

Comments of the Western Power Trading Forum  
to the U.S. Environmental Protection Agency on  
its proposed Clean Power Plan

Docket ID: EPA-HQ-OAR-2013-0602

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## Introduction

The Western Power Trading Forum (WPTF) is an organization of power marketers, generators, investment banks, public utilities and energy service providers, whose common interest is the development of competitive electricity markets in the Western United States.<sup>1</sup> WPTF has over 60 members participating in power markets within California, western states, as well as other markets across the United States.

The Environmental Protection Agency's (EPA's) proposed greenhouse gas regulation for existing power plants under section 111(d) of the Clean Air Act (the Clean Power Plan or CPP) has extensive implications for the power sector. As participants in electricity markets throughout the United States, and as regulated entities under California's Greenhouse Gas (GHG) cap and trade program, WPTF members wish to ensure that the CPP does not distort wholesale electricity markets or impair electrical system operations and grid reliability.

In this regard, our comments address three areas:

- Lack of coordinated implementation of EPA's rule by individual states could distort electricity markets, increase risks to reliability and increase costs. WPTF therefore recommends that EPA do more to encourage states to implement harmonized, multi-state approaches.
- Market-based implementation approaches would align best with electricity markets and electrical system operations. EPA should emphasize and facilitate implementation of multi-state, market-based approaches.
- Because of the interconnected nature of electricity grid, and the scale of change that will be required by the electricity sector, inappropriate implementation of the Clean Power Plan could impair resource adequacy and grid reliability. WPTF recommends that EPA establish a formal process to consider potential reliability impacts.

## **Lack of coordinated implementation of EPA's rule by individual states could distort electricity markets, increase risks to grid reliability and increase compliance costs**

The proposed Clean Power Plan is unprecedented in the degree of implementation flexibility it provides to states. The wide variation in the level of individual state targets and the diversity of potential implementation strategies encompassed by EPA's best system of emission reductions (BSER) means that individual states may take very different implementation approaches. These different implementation approaches could result in divergent economic signals on fossil generating units that differ not by the emission intensity of the units, but by their location:

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<sup>1</sup> These comments are those of WPTF as an organization, and do not necessarily reflect the views of any individual member on specific issues.

- **The CPP does not require states to actually reduce GHG emissions from existing fossil generation units (EGUs).** Some states may be able to meet their emission performance goal solely through outside-the-fence measures (i.e., by increasing in-state renewable energy consumption or energy savings from demand side energy efficiency) and would not need to implement measures to directly reduce emissions from EGUs. In contrast, other states will likely need to implement measures to reduce emissions from EGUs in order to achieve their emissions goals.
- **States that will need to reduce emissions from EGUs in order to meet their emission performance goal can do so in different ways.** Options include facility-level emission caps or performance standards; utility emission budgets; carbon taxes, and emissions trading programs. Each of these has varying impacts on wholesale market operation.
- **States have discretion as to whether to include new generating units (111(b) sources) in their implementation plans.** Each state's implementation decisions will be influenced by its particular target – a state with a rate goal that is higher than EPA's GHG standard for new generating units would benefit from including these resources in their target; whereas states with targets below EPA's standard for new units (and in some cases, far below the emission rate of efficient new combined cycle generation) would have a strong incentive to exclude new resources from their implementation plans. This dynamic could exacerbate market distortions, including between new and existing natural gas combined cycle (NGCC) units.

The flexibility in EPA's proposal could thus likely result in a patchwork of state implementation plans. This raises a number of concerns:

- **Where states share the same electricity interconnection, different GHG compliance costs for similarly situated resources in different states would distort the wholesale electricity markets and generation-siting decisions.**

EGUs in states that do not require reductions in emissions from these facilities would have a competitive advantage vis-à-vis EGUs in states that do directly regulate emissions from these sources. All else being equal, this would shift generation (and emissions) to the state where EGUs are not directly regulated. Similarly, if market-based approaches are implemented by some states but not all, or if the market-based approaches are not harmonized, the disparate carbon prices internalized in operating costs for generators across states would again result in a shift in generation and emissions to the state with relatively lower carbon costs..

Further, new resources would face lower operating costs in states that do not regulate these sources under their CPP implementation plans than in states that do.

Developers would thus have a strong incentive to site new fossil generation in states that do not include new resources in their implementation plans.

- **Numerous individual state plans pose more risk to electric system reliability than harmonized, multi-state plans.**

Individual states may prioritize in-state emission reductions without consideration of the impacts on the broader regional electrical grid. For instance, a state might impose run-time limits on in-state coal resources in order to achieve its emission target, without consideration of the role of those resources in serving load in another state or providing reliability services. While one incident may not be problematic, the potential impacts on the grid would be exacerbated by lack of implementation coordination across multiple states.

Additionally, distortions in power markets due to variations in GHG compliance costs faced by generating units in different states could create ‘seams’ issues across state lines and among balancing areas. For instance, generation in states with no carbon costs would have a tendency to displace generation in states with carbon costs. This would alter normal power flows, potentially increase operating costs, and may impair the ability of operators to manage the grid efficiently, as well as for states to actually reduce emissions. It is possible to envision circumstances where a generating unit in one state is needed to maintain reliability in a different state, but rules imposed by the host state would prevent the unit from operating, in order to prevent the host state from exceeding its goals.

- **Uncoordinated individual plans would increase costs.**

State implementation plans that lack coordination have the potential to increase costs relative to coordinated state plans in several ways.<sup>2</sup> First, many entities in the electricity sector, including generation asset owners, utilities, competitive retail providers, and power marketers operate in multiple states. A patchwork of individual state implementation plans means that these entities would have higher administrative costs due to the need to track and comply with different rules in different states.

Further, entities that own generation or serve load in two or more states could face higher compliance costs when the states in which it operates do not develop coordinated plans. These entities would not be able to take advantage of least cost emission reduction opportunities in different states, or average emissions across assets in different states.

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<sup>2</sup> This conclusion is supported by several recent independent analyses of EPA’s proposal, including preliminary studies by the Western Energy Coordinating Council, the Mid-Continent Independent System Operator and the PJM Interconnection.

## **Recommendation: EPA should do more to encourage states to implement harmonized, multi-state approaches.**

In order to minimize these risks, WPTF urges EPA to encourage states to implement harmonized, multi-state approaches. As currently written, EPA's proposal contains two barriers to state cooperation: (i) the deadline for pursuit of multi-state approaches and (ii) a requirement that states that cooperate must aggregate their state targets. Additionally, some technical elements of EPA's proposal would incent states to implement differently. WPTF provides specific recommendations to EPA to address these issues.

### ***1. EPA must provide clarification and extra support for states working on the development of multi-state plans***

EPA's proposed rule provides an additional two years for submission of state plans from states that wish to pursue multi-state plans, for a total of three. However, states must indicate their intention to consider multi-state plans within one year of finalization of the rule.

Even in states where pursuit of multi-state programs is politically achievable, the need for coordination across multiple regulatory bodies, such as air agencies, public utility commissions, electric grid operators, and potentially state legislatures, will be complicated. Add to this the challenge of coordinating with multiple entities in other states, and it is clear that EPA will need to provide significant clarification and provide enhanced support to ensure that this can be accomplished within the established deadlines. Various mechanisms that will assist the states that are pursuing multi-state approaches are discussed in the sections that follow.

Further, EPA's proposal does not appear to allow a state that has initially chosen an individual implementation plan to change to a multi-state plan at a later time. In states where regulators, legislators and stakeholders are opposed to EPA's rule, the benefits of multi-state cooperation may not become clear - or politically palatable -- until after 2020. Thus, WPTF encourages EPA to allow states to revise their implementation plan approach, and coordinate with other states, as their perspectives evolve. Specifically, EPA should adopt expedited procedures that would enable a state to change from an individual state implementation plan to a multi-state plan after submission of its initial implementation plan.

### ***2. EPA should develop a range of compliance and enforcement models for multi-state approaches***

EPA's current proposal would potentially require states that agree to pursue a multi-state plan to aggregate their individual state targets. This requirement seems intended to facilitate multi-state emissions trading by doing away with individual state targets. While WPTF prefers multi-state emission trading, we recognize that

many other forms of multi-state cooperation are possible, and that other forms of cooperation would not require aggregation of state targets. For instance, two states might agree to account for interstate transfer of renewable energy in a different way than EPA has proposed. While this type of cooperative agreement would require a transfer of the right to claim a quantity of renewable energy from one state to another, it would not require an aggregated emission target.

More problematically, a requirement for states that pursue multi-state programs to aggregate their state targets could be a barrier to cooperation. Merging of targets would essentially mean that that multi-state group would succeed or fail as a whole: if the aggregated target is met, all states are in compliance; if the aggregated target is exceeded, all states are out of compliance. An individual state within a multistate plan could thus be subject to EPA enforcement due to another state's actions or inaction. We believe that the perceived encroachment of state sovereignty would be a non-starter for many states.

WPTF therefore recommends that EPA develop a range of compliance and enforcement models that could accommodate different multi-state cooperation approaches, such as:

- **Regional, multi-state, emission trading.** For states in the same inter-connection that pursue a multi-state emission-trading program, aggregation of state targets may be the most straightforward means of assessing performance. However, EPA should clearly explain how, in the event that the aggregated target is not met, responsibility for that non-compliance will be determined, and what the consequences will be. EPA should also explore different enforcement models that would ensure that only the state that caused non-compliance would be impacted, rather than all states involved in the multi-state plan.<sup>3</sup>
- **Linked state-level emission trading programs.** States may prefer to link their individual emission trading programs via mutual acceptance of compliance instruments, rather than entering into full-blown multi-state programs, similar to the current RGGI program. EPA should develop an approach that recognizes interstate transfer of compliance instruments and accounts for these transfers in assessing the performance of the individual states, but does not require aggregation of state targets.
- **Approaches administered by entities other than individual states.** The Independent System Operators (ISO) and Regional Transmission Organizations(RTO) Council has proposed a model whereby a regional transmission organization would impose a carbon price in economic dispatch. Other models may also possible. EPA should develop guidance on how responsibility for emissions performance would be assigned, assessed and enforced under such an approach. At a minimum, EPA should at least

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<sup>3</sup> This option is discussed on page 19 of EPA's "State Plan Considerations" document

state that it is open to such voluntary alternative compliance frameworks, subject to impacted entities demonstrating that the alternative approach will achieve the same level of environmental impact as state-implemented approach.

- **Other approaches.** Several states have indicated interest in more limited cooperation to address interstate electricity flows in accounting for avoided generation from renewable energy or demand-side energy efficiency. Others may be interested in limited joint accounting of emissions, for instance, for utilities with customers in multiple states. Again, EPA should provide guidance on how compliance will be assessed and enforced. EPA should also clearly establish a default rule for interstate accounting for renewable energy and energy efficiency.
- **Federal Implementation Plan.** EPA should articulate what a federal implementation plan would entail to allow states to fully assess their options. In particular, EPA should clarify whether a federal implementation plan would be developed for individual states, or whether a federal implementation plan could require a multi-state approach.

### *3. EPA should modify assumptions that encourage disparate treatment of fossil EGUs by states*

In calculating state targets, EPA has applied several assumptions that create a likelihood of disparate treatment of fossil EGUs by individual states.

- **Emission rate for new generation.** In its guidance to states on calculating mass-based equivalent targets<sup>4</sup>, EPA uses each state's 2029 target as the emission rate to be applied to both existing generation, as well as new generation. A state with a rate-based goal below the emission rate of new natural gas combined cycle (NGCC) units would be penalized by including new resources in its mass-based target. Conversely, a state with a rate-based target significantly above the emission rate of NGCC would benefit from including new resources in its target, because the additional emissions added to the target for each MWh of generation would exceed the emission rate of new generation.

WPTF recommends that EPA require that all states apply a uniform emission rate for new generation in converting to a mass-based cap. Given that EPA has promulgated emission standards for new fossil resources under section 111(b) of the Clean Air Act, the emission rate used should be consistent with these standards.

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<sup>4</sup> Technical Support Document on "Translation of the Clean Power Plan Emission Rate-Based CO<sub>2</sub> Goals to Mass-Based Equivalents" at page 8

- **Re-dispatch of coal to NGCC.** EPA has calculated emission reductions potential for re-dispatch of EGUs within individual state borders, rather than across an RTO/ISO or broader electricity interconnection. As a result, states that do not have both in-state coal and NGCC units are not considered to have any opportunity for re-dispatch, and thus the emission goal for these states does not include an emission reduction component from building block two. While EPA's proposal does not mandate that states achieve emission reductions through any particular building blocks, or for that matter, via any specific measures, the fact that targets of some states include a large re-dispatch component increases the likelihood that those states will need to rely on measures within that building block to achieve their targets. Likewise, states whose targets do not include a re-dispatch component, or for which this component is small, are less likely to rely on measures in this building block.

EPA's assumption in calculating potential emission reductions from re-dispatch of coal to NGCC also does not comport with the reality of the bulk electricity system, because coal in one state could be re-dispatched by NGCC in another. WPTF therefore recommends that EPA calculate the emission reduction potential for re-dispatch on a regional, rather than state by state, basis.

## **Market-based, multi-state approaches would align better with electricity markets and systems**

WPTF believes that market-based, multi-state approaches that apply to all fossil generating units in grid-connected regions would have significant advantages compared to individual state implementation plans that lack any coordination.

- Market-based approaches would result in lower overall costs to customers and businesses due to the ability to use emission reductions across a wider geographic region. Even states with relatively less-stringent targets would benefit from cooperation and coordination.
- Market-based approaches are consistent with economic dispatch, since the carbon price is internalized in generator operating costs. Further, market-based approaches would be the *only* means of efficiently achieving emission reductions from re-dispatch of coal to NGCC. Alternative measures to force re-dispatch, such as run-time limits, would interfere with economic dispatch and could create reliability issues.
- A single, market-based approach implemented by all states within an electrical interconnection would send a consistent carbon price signal to all electric



generating units within the region. This would ensure a level playing field for similarly situated resources, and avoid electricity market-distortions and seams issues.

- Imposition of a carbon price would incent emission reductions across all four building blocks, without the need for separate implementation program elements targeted at each building block; It would alter the relative prices of high and low emission generation (including renewables) and increase the value of energy savings achieved through demand side energy efficiency programs.

### **Recommendation: EPA should emphasize and facilitate market-based, multi-state approaches**

Given the importance of maintaining an efficient and reliable electricity system, it is essential that EPA give strong preference to multi-state, market-based approaches in its final rule. WPTF also strongly urges EPA to scrutinize individual state plans with regard to the potential for cross-state electricity market distortions, and to serve notice in the final rule that it will not approve plans which have these consequences. EPA should state that it will look more favorably on multi-state plans than individual state plans, as a way to minimize these inefficient and potentially harmful consequences.

WPTF also recommends that EPA clarify key uncertainties regarding market-based approaches, provide flexibility in interim targets for states that pursue multi-state, market-based approaches, and facilitate implementation of such approaches.

#### **1. EPA should clarify key issues surrounding implementation of market based approaches**

EPA's current proposal is vague on a number of issues surrounding implementation of market-based approaches, including how compliance and enforcement would work for multi-state emission trading programs (as discussed above). WPTF recommends that EPA clarify these issues in order for states to more clearly evaluate multi-state, market-based implementation approaches.

- **Relationship of a state's rate-based target to a mass-based emissions trading program.** EPA should clarify whether conversion to a mass-based target is required in order for a state to implement a mass-based trading program. Some stakeholders have suggested that a state must convert from a rate-based target to a mass-based target in order to implement a mass-based trading program. WPTF believes that there is no inherent conflict between a state retaining a rate-based emission target against which it will be evaluated under EPA's proposed rule, while simultaneously establishing a mass-based target to implement a mass-based trading program.

- **Validity of multi-sector emission trading programs.** California’s cap and trade program is currently the only multi-sector GHG emissions trading program in the country. As EPA moves forward with GHG regulations for additional sources under 111(d), multi-sector emissions trading is likely to become more attractive to states. Although we do not believe that EPA could establish a multi-sector GHG regulation under the framework of the Clean Air Act, we do believe that EPA can approve state implementation plans that regulate emissions across multiple sectors. We therefore recommend that EPA explicitly state in its final rule that multi-sector emissions trading would be a valid state compliance option, provided that the state can demonstrate that it will achieve the necessary emission reductions in the electricity sector to meet its target.
- **Demonstration of the compliance pathway for multi-sector trading.** Many stakeholders assume that a sufficiently stringent and declining mass-based cap will be the means of demonstrating a compliance pathway for emission trading programs. While this would be true for an electricity-sector only emissions trading program, it would not be the case if a state’s trading program covers additional sectors or allows for the use of offset credits. WPTF recommends that EPA address in the final rule how states can demonstrate the compliance pathway for emission trading programs that cover other sectors or include offsets. WPTF suggests that the expected carbon price under the program could be used to model the emission impact on EGUs. Specifically, a state could model the expected impact of carbon prices under its program on electricity system dispatch. This can then be used to project emissions from affected EGUs and demonstrate the state’s compliance pathway over the 2020-2030 period. (Measurement of the state’s performance ex-post would be based on actual emissions of affected EGUs during the 2020 to 2030 period.)

## 2. EPA should provide flexibility around interim targets for states that pursue multi-state, market-based approaches.

Emission reductions from re-dispatch of the existing generation fleet comprise a large component of anticipated state and national emission reductions under the CPP. Many states have expressed concerns about the timing of emission reductions from re-dispatch. In particular, states have requested modification of the interim state targets in order to allow states more time to phase-in measures to re-dispatch the existing fleet.

As noted above, WPTF considers multi-state, market-based approaches to be the only means to efficiently achieve re-dispatch of generation. Recognizing that it will take some time for states that do not currently have carbon policies in place to coordinate and develop multi-state, market-based approaches, WPTF recommends that EPA signal flexibility for states that pursue such an approach. Such flexibility

could involve modification of the assumptions regarding the timing of emission reductions from re-dispatch in line with later phase-in of a carbon price under a multi-state program. Alternatively, EPA could establish a ‘safe harbor’ for compliance with interim targets for states that implement multi-state, market-based approaches, in line with any guidance provided by EPA.

WPTF believes that providing this type of “carrot” in the final rule for states that pursue multi-state, market-based approaches will help encourage states to build multi-state alliances, an outcome WPTF believes is strongly desirable and beneficial to all interests.

### 3. EPA should facilitate implementation of multi-state, market-based approaches

The complexity of EPA’s rule will make design and implementation of multi-state, market-based programs challenging. EPA should help states overcome this barrier by providing more support to states for design and of implementation of multi-state, market-based approaches:

- **Analytic materials on market-based approaches.** EPA should expand and enhance the materials on market-based approaches available under the State Tools section of its website. These materials should cover the various market-based approaches being discussed and considered by states and stakeholders, such as cap and trade, rate-based trading programs, carbon fees, and renewable and energy efficiency crediting. Additionally, EPA should also provide links to relevant analyses and information by other organizations.
- **Implementation support:** EPA should also explore ways that it could assist states in implementing multi-state, market-based approaches. Such support could include development of an optional model rule for emission trading, provision of an EPA tracking system, or direct EPA technical assistance to states in implementing market-based approaches. EPA’s interactions with states may identify other areas where EPA assistance would be helpful.

### The CPP Could Impair Resource Adequacy and Grid Reliability

EPA’s Technical Support Document “Resource Adequacy and Reliability Analysis” concludes that implementation of the proposed rule can be achieved without undermining resource adequacy or reliability. This conclusion is based on EPA’s assessment of potential impacts on resource adequacy and reliability using the Integrated Planning Model (IPM). However, the state and policy scenarios evaluated in IPM do not assume any particular state implementation strategies. Rather, the model optimizes for GHG compliance within modeled constraints for resource

adequacy and transmission. As a result, the model effectively assumes that states will make perfect choices – i.e. that they will implement programs in response to this rule that do not impair resource adequacy and reliability.

WPTF does not dispute EPA’s assertion that compliance with the GHG targets under the proposed rule could be achieved without undermining resource adequacy and reliability. However, we are not confident that it *will* be achieved in a way that does this. An initial analysis<sup>5</sup> by the North American Electricity Reliability Corporation (NERC) of the potential reliability impacts identified several factors that could arise from assumptions regarding implementation of the proposal. These include an increased reliance on variable renewable resources and natural gas generation and the potential for reduction in reliability services, including voltage and frequency support.

Further, because of the flexibility provided to states under the proposed regulation, there is no way to predict how individual or groups of states will choose to comply with GHG targets. The interaction of multiple different state implementation plans within the same interconnection could exacerbate any impacts on system reliability or resource availability. This potential is highlighted by the Western Electricity Coordinating Council in a preliminary technical report evaluating the potential reliability impacts of the proposed regulation on the western electrical grid: “While changes in the resource mix and forecasted load in one or two states may not drastically impact the system, significant changes in four, five or all of western states at once is exponentially more concerning for a system that is inherently interconnected.”<sup>6</sup>

The CPP has a much broader reach than any previous air regulation in the power sector in that it affects not just fossil generators, or coal units, or specific non-attainment regions, but rather the entirety of the electrical system. WPTF believes that a thorough assessment of the potential reliability risks of the CPP would help ensure its successful implementation by enabling EPA and the states to avoid reliability impacts and make better choices in the design of implementation plans. A reliability assessment would also help assuage some public and industry concern and perhaps lessen opposition to the rule.

### **Recommendation: EPA should establish a formal process to identify and address potential risks to grid reliability**

WPTF recommends that EPA establish a formal process with the Federal Energy Regulatory Commission (FERC) for review of the potential reliability impacts of the

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<sup>5</sup>[http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential\\_Reliability\\_Impacts\\_of\\_EPA\\_Proposed\\_CPP\\_Final.pdf](http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential_Reliability_Impacts_of_EPA_Proposed_CPP_Final.pdf)

<sup>6</sup> [https://www.wecc.biz/Reliability/140912\\_EPA-111%28d%29\\_PhaseI\\_Tech-Final.pdf](https://www.wecc.biz/Reliability/140912_EPA-111%28d%29_PhaseI_Tech-Final.pdf)

Clean Power Plan. The objective of this process would be three-fold: 1) to identify and enable EPA to address any reliability risks that flow from the design of the rule; 2) to provide guidance to states on potential reliability risks arising from various implementation options; and 3) to assess the potential reliability impacts of proposed state implementation plans.

The process would be coordinated by EPA and FERC, but would draw as appropriate on the expertise of the Department of Energy, NERC, the regional reliability entities, Independent System Operators and Regional Transmission Organizations.

WPTF envisions close cooperation and coordination with FERC throughout the preparation of the final rule and development of states' implementation plans, in order to best use FERC expertise with respect to reliability issues. First, EPA would work closely with FERC prior to finalization of the CPP to identify any potentially significant reliability impacts. EPA could then modify its final rule as necessary to alleviate the risk of these impacts.

After the final rule is released, EPA would continue to work with FERC to ensure proper consideration of reliability issues during the development of state implementation plans to maintain resource adequacy and grid reliability. Potential state compliance approaches should be evaluated for both individual states, and multiple-states within the same grid region. Consideration should also be given to the main implementation options under each building block, with a view to identifying what, if any design elements, would increase or decrease reliability risks.

Finally, proposed state implementation plans should be reviewed for reliability impacts prior to EPA's approval. This review would be conducted collectively for states within the same interconnection, in order to assess the combined impact of the state plans on the regional grid.

We note that NERC has already indicated its intention to conduct a multi-stage review of the potential reliability impacts of the Clean Power Plan. The process we propose for formal reliability review would align well with NERC's schedule and could draw upon NERC's assessment.