

US EPA ARCHIVE DOCUMENT

## Background on Establishing New Source Performance Standards (NSPS) Under the Clean Air Act

Clean Air Act section 111 establishes mechanisms for controlling emissions of air pollutants from stationary sources. Section 111(b) provides authority for EPA to promulgate New Source Performance Standards (NSPS) which apply only to new and modified sources. Once EPA has elected to set an NSPS for new and modified sources in a given source category, section 111(d) calls for regulation of existing sources with certain exceptions explained below.

Specifically, section 111(b) of the CAA requires EPA to establish emission standards for any category of new and modified stationary sources that the Administrator, in his or her judgment, finds “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” EPA has previously made endangerment findings under this section for more than 60 stationary source categories and subcategories that are now subject to NSPS.<sup>1</sup> An endangerment finding would be a prerequisite for listing additional source categories under section 111(b), but is not required to regulate GHGs from source categories that have already been listed, such as EGU’s at power plants and refineries.

For listed source categories, EPA must establish “standards of performance” that apply to sources that are constructed, modified or reconstructed after EPA proposes the NSPS for the relevant source category.<sup>2</sup> However, EPA has significant discretion to define the source categories, determine the pollutants for which standards should be developed, identify the facilities within each source category to be covered, and set the level of the standards.

Section 111 gives EPA significant discretion to identify the facilities within a source category that should be regulated. To define the affected facilities, EPA can use size thresholds for regulation and create subcategories based on source type, class or size. Emission limits also may be established either for equipment within a facility or for an entire facility.

EPA also has significant discretion to determine the appropriate level for the standards. Section 111(a)(1) provides that NSPS are to “reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.” This level of control is commonly referred to as best demonstrated technology (BDT). In determining BDT,

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<sup>1</sup> EPA has developed NSPS for more than 70 source categories and subcategories. However, endangerment findings apply to the categories as a whole, while subcategories within them have been established for purposes of creating standards that distinguish among sizes, types, and classes of sources.

<sup>2</sup> Specific statutory and regulatory provisions define what constitutes a modification or reconstruction of a facility. 40 CFR 60.14 provides that an existing facility is modified, and therefore subject to an NSPS, if it undergoes “any physical change in the method of operation . . . which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.” 40 CFR 60.15, in turn, provides that a facility is reconstructed if components are replaced at an existing facility to such an extent that the capital cost of the new equipment/components exceed 50 percent of what is believed to be the cost of a completely new facility.

EPA typically conducts a technology review that identifies what emission reduction systems exist and how much they reduce air pollution in practice. This allows EPA to identify potential emission limits. Next, EPA evaluates each limit in conjunction with costs, secondary air benefits (or disbenefits) resulting from energy requirements, and non-air quality impacts such as solid waste generation. The resultant standard is commonly a numerical emissions limit, expressed as a performance level (i.e. a rate-based standard). While such standards are based on the effectiveness of one or more specific technological systems of emissions control, unless certain conditions are met, EPA may not prescribe a particular technological system that must be used to comply with a NSPS. Rather, sources remain free to elect whatever combination of measures will achieve equivalent or greater control of emissions.

Costs are also considered in evaluating the appropriate standard of performance for each category or subcategory. EPA generally compares control options and estimated costs and emission impacts of multiple, specific emission standard options under consideration. As part of this analysis, EPA considers numerous factors relating to the potential cost of the regulation, including industry organization and market structure; control options available to reduce emissions of the regulated pollutant(s); and costs of these controls.

Section 111(d) requires regulation of existing sources in specific circumstances. Specifically, where EPA establishes a NSPS for a pollutant, a section 111(d) standard is required for existing sources in the regulated source category (except for pollutants regulated under the CAA section 109 requirements for national ambient air quality standards or regulated under the CAA section 112 requirements for hazardous air pollutants). Section 111(d) also uses a different regulatory mechanism to regulate existing sources than section 111(b) uses for new and modified sources in a source category. Instead of giving EPA direct authority to set national standards applicable to existing sources in the source category, section 111(d) provides that EPA shall establish a procedure for states to issue performance standards for existing sources in that source category. Under the 111(d) mechanism, EPA first develops regulations known as “emission guidelines.” These may be issued at the same time or after an NSPS for the source category is promulgated. Although called “guidelines,” they establish binding requirements that states are required to address when they develop plans to regulate the existing sources in their jurisdictions. These state plans are similar to state implementation plans under CAA section 110 and must be submitted to EPA for approval. Historically, EPA has issued model standards for existing sources that could then be adopted by states. In the event that a state does not adopt and submit a plan, EPA has authority to then issue a federal plan covering affected sources.

Section 111(d) guidelines, like NSPS standards, must reflect the emission reduction achievable through the application of BDT. However, both the statute and EPA’s regulations implementing section 111(d) recognize that existing sources may not always have the capability to achieve the same levels of control at reasonable cost as new sources. The statute and EPA’s regulations in 40 CFR 60.24 permit states and EPA to set less stringent standards or longer compliance schedules for existing sources where warranted considering cost of control; useful life of the facilities; location or process design at a particular facility; physical impossibility of installing necessary control equipment; or other factors making less stringent limits or longer compliance schedules appropriate.

Under CAA section 111, EPA possesses authority to distinguish among classes, types and sizes of sources within existing categories for purposes of regulating GHG emissions. For example, EPA has at times distinguished between new and modified/reconstructed sources when setting the standards. This may be appropriate, for instance, when a particular new technology may readily be incorporated into a new installation, but it may be technically infeasible or unreasonably costly to retrofit this technology to an existing facility undergoing modification or reconstruction. Alternatively, EPA has distinguished among sources within a category, for instance fossil fuel-fired boilers, for which EPA has subcategorized on the basis of fuel types (e.g., coal, oil, natural gas).