BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program.	Rulemaking R.11-05-005

REPLY COMMENTS OF THE GREEN POWER INSTITUTE ON THE APRIL 29, 2014, CALFIRE STAFF WHITE PAPER

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REPLY COMMENTS OF THE GREEN POWER INSTITUTE ON THE APRIL 29, 2014, CALFIRE STAFF WHITE PAPER

Pursuant to the April 8, 2014, *Administrative Law Judge's Ruling (1) Issuing Staff Proposal to Reform Procurement Review Process for the Renewables Portfolio Standard Program, (2) Setting Comment dates, and (3) Entering Staff Proposal into the Record*, in Proceeding R-11-05-005, the **Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program**, the Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Reply Comments of the Green Power Institute on the April 29, 2014, CalFIRE Staff White Paper.*

The April 29, 2014, CalFIRE Staff White Paper (White Paper), which is an Attachment to the May 9, 2014, *Placer County Air Pollution Control District Motion to Supplement the Record to Summarize Previously Filed CalFIRE White Paper within the Phase of this Proceeding Concerning the Implementation of SB 1122 (the Bioenergy FIT Program)*, is an update to their more extensive 2013 *White Paper*, incorporating changes resulting from previous rounds of comments. Our *Reply Comments* address some of the June 20, 2014, Opening Comments made by PG&E, and the Center for Biological Diversity.

PG&E

PG&E opposes allowing SB 1122 facilities the flexibility to fuel switch. As we understand their arguments, they have two primary concerns that underlie their position. First, they are concerned that allowing fuel switching would allow developers to game their bids by claiming to use a more expensive fuel, and then later actually using fuel from a cheaper category. Second, they are concerned that if generators are allowed to fuel switch, the category allocations might become unbalanced.

We believe that PG&E's concerns are misplaced. One of the primary rationales behind supporting very small generators (< 3 MW) in SB 1122 is that small facilities will use fuel sourced in the immediate vicinity of the facility, thus minimizing fuel transportation, which is expensive. The idea is that small generators will be located close to their preferred fuel source. Indeed, the one advantage very small biomass generators have is proximity to fuel. They are otherwise at a big disadvantage to larger biomass generators who enjoy significant economies of scale with respect to fixed costs and staffing. If a generator that is located in the midst of forested areas, and that bids into an SB 1122 solicitation on the basis of using forest residues, later decides to switch to agricultural fuels, it will inevitably mean that the fuels to which they are wanting to switch will have to be transported a significant distance, thereby countering their cost advantage, and indicating that there must be serious problems with the original fuel supply for the project. In other words, an SB 1122 project that proposes to fuel switch is a project that is surely hurting. In this case, in our opinion, it would be better allow fuel switching than to force the facility to fail altogether.

There are safeguards in place that should assuage PG&E's concerns. First, the preliminary review of a project's bid should send up a red flag if the proposed project is not located in an area that will be able to supply the kind of fuel that the project is planning to use. Second, if and when an operating project proposes to change the structure of its fuel supply, the pricing they receive for their electric output can be adjusted using the simple formula that GPI proposed on page five in our December 20, 2013, *Comments* in this proceeding. This adjustment completely removes any incentive to game the system. Finally, we note that the category allocations in SB 1122 are satisfied by the successful development of the mandated capacity. There are no requirements in the legislation imposing minimum operating lifetimes on the facilities that participate in the program.

Center for Biological Diversity

The Center for Biological Diversity's (CBD) Comments make a number of assertions that contradict generally accepted knowledge about forest ecosystems in California, and their

fire behavior. Before we address any of the forestry issues, however, we repeat what we said on page 2 in our June 20, *Comments* on the CalFIRE white paper: "We are also concerned that an overly restrictive interpretation of the statute has the potential to put the Commission in the position of having to regulate forestry practices." In our opinion, if followed to their logical conclusion, the CBD's proposals clearly lead the Commission into the realm of regulating forestry practices in California. That is contrary to the California Forest Practices Act, and it is in no way the intent of SB 1122.

By statute, fuels that are used in SB 1122 facilities in the forest-fuels category must be the byproducts of sustainable forest management derived from fire threat treatment areas. Many of the forest-management activities that produce residues that can be used as biomass fuels take place without regards to whether the residues are used for energy production, or disposed of by conventional means. In the opinion of the GPI, if the activities that produce biomass residues are conducted in accordance with all applicable environmental laws and regulations, and would occur regardless of whether the residues are used as fuels, then the beneficial use of those residues as fuel, which is environmentally preferred to the alternatives (landfill disposal or open burning), should automatically be deemed sustainable for purposes of compliance with SB 1122. This is completely consistent with the letter and intent of the legislation. We note that California and federal laws and regulations regarding forest management on public and private lands require that forests be managed sustainably. This being the case, we believe that the sustainable forest management requirement in the legislation is met if the activities producing the residues are conducted in accordance with applicable state and federal law.

CBD questions fundamental forest science with respect to the relationship between biomass density and fire intensity in California forests. While fire intensity in California forests is a function of more than one variable, there can be little doubt that one of the key variables affecting fire intensity is biomass density. Although efforts to thin forests in California have been modest, there are examples throughout the state of instances where wildfires have burned through thinned acreage, and the extent of the damage to the biomass where thinning operations have been conducted, in terms of consumption (burning) and

mortality (trees killed but not burned up), is much less than where the forest biomass has not been treated. Nevertheless, CBD challenges the empirical relationship between biomass density and fire intensity in California, citing material that is not in the record of this proceeding.

The CBD not only questions whether there is a correlation between biomass density and fire intensity in California forests, they also argue that high-intensity forest fires in the state are not only not as harmful as generally thought, but that they are actually a good thing, and should not be discouraged. This notion is contrary to both the spirit and the letter of SB 1122, and it is not supported by anything in the record of this proceeding. We would also like to point out that no matter how successful the SB 1122 program is in California, the 50 MW allotment to forest-residue fueled projects, which will collectively consume approximately 400,000 bdt of fuel annually, and entail the thinning of no more than 16,000 acres annually of overgrown forestland (if all of the fuel came from thinnings), will in no way eliminate the occurrence of high-intensity fires in the state's forests. The best that we can hope for is that it makes a dent.

Finally, CBD challenges the correlation described in the CalFIRE White Paper between the thinning of overgrown forests, and the long-term maintenance of maximum carbon sequestration in the state's forests:

> The White Paper suggests that "reducing density of vegetation" will help "maintain [] sustainable carbon stocks and sequestration capacity of forest landscapes,"(ref. to White Paper) but does not explain how removing carbon from the forest will increase the amount of carbon in the forest (CBD Comments, page 6).

In fact, the answer is well known (see, for example, Morris, G., *Bioenergy and Greenhouse Gases*, Report of the Pacific Institute, May 15, 2008)[1]. The initial carbon impact of thinning a forest stand and using the residuals for energy production is to transfer carbon from the forest to the atmosphere. Following the thinning, the net annual growth rate in the

[1] http://www.pacinst.org/reports/Bioenergy_and_Greenhouse_Gases/Bioenergy_and_Greenhouse_Gases.pdf. This document was entered into the record of a previous RPS proceeding at the PUC, and that record has been incorporated into each successive RPS proceeding.

thinned stand will exceed the rate that occurred prior to the thinning, with the result that the gap in sequestered carbon between the pre- and post-thinned forest narrows over time. In addition the thinned forest is more fire-resilient, which means that the probability of fire occurrence has been reduced, and in the event of fire the expected intensity (mortality and consumption) will be reduced. In other words, over the course of time there is a small annual risk of a wildfire occurring, and when a catastrophic event does occur, the loss of carbon, including both immediate loss due to burning, and delayed loss due to decay of standing and downed deadwood, is much less for the thinned forest than the overgrown forest. The result of both of these changes in the post-thinned forest is that initially following a thinning the level of sequestered carbon is reduced, but, treating wildfire risk on a probabilistic basis, in less than a decade all of the lost carbon has been recovered, and over the longer term the long-term average level of sequestered carbon in forests that are fire-resilient is higher than in overgrown forests that are left at high risk of major loss of sequestered carbon due to periodic catastrophic wildfires.

The language in SB 1122 concerning forest management practices that the White Paper attempts to define is not extensive. It comes in a section of the bill that addresses the allocation of the 250 MW of capacity mandated by the legislation into several categories of projects, and reads (the key undefined phrase is *sustainable forest management*):

> PUC §399.20(f)(2)(A)(iii) For bioenergy using byproducts of sustainable forest management, 50 megawatts. Allocations under this category shall be determined based on the proportion of bioenergy that sustainable forest management providers derive from sustainable forest management in fire threat treatment areas, as designated by the Department of Forestryand Fire Protection.

California has the largest solid-fuel biomass generating industry in the country, with more than 650 MW of biomass generating capacity currently in operation, mostly in facilities ranging in size from 10 – 50 MW. The industry converts approximately 5 million bdt of biomass fuel into renewable energy annually, including approximately 750,000 bdt of forest-derived fuels. As mentioned previously, the 50 MW of SB 1122 facilities that will be powered by forest fuels will add approximately 400,000 bdt/year of demand to the overall biomass marketplace. Although it is difficult to predict how the overall market will

adjust to this new demand, it is reasonable to predict that the use of forest fuels will be pushed from the present level (750,000 bdt), to exceed one million bdt annually. There is no indication in the plain language of the bill that the forest-sourced fuels currently used by the biomass industry are anything other than the byproducts of sustainable forest management. The real restriction that §399.20 imposes on fuel sourcing is that the fuels used in SB 1122 facilities must come from predefined fire-threat treatment areas.

As we discussed in our June 20, 2014, *Opening Comments*, there is no reason to believe that the phrase *sustainable forest management* was included in the legislation in order to exclude any of the forest-sourced fuels that are currently used in the state:

> In the opinion of the GPI, the language in SB 1122 does not imply a desire for the establishment of restrictive specifications for fuel that limits fuel sources to only a subset of the potential sources of fuel that are produced by forestry activities conducted in accordance with all applicable state and federal environmental laws and regulations. It simply calls for fuels that are derived from activities that are conducted in accordance with sustainable forest management practices. We believe that the Forest Practices Act already provides for that. [GPI Comments, pg. 2.]

The CBD, in their Opening Comments, interpret the phrase: *sustainable forest management*, as greatly restricting the kinds of fuels that SB 1122 facilities can use. Indeed, in questioning conventional forest science, as discussed above, and based on their resulting perspective that biomass density and fire intensity are not closely correlated, and that in any case high-intensity fires are not to be avoided, the CBD comes to the conclusion that, in effect, sustainable forest management is an oxymoron. Their concept of sustainability principles essentially leads them to conclude that the conducting of any forest management activities is contrary to sustainability. For example, in response to SB 1122's stricture to use fuels from fire threat treatment areas, they argue: "As discussed above, 'fire threat reduction' and 'fuel reduction activities' are not by definition consistent with sustainability principles as a general matter (CBD Comments, pg. 7)." The bottom line is that CBD is not looking for a way to successfully implement SB 1122 with respect to the 50 MW of capacity designated for forest fuels. On the contrary, they are proposing a definition of sustainable forest management that would preclude the use of any forest-sourced residuals for fuel.

Conclusion

As we have done in previous comments in this proceeding regarding the implementation of SB 1122, we urge the Commission to adopt a simple and straightforward interpretation of PUC §399.20(f)(2)(A)(iii). Section 399.20(f)(2)(A)(iii) specifies that fuels for generators in the forest-fuels category be derived from sustainable forest management in fire threat treatment areas. Because state and federal laws already require that forests be managed sustainably, the residuals of activities that are conducted in accordance with state and federal laws and regulations should be deemed residuals from sustainable forest management for purposes of compliance with SB 1122. The further requirement that they be derived from fire threat treatment areas as designated by the Department of Forestry and Fire Protection should be based on the Department's currently published designation of fire threat areas in the state that would benefit from treatment.

We also remind the Commission that very small biomass generators will be very expensive to own and operate, and that one thing the Commission can do help keep these costs under control is to allow the generators the maximum flexibility possible in terms of their ongoing operations, consistent with following all applicable laws and regulations. One way the Commission can do this is to allow fuel switching under preset rules for facilities that need to do so. The rules should be designed to prevent gaming and other possible abuses.

Dated July 2, 2014
Respectfully Submitted,

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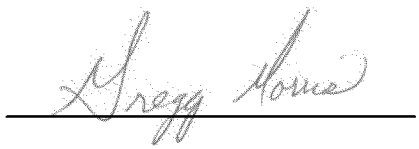
VERIFICATION

I, Gregory Morris, am Director of the Green Power Institute, and a Research Affiliate of the Pacific Institute for Studies in Development, Environment, and Security. I am authorized to make this Verification on its behalf. I declare under penalty of perjury that the statements in the foregoing copy of *Reply Comments of the Green Power Institute on the April 29, 2014 CalFIRE Staff White Paper*, filed in R.11-05-005, are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

Executed on July 2, 2014, at Berkeley, California.



Gregory Morris