

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction

With this notice, the Environmental Protection Agency (EPA) is proposing three distinct actions, including Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units (EGUs). First, EPA is proposing to replace the Clean Power Plan (CPP) with revised emissions guidelines (the Affordable Clean Energy (ACE) rule) for states to follow in developing implementation plans to reduce greenhouse gas emission from certain EGUs. In the proposed emissions guidelines (UUUUa), consistent with the interpretation described in the proposed repeal of the CPP, the Agency is proposing to determine that heat rate improvement (HRI) measures are the best system of emission reduction (BSER) for existing coal-fired EGUs. Second, EPA is proposing new regulations that provide direction to both EPA and the states on the implementation of emission guidelines. The new proposed implementing regulations would apply to this action and any future emission guideline issued under section 111(d) of the Clean Air Act (CAA). Third, the Agency is proposing revisions to the New Source Review (NSR) program that will help prevent NSR from being a barrier to the implementation of efficiency projects at EGUs.

This report presents the expected costs, benefits and economic impacts of illustrative scenarios representing approaches that states may implement to comply with this proposed rule. This chapter contains background information on this rule, an overview of the regulatory impact analysis conducted and scenarios analyzed, as well as an outline of the chapters in this report.

1.2 Legal and Economic Basis for this Rulemaking

1.2.1 Statutory Requirement

Clean Air Act section 111, which Congress enacted as part of the 1970 Clean Air Act Amendments, establishes mechanisms for controlling emissions of air pollutants from stationary sources. This provision requires EPA to promulgate a list of categories of 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.”¹ EPA has listed more than 60 stationary source categories under this provision.² Once EPA lists a source category, EPA must, under CAA section 111(b)(1)(B), establish “standards of performance” for emissions of air pollutants from new sources in the source categories.³ These standards are known as new source performance standards (NSPS), and they are national requirements that apply directly to the sources subject to them.

When EPA establishes NSPS for sources in a source category under CAA section 111(b), EPA is also required, under CAA section 111(d)(1), to prescribe regulations for states to submit plans regulating existing sources in that source category for any air pollutant that, in general, is not regulated under the CAA section 109 requirements for the NAAQS or regulated under the CAA section 112 requirements for hazardous air pollutants (HAP). CAA section 111(d)’s mechanism for regulating existing sources differs from the one that CAA section 111(b) provides for new sources because CAA section 111(d) contemplates states submitting plans that establish “standards of performance” for the affected sources and that contain other measures to implement and enforce those standards.

“Standards of performance” are defined under CAA section 111(a)(1) as standards for emissions that reflect the emission limitation achievable from the “best system of emission reduction,” considering costs and other factors, that “the Administrator determines has been adequately demonstrated.” CAA section 111(d)(1) grants states the authority, in applying a standard of performance, to take into account the source’s remaining useful life and other factors.

Under CAA section 111(d), a state must submit its plan to EPA for approval, and EPA must approve the state plan if it is “satisfactory.”⁴ If a state does not submit a plan, or if EPA does not approve a state’s plan, then EPA must establish a plan for that state.⁵ Once a state receives EPA’s approval of its plan, the provisions in the plan become federally enforceable

¹ CAA §111(b)(1)(A).

² See 40 CFR 60 subparts Cb – OOOO.

³ CAA §111(b)(1)(B), 111(a)(1).

⁴ CAA section 111(d)(2)(A).

⁵ CAA section 111(d)(2)(A).

against the entity responsible for noncompliance, in the same manner as the provisions of an approved State Implementation Plan (SIP) under the Act.

1.2.2 Market Failure

Many regulations are promulgated to correct market failures, which otherwise lead to a suboptimal allocation of resources within the free market. Air quality and pollution control regulations address “negative externalities” whereby the market does not internalize the full opportunity cost of production borne by society as public goods such as air quality are unpriced.

While recognizing that optimal social level of pollution may not be zero, GHG emissions impose costs on society, such as negative health and welfare impacts, that are not reflected in the market price of the goods produced through the polluting process. For this regulatory action the good produced is electricity. If a fossil fuel-fired electricity producer pollutes the atmosphere when it generates electricity, this cost will be borne not by the polluting firm but by society as a whole, thus the producer is imposing a negative externality, or a social cost of emissions. The equilibrium market price of electricity may fail to incorporate the full opportunity cost to society of generating electricity. Consequently, absent a regulation on emissions, the EGUs will not internalize the social cost of emissions and social costs will be higher as a result. This regulation will work towards addressing this market failure by causing affected EGUs to begin to internalize the negative externality associated with CO₂ emissions.

1.3 Background

1.3.1 Emission Guidelines and Revisions to New Source Review

This analysis is intended to be an illustrative representation and analysis of the proposed rule to replace the Clean Power Plan.⁶ The proposed rule presents a framework for states to develop state plans that will establish standards of performance for existing affected sources of GHG emissions. The proposed rule does not itself specify any standard of performance, but rather establishes the “best system of emission reduction”⁷ (BSER), i.e. technology options for heat rate improvements (HRI), that States may choose to rely upon as they develop standards of

⁶ For more details on legal authority and justification of this action, see rule preamble.

⁷ The best system of emission reduction (BSER) is outlined in the CAA 111(d), see preamble for further discussion.