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CBE Comment on Joint Wkshp re Regionalization July 26 2016

Additional submitted attachment is included below.

COMMUNITIES FOR A BETTER ENVIRONMENT

August 2, 2016

Via electronic filing

Dockets Unit
California Energy Commission
Docket No. 16-RGO-01
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Re: 16-RGO-01 - CBE Comments on the CAISO SB350 Regional Integration Study

Dear Commissioners,

Communities for a Better Environment ("CBE") is a California nonprofit organization working toward Environmental Justice ("EJ"). CBE seeks to ensure the voices of low-income communities of color, which are heavily impacted by fossil fuel pollution, are heard by decisionmakers. Our members and communities are working hard to realize an energy transformation that provides clean air and good green jobs, and were heavily engaged in the passage of Senate Bill 350. CBE respectfully submits these comments on the SB350 regional integration studies governance proposal presented at the July 26, 2016 Joint State Agency Workshop on the Proposed Regionalization of the Independent System Operator.[1] As discussed in CBE's earlier comments, regionalization can have significant advantages for the environment, and EJ communities, if rules are articulated and adherence to those rules is required. In these comments, CBE discusses specific concerns related to compliance with California's environmental requirements and policies. The pace at which the studies are occurring presents a significant challenge to smaller, public interest entities like CBE. We lack the staffing to dedicate to the technical, legal and frankly on the ground issues of economics and environment around which our members want to engage. SB 350 allows for a more measured pace; CBE urges the joint agencies to provide an additional period for parties to develop proposals that address issues that arose from the July 26, 2016.

1. **SB 350 Requires that a Potential Regional Authority Meet and Demonstrate Compliance with California Mandates.**

SB 350 states that the transformation of the CAISO into a regional authority does not alter its current obligations to follow state law. The statute provides that "[t]he transformation of the Independent System Operator into a regional organization shall not alter its obligations to the state or to electricity consumers within the state or its obligations to comply with state laws."[2]

[1] Agenda and comments are provided on the CEC website at: http://www.energy.ca.gov/sb350/regional_grid/documents/index.html
[2] Cal. Pub. Util. Code § 359.5.

These obligations include all of the environmental, employment, and energy requirements set forth in SB 350. As discussed further below, CBE has significant concerns that the currently anticipated structure for regionalization will not fully comply with SB 350 and other environmental requirements and policies unless rules are designed to ensure these obligations are met.

The Legislature anticipated a need for monitoring compliance with state law. SB 350 requires a report a year after regionalization and every two years following to document "its furtherance of applicable state and federal laws and regulations affecting the electric industry."[3]

To help assure that California mandates are met, CBE requests that: (1) the CPUC, CEC, and CARB draft joint clear instructions setting for checkpoints necessary to meet California's mandates; (2) through a public rulemaking process, rules related to dispatch be developed to assure compliance of California's environmental requirements; and (3) the CPUC, CEC, and CARB perform a joint analysis with a stakeholder process a year after regionalization to evaluate the compliance of the regional authority with California's requirements.

As related to disadvantaged communities, CBE is particularly concerned about potential impacts regionalization may have in pollution levels and economic opportunities in disadvantaged communities.

2. SB 350 Requires that Prioritization of Reduction of Air Pollution and Creation of Economic Opportunities for Disadvantaged Communities.

Two of the primary goals of California's renewable standards are "[d]isplacing fossil fuel consumption within the state" and "[r]educing air pollution in the state."[4] For each of these goals, California law requires prioritization of reducing pollution and displacing fossil fuel for disadvantaged communities. For example, Section 454.52, which was added by SB 350, recognized critical concerns about pollution and provides that the utilities should consider environmental justice in their renewable energy procurement by stating that the utilities' integrated resource plan shall:

> Minimize localized air pollutants and other greenhouse gas emissions, with early priority on disadvantaged communities identified pursuant to Section 39711 of the Health and Safety Code.[5]

Section 399.13(a)(7) of the Public Utilities Code further provides the Commission should require utilities to give preference to renewable energy projects sited in environmental justice communities, providing that:

> In soliciting and procuring eligible renewable energy resources for California-based projects, each electrical corporation shall give preference to renewable energy projects that provide environmental and economic benefits to communities afflicted with poverty

[3] *Id.*
[4] Cal. Pub. Util. Code § 399.11(b)(2).
[5] Cal. Pub. Util. Code § 454.52.

or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases.[6]

In addition, the CPUC and CEC are mandated to "take into account the use of distributed generation to the extent that it provides economic and environmental benefits in disadvantaged communities."[7] Distributed generation will grow, significantly, in disadvantaged communities, due to adoption of "specific alternatives [to Net Energy Metering] designed for growth among residential customers in disadvantaged communities."[8]

In relation to energy efficiency, SB 350 provides for the creation of programs designed to promote: "[w]orkforce development and job training for residents in disadvantaged communities, including veterans, at-risk youth, and members of the state and local conservation corps."[9] Efficiency programs must be designed to "[p]romote greater project penetration in disadvantaged communities."[10]

3. CBE Is Concerned that Regionalization Could Hurt Disadvantaged Communities Unless Rules Are Designed to Ensure Compliance with SB 350's Requirements.

The Regionalization Studies illustrated that in-state CO_2 and air pollution may be higher under a regionalization scenario than if CAISO did not join a regional authority. In particular, Slide 97 suggests that the in-state CO2 emissions will not change due to the expansion.[11] The 2020 current practice and the 2020 regional expansion estimated levels are 51.7 million tons per year. This slide also suggests that the CA imports generics will have a higher CO_2 profile with regionalization than under current practice. Scenario 3 on slide 99 which reflects regional without wind has similar issues.[12] In this scenario, the in-state California CO_2 emissions are higher with regionalization than without it.

These results are concerning. As described above, SB 350 envisions reductions of GHGs in-state and especially in disadvantaged communities. It is not clear if those reductions will be fully realized under a regionalization effort unless rules are developed.

In addition, the Regionalization Studies illustrate that in-state jobs may not be as high with regionalization. As reflected by Slide 63, the direct jobs from wind and solar buildout is less under the regionalization assumptions than under current practice. Slide 66 shows that this result is also true for disadvantaged communities. Slide 67 further illustrates this issue. CBE is concerned, in general, that the economic analysis of impacts from Regionalization do not reflect actual impacts in disadvantaged communities, but rather generalized statewide impacts. Assumptions regarding household-level impacts of presumed rate reductions due to regionalization, for example, do not appear to have taken into account the prevalence of

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[6] Cal. Pub. Util. Code § 399.13(a)(7).
[7] Cal. Pub. Util. Code § 400.
[8] Cal. Pub. Util. Code § 2827.1(b).
[9] Pub. Resources Code § 25943(b)(8).
[10] *Id.*
[11] Available at: http://docketpublic.energy.ca.gov/PublicDocuments/16-RGO-01/TN212468_20160726T125323_Presentation_on_SB_350_Study_72616.pdf
[12] *Id.*

participation in the low-income ratepayer ("CARE") programs in disadvantaged communities. The presentation presumed across-the-board benefits, evenly shared among utilities, and between disadvantaged communities and the rest of the state. The presentation also presumed application of the "70-70" rule – that ratepayers will spend their savings on services. There was no discussion of the differences in spending patterns by consumers in disadvantaged communities, which could have a confounding effect on the results.

SB 350 requires real reductions of CO_2 and air pollution along with creation of job opportunities from renewable development. These study results call into question whether regionalization will hinder the ability of the State to comply with those requirements. Rules need to be put in place to assure that California and its communities receive the environmental benefits of regionalization.

4. Rules Should Be Developed to Limit Startups, Shutdowns and Use of Natural Gas Facilities

One of CBE's main concerns with regionalization effort is that it could increase startups, shutdowns and spinning of natural gas facilities. With the addition of more wind resources, a regional authority may rely more on natural gas facilities as backup reserves for integrating renewables, which increases spinning, startups, and shutdowns. Units that are spinning and operating at partial load generally emit more pollutants per megawatt hour (MWh) than units operating at full capacity. The National Renewable Energy Laboratory estimated the emissions "penalty" for partial load operation in terms of percent increase in CO_2 emissions per MWh. It found a 9 percent increase for combined cycle gas units; and 18 percent increase for combined; and a 6 percent increase for gas steam units.[13] For NOx, a combined cycle gas unit has a 22 percent increase in emissions per MWh in partial load operation, and a combustion turbine unit has a 15 percent increase in emissions per MWh.[14]

Power plants also emit pollutants at even higher rates during the shutdown and startup phases of operations[15] because the pollution control devices are not fully operating during these times.[16] Consequently, startups can emit more pollution than many hours of continuous operation.[17] For example, a natural gas turbine in California is only permitted to emit up to 10 pounds of carbon monoxide per hour during steady-state operation but up to 541.3 pounds per hour during a

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13 D. Lew et al., Nat'l Renewable Energy Lab., The Western Wind and Solar Integration Study Phase 2: Executive Summary 10 (2013), http://www.nrel.gov/docs/fy13osti/58798.pdf.

14 *See id.* The NREL report explained what causes the fluctuations in NOx emissions: "Most of the NOx from all units is created from nitrogen in the combustion air ('thermal' NOx), as opposed to in the fuel, so flame temperature is likely a primary driver of NOx emissions." *Id.*

15 See, e.g., Cal. Council on Sci. & Tech., California's Energy Future: The View to 2050, at 4 (2001), http://www.ccst.us/publications/2011/2011energy.pdf (finding that if fossil fuel plants are the predominant resource used to back up renewables, this "would likely result in greenhouse gas emissions that would alone exceed the 2050 target for the entire economy").

16 D. Lew et al., Nat'l Renewable Energy Lab., The Western Wind and Solar Integration Study Phase 2: Executive Summary 10 (2013), http://www.nrel.gov/docs/fy13osti/58798.pdf.

17 *See, e.g.,* Bay Area Air Quality Mgmt. Dist., Engineering Evaluation for Proposed Amended Authority to Construct and Draft PSD Permit: Gateway Generating Station, Application 17182 at Appendix A (2008), http://yosemite.epa.gov/OA/EAB_WEB_Docket.nsf/Verity%20View/E3C1932C1FF58D4D852575AE006CE69B/$File/gatewayevaluationbaaqmdEX2B. . .4.pdf.

simple-cycle startup.[18] Another facility's gas turbines are permitted to emit up to 16.5 pounds of NO_x per hour during regular operation but up to 480 pounds during a cold start.[19]

First, to limit general reliance on natural gas facilities, CBE recommends adoption of a rule establishing limits on the contingency assumptions regarding an expanded balancing authority. One of the benefits identified orally (although not modeled as a quantified benefit, see slide 75) of regionalization is a decreased need for reserve margins. Reliance on existing or new transmission lines to regionalize will require analysis, in resource planning, of the generation capacity available in the event of a contingency. The expanded balancing authority should not require reserve margins to address contingencies due to the transmission corridors – requiring California to build resources, often gas-fired generation, on the assumption that the out-of-state resources will be unavailable when they are most needed, in addition to a significant reserve margin, would undermine the benefits of regionalization and SB 350.

Second, to limit startups and shutdowns of California natural gas facilities, CBE has the following recommendations: (a) Rules should require that zero-carbon resources are called on first for backup; and (b) Startups and shutdowns shall be required to stay the same as they were for a benchmark year and reduce each year after that.

These rules are the most logical implementation of SB 350's mandates. SB 350 requires that zero-carbon backup resources be optimized and procured first. Specifically, the CPUC and CEC must:

> Where feasible, authorize procurement of resources to provide grid reliability services that minimize reliance on system power and fossil fuel resources and, where feasible, cost effective, and consistent with other state policy objectives, increase the use of large and small scale energy storage with a variety of technologies, targeted energy efficiency, demand response, including, but not limited to, automated demand response, eligible renewable energy resources, or other renewable and nonrenewable technologies with zero or lowest feasible emissions of greenhouse gases, criteria pollutants, and toxic air contaminants onsite to protect system reliability.[20]

Further, the CPUC must identify a portfolio of resources that relies "upon zero carbon emitting resources to the maximum extent reasonable."[21]

These mandates of the public utilities code must also be applied to dispatch decisions to assure that the purpose of SB 350 is met. Failing to implement them from a dispatch perspective would

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[18] Bay Area Air Quality Mgmt. Dist., Final Determination of Compliance: Marsh Landing Generating Station, Application 18404, at 16–17 (2010), http://www.energy.ca.gov/sitingcases/marshlanding/documents/other/2010-06-29_BAAQMD_FDOC.pdf.

[19] Bay Area Air Quality Mgmt. Dist., Prevention of Significant Deterioration Permit Issued Pursuant to the Requirements of 40 CFR § 52.21, at 9–10 (2010), http://www.baaqmd.gov/~/media/Files/Engineering/Public%20Notices/2010/15487/PSD%20Permit/B3161_nsr_15487_psd-permit_020410.ashx (cold startup occurs more than forty-eight hours after a gas turbine shutdown while hot startup occurs within eight hours of shutdown).

[20] Cal. Pub. Util. Code § 400.

[21] Cal. Pub. Util. Code § 454.51.

render them meaningless, but articulating what is a loading order for dispatch would provide a critical piece to SB 350 implementation.

The number of startups and shutdowns of facilities should be limited by rule, to assure that regionalization does not increase pollution from those facilities. For example, if a facility had 150 startups and shutdowns in 2015, that facility would be limited to 150 startups and shutdowns after regionalization. Then, similar to offsets under the Clean Air Act, the number of total startups and shutdowns would be required to gradually decrease. When a unit reaches its limit, it will be designated as unavailable for dispatch. This would serve to ensure that the regional authority moves away from reliance on natural gas facilities for backing up renewable resources.

5. CBE Recommends an Environmental Report After a Year to Evaluate the Regional Authorities Compliance with California's Requirements.

The Legislature anticipated a need for monitoring compliance with state law. SB 350 requires a report a year after regionalization and every two years following to document "its furtherance of applicable state and federal laws and regulations affecting the electric industry."[22]

CBE requests that this reporting process evaluate compliance with environmental requirements and include at a minimum the following information: (1) evaluation of the number of startups and shutdowns of in-state natural gas facilities; (2) evaluation of the use of natural gas facilities as spinning reserves; (3) GHG and air pollution emitted from in-state generation including an evaluation of impact to disadvantaged communities; and (4) use of out-of-state coal generation for imports.

To assure that this evaluation is meaningful, CBE recommends the following: (1) the initial report is reviewed by a set of stakeholders in a working group including representatives from disadvantaged communities; (2) to assure participation from groups like disadvantaged communities, organizations that are eligible for compensation under the CPUC rules shall be compensated for time spent; (3) stakeholders shall provide comments on the report, which will be included as an appendix to any final report; (4) the report shall be provided to the CEC, CARB, CPUC, and the California Legislature; and (5) the California Senate shall convene a hearing to discuss the report and its results.

Thanks for your consideration of these issues.

Sincerely,

/s/
Julia May, Senior Scientist
Shana Lazerow, Staff Attorney

[22] Cal. Pub. Util. Code §359.5.