

Comments of the Western Power Trading Forum to the California Air Resources Board on EPA's Proposed Regulation for Existing Power Plants under Section 111(d) of the Clean Air Act

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I. Introduction

The Western Power Trading Forum (WPTF) appreciates the thoughtful consideration that the California Air Resources Board (CARB) has given to the United States Environmental Protection Agency's proposed greenhouse gas (GHG) regulation for existing power plants under Section 111(d) of the Clean Air Act.

California has invested significant effort in developing regulations to reduce GHG emissions and promote clean power, and is widely recognized as the nation's leader in these areas. Because of this leadership, California's comments and recommendations on the proposed rule will carry significant weight with EPA. It is therefore important that CARB uses this influence to seek to ensure the continuity of the state's efforts under the federal regulation.

WPTF recommends that CARB pursue three broad and related objectives in seeking to influence EPA's final rule under 111(d):

1) CARB should seek to ensure that EPA's final regulation accommodates California's cap and trade program without requiring significant modification.

WPTF is confident that EPA intends to recognize the existing GHG emission trading programs in the United States, notably the Regional Greenhouse Gas Initiative (RGGI) and the California cap and trade program, as legitimate compliance strategies under the 111(d) regulation. Because the scope of RGGI program is electricity sector only, it will be fairly straightforward to fit the RGGI program into the 111(d) framework. In contrast, fitting the California program into the 111(d) framework is complicated by the fact that California's program is multi-sector in scope, and is linked to a jurisdiction (Quebec) that will not be subject to 111(d).

WPTF does not believe that these characteristics make California's cap and trade program incompatible with EPA's proposal in any way. However, these characteristics will require CARB to take a different approach than the RGGI states in order to avoid the need to significantly modify California's cap and trade program. We believe that this can be achieved by maintaining a rate-based emission performance goal for the state, using the carbon price as the means for demonstrating the compliance pathway, and making the imposition of the carbon price on electric generation units (EGUs) via the cap and trade program as the basis for the state's implementation plan.

2) CARB should ensure that the final regulation does not inhibit multi-sectoral emission trading

Given the current focus of EPA and the individual states on finalizing the proposed 111(d) regulation, we do not believe that sufficient consideration is being given to the interactions of the this proposed regulation with potential EPA regulations for other sources in the future. While EPA has currently proposed 111(d) regulations for EGUs

only, most observers expect that EPA will propose GHG regulations for other source in the future.

WPTF considers multi-sectoral emission trading to be the most efficient and equitable means of reducing GHG emissions across the economy. Unfortunately, EPA's statutory authority restricts the agency to regulating emissions on a source-by-source, rather than cross-sectoral, basis. Thus, we do not foresee that EPA could promulgate a multi-source GHG regulation. This does not mean, however, that EPA's regulation cannot accommodate state implementation plans that regulate emissions across sectors. Because California's cap and trade program is currently the only multi-sector GHG emissions trading program in the country, it is incumbent on CARB to ensure that EPA's final rule provides for, or at least does not inhibit, emissions trading across sectors in the event that EPA does regulate additional GHG sources in the future.

We believe that this objective can be met by ensuring that EPA allows the carbon price under a cap and trade program to be used to demonstrate a compliance pathway.

3) *CARB should encourage EPA to facilitate and incentivize coordinated, multi-state approaches to the extent possible.*

WPTF considers that a federal economy-wide emissions trading program would be the most effective and efficient means of reducing GHG emissions. In the absence of a federal GHG policy, WPTF considers coordinated, multi-state emissions trading programs under 111(d) to be far preferable to uncoordinated, individual state implementation plans. While it is clear that EPA hopes that its proposed rule will incentivize multi-state cooperation, there will be significant barriers to such cooperation even in states where regulators and stakeholder recognize the benefits. WPTF recommends that CARB advocate for EPA to better articulate the benefits to multi-state cooperation and to the extent possible, address barriers to such cooperation in the final rule.

The remainder of our comments discusses specific issues related to the objectives, and makes specific recommendations to address these issues. Section II discusses the general challenges and solutions of fitting a multi-sector cap and trade program into the framework of the current single-sector 111(d) regulation. The discussion is relevant for consideration both of how California's cap and trade program can fit with the current proposed 111(d) regulation, as well as how EPA could enable emissions trading across different EPA-regulated sectors in the future.

Section III provides specific recommendation for design and characterization of California's implementation plan under 111(d). Finally, section IV provides our recommendations for how EPA can further facilitate and incentivize multi-state cooperation in its final rule.

II. Fitting a multi-sector cap and trade program into the 111(d) framework

Some analysts have suggested that states must convert rate-based state emissions performance standards established under 111(d) to mass-based targets in order to implement mass-based emission trading programs. Others have suggested that California would need to establish a separate electricity-sector only cap in order to comply with the 111(d) regulation. WPTF believes that these assertions arise out of an incorrect assumption that a state's emission cap under its cap and trade program must match its 111(d) target. WPTF disagrees for the reasons discussed below.

Conversion from rate-based emission performance standard to a mass-based target will not help demonstrate compliance under a multi-sector cap

Conversion of a rate-based state emission performance target to a mass-based target would facilitate implementation of a mass-based emissions trading program only if the sources included in the mass-based cap *exactly align* with the sources covered by the emission trading program.

To see why, consider a state that implements an electricity-only (both existing and new EGUs) cap and trade program (for simplicity, assume the program don't allow for use of offsets). Under this model the state's mass-based target exactly aligns with the electricity sector emission cap. Trading of allowances between EGUs creates no risk of non-compliance with the 111(d) regulations because purchase of an allowance by one EGU necessitates an equivalent reduction in emissions by another EGU.

Now consider a multi-sector cap and trade program. In this scenario, purchase of an allowance by an EGU does not necessitate an equivalent reduction in electricity sector emissions elsewhere; rather the reduction in emissions might occur in a different sector. As a result, total electricity sector emissions could rise, creating a risk of non-compliance with the state's 111(d) target. The same issue would also arise with linkage of multi-sector programs across state, or with the use of offsets.

EPA indicates in its proposal that it would allow states to include new fossil electricity generating units (EGUs) in state targets and implementation plans. By including new fossil generation in their state targets, the RGGI states could thus ensure that sources covered under 111(d) targets exactly matches those under the RGGI trading system. Establishment of sufficiently stringent and declining caps under the cap and trade program would thus be the basis for the ex-ante demonstration of a RGGI state's compliance pathway to the 111(d) target.

In contrast, California's multi-sector cap and trade program covers many sources in addition to existing EGUs. While California could choose to include new EGUs in its state target under 111(d), EPA is unlikely to allow California to include sources other than EGUs;

indeed, there may well be legal reasons why EPA would be precluded from allowing this. Thus, even if California were to include new EGUs in its a mass-based target under 111(d), this target would not align with the emissions cap established under California's existing cap and trade program -- the 111(d) cap would cover only a sub-set of sources covered under the existing cap.

Because of this fact, California's multi-sector cap does not in and of itself ensure the compliance pathway for California under 111(d), as it would under an electricity only cap. This is because the multi-sector cap determines total emissions from all covered sources, but does not determine emissions levels from specific sources or sectors.

This issue does not indicate an inherent flaw with multi-sector trading, but rather a flaw in relying on the cap under a multi-sector cap and trade program to ensure the necessary level of reductions in a specific sector (i.e. electricity). Given the benefits of multi-sector trading in terms of economic efficiency, CARB should look to other means, specifically the carbon price, to demonstrate the viability of its program to EPA.

A mass-based state target is not required for implementation of a mass-based emission trading program

WPTF sees no reason why a mass-based emissions program cannot be implemented under a rate-based state target under 111(d). The state would have a rate-based target under 111(d) and establish a separate mass-based cap for the emission trading program:

- Compliance of the state with its rate-based 111(d) target would be demonstrated ex-post by comparing total state-wide emissions from existing fossil generation in the state against total generation of these units, as adjusted by renewable energy generation and avoided generation from energy efficiency savings.
- Compliance of covered entities under the emission trading program would be verified by comparing each entity's emissions to its surrendered compliance instruments.

Thus, California's mass-based cap and trade program does not necessitate that the state convert to a mass-based cap under 111 (d).

III. Recommendations for California's State implementation plan

The issues discussed above highlight the need for California to take a different approach to that of the RGGI states to ensure that the multi-sector cap and trade program is a viable compliance strategy under the final EPA regulation. We believe that the carbon price created under the cap and trade program, rather than the cap, can be used to demonstrate the state's compliance pathway and that the imposition of a carbon price on affected EGUs via the cap and trade program should be the basis for the state's implementation plan. CARB should use the time between now and finalization of EPA's rule to confirm that this approach is acceptable to EPA.

California should retain a rate-based target under 111(d)

As discussed in section II, conversion to a mass-based target will not help California to demonstrate its compliance pathway under 111(d) and is not required for implementation of a mass-based emission trading program. Thus, we see no advantage to converting to a mass-based cap, but one significant disadvantage: a mass-based target would reduce state flexibility in achieving the target, since the state's total allowable level of emissions under the target would not vary with generation as they would under a rate-based target. This would be true regardless of whether California's target were to cover existing EGUs only, or also included new EGUs, because conversion to a mass-based state target would require the state to lock-in assumption about future total generation needed to serve future load.

For these reasons, WPTF believes that California should plan to retain its rate-based target under 111(d).

The carbon price established and imposed under the cap and trade program should be used to demonstrate California's compliance pathway under 111(d)

Instead of focusing on the cap in 'cap and trade' as the mechanism for ensuring emission reductions under the state implementation plan, California should instead focus on the impact of the carbon price under the program on electricity sector emissions. Specifically, CARB should model the expected impact of carbon prices under the cap and trade 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.)

There are at least three potential carbon price scenarios that could be used to conduct this analysis. The first would be modeling of the minimum carbon price, as bounded by the auction reserve prices during the 2020-2030 period. However, it is not apparent from the preliminary analysis presented by CARB whether the minimum carbon prices would be sufficient to achieve the state's 111(d) target in the absence of the state's renewable portfolio standard (RPS) target. Previous analyses¹ suggests they would not. In this case, CARB could model the effect of the minimum carbon price in addition to the RPS program. More recent analysis² suggests that a price of \$20, which is in-line with expected level of the reserve prices through the 2020-2030 period, on top of the level of renewable generation achieved under the RPS, should be sufficient to meet the emission reductions required under 111(d). Alternatively, CARB could model the effect of projected carbon prices, rather than minimum prices, on electricity sector emissions.

¹ See for instance "Greenhouse Gas Modeling of California's Electricity Sector to 2020: Updated Results of the GHG Calculator - Version 3b" prepared by Energy and Environmental Economics for the California Public Utilities Commission, 2010.

² A study by PIRA Energy Group expected to be released in December finds that a shadow price of \$20 per metric ton would be sufficient to achieve California's target.

Using price as the means to demonstrate the compliance pathway would also establish a useful precedent in the event that EPA does regulate additional GHG sources in the future. In this case, if additional sources are regulated by EPA, CARB could evaluate the effect of the program's carbon prices on these individual sectors without the need to establish separate caps for each EPA regulated sector.

California's cap and trade program should be the basis for the state's implementation plan under 111(d)

In the discussion paper, CARB staff flagged their interest in balancing federal approval requirements with state flexibility. WPTF believes that this objective can be met by making the cap and trade program the core of the state's 111(d) implementation program, and by identifying the RPS (and energy efficiency programs as needed) as a baseline or complementary measure.

WPTF considers the cap and trade program to be central to the state's current and ongoing efforts to reduce GHG emissions. For this reason, we recommend that program should be the basis for California's implementation plan under with 111(d). Specifically, CARB should characterize the imposition of a carbon price on affected EGUs via the cap and trade program as the core component of the state's implementation plan under the 111(d). Since the cap and trade program requirements are enforceable against EGUs, this should meet EPA's test for enforceable measures in the state implementation plan.

In order to count renewable generation and avoided generation from energy efficiency programs in measuring the state emission performance under 111(d), that it may be necessary to recognize these programs in some way in the implementation plan. (As noted above, current carbon prices alone would not have been expected to incent the level of renewable generation expected under the RPS.) However, inclusion of the RPS and energy efficiency in the state implementation plan would subject these programs to federal enforcement. WPTF understands that it would be possible under EPA's proposal to characterize these programs as complementary to the implementation plan, in which case the programs would not be federally enforceable, but could still be counted when measuring the state's emission performance.

We therefore encourage CARB to treat the RPS and energy efficiency programs as complementary programs, rather than include these in the state implementation plan. Given that the programs are already being implemented, and the 33% RPS target will be achieved in advance of the compliance period for 111(d), we think that CARB has a strong basis for treating these programs as complementary to the state implementation plan.

CARB staff has also suggested that the state itself could take responsibility for achieving emission reductions under a 'state commitment approach'. Such an approach is being considered to avoid putting sole responsible for emission reductions on affected EGUs, and to avoid making other programs (i.e. the RPS) federally enforceable. We do not believe a

state commitment approach would be necessary if CARB designated the imposition of a carbon price on EGUs as the enforceable measure in the state implementation plan, and can use the RPS and EE programs as complementary (and creditable) measures.

If this approach is not acceptable to CARB or EPA for some reason, then CARB could consider a ‘state commitment approach’ for some portion of the emission reductions. In this case, we would encourage CARB to make specific recommendation to EPA as to how to make state commitments enforceable, so that they cannot be used as a loophole by states that oppose the EPA regulation.

CARB should explore whether the cap and trade program can be considered self-correcting

EPA’s proposal distinguishes between ‘self-correcting’ state implementation plans that have built-in elements to ensure performance, and plans that are not self-correcting. In the latter case, EPA would require the state to identify program implementation milestones and to take additional measures in the event that these milestones are not met.

WPTF encourages CARB to explore whether the escalating auction reserve price under the cap and trade program might qualify as a self- correcting measure under EPA’s proposal. If so, this would avoid the need for California to make program changes mid-stream.

Additionally, WPTF encourages CARB to give consideration to the implications of the AB32 safety-valve, that is the authority that the legislation provides for the governor to suspend the program in the event of unforeseen economic consequences, to the ‘enforceability’ of the program.³

CARB should recommend changes to the regulation to address barriers to multi-state coordination

WPTF recommends that CARB advocate for EPA to do more in its final regulation to incentivize multi-state cooperation and to address barriers to such cooperation.

EPA should articulate the benefits of multi-state emissions trading

Emissions trading is generally recognized as one of the most efficient means of reducing GHG emissions due to its ability to reduce compliance costs for regulated entities. In the

³ We do not believe that the cap and trade program’s price containment reserve undermines the enforceability of the state implementation plan, provided that CARB relies on the carbon price, rather than the cap to demonstrate the compliance pathway. This is because the price containment reserve does not alter the minimum carbon price under the program.

context of the electricity sector, there are several other reasons why a coordinate multi-state emissions trading program would be superior to other means of implementation, particularly for states that share an electric grid:

- Imposition of a carbon price under an emissions trading program would maintain economic dispatch of generation across a grid-connected region and would be the most efficient means of achieving reductions from re-dispatch of the existing fleet;
- Coordinated implementation of 111(d) will pose less risk to grid reliability because it ensures that geographically diverse resources can be continue to be used to meet load across a grid-connected region;
- Multi-state emissions trading could help address cross-border issues of renewable and energy efficiency accounting, and allow entities with generating resources in multiple states to average across these resources.
- Marginal electricity prices are likely to be significantly lower compared to uncoordinated implementation by individual states⁴;

WPTF recommends that CARB advocate for EPA to more clearly articulate the benefits of regional coordination, and in particular emissions trading, in its final rule.

EPA should provide more flexible timing for choosing to pursue regional plans

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

WPTF is concerned that this timeframe is still too tight and inflexible. Even in states where pursuit of multi-state programs is politically achievable, the need for coordination across multiple regulatory bodies, such as air agencies and Public Utility Commissions, electric grid operators, and potentially state legislatures could take significant time. Add to this the challenge to inter-state cooperation, and it is difficult to see how a state could meet the initial deadlines for multi-state coordination.

Further, EPA's proposal would requires states to make the decision to cooperate in advance of the 2020-2030 compliance period; it provides no means for a state that has initially chosen an individual implementation plan to pursue regional cooperation at a later date. In states where regulators, legislators and stakeholders are opposed to EPA's rule, the benefits of multi-state cooperation may not become clear until after later – after 2020. EPA should provide a means for states to revise their implementation plan, and coordinate with other states, as their perspectives evolve.

WPTF therefore recommends that CARB advocate for EPA to change its rule to provide more time for development of multi-state program's in advance of implementation. Additionally, EPA should adopt expedited procedures that would enable a state to change

⁴ 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.

from an individual state implementation plan to a coordinated multi-state plan after the compliance period start date.

Aggregation of targets

EPA's current proposal would require states that agree to pursue a multi-state plan to aggregate their individual state targets. While this model may work for the RGGI states, it may be problematic for other states since it would make the compliance of an individual state dependent on compliance of the multi-state group .

CARB should therefore encourage EPA to develop approaches that would allow for state cooperation, but would not make one state's compliance dependent on that of others. This issue was discussed in some detail in CARB's discussion paper, which suggested that a modular approach for multi-state compliance would be one such approach. Transfer and crediting between states of 'over-compliance' might be another – this was raised in the CARB discussion paper in the context of crediting for renewable generation and energy efficiency, but could also be important for facilitating linkages between emission trading programs. Alternatively, EPA could enforce against the state that caused non-compliance, rather than all states involved in the multi-state plan.⁵

EPA should provide clarity around key issues

An obvious barrier in the current 111(d) regulations is the lack of clarity surrounding implementation of linked trading programs. These include the issues discussed above regarding multi-sector trading and mass-based caps, as well as specificity on how renewables and energy efficiency can be credited toward state performance and accounting of electricity imports and exports. CARB should seek clarification of these issues in the final rule so that states can fully evaluate their options and consider the consequences for implementing alone or in coordination with other states.

EPA should provide more assistance to states in implementation multi-state programs

The complexity of EPA's rule and the challenge of implementing it may also be a barrier to state cooperation. To address this, CARB should encourage EPA to make assistance in coordinating state implementation available to states upon request. Such assistance could include an optional model rule for emission trading, EPA establishment of a regional target, financial or technical support in developing and implementing multi-state programs, or administration of a tracking system.

⁵ This option is discussed on page 19 of EPA's "State Plan Considerations" document