of such technology. Section 213(a)(4) authorizes the Administrator to establish standards to control emissions of pollutants which "may reasonably be anticipated to endanger public health and welfare". Here, the Administrator may promulgate regulations that are deemed appropriate for new nonroad vehicles and engines which cause or contribute to such air pollution, taking into account costs, noise, safety, and energy factors. EPA believes the proposed controls for PM in today's rule would be an appropriate

exercise of EPA's discretion under the authority of section 213(a)(4).

We believe the evidence provided in section III and the Draft Regulatory Impact Analysis (RIA) indicates that the stringent emission standards proposed today are feasible and reflect the greatest degree of emission reduction achievable in the model years to which they apply. We have given appropriate consideration to costs in proposing these standards. Our review of the costs and cost-effectiveness of these standards indicate that they will be reasonable and comparable to the cost-effectiveness of other emission reduction strategies that have been required or could be required in the future. We have also reviewed and given appropriate consideration to the energy factors of this rule in terms of fuel efficiency and effects on diesel fuel supply, production, and distribution, as discussed below, as well as any safety factors associated with these proposed standards.

The information in section II and chapter 2 of the draft RIA regarding air quality and the contribution of nonroad, locomotive, and marine diesel engines to air pollution provides strong evidence that emissions from such engines significantly and adversely impact public health or welfare. First, as noted earlier, there is a significant risk that several areas will fail to attain or maintain compliance with the NAAQS for 8-hour ozone concentrations or for PM_{2.5} concentrations during the period that these new vehicle and engine standards will be phased into the vehicle population, and that nonroad, locomotive, and marine diesel engines contribute to such concentrations, as well as to concentrations of other NAAQS-related pollutants. This risk will be significantly reduced by the standards adopted today, as also noted above. However, the evidence indicates that some risk remains even after the reductions achieved by these new controls on nonroad diesel engines and nonroad, locomotive, and marine diesel fuel. Second, EPA believes that diesel exhaust is likely to be carcinogenic to humans. The risk associated with exposure to diesel exhaust includes the particulate and gaseous components among which are benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene, all of which are known or suspected human or animal carcinogens, or have serious noncancer health effects. Third, emissions from nonroad diesel engines (including locomotive and marine diesel engines) contribute to regional haze and impaired visibility across the nation, as well as acid deposition, POM deposition, eutrophication and

nitrification, all of which are serious environmental welfare problems.

EPA has already found in previous rules that emissions from new nonroad diesel engines contribute to ozone and carbon monoxide (CO) concentrations in more than one area which has failed to attain the ozone and carbon monoxide NAAQS. 59 FR 31306 (June 17, 1994). EPA has also previously determined that it is appropriate to establish standards for PM from new nonroad diesel engines under section 213(a)(4), and the additional information on diesel exhaust carcinogenicity noted above reinforces this finding. In addition, we have already found that emissions from nonroad engines significantly contribute to air pollution that may reasonably be anticipated to endanger public welfare due to regional haze and visibility impairment. 67 FR 68242, 68243 (Nov. 8, 2002). We find here, based on the information in section II of this preamble and chapter 2 of the draft RIA, that emissions from the new nonroad diesel engines covered by this proposal likewise contribute to regional haze and to visibility impairment that may reasonably be anticipated to endanger public welfare. Taken together, these findings indicate the appropriateness of the nonroad diesel engine standards proposed today for purposes of section 213(a)(3) and (4) of the Act.

Section 211(c) of the CAA allows us to regulate fuels where emission products of the fuel either: (1) Cause or contribute to air pollution that reasonably may be anticipated to endanger public health or welfare, or (2) will impair to a significant degree the performance of any emission control device or system which is in general use, or which the Administrator finds has been developed to a point where in a reasonable time it will be in general use were such a regulation to be promulgated. This rule meets both of these criteria. SO_x and sulfate PM emissions from nonroad, locomotive, marine and diesel vehicles are due to sulfur in diesel fuel. As discussed above, emissions of these pollutants cause or contribute to ambient levels of air pollution that endanger public health and welfare. Control of sulfur to 500 ppm for this fuel would lead to significant, cost-effective reductions in emissions of these pollutants. The substantial adverse effect of high sulfur levels on the performance of diesel emission control devices or systems that would be expected to be used to meet the nonroad standards is discussed in detail in section III. Control of sulfur to 15 ppm in nonroad diesel fuel would enable emissions control technology that will achieve significant, cost-