T|L|G Thomas Law Group

TINA A. THOMAS
AMY R. HIGUERA
CHRISTOPHER J. BUTCHER
Senior Counsel
ANNE L. BAPTISTE
JOHANNAH E. KRAMER
SAMUEL D. BACAL-GRAVES

455 CAPITOL MALL, SUITE 801
SACRAMENTO, CA 95814

ONE KAISER PLAZA, SUITE 875
OAKLAND, CA 94612

Telephone: (916) 287-9292 Facsimile: (916) 737-5858
www.thomaslaw.com

NICHOLAS S. AVDIS
ERIC E. REYNOLDS
Of Counsel

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Howard "Chip" Wilkins
Remy Moose Manley
555 Capitol Mall, Suite 800
Sacramento, CA 95814
cwilkins@rmmenvirolaw.com

Re: Environmental Review for Proposed Bloom Fuel Cell Power System Projects at the Intel, Inc., and Equinix, Inc., Facilities in the City of Santa Clara

Dear Mr. Wilkins:

I am writing on behalf of the City of Santa Clara (City) in response to your letter, dated February 16, 2021 (Bloom's February Letter), regarding the proposed Bloom Fuel Cell Power System at 2960 and 2970/3000 Corvin Drive (Equinix Facility) and 2200 Mission College Boulevard (Intel Facility) (the proposed installations at the Equinix Facility and Intel Facility are referred to individually as the "Equinix Project" and the "Intel Project" and collectively as the "Projects").

The City has concluded that an initial study must be completed for the Intel Project and for the Equinix Project. For the reasons discussed in the City's November 18, 2020 letter, the Projects do not fall within the scope of an exemption to CEQA. Additionally, even if an exemption were applicable—which the City finds is not the case—the City is unable to conclude that no exception applies, as explained below. Accordingly, an initial study must be prepared for each Project.

ANALYSIS

I. CEQA requires preparation of initial studies.

The City has determined that the Projects are not eligible to proceed under any CEQA exemption. Further, even assuming *arguendo* that an exemption applied, the City is obligated to consider whether an exception precludes reliance on the exemption. (*Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086, 1103 ["[A]n agency may not apply a categorical exemption without considering evidence in its files of potentially significant effects, regardless of whether that evidence comes from its own investigation, the proponent's

submissions, a project opponent, or some other source."]; *Committee to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1187.)

As discussed below, based on a review of the currently available evidence, the City finds that the Projects will have cumulatively considerable impacts related to GHG emissions and energy. Additionally, based on the evidence, the City cannot conclude that the Projects will not contribute to significant cumulative impacts related to air quality emissions or transportation of hazardous waste. Similarly, it cannot conclude that the Projects' release and emission of hexavalent chromium (CR+6) will not result in a significant impact, triggering the unusual circumstances exception. Therefore, even if the Projects qualified for a categorical exemption, the City is unable to find that the evidence supports a determination that no exception would apply. As a result, initial studies are required to provide the City with information to use as the basis for deciding whether to prepare a Negative Declaration or an EIR for the Projects. (CEQA Guidelines, § 15063(c)(1).) As required by the Supreme Court in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the initial studies will need to include sufficient detail regarding project-specific and cumulative emissions associated with the Projects to connect any identified air quality effects to human health consequences.

A. Cumulative Impacts

The cumulative impacts exemption states: "All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant." (Guidelines, § 15300.2(b).) "A 'cumulative impact from several projects' is defined in the Guidelines as 'the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.'" (*North Coast Rivers Alliance v. Westlands Water Dist.* (2014) 227 Cal.App.4th 832, 874, citing CEQA Guidelines, § 15355(b) and Pub. Resources Code, § 21083(b)(2).) "'[T]he purpose of the requirement that cumulative impacts be considered … is to ensure review of the effects of the project in context with other projects of the same type. Thus the Guidelines expressly provide that "[c]umulative impacts can result from individually minor but collectively significant projects taking place over a period of time."'" (*Robinson v. City and County of San Francisco* (2012) 208 Cal.App.4th 950, 956-957, citing *Save Our Carmel River v. Monterey Peninsula Water Management Dist.* (2006) 141 Cal.App.4th 677, 703-704.)

Thus, the City must evaluate the cumulative impacts of Bloom's Fuel Cell Power Systems. Currently, there are approximately 14.9 MW of Bloom Fuel Cell Power Systems installed in the City, and the Projects would add another 13 MW. As discussed below, the City has determined that the cumulative impacts of Bloom's Fuel Cell Power Systems within the City demonstrate that the cumulative impacts exception applies.

1. Air Quality

The City is concerned that the methodologies used to quantify emissions from Bloom Fuel Cell Power Systems do not properly capture and account for all emissions. Thus, the City is unable to rely on Bloom's reported emission rates because they may underrepresent the quantity of air pollutants released by the fuel cells. Additionally, the Projects may emit significant quantities of benzene. Accordingly, initial studies are needed to further evaluate these issues.

a. It is not clear the methodologies capture all emissions.

It is not clear that Bloom's testing methodologies account for the entire system of operations within its energy servers or capture all fugitive emissions. For instance, the methodology for measuring particulates emissions specifies how it factors emissions from several key system components—it specifically includes six power modules, one fuel module, and one electrical module per energy server. In contrast, the methodologies for NOx, CO, and VOCs fail to account for these key components. Further, it is not clear whether any of the testing methodologies fully capture fugitive emissions. Any system operating at high temperatures will have evaporative emissions; testing must be performed in a sealed environment to capture these fugitive emissions. The methodology states that an artificial stack was created in which a probe measured emissions. Bloom's documentation does not explain if and how this methodology accounts for fugitive emissions. If the methodologies do not account for emissions from each component of the system or capture all fugitive emissions, the results may be misleading.

Bloom's SEC Annual Report underscores the City's concerns that Bloom has selected methodologies that fail to properly capture emissions. For example, in discussing CR+6 emissions—which Bloom's February Letter failed to disclose—the SEC filing admits that had Bloom used a traditional testing methodology "similar to what the air districts have used in other large scale industrial products, it would show that we would need to reduce the emissions of CR+6 from our Energy Servers to meet the most stringent [California] requirements."[1] However, Bloom developed a modified test, and based on its modeling, results, and analysis, Bloom has concluded that it believes that it is in compliance with California air regulations. Bloom's SEC Annual Report additionally states that "our technology is moving faster than the regulatory process in many instances."[2] This indicates that Bloom's alleged regulatory compliance with respect to emissions may be more attributable to the absence of federal, state, and local permitting and/or oversight than to the level of its emissions. Based on these disclosures, the City finds that air quality emissions must be evaluated in initial studies.

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[1] Boom Energy Corporation, *Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2020* (Feb. 26, 2021), p. 30, available at http://d18rn0p25nwr6d.cloudfront.net/CIK-0001664703/76f03605-a1e3-4fce-9a24-556d291a923b.pdf

[2] *Ibid*.

b. Any error due to faulty methodology would be significant when scaled up.

Bloom's emissions data is based off of tests on a single power module of approximately 50 kW in size. The Equinix Project would install 50 times that much power, and the Intel Project would be 210 times larger. On a City-wide basis, 27.9 MW would be 550 times the size of the test module. Thus, even errors that may be small at the 50 kW scale could be substantial, and collectively amount to a significant impact, when considered at Project-level and City-level scale. Thus, initial studies are needed to further evaluate appropriate methodology for calculating the Projects' project-specific and cumulative air quality impacts.

c. Bloom's data fails to account for the increase in emissions due to the steady and significant loss in efficiency.

Bloom Fuel Cell Power Systems decrease in efficiency over time. Publicly available data show that the amount of fuel used per MWh steadily grows as the system efficiency declines. Bloom's advertising materials state that GHG emissions may get as high as 833 lbs/MWh and that the fuel input (heat rate) may range up to 7,127 Btu/kWh. Actual data from the State of New York for Bloom's installations at Queens Mall show that efficiency decayed below the advertised levels and that after only one year of operations, emissions exceeded 950 lbs/MWh on numerous occasions.[3] Additionally, data from the U.S. EPA eGrid database for 2019 show Bloom operating 43 plants nationwide, and 35 of these plants operated at a nominal heat rate greater than 7,127 Btu/kWh. This data indicate a significant decrease in efficiency beyond Bloom's advertised upper limit. Presumably, this decreased efficiency would also result in a corresponding increase in emission levels for other air pollutants along with GHG emissions. Bloom fails to address this issue, which requires further evaluation in initial studies.

d. Benzene

Based on the information provided, the Projects may contribute to significant benzene emissions. Benzene is carcinogenic and can cause birth defects. Initial studies are needed to analyze this issue.

2. Greenhouse Gases

The Projects will emit significant GHG emissions, contributing to a cumulative impact. Even using the lower range emission factor for Bloom Fuel Cell Power Systems, the Intel Project alone will generate over 28,000 $MTCO_2e$ per year. This exceeds the BAAQMD's threshold of significance for GHG emissions. The Projects, taken together, will generate over 35,000 $MTCO_2e$ per year. With the Projects, Bloom's cumulative GHG emissions across the City would

[3] New York State, *Distributed Energy Resources: Queens Mall* (2021), available at https://der.nyserda.ny.gov/reports/view/performance/?project=738.

be at least 75,000 $MTCO_2e$ per year.[4] These significant GHG emission levels need to be evaluated further in the initial studies.

3. Energy

CEQA recognizes that wasteful, inefficient, and unnecessary consumption of energy may result in environmental impacts. Appendix F of the CEQA Guidelines illustrates that such impacts may be avoided or reduced by decreasing per capita consumption; decreasing reliance on fossil fuels, including natural gas; and increasing reliance on renewable energy resources. Appendix F suggests consideration of the degree to which a project complies with existing energy standards, its effect on energy resources, and its projected transportation energy use requirements. It further recommends consideration of how a project preempts future energy conservation and how short-term gains compare to long-term impacts.

The Projects would not further the goals promoted by CEQA or Appendix F with respect to preventing or minimizing energy related impacts. Bloom's Fuel Cell Power Systems are entirely reliant on natural gas, a fossil fuel. Further, they run on natural gas 24 hours a day, seven days a week, in contrast to other energy suppliers, such as SVP,[5] which can reduce natural gas consumption when excess renewables are available on the grid. Currently, the existing Bloom Fuel Cell Power Systems in the City consume at least 734,956 mcf of natural gas annually. The Equinix and Intel Projects would respectively consume at least 123,312 mcf and 517,912 mcf of natural gas annually, bringing the total to, at minimum, 1.37 million mcf. This is equivalent to the annual natural gas demand of over 36,000 City residents, and the Projects' share would be equivalent to that of over 17,000 City residents. The Projects are projected to last 15-20 years. Thus, they will induce long term, constant dependence on fossil fuels at the Intel and Equinix Facilities. Because Bloom's Fuel Cell Power Systems will not achieve reductions in fossil fuel dependence, but will lock in dependence on natural gas, the currently available evidence supports the conclusion that the Projects will have cumulatively considerable impacts related to wasteful, inefficient, and unnecessary consumption of energy.

Further, the Projects do not comport with current energy policies which emphasize the need to decarbonize the grid. SB 32 mandates that California reduce GHG emissions to 40 percent below 1990 levels by 2030. SB 100 includes requirements and targets related to increased renewable

[4] These figures are based on an emission factor of 0.308. A more conservative analysis would use an emission factor of 0.378, which would indicate that the Projects plus existing Bloom Fuel Cell Power Systems in the City would emit over 92,000 $MTCO_2e$ per year. And as discussed in section A.1.c, this may not account for Bloom's Fuel Cell Power Systems' true degradation in efficiency. The City will determine the appropriate emission factor to use in preparing the initial studies.

[5] In compliance with SB 100 and other California plans and policies, the City's grid will continuously reduce reliance on fossil fuels until it is 100 percent carbon-free (meaning no fossil fuel-sourced energy) by 2045.

energy procurement and achieving 100 percent carbon free energy. BAAQMD's 2017 Clean Air Plan likewise focuses on reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. It further explains that the use of fossil fuels in buildings needs to be eliminated and industries must be powered by carbon-free electricity and biofuels. In fact, decarbonizing the energy system is a specific priority of the 2017 Clean Air Plan. An energy project that locks in natural gas dependence cannot contribute to achieving the State's goals to reduce GHG emissions and shift electricity demands from fossil fuels to renewable and GHG-free sources. Thus, the Projects would not comply with existing energy standards. Initial studies are needed to analyze the Projects' energy impacts.

4. Hazardous Substances

Desulfurization canisters are connected to Bloom's Fuel Cell Power Systems to remove impurities from natural gas before it is reformed into the hydrogen fuel. When "spent," these canisters contain sufficient benzene to qualify as hazardous waste. Bloom previously alleged its canisters were exempt under 40 § C.F.R. 261.4(c).[6] The EPA ruled this was improper and sought to fine Bloom $1 million for the violation. Subsequently, Bloom entered into an arrangement to have its canisters recycled at a facility in Indiana, so the canisters could be deemed exempt from hazardous waste requirements pursuant to 40 C.F.R. § 261.2(e)(1)(i).

Though the canisters may be deemed exempt from hazardous waste requirements under RCRA, the City is concerned with potential impacts that may arise from the storage and transportation of the canisters. The City has not been provided any information necessary to evaluate cumulative impacts to local streets, such as the volume or number of canisters to be removed from each site, how frequently this would occur, or proof of Bloom's compliance with all applicable laws in transporting the canisters. Including the Projects, there would be five sites in the City from which these canisters must be gathered and transported. Additionally, transporting the canisters to the recycling facility would have air quality, GHG, energy, and VMT impacts. These issues require further evaluation in initial studies.

B. Unusual Circumstance due to release or emission of hexavalent chromium

To date, the City has not received sufficient information to demonstrate the Projects will not result in a significant impact related to the release or emission of hexavalent chromium (CR+6). If the Projects will have a significant impact due to the release or emission of CR+6, it would constitute an unusual circumstance, precluding reliance on an exception. (*Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086, 1105 ["[A] party may establish an

[6] According to a complaint filed by Unicat Services, LLC (Unicat), Bloom represented that it had disposed of the highly toxic contents of the canisters in public landfills. (Third Amended Complaint at pp. 9-10, 15-16, *Unicat Services, LLC & Unicat Catalyst Technologies, Inc v. Bloom Energy Corporation*, No. 3:16-cv-32 (S.D. Tex 2016). The complaint further alleges that Bloom penalized Unicat for seeking to comply with hazardous waste laws in recycling and disposing of the spent canisters. (*Id*. at pp. 18, 21.)

unusual circumstance with evidence that the project will have a significant environmental effect."].)

As discussed above, Bloom's February Letter claims emissions of CR+6 are not available though it is clear from Bloom's SEC Annual Report that its Fuel Cell Power Systems do emit CR+6, potentially in significant quantities. Exposure to CR+6 is known to cause lung cancer and may also cause cancers of the nose and nasal sinuses; chronic exposure can also cause damage to the skin and respiratory systems and may harm reproductive systems as well as cause birth defects. CR+6 could be inhaled by workers and residents near the Projects. Additionally, CR+6 may accumulate on surfaces or seep into the soil and contaminate groundwater. Exposure via any of these pathways may pose serious health impacts.

Given Bloom's response to the City fails to disclose what quantity of CR+6 is emitted or the methodology used in making that determination, the City cannot find that the Projects will not result in significant impacts related to emission of highly toxic CR+6. Accordingly, the City is unable to conclude that the Projects will not result in an unusual circumstance, and this issue must be evaluated in the initial studies.

II. The City has determined Aspen Environmental will prepare the initial studies.

Pursuant to CEQA, a lead agency may use any of the following methods to prepare an initial study:

1. Preparing the initial study directly with its own staff.
2. Contracting with another entity, public or private, to prepare the initial study.
3. Accepting a draft initial study prepared by the applicant, a consultant retained by the applicant, or any other person.
4. Executing a third party contract or Memorandum of Understanding with the applicant to govern the preparation of an initial study by an independent contractor.
5. Using a previously prepared initial study (where appropriate).

(See CEQA Guidelines, §§ 15084(d), 15063(a)(4).)

The City's decision to contract with Aspen Environmental (Aspen) complies fully with CEQA. The City acknowledges that it often allows a developer to select a consultant from the City's Preferred Environmental Consultant List. However, the City chose not to use this process for two reasons. First, Aspen has significant experience consulting on Energy and Power Plant projects, and therefore, the City believes that Aspen is particularly qualified to prepare the initial studies required for the Projects. Second, it is unusual for a dispute to exist between the City and a project applicant concerning potential environmental impacts of a project before environmental review of a project has even commenced. Here, however, as you are aware, in *Bloom Energy Corporation v. City of Santa Clara, Santa Clara Superior Court Case No. 19CV348838*, Bloom argued that development of additional fuel cells within the City would reduce GHG emissions in the City. Bloom's position was inconsistent with the City's data, and the court ultimately held

that substantial evidence supported the City's conclusion that "CO_2e emissions for the SVP energy portfolio are approximately half of those from NG Fuel Cells." (Order re: Petition for Writ of Mandate and Complaint for Declaratory Relief, p. 14.) The City believes this prior disagreement between Bloom and the City regarding GHG emissions associated with Bloom's fuel cells provides further support for its decision to independently select the environmental consultant.

In Bloom's March 12 email transmitting the PCC Checklists to the City, Bloom requested that the City provide Bloom an opportunity to discuss the applicability of CEQA categorical exemptions for the Projects with Aspen. As outlined in this letter, City staff has determined that the Projects do not qualify for a categorical exemption. City staff made this determination in consideration of the evidence and arguments submitted by Bloom. The City's determination is final, and therefore, to avoid delays the City suggests that the focus shift to preparing the initial studies for the Projects. However, if Bloom would like to set a call to further discuss the City's determination that initial studies are required, please let us know.

As the City has determined that initial studies are required for the Projects, the City has asked Aspen to prepare a scope of work to complete the initial studies. The City will share the scope of work with Bloom once it is received from Aspen. Should Bloom have any questions regarding Aspen's proposed scope of work once provided, the City is happy to set a call to discuss the scope of work.

While the City has selected the environmental consultant, the City will allow, and indeed expects, that Bloom will participate in preparation of the CEQA documentation for the Projects by, for example, providing environmental documentation requested by the City. All environmental documentation submitted by Bloom, including the materials already submitted to the City, will be provided to Aspen to assist it in completing the initial studies for City review pursuant to CEQA Guidelines section 15063(b). Further, as part of Aspen's preparation of the initial studies, the City will schedule a virtual meeting with Bloom, Aspen, and the City to discuss the Projects and the environmental analysis further.

CONCLUSION

The City has found that the Projects are not eligible for an exemption from CEQA, so an initial study is required for each Project. Further, even if the Projects were eligible for an exemption, based on the above, the City finds that cumulative GHG and energy impacts would preclude reliance on an exemption. Additionally, the City is unable to conclude that exceptions would not be triggered due to cumulative impacts related to air quality or transportation of hazardous materials, or due to unusual circumstances related to the Projects' release and emission of CR+6. Accordingly, the City will have Aspen prepare the required initial studies.

The City will coordinate with Bloom regarding the initial study fees, Aspen's scope of work, and to obtain additional information and data that may be necessary for Aspen to complete the initial studies.

If you have any further questions, please let me know.

Sincerely,

Christopher J. Butcher

cc: Brian Doyle, City Attorney
Alexander Abbe, Assistant City Attorney
Kevin Kolnowski, Chief Operating Officer, Silicon Valley Power
Ann Hatcher, Assistant Director of Electric Utility, Silicon Valley Power
Manuel Pineda, Assistant City Manager/Chief Electric Utility Officer