
EPA 111(D) STAFF ANALYSIS #8: FEDERAL PLAN

TO: Commissioners
FROM: Public Policy Bureau (Robin Arnold, Bob Decker, Margo Schurman)
SUBJECT: EPA 111(d)—Staff Analysis #8: Federal Plan
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CC: PSC Electric

This is the eighth in a series of staff reports to the Commission on EPA's 111(d) Final Rule, which seeks to reduce carbon dioxide emissions from electric power plants. Each staff report addresses a particular and significant element of the Final Rule.

This report addresses the proposed federal plan, issued by EPA on August 3, 2015, in draft form that will be open to comments upon publication¹ in the Federal Register, to implement emission guidelines under the Clean Power Plan (CPP). The federal plan will be the default plan for states that choose not to submit their own state plans (see [Staff Analysis #5](#)), or states submitting plans that are incomplete or not approved by EPA. Even where a federal plan is implemented for a particular state, that state will still be able to submit an approvable state plan and exit the federal plan if it chooses.

The federal plan includes details on both the rate-based and mass-based approaches, applicable entities the plan would apply to, model trading rules, timing of EPA actions, the compliance schedule, addressing reliability concerns, permitting issues, process amendments, impacts of the federal implementation plan, as well as numerous issues relating to statutory and executive orders and other technical details that are not outlined within this report. This report contains an overview of the most relevant topics for Montana and the upcoming planning process for the state.

EPA is proposing two different plan types for a federal plan—a rate-based trading plan and a mass-based trading plan. Both proposed options offer states model trading rules that can be followed in developing their own state plans. EPA is requesting comment on their current intention to finalize a single plan type (i.e., either rate-based or mass-based). This would mean that every state in which a federal plan is finalized would have the same type of plan. The other option is for EPA to continue with both plan types, varying the application based on the unique, qualifying characteristics of the state in which the federal plan is to be implemented.

The federal plan incorporates the details of the Clean Energy Incentive Program (see [Staff Analysis #7](#)) and also outlines model trading rules for adoption or modification by states that submit their own state plans. EPA notes that a state program using a model rule would be presumptively approvable.

¹ Publication in the Federal Register is expected in late Oct. or Nov. 2015. The comment window will extend 90 days from publication. A thorough listing of topics EPA has requested comment on will be provided as a guideline for developing agency comments.

The model trading rules outlined in the proposed federal plan provide a cost-effective pathway to adopt a trading system (see [Staff Analysis #6](#)) that is supported by EPA, while making it less complicated for states and power plants to utilize emissions trading. EPA claims the model rules do the “heavy lifting” for states that choose to use a model rule in their state plans. EPA intends to finalize both the rate-based and mass-based model trading rules in summer 2016, prior to the initial deadline for state plan submittals.

One item of note is that energy efficiency is not an eligible trading resource. EPA is requesting comment on this approach, and on which other low- or zero-emitting sources should be eligible for trading. EPA does describe (and requests comment on) evaluation, measurement, and verification (EM&V) plans; measurement and verification (M&V) reports; and verification report requirements for each eligible resource.

EPA proposes that the model rules and federal plan would have the following multi-year compliance schedule: 2022-2024, 2025-2027, 2028-2029 (interim compliance periods), and successive 2-year compliance periods beginning in 2030 (final compliance period).

Rate-Based Model Rule and Federal Plan

In a rate-based program, an affected electricity generating unit (EGU) would be required to meet an emissions standard (lb CO₂/megawatt-hour) derived from the emission guidelines in the CPP. Sources with emissions above their assigned rate would be required to obtain emission rate credits (ERCs) to reduce their rate to their given compliance level. This is accomplished by adding the megawatt-hours (MWh) associated with the ERCs to the actual generation of the EGU, which lowers the calculated emissions rate. Montana’s final rate-based 2030 goal is 1305 lbs CO₂/MWh.

For affected EGUs that operate below the emission rate standard, EPA proposes to issue ERCs in units of MWh. The number of ERCs is based on the difference between an affected EGU’s reported CO₂ emission rate and its assigned CO₂ lb/MWh emission rate. For example, assume that an affected coal unit in Montana operates at 1175 lb CO₂/MWh. For each MWh generated relative to the Steam Generating Unit standard of 1305 lb CO₂/MWh, it emits 130 fewer pounds CO₂ per MWh generated. The formula for calculating the ERCs earned for each MWh generated is:

$$ERCs = \frac{(EGU \text{ emission standard} - EGU \text{ emission rate})}{EGU \text{ emission standard}} * EGU \text{ Generation}$$

Example: $ERCs = \frac{(1305 - 1175)}{1305} * 1 \text{ MWh} = \frac{130}{1305} * 1 \text{ MWh} \approx 0.1 \text{ MWh}$

EPA proposes that new and capacity uprates for wind, solar, geothermal power, and hydropower projects are eligible to be credited ERCs provided the project meets each requirement of the issuance of ERCs. Projects and capacity additions are considered “new” if added after 2012. The model rule provides states the option to include a broader set of ERC-generating resources than EPA is proposing to include in the federal plan. One ERC would be issued for each MWh of verifiable generation produced.

EPA proposes to allow trading among all states that adopt the model rate-based plan. EPA also proposes to allow trading of credits among states covered by a model rate-based plan and states with other approved “ready-for-interstate trading” rate-based plans, which would include any federal rate-based plan. ERCs can be issued for eligible generation in a mass-based state for use in states with rate-based programs *only if* generation transmission into the rate-based state can be demonstrated through a

power purchase agreement or contract for delivery. Additionally, early action crediting of ERCs is eligible under the model rule by implementing the Clean Energy Incentive Program (CEIP).

Unlimited banking of ERCs is proposed by EPA during and between the interim and final compliance periods. ERCs will not expire after any duration of time. The proposed penalty to be imposed on affected EGUs without sufficient ERCs to comply with their emission standards is a topic on which EPA has requested comment.

Mass-Based Model Rule and Federal Plan

Under a mass-based model rule or federal plan, EPA proposes to establish a state emissions budget equal to the total tons of CO₂ allowed to be emitted by affected EGUs in that state. State budgets would be based on the mass goals set in the final CPP, with the total amount of allowances distributed in each state each year equal to the state's mass-based CO₂ emissions goal for that year. Montana's final mass-based 2030 goal is 11,303,107 short tons.

CO₂ allowances would be distributed to affected EGUs in the state based on their historical generation, or by a methodology established by the state. Trading would be allowed among most mass-based programs. At the end of a given compliance period, affected EGUs would be required to surrender allowances equal to their respective CO₂ emissions. EPA proposes to measure compliance on the facility level, rather than per every individual EGU (e.g., Colstrip, with four units, would be considered as one facility).

EPA's proposed model mass-based plan would allocate most CO₂ allowances to affected EGUs based on historic 2010-2012 generation data. In addition to these historical-based allowances, EPA proposes to allocate allowances to affected EGUs and other facilities from three pools of "set-aside" allowances. The first set-aside category is for the CEIP, used to reward eligible early action activities. The second set-aside category is output-based allocations to existing NGCC units (not applicable to Montana). The third set-aside category is for renewable energy, to be distributed to incremental renewable capacity in order to incentivize increases in zero-emitting generation.

Each set-aside allowance pool draws from certain compliance periods allowances that would otherwise be allocated, decreasing the number of allowances available for compliance in a given period. CEIP allowances would be drawn only from the first compliance period; renewable generation allowances would be drawn from all three compliance periods.

For the CEIP allowance set-aside, EPA proposes that each state set aside a number of allowances to be used to credit eligible CEIP actions. For Montana, EPA proposes to set aside 1,310,344 short tons. These allowances will be matched by EPA up to the equivalent of 300 million short tons nationwide. The total size of the set-aside, alternate ways of crediting CEIP actions without creating an allocation set-aside, and the state process for monitoring and verification of eligible actions are all areas about which EPA has requested comment. For the renewable energy allowance set-aside, EPA proposes five percent of allowances for each compliance period to be reserved for distribution to eligible facilities, which are the same facilities eligible for ERCs under the rate-based plan. The appropriate percentage, ranging from one to 10 percent, is a subject for comment to EPA as well.