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## Chapter 5 Mitigation

Council on Environmental Quality (CEQ) regulations for implementing the procedural requirements of the National Environmental Policy Act (NEPA) require that the discussion of alternatives in an Environmental Impact Statement (EIS) “[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives” (40 CFR § 1502.14(f)). In particular, an EIS must discuss the “[m]eans to mitigate adverse environmental impacts” (40 CFR § 1502.16(h)). As defined in the CEQ regulations (40 CFR § 1508.20), mitigation includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

The National Highway Traffic Safety Administration’s (NHTSA’s) proposed action is to implement Corporate Average Fuel Economy (CAFE) standards for model years (MY) 2011-2015, as required by the Energy Independence and Security Act of 2007 (EISA). The cumulative impacts analysis (*see* Chapter 4) considers the implementation of CAFE standards for MY 2011-2015 and for MY 2016-2020.<sup>1</sup> Under Alternative 1, No Action, NHTSA would take no action to implement the MY 2011-2015 CAFE standards. The No Action Alternative assumes that average fuel economy levels in the absence of CAFE standards beyond 2010 would equal the higher of a manufacturer’s product plans or the manufacturer’s required level of average fuel economy for MY 2010. Compared to the No Action Alternative, each of the six action alternatives (Alternatives 2 through 7) would result in a decrease in carbon dioxide (CO<sub>2</sub>) emissions and associated climate-change effects, and a decrease in energy consumption. This is true regardless of the Input Scenario employed (Reference Case and Mid-1, Mid-2 and High Scenarios).

Under the No Action Alternative, CO<sub>2</sub> emissions and energy consumption would continue to increase; by reducing these increases, as would occur under any of the six action alternatives, the CAFE standards will have a beneficial effect that does not require mitigation.

Emissions from criteria air pollutants and mobile source air toxics (MSATs) are generally anticipated to decline as well. According to the analyses described in Sections 3.3 and 4.3, some emissions would increase under some alternatives and for some analysis years, while most demonstrate uniform declines. Health costs and impacts are estimated to be reduced under all alternatives for the Reference Case and the High Scenario as a first approximation.

Oxides of nitrogen (NO<sub>x</sub>), particulate matter (PM<sub>2.5</sub>), oxides of sulfur (SO<sub>x</sub>), volatile organic compounds (VOCs), benzene, 1,3-butadiene, and diesel particulate matter (DPM) exhibit decreases in emissions for all alternatives and input scenarios and for all analysis years under both the Reference Case and the High Scenario. Therefore, any negative health impacts associated with these emissions are similarly expected to be reduced, and no mitigation would be required.

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<sup>1</sup> Although NHTSA will set CAFE standards for MY 2016-2020 in a future rulemaking, this NEPA analysis makes assumptions about the MY 2016-2020 standards based on the MY 2011-2015 standards and EISA requirements.

According to NHTSA's analysis, emissions of carbon monoxide (CO), acetaldehyde, acrolein, and formaldehyde could increase under certain alternatives or input scenarios, which requires further examination regarding the need for mitigation. Note that NEPA does not require that an agency adopt mitigation measures. The potential for harm depends on the selection of the final standards, the magnitude of the increases, and other factors. In all cases, the increases are approximately 1 percent or less over the No Action Alternative.

The analysis for acrolein emissions is incomplete because upstream emissions factors are not available. Upstream emissions demonstrate decreases due to fuel savings and reduced emissions from fuel refining and transportation. If upstream emissions of acrolein were included in the analysis, total acrolein emissions would show smaller increases or might decrease. Thus, the acrolein emissions reported in the FEIS represent an upper bound.

It should be noted that even if CO emissions show some level of increase, the associated harm might not increase concomitantly. There have been no violations of the CO standards for several years after a long downward trend, owing to the success of regulations governing fuel composition and vehicle emissions.

Two further considerations are relevant to these potential emissions increases. First, the choice of technologies to meet new CAFE standards is left to the vehicle manufacturers. Some of their choices have higher or lower impacts for these emissions. Second, EPA regulates these emissions under the Clean Air Act, which could result in future reductions as EPA promulgates new regulations. Nevertheless, there is the potential that some air pollutant emissions will increase in some years for some alternatives.

Beyond these considerations at the national level, there could also be localized increases in criteria and toxic air pollutant emissions in some nonattainment areas as a result of implementation of the CAFE standards under the action alternatives. These localized increases would represent a slight decline in the rate of reductions being achieved by implementation of Clean Air Act standards.

Federal transportation funds administered by the Federal Highway Administration (FHWA) might be available to assist in funding projects to reduce any increases. FHWA provides funding to states and localities specifically to improve air quality under the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. FHWA and FTA also provide funding to states and localities under other programs that have multiple objectives including air quality improvement. As state and local agencies recognize the need to reduce emissions of CO, acetaldehyde, acrolein, or formaldehyde – or other emissions eligible under the CMAQ Program, including the criteria pollutants and MSATs analyzed for this FEIS – they have the ability to apply CMAQ funding to reduce impacts in most areas. Further, the EPA has the authority to continue to improve vehicle emissions standards.