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Submitted by email to: cgallens@arb.ca.gov

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Re: Calpine Corporation Comments to California Air Resources Board Concerning the Proposed Clean Power Plan

On behalf of Calpine Corporation (hereinafter, “Calpine”), thank you for the opportunity to submit these written comments to the California Air Resources Board (“CARB”) concerning its September 2014 Clean Power Plan Proposed Rule (111(d)) Discussion Paper (“Discussion Paper”) and the comments that CARB will submit to the U.S. Environmental Protection Agency (“EPA”) on the “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units” Proposed Rule (“Proposed Rule” or “Proposed Clean Power Plan”). See 79 Fed. Reg. 34830 (June 18, 2014) (Docket ID No. EPA–HQ–OAR–2013–0602).

I. INTRODUCTION & SUMMARY

Calpine is a strong supporter of the EPA’s efforts to strengthen air quality and greenhouse gas (“GHG”) mitigation rules at the federal level, including the Proposed Clean Power Plan. Calpine is also a strong supporter of CARB’s California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cal. Code Reg. tit. 17, §§ 95800 *et seq.*, “Cap-and-Trade Regulation” or “Regulation”) and associated Cap-and-Trade Program (“Program”). We have consistently supported market-based solutions to address greenhouse gas (“GHG”) emissions and applaud CARB for leading by example in demonstrating the efficacy of such solutions. With Calpine’s extensive fleet of natural gas combined cycle (“NGCC”), combined heat and power (“CHP”), and renewable geothermal power facilities, Calpine is prepared to facilitate the successful implementation of the Proposed Clean Power Plan, both within California and throughout the rest of the U.S.

While Calpine will be submitting extensive public comments directly to EPA vis-à-vis the Proposed Clean Power Plan, we also want to take the opportunity presented by CARB’s publication of the Discussion Paper and the September 9, 2014 joint CARB, California Energy Commission (“CEC”), and California Public Utilities Commission (“CPUC”) Clean Power Plan Scoping Meeting to express our views on a select number of significant design issues relating to

the Proposed Clean Power Plan. Calpine sincerely hopes that CARB considers these comments in formulating its own public comments to EPA on the Proposed Clean Power Plan and in beginning to formulate California's strategy for development of its Section 111(d) plan.

In brief, and as detailed below, Calpine would like CARB to consider the following issues prior to finalizing its own comments to EPA on the Proposed Rule and in beginning to develop California's strategy for compliance with it:

- CARB Should Advocate For Mass-Based Emission Performance Goals. The Proposed Clean Power Plan formulates each state's emissions target as a rate-based emission performance goal and indicates that each state can convert its rate-based goal to a mass-based goal. Calpine believes that mass-based goals are superior in several respects, most significantly because they are more economically efficient than rate-based goals and they avoid the most complicated renewable energy ("RE") and energy efficiency ("EE") crediting issues associated with implementation of rate-based goals. With respect to CARB's concern regarding whether a mass-based goal could account for greater electricity demand due to the anticipated increased electrification of the vehicle fleet and residential, commercial, and industrial sectors in California, Calpine notes that there does not appear to be any impediment to accounting for such load growth in converting from a rate-based emission performance goal to a mass-based goal. Additionally, the rate-based goal does not appear to provide any more flexibility with respect to projected load growth, compared to a mass-based goal, except to the extent that a rate-based goal may overestimate emission reductions achieved through RE and EE and, thereby, make it easier to comply with the emission performance goal. As a matter of sound policy, CARB should not stake out its approach for compliance with the Clean Power Plan premised upon the inaccuracy of measurement methods for RE and EE. Moreover, as a leader in first developing mass-based GHG accounting methods and now applying those to reduce economy-wide GHG emissions, CARB should advocate strongly to assure that the Clean Power Plan presents no impediment to states' use of mass-based programs to achieve their respective goals in the most efficient manner.
- The Cap-and-Trade Program Should Be The Centerpiece Of California's State Plan. CARB's Discussion Paper poses questions relating to the viability of utilizing the existing Cap-and-Trade Regulation to comply with the Clean Power Plan's emission performance goals for California. Calpine strongly endorses making the Cap-and-Trade Program the primary—if not the sole—enforceable measure in California's state plan because affected electric generating units ("EGUs") in California are already complying with the Program and California would not need to invest additional scarce resources to design and implement additional measures from scratch in order to satisfy the Clean Power Plan's mandated emission reductions for California. Calpine understands that several methodological questions will need to be examined, including how to address the fact that the scope of the Cap-and-Trade Program is broader than just EGUs in such a way that the program can be determined to be compliant with EPA's narrower scope. Calpine believes these questions can all be capably addressed and that no major

amendments to the Cap-and-Trade Regulation are needed to rely upon it as the centerpiece of California's Section 111(d) plan. Indeed, the most pressing difference between the scope of the Cap-and-Trade Regulation and the Clean Power Plan is the fact that the former only runs through 2020 under the existing Regulation, while the latter's interim goals only begin to apply in that year. CARB should utilize the opportunity afforded by the Clean Power Plan to solidify California's plans to continue implementation of the Cap-and-Trade Program post-2020. To the extent that the Cap-and-Trade Program cannot achieve California's emission performance goals alone, certain complementary measures can be included in the California state plan to demonstrate compliance (e.g., California's Renewable Portfolio Standard ("RPS")), without having to make such measures federally enforceable elements of the state plan.

- CARB Should Advocate For Application Of Consistent Requirements To Both Existing And New Power Plants. EPA recognizes and expects that states will re-dispatch to new NGCC facilities as a means to comply with the Clean Power Plan. However, in light of the structure of Section 111 of the Clean Air Act ("CAA" or "Act"), new NGCC facilities subject to the proposed GHG New Source Performance Standard ("NSPS") are not considered affected EGUs under the Proposed Rule. If states do not assure that equivalent requirements are applied to both new and existing NGCC facilities, new facilities could enjoy a significant price advantage in their bids into competitive electricity markets, which will distort the electricity market by incenting the dispatch of facilities that do not pay for their carbon emissions. Fortunately, the Cap-and-Trade Program imposes equivalent obligations on both new and existing NGCC power plants in California. Calpine strongly believes that CARB should include the compliance obligation for both existing and new NGCC facilities as a component of its Section 111(d) plan in order to maintain a coherent electricity price signal. Calpine also believes that CARB should advocate for EPA to broaden the scope of affected EGUs that must be addressed by state plans by revising the GHG NSPS for stationary combustion turbines at least every two years, so that, upon revision, stationary combustion turbines constructed after January 8, 2014, but prior to the proposed revision of the NSPS, would become affected EGUs. States could include requirements for NGCC facilities in their plans from the outset (i.e., by adopting a program that applies equivalent obligations to both new and existing facilities, as both California and the nine states participating in the Regional Greenhouse Gas Initiative ("RGGI") have done) or they could craft their plans so that such requirements would automatically apply to new NGCC facilities when they subsequently become affected EGUs.
- CARB Should Consider How Its Goal Of Incenting Regional Collaboration On Clean Power Plan Implementation May Be Hindered By The Scope Of The Cap-and-Trade Regulation's Electricity Importer Provisions. The Discussion Paper addresses CARB's goal of supporting regional collaboration in complying with the Clean Power Plan. CARB has long been a leader in forging regional partnerships and should avail itself of the opportunity the Proposed Rule provides to further advance regional coordination. However, accounting for power imports and exports as a means of avoiding leakage

raises significant questions about potential overlap between the Cap-and-Trade Program and neighboring states' compliance with the Proposed Rule. Significantly, to the extent that another state were to place a price on the carbon emissions of a power plant that imports power into California, the power from such a facility could be subject to a double carbon price because it would also be subject to the Cap-and-Trade Regulation. Imposition of such duplicative carbon obligations could seriously frustrate the economic dispatch of power plants to meet demand within the Western electricity grid. Accordingly, Calpine believes that CARB should consider how to adjust its Cap-and-Trade Regulation to appropriately account for imported power from jurisdictions that have already put an effective price on the carbon emissions associated with such electricity, but that are not formally linked to California. If CARB truly wants to seize the opportunity provided by the Clean Power Plan to advance towards a set of interlocking, effective price signals throughout the integrated electric grid, then it will need to think creatively about how it can afford comity to other states' programs in the absence of full linkage.

II. BACKGROUND

The Proposed Clean Power Plan was developed pursuant to section 111(d) of the Act. Section 111(d) only applies to existing sources (1) of any pollutant that is neither a criteria pollutant nor a hazardous air pollutant ("HAP") and (2) to which a NSPS would apply, if the existing source were a new source. For such existing sources, EPA must "prescribe regulations which establish a procedure similar to that provided by [CAA section 110] under which each State shall submit to [EPA] a plan which (A) establishes standards of performance for any existing source [subject to regulation under section 111(d) (i.e., satisfying the criteria described above)] and (B) provides for the implementation and enforcement of such standards of performance."¹ In turn, section 110 pertains to the States' formulation of State Implementation Plans ("SIPs") to attain or maintain the National Ambient Air Quality Standards ("NAAQS").² Further, a "standard of performance" means "a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) [EPA] determines has been adequately demonstrated."³ This is referred to as the "BSEER" standard.

On June 2, 2014, EPA released the Proposed Clean Power Plan. Under the Clean Power Plan, EPA projects a 30% reduction in CO₂ emissions from the electric generating sector by 2030, relative to 2005 levels, which would amount to an approximately 500 million metric ton reduction in annual CO₂ emissions from the sector. BSEER for affected EGUs consists of strategies that may be implemented by the affected EGUs and/or states or other affected entities

¹ 42 U.S.C. § 7411(d)(1).

² *Id.* § 7410.

³ *Id.* § 7411(a)(1).

to achieve the required emissions reductions. These measures are grouped into four categories, which EPA calls “building blocks” or “blocks”:

- Block 1. Reducing emissions through heat rate (i.e., efficiency) improvements at affected coal-fired steam EGUs;
- Block 2. Reducing emissions through shifting dispatch to affected EGUs with lower carbon emissions, with a target NGCC utilization rate of 70%;
- Block 3. Reducing emissions at affected EGUs in the amount that results from substituting generation at those EGUs with expanded RE capacity; and,
- Block 4. Reducing emissions from affected EGUs in the amount that results from the use of demand-side EE that reduces the amount of electricity needed.

EPA is proposing to apply the BSER to the affected EGUs on a statewide basis for the purpose of establishing emission rate goals for each state. The Proposed Clean Power Plan computes both interim and final state-specific emission performance goals based on application of the proposed BSER to each state’s particular mix of fossil fuel-fired generating sources and potential to achieve reductions in emissions from such sources through expansion of RE capacity and demand-side EE. The interim and final goals are rate-based (i.e., expressed in pounds of CO₂ per net MW-hour generated (“lb/MWh”). EPA proposes to establish California’s interim goal (i.e., the average of years 2020-2029) at 556 lb/MWh and the final goal at 537 lb/MWh (i.e., the goal to be achieved in 2030). States are not required to adopt the specific measures in the BSER calculation, and are free to adopt other measures that achieve overall emissions consistent with the targets set pursuant to the BSER calculation.

III. DISCUSSION

A. CARB Should Advocate For Mass-Based Emission Performance Goals

While CARB has previously stated to EPA that it prefers “mass-based targets because they have the significant advantage of automatically accounting for reductions in the total mass of covered emissions as a result of displacing covered sources with energy efficiency or renewables”⁴, CARB appears to be agnostic regarding the mass versus rate-based goal optionality in the Discussion Paper. In the Discussion Paper, CARB states that “California is currently reviewing both rate and mass options [of the Proposed Rule] and is taking input on which option to use.”⁵ CARB also states in the Discussion Paper that it “and energy agency staffs are currently exploring the pros and cons of using a rate versus mass target.”⁶

⁴ See Letter, Mary D. Nichols, Chairman, CARB to Gina McCarthy, Administrator, EPA, at 9 (Dec. 27, 2013), available at: <http://bipartisanpolicy.org/sites/default/files/files/CARB.pdf>.

⁵ CARB, Discussion Paper, at 3.

⁶ *Id.* at 9.

CARB states that “[r]ate targets may have some advantages: California is unique in that policies are being implemented to greatly increase the deployment of electric vehicles and the infrastructure necessary to support them. In addition, some local air districts are looking at greater electrification of residential, commercial, and industrial sectors to minimize fuel combustion and its associated emissions. These policies are likely to result in the need for more generation capacity. Although some of this capacity will likely be served by new facilities not subject to section 111(d), some may come from existing facilities. A rate-based metric addresses this situation by providing some flexibility, allowing for growth in output while limiting carbon intensity.”^{7 8}

On the other hand, as CARB correctly recognizes, “the mass-based option would limit overall carbon emissions, consistent with California’s larger climate goals, and would likely be easier to monitor and enforce given many of our existing climate programs are mass-based. Mass-based systems may also help better support regional planning, since ton-based accounting is a relatively straightforward way of addressing effects on emissions from power transfers across state lines. Mass-based accounting may also, as a result, help reduce the need for standardized monitoring and verification systems in regional planning.”⁹

Calpine believes that mass-based emission performance goals are superior to rate-based goals, and that CARB should support mass-based goals as the preferred metric for complying with the Clean Power Plan. Calpine supports the mass-based goal approach for all of the reasons CARB indicates in the Discussion Paper. Additionally, Calpine believes that mass-based goals are preferable because they provide a clear and transparent price signal for sources of generation and are far easier to implement than the complex crediting of RE and EE that must be done to determine compliance with rate-based goals.

Regarding the advantage that mass-based goals would have in establishing clear price signals, the Preamble to the Proposed Rule states that “an allowance system would provide the greatest incentive for the most carbon-intensive affected sources to reduce emissions as much as possible

⁷ *Id.*

⁸ See South Coast Air Quality Management District, Southern California Association of Governments and California Air Resources Board, *Powering the Future: A Vision for Clean Energy, Clear Skies, and a Growing Economy in Southern California*, at 7 (May 2011), available at: http://www.arb.ca.gov/newsrel/2011/powering_the_future.pdf (acknowledging that electrification of the transportation sector will increase electricity demand, but “the increase in emissions from greater generation to service electrified transportation would be dwarfed by a large decline in emissions from vehicles and trains, even if the additional electricity is generated by power plants in the region.”); see also California Air Resources Board, South Coast Air Quality Management District, San Joaquin Valley Unified Air Pollution Control District, *Vision for Clean Air: A Framework for Air Quality and Climate Planning*, at 30, 32 (June 2012), available at: http://www.arb.ca.gov/planning/vision/docs/vision_for_clean_air_public_review_draft.pdf (stating that “[e]nergy for the transportation sector is assumed to move away from a near-complete reliance on one energy source (petroleum) to a portfolio of multiple fuels” and “[b]y 2050, transportation electricity demand in this analysis is anticipated to be 61.5 GWh, which is equivalent to 21 percent of today’s California grid (one fifth of the 2010 total generation)”).

⁹ CARB, Discussion Paper, at 9.

so as to reduce their need to purchase allowances (or to allow them to sell unneeded allowances)...”¹⁰ A mass-based approach essentially generates a price for CO₂ and, thereby, incents the optimal utilization of efficient generating resources, RE, and EE. EPA itself recognizes the consistent success of mass-based programs in reducing emissions efficiently, citing to Title IV of the CAA, the nitrogen oxide SIP Call, the Cross-State Air Pollution Rule (“CSAPR”), and RGGI.¹¹ Because such trading systems would provide the most cost-effective mechanism for reducing GHG emissions from affected EGUs, Calpine wants to be sure that the Proposed Rule does not create additional, undue barriers on states’ use of allowance trading systems. Therefore, Calpine would urge CARB to advocate in its comments to EPA that the Clean Power Plan should establish explicit presumptive mass-based emission performance goals, which the state can rely upon or make revisions to upon submission of its plan.¹²

Additionally, regarding the relative ease of implementing mass-based goals, the Preamble to the Proposed Rule highlights why crediting RE and EE under a rate-based approach would be extremely difficult. EPA requests comment on two basic mechanisms for crediting emission reductions at affected EGUs obtained from RE and EE programs: a MWh crediting approach or an avoided CO₂ emissions approach. The Preamble to the Proposed Clean Power Plan states that “[a] MWh crediting or adjustment approach implicitly assumes that the avoided CO₂ emissions come directly from the particular affected EGU (or group of EGUs) to which the credits are applied.”¹³ However, as EPA itself notes, “[i]n practice, the average or marginal CO₂ emission rate in the power pool or identified region—representing the avoided CO₂ emissions from the generating sources being displaced by a MWh of energy savings or a MWh of renewable energy generation—could differ significantly from the calculated avoided CO₂ emissions derived by adjusting the MWh output of an affected EGU.”¹⁴ In effect, the MWh crediting approach incorrectly assumes that the avoided CO₂ emissions are achieved directly from the particular affected EGUs to which the credits are applied. The avoided CO₂ emissions approach poses similar dilemmas.¹⁵

¹⁰ 79 Fed. Reg. 34830, 34882.

¹¹ *Id.* at 34835.

¹² Calpine is examining the additional information EPA recently made available concerning the translation of rate-based performance goals to mass-based equivalents. See Technical Support Document (TSD) for Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, “Translation of the Clean Power Plan Emission Rate-Based CO₂ Goals to Mass-Based Equivalents”, released November 6, 2014 (hereinafter, “Translation TSD”), available at: <http://www2.epa.gov/sites/production/files/2014-11/documents/20141106tsd-rate-to-mass.pdf>; and Notice; additional information regarding the translation of emission rate-based CO₂ goals to mass-based equivalents, signed by Janet G. McCabe, Acting Assistant Administrator for Air and Radiation, on November 6, 2014 (hereinafter, “Translation Notice”), available at: http://www2.epa.gov/sites/production/files/2014-11/documents/tsd_cpp_pr.pdf.

¹³ 79 Fed. Reg. 34830, 34919-34920.

¹⁴ *Id.* at 34920.

¹⁵ Under this approach, affected EGUs’ emissions would be adjusted based on the estimated CO₂ emissions that are avoided from the power pool or identified region as a result of qualifying RE and EE measures, i.e., credits representing avoided CO₂ emissions would be subtracted from the numerator when determining an adjusted lb

On the other hand, accounting for compliance with a mass-based goal poses no such risks of incorrect crediting: The methods for measurement of emissions from affected EGUs are well established under both 40 CFR Parts 75 and 98 (and, correspondingly, CARB's Mandatory Reporting Rule ("MRR")) and thereby provide a much greater degree of accuracy and consistency among states in monitoring achievement of their respective goals. In other words, a *ton* of emissions emitted by one affected EGU is equivalent to a *ton* that is not emitted from another EGU. Therefore, in light of "California's larger climate goals", the mass-based approach is preferable because it would better ensure a total reduction in GHG emissions, and such reduction is immediately verifiable.¹⁶

On this point, it is worth emphasizing that there is no apparent way to use a *mass*-based allowance program to demonstrate compliance with a *rate*-based emission performance goal, without explicitly crediting RE and EE measures. Some stakeholders have suggested that California could use the default rate-based goal and demonstrate compliance with such goal with the Cap-and-Trade Program. However, in order to demonstrate that affected EGUs are obtaining California's rate-based goal, there necessarily must be some accounting for the impact of RE and EE measures on reducing the dispatch of affected EGUs: Because California's interim goal of 556 lb/MWh and final goal of 537 lb/MWh are significantly *below* the actual emission rates of all affected EGUs in California, demonstrating compliance with these rate-based goals will necessarily require crediting of RE and EE. On the other hand, a mass-based goal automatically reflects reductions achieved through RE and EE in reductions occurring at the affected EGUs. Given the unavoidable methodological flaws associated with crediting RE and EE under a rate-based approach and the significantly greater degree of accuracy inherent in existing mass-based GHG reporting programs for the affected EGUs, CARB should avoid utilizing the default rate-based emission performance goal, regardless of what policies and measures California employs in its state plan for complying with the Clean Power Plan.

The only reason that California might prefer a rate-based goal is because "[a] rate-based metric addresses [the potential concern posed by the increased electrification of the vehicle fleet and residential, commercial, and industrial sectors] by providing some flexibility, allowing for growth in output while limiting carbon intensity."¹⁷ However, Calpine believes that a mass-based goal could provide similar flexibility and better ensure the attainment of California's broader climate goals.

CO₂/MWh emission rate. The avoided CO₂ emission rate could be based on the average or marginal emission rate in the power pool, region, or state. While the marginal emission rate would appear to be more accurate than either the average of the power pool or the state's rate-based limit for affected EGUs, significant questions remain as to how the marginal rate could be tracked for purposes of compliance, i.e., a MWh of RE or EE would be worth more or less, depending upon which marginal unit it is deemed to displace in the dispatch queue and when the displacement is deemed to occur.

¹⁶ CARB, Discussion Paper, at 9.

¹⁷ *Id.*

For instance, CARB may wish to rely upon the Cap-and-Trade Program to achieve a mass-based emission performance goal.¹⁸ Because the Cap-and-Trade Program covers multiple sectors of the economy, while the Clean Power Plan only regulates existing power plants, the emissions cap in the Cap-and-Trade Program will necessarily be greater than the converted mass-based goal under the Clean Power Plan; in other words, California's mass-based goal (whether established by EPA or converted from the rate-based goal by California) is not bound by the budget established under the Cap-and-Trade Program and will need to be calculated independently in any event. Accordingly, if CARB projects a significant increase in electricity demand through 2030 due to the increased electrification of the vehicle fleet and residential, commercial, and industrial sectors, CARB could propose that California's mass-based emission performance goal account for such projected electricity demand. There is nothing in the Proposed Rule or EPA supporting documents that would bar this approach. Indeed, the additional information EPA has provided on translation of the Proposed Rule's rate-based goals to mass-based equivalents suggests that incremental demand growth can, in fact, be accommodated within a state's translated mass-based goal.¹⁹ Further, California could fairly be described as being in a unique position with respect to its projection of increasing electrification while experiencing economy-wide GHG emission reductions. In turn, California's unique position could justify a mass-based emission performance goal that accounts for growing electricity use. Therefore, CARB can and should advocate for a mass-based emission performance goal that accounts for increased electrification that will ultimately reduce total GHG emissions.

To the extent that CARB is concerned that it will be limited in its approach to developing a mass-based emission performance goal due to the projected increased electrification of the California economy, it is difficult to surmise how California's rate-based goals provide any more flexibility, except in that they may *overestimate* emission reductions from the affected EGUs achieved through RE and EE and, thereby, make it appear easier to comply with the Clean Power Plan, even though the actual reductions may not be occurring.

As described above, EPA outlines two approaches for crediting emission reductions at affected EGUs obtained from RE and EE programs: a MWh crediting approach and an avoided CO₂ emissions approach. The MWh crediting approach assumes that a quantity of MWh equivalent to the RE generation or displaced generation from EE measures would be added to the denominator of the lb CO₂/MWh emission rate—without a correlative lb CO₂ figure in the numerator—when determining an adjusted lb CO₂/MWh emission rate for affected EGUs. Conversely, the avoided CO₂ emissions approach would subtract credits representing avoided CO₂ emissions from RE and EE measures from the numerator when determining an adjusted lb

¹⁸ CARB states that it “is considering whether aspects of the Cap-and-Trade program could help ensure enforceability of section 111(d) limits and, if so, what sorts of analytic demonstration would be required to assure compliance.” *Id.* at 6.

¹⁹ See *supra* note 12, Translation Notice, at 10, 13 (describing second illustrative method for translation of rate-based goal to mass-based equivalents as based on a combination of historical data and projected emissions resulting from demand growth reflected in generation at both existing and new sources, in the event that a state should want to include new sources in its compliance approach).

CO₂/MWh emission rate. Both of these crediting methodologies are intended to adjust the emission rates of affected EGUs to determine compliance with the rate-based goal.

However, when an affected EGU is dispatched, it is obviously producing emissions, not at a rate that reflects the reductions achieved through RE and EE, but at its own emission rate (e.g., 900 lb CO₂/MWh for an NGCC facility). If such a facility is dispatched more in the future due to increased electricity demand attributable to the electrification of transportation, then there would be more MWh of generation at a 900 lb CO₂/MWh rate and, therefore, more zero carbon MWh of RE/EE would be needed to offset the affected EGU emissions. Similarly, if the avoided emissions approach for RE/EE were utilized instead, the increased dispatch from the affected EGU would result in greater emissions at the 900 lb CO₂/MWh rate and require even greater avoided emissions calculated from RE/EE to achieve the State's stringent interim or final goal. In other words, it is not the case—as it might be if the interim or final goal could be achieved through operation of the affected EGUs alone—that an affected EGU can simply operate *more* under a rate-based program (to meet growing demand), without requiring additional concomitant reductions through increased RE/EE. Thus, if the increased electrification of the California vehicle fleet and other sectors is expected to result in greater dispatch of existing power plants, California would appear to be in no better position in using a rate-based goal than a mass-based goal.

To the extent that any stakeholder argues that a rate-based goal provides more flexibility than a mass-based goal to accommodate increased electricity demand, such perceived flexibility is likely a function of the overestimation of emissions reductions achieved through RE and EE measures under a rate-based approach and not due to any inherently greater flexibility in that approach. For instance, by assuming that the displaced generation occurs at the EGUs to which it is credited, the MWh crediting approach risks overestimating the emission reductions actually achieved through RE and EE measures because the resource being displaced by such RE and EE measures could, in fact, be more efficient (and have lower emissions) than the affected EGU receiving the credit. Likewise, under the avoided emissions approach, the perceived greater flexibility likely lies in the fact that it is very difficult to determine what particular marginal resource is being displaced by a MWh of RE/EE at any particular time and the assumption that the default rates provided by EPA and/or CARB would err on the side of generosity. On the other hand, if rigorous evaluation, measurement and verification methods were developed that approached the level of accuracy of the reporting methods under Parts 75 and 98 and the MRR, there would be no real advantage of a rate-based goal, relative to a mass-based goal, in providing flexibility to accommodate anticipated load growth.

Furthermore, the utilization of the mass-based Cap-and-Trade Program to attain a mass-based goal better supports California's climate policy. As CARB states, "the mass-based option would limit overall carbon emissions, *consistent with California's larger climate goals...*"²⁰ Recognizing that the mass-based approach limits overall carbon emissions, while a rate-based approach does not, it would be a significant about-face for California to institute the rate-based

²⁰ *Id.* at 9 (emphasis added).

approach. Given California’s history of being a leader in air and climate policy and in serving as a model for other states in this regard, it would certainly undermine the overall approach taken by California in mandating mass-based accounting methods and reductions in total emissions if California were to repudiate such an approach with respect to the Clean Power Plan. Therefore, CARB should advocate for the mass-based goal approach to Clean Power Plan compliance.

B. The Cap-and-Trade Program Should Be The Centerpiece of California’s State Plan

In the Discussion Paper, CARB states that it “is considering whether aspects of the Cap-and-Trade program could help ensure enforceability of section 111(d) limits and, if so, what sorts of analytic demonstration would be required to assure compliance.”²¹ In particular, CARB queries, “What sorts of demonstrations can ARB use to show that its Cap-and-Trade Program, combined with other state programs, will reliably produce compliance with the federal target under a range of best- and worst-case scenarios?”²²

Calpine supports using the Cap-and-Trade Program—as it applies to affected EGUs—as the primary measure to demonstrate compliance with the Clean Power Plan in California’s state plan. There are numerous reasons why the Cap-and-Trade Program should serve as the primary element of California’s state plan. CARB has invested significant time and energy into crafting the Mandatory Reporting Rule and the Cap-and-Trade Regulation; so, the Program serves as a “plug-and-play” measure that does not need to be developed from whole cloth. Additionally, affected EGUs in California are already subject to the Cap-and-Trade Regulation and, thereby, have incorporated it into business decision-making and planning processes. Finally, the mass-based Cap-and-Trade Program can more easily be harmonized with other states’ programs in forming a regional plan, as CARB recognizes.²³

Regardless whether or not CARB should seek to convert its rate-based goal to a mass-based goal, CARB will need to demonstrate that the Cap-and-Trade Program is projected to result in emission reductions *specifically from affected EGUs*, such that affected EGUs collectively emit CO₂ in a quantity at or below the relevant rate- or mass-based goal, in order for the Program to qualify as an enforceable measure.²⁴ The Cap-and-Trade Regulation reduces emissions to 1990

²¹ *Id.* at 6.

²² *Id.*

²³ *Id.* at 9 (stating that “[m]ass-based systems may also help better support regional planning, since ton-based accounting is a relatively straightforward way of addressing effects on emissions from power transfers across state lines.”).

²⁴ *See* Proposed Rule § 60.5780(a) (“Your state plan shall include emission standard(s) that are quantifiable, verifiable, non-duplicative, permanent, and enforceable with respect to each affected entity.”); *see also id.* § 60.5780(f) (“An emission standard is enforceable against an affected entity if: (1) A technically accurate limitation or requirement and the time period for the limitation or requirement is specified; (2) Compliance requirements are clearly defined; (3) The affected entities responsible for compliance and liable for violations can be identified; (4) Each compliance activity or measure is enforceable as a practical matter; and (5) The Administrator and the state maintain the ability to enforce violations and secure appropriate corrective actions pursuant to sections 113(a)

levels by 2020; however, the Regulation covers multiple sectors, not just existing power plants. Accordingly, CARB will need to demonstrate to EPA (e.g., through a modeling exercise) that the Cap-and-Trade Regulation either will produce EGU emissions consistent with the Clean Power Plan requirements, or can be deemed equivalent. For the former, one such means of demonstration would be to show that the price of allowances is sufficiently high to incent the decreased utilization of affected EGUs such that their emissions will comply with the state emission performance goal. Given the rising price floor for allowances and expected price increases after fuel suppliers are brought under the cap in 2015, CARB should be able to make this demonstration. Alternately, CARB could make the case that the broader scope of the Cap-and-Trade Regulation will produce reductions that are equivalent to (or greater than) the reductions required by the Clean Power Plan. While the Clean Power Plan cannot mandate reductions outside the power generating sector, CARB can make the very credible case that the broader scope of the Cap-and-Trade Regulation actually makes the emission reductions more likely to happen at a lower cost than would a regulation addressing EGUs only.

We do not believe that the differences in contours or scope between the Cap-and-Trade Program and the Clean Power Plan pose any insurmountable obstacle to relying upon the former to satisfy the latter. Nor do we believe that significant amendments to the Cap-and-Trade Program are needed to rely upon it as the central element of California's plan. That is not to say that CARB will not have to address several questions in demonstrating that the affected EGUs specifically will reduce their emissions to the required level. As suggested above, CARB will need to account for the multi-sector coverage of its Cap-and-Trade Program and demonstrate that the required reductions would occur directly from the affected EGUs. CARB will also need to conduct a similar accounting exercise with respect to offset credits, i.e., it will need to demonstrate that the required reductions would occur from the affected EGUs, even in the absence of their reliance upon offset credits to meet a portion of their compliance obligation. Finally, CARB will need to account for its linkage with Québec and demonstrate that such linkage does not impair the ability of California to rely upon the price signal delivered by the Cap-and-Trade Program to assure that emissions from affected EGUs are reduced by the required amounts. Given the relative unavailability of reductions in Québec due to the make-up of its electricity sector, it seems highly likely that California can easily make this last demonstration.

The most significant discrepancy between the Cap-and-Trade Program and the Clean Power Plan that CARB will need to address is the fact that the existing Cap-and-Trade Regulation does not confirm the Program's continued existence past 2020, whereas the Clean Power Plan requires compliance with the interim goal for the years 2020-2029 and the final goal in 2030 and thereafter. We would encourage CARB to use the Clean Power Plan as an opportunity to hasten the discussion as to whether any additional authority is required from the Legislature to continue implementation of the Cap-and-Trade Program past 2020 and, in the absence of any legislative action, to proceed with development of a Section 111(d) plan that secures reductions needed to

through (h) of the Act.”). The Cap-and-Trade Regulation—as it applies to affected EGUs—qualifies as an enforceable emission standard because it would satisfy the criteria in proposed section 60.5780(f) above.

attain the Clean Power Plan's goals post-2020 through reliance upon the Cap-and-Trade Program. It bears noting that, according to the CAA, the process for submission of plans under Section 111(d) must be similar to the process for submission of criteria pollutant SIPs pursuant to Section 110 of the CAA.²⁵ Just as CARB has been authorized to submit SIPs to EPA in satisfaction of the requirements of the CAA for several decades,²⁶ so, too, should CARB anticipate the need to proceed with development of California's Section 111(d) plan in the event a specific delegation of authority is not provided by the Legislature, prior to the time when plan submittal is required by EPA.

Calpine believes that reliance upon the Cap-and-Trade Program as the primary means to demonstrate compliance with the Clean Power Plan is fully consonant with California's overall program for achieving its GHG emission reduction goal under Assembly Bill ("AB") 32. While the design of the Climate Change Scoping Plan assures that the vast majority of reductions required to achieve that goal would occur in the absence of the Cap-and-Trade Program as a result of one of the complementary measures, the Cap-and-Trade Program plays the linchpin role and serves as absolute "backstop", to insure both that the number of reductions needed to achieve AB 32's goal are ultimately achieved and that the last fraction of reductions—above and beyond those obtained through implementation of the complementary measures—is obtained through the most economically efficient means. Given this role for the Cap-and-Trade Program in AB 32 and the fact that, at all times, affected EGUs will be subject to an enforceable compliance obligation under the Cap-and-Trade Program, Calpine believes it makes most sense for CARB to start from the premise that the Cap-and-Trade Program alone can be relied upon to satisfy the Clean Power Plan. To the extent that CARB cannot demonstrate through a modeling exercise that the price signal imposed by the Cap-and-Trade Program alone is adequate to attain the emission performance goal, CARB can include complementary measures to demonstrate compliance, such as California's 33% RPS. Such measures need not be federally enforceable, as suggested by CARB in the Discussion Paper.²⁷ CARB could also take the approach of demonstrating that the Cap-and-Trade Program is "equivalent" to California's Clean Power Plan obligations.

Calpine also encourages CARB to seek additional clarification in its comments to EPA on what, if any, elements of a multi-sector trading program, such as California's Cap-and-Trade Program, need be rendered federally enforceable elements of a state's Section 111(d) plan. In particular, CARB should urge EPA to make clear that, so long as the affected EGUs remain at all times subject to an enforceable obligation to hold allowances under the Cap-and-Trade Program, other

²⁵ See CAA § 111(d)(1), 42 U.S.C. § 7411(d)(1) (mandating that EPA "shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each shall submit to the Administrator a plan...").

²⁶ See Cal. Health & Saf. Code § 39602 ("The state board is designated as the state agency responsible for the preparation of the state implementation plan required by the Clean Air Act (42 U.S.C., Sec. 7401, et seq.)...").

²⁷ CARB, Discussion Paper, at 5 (stating that "U.S. EPA's proposal, and prior guidance on state criteria pollutant planning under section 110 of the [CAA], suggest that certain state measures which are already in force under the status quo, or whose effects complement the effects of other federally-enforceable measures, may not themselves need to be federally enforceable (though discontinuing these policies may trigger plan revisions)").

elements of the multi-sector program need not be rendered federally enforceable, i.e., a citizen could not commence an action against a cement manufacturer under Section 304 of the CAA if the cement manufacturer should fail to hold sufficient allowances. Given CARB's experience in preparing SIPs under the CAA to address some of the most persistent air quality problems in the nation, we are confident that CARB's recommendations in this regard will be carefully considered by EPA.

C. CARB Should Advocate For The Application Of Consistent Requirements To Both New And Existing Power Plants

EPA states in the Proposed Rule's Preamble that it does not include re-dispatch to new NGCC capacity—as opposed to re-dispatch to existing NGCC units under Building Block 2—as part of BSER because of cost considerations (i.e., the cost of natural gas usage, the portion of capital costs attributable to achieving CO₂ reductions at affected EGUs, and the cost of building additional natural gas pipeline infrastructure).²⁸ However, EPA states that its “compliance modeling for [the Proposed Rule] suggests that the construction and operation of new NGCC capacity will be undertaken as [a] method of responding to the [Clean Power Plan's] requirements.”²⁹ Accordingly, EPA invites “comment on whether [it] should consider construction and use of new NGCC capacity as part of the basis supporting the BSER” and “on ways to define appropriate state-level goals based on consideration of new NGCC capacity.”³⁰

The dispatch of new NGCC capacity is a logical mechanism for complying with the state emission performance goals because such dispatch displaces generation from affected EGUs and, thus, helps achieve the state goals. However, exclusion of new NGCC facilities from the universe of affected EGUs creates potential electricity market distortions and risks putting existing, equally efficient NGCC facilities at a disadvantage in their ability to bid into competitive power markets.

As EPA states “states may [] want to consider whether the policy design they choose sends similar or different price signals to new and existing NGCC. For instance, under a mass based program, if new NGCCs were not included, their costs would be less than the cost of an existing NGCC unit.”³¹ To build on EPA's example, consider a state mass-based cap-and-trade program with an allowance system for CO₂ emissions, whereby it costs affected EGUs \$15 to emit a ton of CO₂. In electricity systems with least cost economic dispatch, the cap-and-trade allowance price of \$15/ton will be embedded into the bids for such affected EGUs and, thereby, their electricity will be more expensive. (This includes highly efficient existing NGCC units that, solely due to the fact that they were constructed prior to January 8, 2014, will be considered affected EGUs under the Clean Power Plan.) On the other hand, new NGCC units—which are not affected EGUs under the Clean Power Plan—will sell electricity without a carbon cost and,

²⁸ 79 Fed. Reg. 34830, 34876-34877.

²⁹ *Id.* at 34876.

³⁰ *Id.*

³¹ *Id.* at 34924.

thereby, their electricity will be less expensive. Accordingly, such a mass-based program would distort the electricity market by incenting the dispatch of units that do not pay for their carbon emissions, while efficient existing NGCC units that do pay for their carbon emissions are reordered lower in the dispatch queue and, therefore, are dispatched less often. Calpine believes that the Clean Power Plan should be designed to avoid this outcome because, as discussed above (*supra* Section III.A), mass-based compliance programs are otherwise more economically efficient than rate-based compliance programs and should be encouraged.

Calpine appreciates the implication of EPA's statement that states may want to consider the price implications of excluding new NGCC facilities from their compliance programs, which is that, under the Proposed Rule, a state may—but is not required to—include new NGCCs in a mass-based program.³² In terms of market efficiency, it would be preferable to have equivalent requirements for both existing and new NGCC units in a state plan.³³ We would therefore encourage CARB to include the Cap-and-Trade Program's compliance requirements for both new and existing EGUs as an element of its Section 111(d) plan.³⁴ Further, while we recognize that the structure of Section 111 may suggest mutual exclusivity in coverage of Section 111(d) plans and the GHG NSPS (i.e., “Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units”), Calpine believes that EPA has several options available by which this coverage gap can be addressed. Foremost among those is the idea that EPA can, consistent with the structure of Section 111, periodically broaden the scope of affected EGUs, so that it includes recently constructed units. This could be accomplished if EPA were to revise the GHG NSPS for stationary turbines at least every two years, so that, upon revision, stationary combustion turbines that were constructed after January 8, 2014, but prior to the proposed revision of the NSPS, would become affected EGUs.³⁵

³² *Id.* (stating “under a mass based program, *if* new NGCCs were not included, their costs would be less than the cost of an existing NGCC unit”) (emphasis added). The inclusion of the conditional term “if” indicates, by reverse implication, that states could include new NGCCs in a mass-based program.

³³ *See, e.g.*, J. Chang, J. Weiss, PhD, and Y. Yang, PhD, The Brattle Group, “A Market-based Regional Approach to Valuing and Reducing GHG Emissions from Power Sector: An ISO-administered carbon price as a compliance option for EPA's Existing Source Rule”, discussion paper prepared for Great River Energy, at 2-5 (April 2014), available at: http://www.brattle.com/system/publications/pdfs/000/005/003/original/A_Market-based_Regional_Approach_to_Valuing_and_Reducing_GHG_Emissions_from_Power_Sector_Chang_Weiss_Yang_Apr_2014.pdf, at 11-14 (providing rationale for why “new sources [should] be subject to the same carbon pricing regime as existing sources”, including that “it is actually quite likely that new sources will benefit more from being part of a carbon-pricing or other market-based implementation of Section 111(d) than being part of a system without explicit or implicit carbon pricing”).

³⁴ In its Translation Notice and the Translation TSD, EPA expressly includes illustrative translations of rate-based goals to mass-based equivalents that include projected demand growth from both new and existing facilities “in light of the fact that the rule takes comment on the inclusion of new, fossil fuel-fired sources as a component of state plans.” *See supra* note 12, Translation Notice, at 13.

³⁵ Calpine believes that it is not necessary to also revise the GHG NSPS on the proposed accelerated timetable with respect to new boiler and IGCC units because, as EPA states, EIA modeling “projects that few, if any, new coal-fired EGUs would be built in this decade...” *See* GHG NSPS, 79 Fed. Reg. 1430, 1442 (Jan. 8, 2014). Accordingly, the affected EGU category under the Clean Power Plan would only expand with respect to EGUs employing stationary combustion turbines.

While EPA must review and, if appropriate, revise each NSPS at least every eight years, there is no limitation on EPA reviewing and revising the NSPS more frequently.³⁶ Given the rapid deployment of new NGCC units and the incentives to increase NGCC efficiency that will result from, among other things, the Clean Power Plan, CARB should urge EPA to implement a streamlined process for revising the GHG NSPS for stationary combustion turbines using standardized data sources. Once the new NSPS is proposed, NGCC units that commenced construction pursuant to the pre-existing NSPS would become affected EGUs under the Clean Power Plan. States could either include requirements for such new NGCC facilities in their respective Section 111(d) plans at the outset or they could craft their plans so that such requirements would automatically apply to new NGCC facilities when they subsequently become affected EGUs upon EPA's publication of a revised NSPS. Calpine recommends EPA pursue such a strategy to address the potential coverage gap between Sections 111(b) and (d) and would welcome CARB's support of such an approach.

California's Cap-and-Trade Program includes equivalent requirements for both new and existing NGCC units. So, too, do the programs implemented by the nine states participating in RGGI. While nothing in the Clean Power Plan precludes California and these other states from including enforceable requirements for new NGCC units within their respective Section 111(d) plan—and, indeed, EPA suggests that states should consider imposing such equivalent requirements on new NGCC units to avoid market distortions—CARB should advocate an approach to EPA that would avoid the potential market distortions that might arise if neighboring states should forever grandfather new NGCC units from coverage under Section 111(d).

D. CARB Should Consider How Its Goal Of Incenting Regional Collaboration On Clean Power Plan Implementation May Be Hindered By The Scope Of The Cap-and-Trade Regulation's Electricity Importer Provisions

CARB Chairman Nichols previously has stated that EPA “should provide incentives to encourage states to work together in developing their section 111(d) plans to ensure that electricity imports and exports are properly accounted for, and opportunities to reduce emissions based on the efforts of partner states are recognized.”³⁷ Additionally, the Discussion Paper states that the Clean Power Plan should support “regional planning, ranging from region-wide agreements to targeted agreements on particular issues, to support integrated carbon reductions across grid regions. The final rule should recognize energy import and export relationships between states as they work together to ensure proper crediting of emissions reductions, encourage increased use of renewable energy and energy efficiency, and lay the groundwork for multi-state partnerships...”³⁸ On this latter point, CARB continues by indicating that “California is exploring various approaches to regional planning, including large-scale regional plans and a

³⁶ 42 U.S.C. § 7411(b)(1)(B) (stating that EPA “shall, at least every 8 years, review and, if appropriate, revise such [new source performance] standards following the procedure required by this subsection for promulgation of such standards.”).

³⁷ See *supra* note 4, Letter, Mary D. Nichols, Chairman, CARB to Gina McCarthy, Administrator, EPA, at 26.

³⁸ Discussion Paper, at 4.

more focused modular approach that would allow implementing specific elements in a modular fashion.”³⁹ Accordingly, “[i]n order to enable states to carry out this type of regional planning, [] EPA will need to develop clear guidance on legal responsibilities, as well as common accounting and measurement systems between states.”⁴⁰

Calpine wholeheartedly agrees that, in order to effectively support regional planning efforts pursuant to the Clean Power Plan, there will need to be additional clarity regarding accounting and measurement systems for states, especially with respect to energy import and export relationships between states. However, while EPA should clarify such accounting and measurement issues to the extent feasible in the final Clean Power Plan, there may be impediments to effective regional linkage and planning efforts as a result of existing state law.

The Cap-and-Trade Regulation currently imposes a compliance obligation on first deliverers of electricity for their electricity imports from out-of-state power plants. Additionally, emissions from imported power are accounted for in the Cap-and-Trade allowance budget. Accordingly, the question arises: What would the impact be of applying the Cap-and-Trade Regulation and another state’s Section 111(d) plan to an affected EGU in such other state?

If the other state wished to create a standalone mass-based emission trading program that required all in-state affected EGUs to pay for their carbon emissions and some of those affected EGUs exported power to California, those affected EGUs would effectively be subject to a double carbon obligation. First, the price of electricity from the affected EGUs would reflect a carbon price adder due to the other state’s mass-based program. Second, the price would reflect the carbon price associated with the first deliverer’s compliance obligation for such electricity under the Cap-and-Trade Program. Accordingly, the electricity from such facilities would be priced significantly higher than either facilities in California or facilities in the other state that do not export electricity to California. The impact of this market incoherence is that a less-efficient resident power plant could be dispatched before a more-efficient non-resident power plant, solely due to the double carbon obligation imposed on the non-resident power plant when its electricity is imported into California.

On the other hand, if the other state were to link with California with respect to the other state’s affected EGUs⁴¹, then there would not be a double carbon obligation for the electricity from such sources: The calculation of the compliance obligation with respect to electricity imports subtracts emissions associated with electricity imports from linked jurisdictions.⁴² This adjustment in the

³⁹ *Id.* at 8 (stating that “[u]nder this modular approach, states would develop a state-specific plan that could also include common plan elements between states. Such common elements might include, for instance, a common accounting system, which allocates compliance credit among the states, with the bulk of each state’s plan then focused on state-specific measures.”).

⁴⁰ *Id.*

⁴¹ Nothing in Subarticle 12 (regarding linkage) of the Cap-and-Trade Regulation would seem to prevent California from linking with another state, even if the other state program consisted solely of regulatory requirements for affected EGUs and included no other covered entities.

⁴² See Cap-and-Trade Regulation § 95852(b)(1)(B).

electricity import calculation methodology effectively avoids the double counting issue described above.

Calpine believes that CARB should consider how to adjust its Cap-and-Trade Regulation to appropriately account for imported power from jurisdictions that will impose a price on the carbon emissions associated with such electricity, but that are not formally linked to California. There could be multiple reasons why a state would not desire to link with the Cap-and-Trade Program, including the perceived additional administrative burden associated with linkage. Alternatively, a state may wish to impose a direct carbon fee, rather than develop an allowance-based trading system, to avoid the political decisions associated with allocation of allowances.

Regardless of the approach, if the externality of carbon emissions associated with power imported to California is internalized via an equivalent carbon price that is imposed on the affected EGU in its host jurisdiction, then California's climate policy goal is already being achieved and the leakage concern that informed application of the Cap-and-Trade Program's compliance obligation to imported power would not be present. Indeed, as suggested above, imposing such a double carbon obligation on efficient non-resident EGUs could result in dispatch of inefficient resident EGUs, which would be contrary to the design and purpose of the Cap-and-Trade Program. Therefore, CARB should determine in California's state plan that electricity from an affected EGU in a jurisdiction that places an effective price on the carbon emissions from such EGU and thereby alleviates the leakage risk will not be subject to the electricity importer compliance obligation when the electricity is imported into California. However, to the extent that another state's program does not insulate against potential leakage and would allow out-of-state sources to underbid equivalently efficient in-state generators in the California energy markets, California's plan should include design elements that will both avoid imposition of a duplicative carbon obligation, while protecting against leakage.

When the Cap-and-Trade Program was first developed by CARB, it was envisioned that CARB's program would be part of a true regional partnership forged in accordance with the design principles established by Western Climate Initiative. Had such a regional partnership embracing several states within the Western electricity grid come to fruition, the most complex issues regarding the treatment of imported electricity under the Cap-and-Trade Program (e.g., resource shuffling) would have been largely avoided.

Now, however, that all states are charged by EPA with developing a plan for affected EGUs within their own borders pursuant to the Clean Power Plan, a real opportunity exists for CARB to re-envision the elements of other state or tribal programs that are truly essential for such programs to enjoy comity with California's program and address leakage concerns. To fully seize the opportunity provided by the Clean Power Plan to advance towards a set of interlocking, effective price signals throughout the integrated electric grid, CARB must think creatively about how it can afford comity to other states' programs in the absence of full linkage and avoid imposition of the Cap-and-Trade Program's compliance obligation on imported power that is subject to effective carbon price signals in its host jurisdiction.

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Calpine Corporation
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November 24, 2014
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Calpine appreciates the opportunity to provide its input to CARB in anticipation of CARB's submission of formal comments to EPA on the Proposed Clean Power Plan. Please contact me if you have any questions about these comments.

Sincerely,

/S/

Barbara McBride
Director, Environmental Services

cc: Hon. Mary Nichols, Chair
Richard Corey, Executive Officer
Edie Chang, Deputy Executive Officer
Michael Tollstrup, Chief, Project Assessment Branch
Tung Le, Manager
Craig Segall, Staff Attorney