



Update On **U.S. EPA's Clean Power Plan Rules**

*Board Update
November 19, 2015*

California Environmental Protection Agency

 **Air Resources Board**

Outline

- Clean Power Plan Overview
- Key Issues and Progress to Date
 - Plan Design Options and State Measures Plans
 - Analysis and Demonstrations
 - Environmental Justice
 - Reliability
 - Regional Interactions
 - Federal and Model Plans
- Tentative Schedule and Next Steps

Clean Power Plan Overview

- Central component of President Obama's "Climate Action Plan."
- Rules issued this August under Section 111 of the federal Clean Air Act create GHG emission limits for power plants.
- Today's focus is on the section 111(d) emission guidelines for existing power plants– the "Clean Power Plan" or "CPP."
- The CPP would yield 32% reductions from 2005 levels of CO₂ from covered plants by 2030 nationally.
- According to U.S. EPA, the CPP generates up to \$45 billion in net climate and public health benefits by 2030.

Clean Power Plan Structure

- The CPP sets “emission guidelines” for existing power plants reflecting the “best system of emission reduction,” recognizing the interconnected nature of the grid.
- U.S. EPA’s GHG limits are based on three building blocks:
 - Coal-fired power plant heat rate improvements
 - Generation substitution (Replacing higher emitting resources with lower emitting ones)
 - Expanded use of renewable energy
- States have flexibility to comply using many possible measures.

Clean Power Plan Targets

- The CPP establishes GHG targets in rate and mass forms; states may select an appropriate form.
 - California's mass target is ~ **48.4 million short tons CO₂** in 2030.
 - Compare to ~**46 million short tons CO₂** in 2012.
 - Target mass limits depend on affected sources, so may vary based on evaluation of sources and decision on including new sources.
 - California has roughly 210 affected units, with about 36,000 MW of capacity.

CPP Compliance Deadlines

- State Plans are due September 6, 2016.
- Optional extensions to 2018 with an “initial submission” in 2016.
- Compliance occurs on a glidepath between 2022-2030.
 - Interim targets and compliance periods provide structure.
 - Final stringency must be maintained after 2030.

Progress to date

- Extensive ARB involvement in public processes leading up to the final CPP.
- Interagency workgroup formed with CPUC and CEC. CAISO and other reliability entities are being consulted. Ongoing consultation with air districts.
- Coordinating with other California post-2020 processes.
- Kick-off workshop on discussion paper held October 2
 - Stakeholders have generally been supportive of initial ideas, and raised questions about regional options and timing.
- Owner/operators of affected EGUs have been contacted.
- With Governor Brown and Attorney General Harris, ARB is supporting U.S. EPA in federal litigation. California companies, including PG&E and Calpine, have also intervened to support U.S. EPA.

Key Issues

- Plan Design Options – State Measures Plan
- Analysis and Demonstrations
- Environmental Justice
- Reliability
- Regional Interactions
- Role of the Proposed Model and Federal Plans

CPP Compliance Plan Design Options

- U.S. EPA has offered several plan designs. Options include:
 - Plans setting rate limits, plant-by-plant or statewide
 - Plans setting mass limits
 - Trading-based plans (for rate or mass)
 - Plans based on “state measures.” State measures plans may include trading components.

“State Measures” Plan Design

- State Measures Plans:
 - Are identified by U.S. EPA as an option for states with economy-wide programs that include affected EGUs.
 - Require identifying “state measures” that collectively achieve emissions targets (possibly along with federal emissions standards).
 - Require a federally enforceable backstop to true-up emissions automatically if necessary.
 - Strong option for California compliance.

“State Measures” Plan Design

- Several state policies (e.g., RPS, efficiency measures) support compliance.
- The Cap-and-Trade Regulation ensures GHG reductions from these measures, and applies to affected EGUs, and so is a strong candidate “state measure.”
- Some aspects of the Regulation would likely need to be federally enforceable in permits; staff are working with Air Districts on this issue.
- Backstop required to true-up emissions as necessary

“State Measures” Plan Design

- Integrating CPP requirements into Cap-and-Trade Regulation and Regulation for the Mandatory Reporting of Greenhouse Gases would support plan design.
- Staff will review the CPP and the Regulations for potential amendments that may be necessary to include, such as
 - Alignment of MRR reporting and timing requirements
 - Alignment of Cap-and-Trade Program requirements
 - Backstop measures

Analysis and Demonstrations

- Demonstration required to show emissions will meet targets. Leakage demonstration is also necessary.
- ARB is collaborating with the California Energy Commission and California Public Utilities Commission on analysis.
- Production cost modeling (PLEXOS) from Integrated Energy Policy Report (IEPR) will likely be used.
- ARB staff will seek feedback on forecast scenarios.

Environmental Justice

- Environmental justice is a priority for ARB.
- U.S. EPA requires meaningful engagement with vulnerable communities in the CPP process.
- ARB will consider potential environmental justice issues and plans to work with ARB's Environmental Justice Advisory Committee.
- Cap-and-Trade Adaptive Management program may play a role in addressing any potential impacts.
- U.S. EPA's proposed "Clean Energy Incentives Program" may provide opportunities for communities.

Electrical System Reliability

- California regulators and planners successfully collaborate to maintain reliability. Regular coordination with federal regulators including FERC is essential.
- ARB must demonstrate that reliability has been considered in the CPP plan.
- ARB has begun conversations with energy and reliability regulators to discuss any additional analyses that may supplement ongoing processes.

Regional Issues

- The CPP allows for regional collaborations, including trading.
- ARB staff will evaluate these consistent with existing requirements, including:
 - AB 32 requirements, including for imported power, emissions leakage, and resource shuffling.
 - SB 1018 requirements for linkage
 - CPP design options for trading systems and coordination.

Regional Issues

- Early indications are that many states in the west are exploring mass-based “trading-ready” plans.
- Other regions are also exploring potential multi-state markets, though conversations are at early stages.
- Power market trends, including potential CAISO expansion, are also relevant to these considerations in the western region.
- Staff continue to participate in national and regional working groups to explore these issues.

Proposed Federal and Model Plans

- U.S. EPA has proposed model trading-based state plans that may also be used as federal plans for states that choose that option.
- Staff is reviewing the proposals to offer ARB expertise on market design, and other relevant issues.
- Comments are due January 2016.

Tentative Schedule

Date	Event
December 14, 2015	Workshop on analysis and demonstrations, and some plan/permitting design issues.
January 21, 2016	Comment deadline for federal plans.
Winter/Spring 2016	Further workshops as needed
April/May 2016	Draft CA compliance plan released
June 2016	First Board hearing on compliance plan
September 2016	Draft Plan or Initial Submission to U.S. EPA
Spring 2017	Second Board hearing on compliance plan; U.S. EPA Decision

Next Steps

- Continue evaluating plan design options, and coordinate with other post-2020 processes.
- Continue reviewing data from potentially affected EGUs and develop final covered unit list.
- Consult with environmental justice community throughout process.
- Continue reliability discussions.
- Submit comments on model federal and state plans.
- Continue to participate in regional and national working groups and stakeholder discussions.