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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking To Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program. | Rulemaking 18-07-003 |

DECISION REVISING THE BIOENERGY MARKET ADJUSTING
TARIFF PROGRAM

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DECISION REVISING THE BIOENERGY MARKET ADJUSTING
TARIFF PROGRAM

Summary

This decision adopts the staff proposal, with modifications, revising California’s Bioenergy Market Adjusting Tariff (BioMAT) program. This decision adopts the following changes to program rules, contract terms, and processes:

* The BioMAT program end date is extended to December 31, 2025.
* BioMAT procurement costs shall be allocated through a non-bypassable charge to all customers in each investor-owned utility’s service territory.
* Eligible BioMAT Category 2 – Other Agriculture projects must utilize the waste, residue, or by-products of growing crops, raising livestock, or growing horticultural products consistent with activities described as “crop production” and “animal production” in Titles 111 and 112 of the North American Industry Classification System.
* Projects utilizing directed biogas must submit their annual Common Carrier Pipeline report submitted to the California Energy Commission (CEC) to the Buyer as part of their Annual Fuel Attestation. Applicable BioMAT projects using common carrier pipelines must also provide monthly reporting to the investor-owned utilities, consistent with those documents required by CEC for Renewables Portfolio Standard compliance.
* A project’s Guaranteed Commercial Operation Date is 36 months from the contract execution date with the possibility of a 6-month extension.
* 140% of contracted energy must be delivered over two consecutive years for the first two years, and 180% of contracted energy must be delivered every two years for remaining years. Projects may increase contract quantity once in the first two years of the contract and decrease contract quantity annually throughout the contract.
* A project pays a forecasting penalty if it delivers +/- 3% of the contract capacity in any hour of any month, except for the first year when the penalty is waived.
* Projects may utilize non-BioMAT fuel that complies with the Renewables Portfolio Standard Eligibility Guidelines to supply the station service load.
* Telemetry requirements are set through the interconnection process.
* Projects are allowed to be metered through a California Independent System Operator revenue meter on the high-or-low‐voltage side of a Project’s final step‐up transformer. Low-voltage side metering will be limited to projects that do not share transformation with any other generator or load.
* A technical working group will be established to develop a project-specific lifecycle greenhouse gas model to quantify program emissions impacts.
* New deadlines are set for the investor-owned utilities to review applications and execute contracts.
* All applicants must attest at the start of each program period that they meet program eligibility criteria and face a penalty if they fail to report a change in their eligibility status.

This proceeding remains open.

# Procedural History

 Senate Bill (SB) 1122 (Rubio), Stats. 2012, ch. 612, created a new bioenergy feed‑in tariff within the procurement programs of the Renewables Portfolio Standard (RPS) program[[1]](#footnote-2) and required the investor‑owned utilities (IOUs) to procure an additional 250 megawatts (MWs) of renewable feed‑in‑tariff (FiT) resources from small‑scale bioenergy projects that commence operation on or after June 1, 2013.[[2]](#footnote-3) In Decision (D.) 14‑12‑081 and D.15‑09‑004, the Commission established a bioenergy FiT program, known as the Bioenergy Market Adjusting Tariff (BioMAT). The BioMAT program began offering contracts in February 2016.

The Commission modified the BioMAT program in response to legislative mandates. In D.16‑10‑025, the Commission implemented several changes to the BioMAT program for generation facilities using forest biomass as fuel
(Category 3)[[3]](#footnote-4) in response to the tree mortality emergency identified in the Governor’s October 30, 2015 Proclamation of a State of Emergency and SB 840, Stats. 2016, ch. 341.

More recently, in D.17‑08‑021, the Commission implemented changes to the capacity limits for generation facilities in the BioMAT program in accordance with amendments made to Section 399.20(f) by Assembly Bill (AB) 1923 (Wood), Stats. 2016, ch. 663. Specifically, in order to allow for greater participation in the BioMAT program, the nameplate capacity for bioenergy generation facilities to be eligible for the BioMAT program was increased to 5 MW.

On November 28, 2017, in accordance with the program rules established

by the Commission in 2014, Energy Division initiated a BioMAT program review

with the goal of assessing program performance and recommending programmatic and procedural changes. On October 30, 2018, Energy Division issued a draft BioMAT Program Review and Staff Proposal. On July 19, 2019, the Energy Division staff held a public workshop to discuss potential program changes. On March 10, 2020, the final staff proposal, listing recommended changes to the BioMAT program rules, contract terms, process, as well as recommended clarifications to the BioMAT program, was issued with

the *Administrative Law Judge’s Ruling Requesting Comments on the BioEnergy Market Adjusting Tariff Staff Proposal* (BioMAT Ruling). Comments were filed on
April 1, 2020 by Alliance for Retail Energy Markets and Direct Access Customer Coalition (AReM/DACC); Bioenergy Association of California (BAC); Brad Thompson Company (BTC); California Biomass Energy Alliance (CBEA); Center for Biological Diversity, Sierra Club, and Partnership for Policy Integrity (Joint Environmental Groups); Dairy Cares; FuelCell Energy (FCE); Green Power Institute; National Fuel Cell Research Center; Pacific Gas and Electric Company (PG&E); Phoenix Energy; Placer County Air Pollution Control District (Placer County APCD); Public Advocates Office; Shell Energy North America (Shell); Southern California Edison Company (SCE); San Diego Gas & Electric Company (SDG&E); and Wisewood Energy. Reply comments were filed on April 15, 2020 by BAC; CBEA; California Farm Bureau (CFB); Dairy Cares; FCE; Green Power Institute; Joint Community Choice Aggregators (Joint CCAs);[[4]](#footnote-5) Joint Environmental Groups; Placer County APCD; Public Advocates Office; PG&E; SCE; SDG&E; and Wisewood Energy.

# Plan of the Decision

In this decision, we review the staff proposal included in the BioMAT Ruling and determine what modifications, if any, are warranted to revise the BioMAT program.

The staff proposals are analyzed with respect to the need for modification to accommodate for the particular circumstances of the BioMAT program and consistency with statute, and other relevant Commission decisions and requirements.

# Discussion

Upon consideration of the staff proposal and party comments, the Commission concludes that the staff proposals listed in the BioMAT Ruling, except for the one allowing non-IOU load serving entities to procure for the BioMAT program, are supported by the record and should be accepted either as written or with some modification. The purpose of the modifications is to respond to party comments on the staff proposals and to improve clarity of the proposed rules. A table summarizing the current rules and adopted rules is provided in Section 4.

Before we discuss the program revisions proposed by staff, we confirm that all the power purchase agreement (PPA) changes we adopt today apply to new contracts. For contracts that are executed but not yet operational, the Commission directs PG&E, SCE, and SDG&E to give the sellers the option of keeping the existing contract terms or executing a contract amendment that is consistent with revisions adopted in this decision. The contracts may be filed as Tier 2 Advice Letters, if no other changes are made to the contracts. If other changes are made, the contract amendments must be filed as Tier 3 Advice Letters.

Several parties, including BAC, Dairy Cares, Phoenix Energy, Placer County APCD, suggest in their comments that the proposed BioMAT program rule and contract term changes should apply retroactively to contracts that already have been executed and approved by the Commission, because, in their view, existing projects have been impacted by PG&E bankruptcy and lengthy interconnection and commissioning timeframes. Phoenix Energy and BAC further add that without the Guaranteed Commercial Operation Date (GCOD) extension for existing projects, it may be “impossible for them to complete within the existing GCOD.”[[5]](#footnote-6)

The IOUs disagree with these parties and ask the Commission to reject any new or proposed changes being applied to existing contracts.[[6]](#footnote-7) According to PG&E, softening existing contracts transfers unnecessary and unfair risks to the IOUs, and ultimately to the ratepayers paying for these contracts; and applying changes after the fact do not allow program prices to accurately reflect program activity.[[7]](#footnote-8) PG&E also argues that parties do not provide any clear reasoning as to why the changes should apply to existing contracts.

The Commission does not have sufficient record to verify whether the concerns expressed by the parties, *e.g*., PG&E bankruptcy and interconnection related issues, have had any impact on specific project development milestones and operations; however, the Commission agrees that in some instances it may make more sense not to abandon projects that are well into development in order to avoid further delay in the achievement of the BioMAT program goals during economically volatile times, and especially in a program struggling to meet its statutory goals. Therefore, for contracts that are already executed but not yet operational, the Commission directs the IOUs to give the sellers the option of keeping the existing contracts terms or executing a contract amendment with the new program rules and contract term changes adopted in this decision.

## BioMAT Program Rule Changes

The proposed BioMAT program rule changes cover the program end date, cost allocation, other agriculture definition, directed biogas reporting, and guaranteed commercial operation date. These proposed rules are discussed in Sections 3.1.1 through 3.1.5.

### Program End Date

*Proposal:* Revise the BioMAT program end date[[8]](#footnote-9) to December 31, 2025.

*Outcome:* Adopted.

In D. 14-12-081, the Commission set the ending date for the BioMAT program at five years after its start – February 2021.[[9]](#footnote-10) The staff proposal extends the program end date to December 31, 2025.

Parties generally support or do not oppose the proposed revision. Only Public Advocates Office and Joint Environmental Groups oppose extending the program date, arguing that “the Commission should first consider the concerns parties have raised and examine the high costs and actual emissions reductions achieved by existing BioMAT projects.”[[10]](#footnote-11)

In D.14-12-081 the Commission found it reasonable to set the BioMAT program ending date as being 60 months from the program starting date. The Commission stated that “this length of time provides a fair opportunity for developers of projects of all types identified under SB 1122 to learn the rules and propose viable projects, while not allowing the price adjustments (leading to price uncertainty) to go on indefinitely.”[[11]](#footnote-12) The same reasoning still applies.

Furthermore, the BioMAT program has not yet served to fulfill the general statutory requirement to procure 250 MW of bioenergy. A five-year program extension should allow more time for additional project development.

Therefore, the Commission adopts the staff proposal and extends the BioMAT program end date to December 31, 2025. A five-year program extension should provide more long-term programmatic certainty while maintaining the Commission’s direction to establish a clear program end date. During this time IOUs shall continue to report program and project status on their BioMAT websites and in their RPS Procurement Plans.

### Cost Allocation

We consider the cost allocation proposal in two parts.

*Proposal 1:* Allocate BioMAT program costs through a non-bypassable charge to all customers in each IOU’s service territory.

*Outcome:* Adopted.

Currently, BioMAT program costs are recovered from the bundled IOU customers and those customers who departed from the utility service after the signing of contracts. The staff proposes to allocate BioMAT program costs through a non-bypassable charge to all customers in each IOU’s service territory and be collected through each IOU’s public purpose program (PPP) charge.

The majority of parties support or do not oppose the adoption of a
non-bypassable charge, modeled after the tree mortality non-bypassable charge adopted in D.18-12-003. It is the IOUs’ view that the achievement of the BioMAT program’s statewide air quality, climate, waste diversion, and public safety goals results in benefits for all customers, bundled service and unbundled alike; and it is inequitable to continue to impose the costs of the BioMAT program only on IOU bundled service customers when all customers benefit from the program.[[12]](#footnote-13)

Joint CCAs do not oppose this proposal as long as all LSEs are able to participate in the BioMAT program. They claim that allowing CCAs to collect BioMAT procurement expenses “provides a rational basis for cost recovery from customers served by CCAs.”[[13]](#footnote-14)

Some parties expressed a concern that the Commission does not have the authority to create a non-bypassable charge for the BioMAT program. For example, Shell argues that, unlike the BioRAM program, which had an explicit statutory provision mandating a non-bypassable charge (P.U.C. § 399.20.3(h)), the BioMAT program has no similar provision.[[14]](#footnote-15) Because the statute is silent on whether costs should be recovered through a non-bypassable charge, but provides that RPS and resource adequacy (RA) attributes associated with the IOUs’ BioMAT procurement will count toward their RPS and RA goals, in Shell’s view, the Commission has no authority to establish a non-bypassable charge.[[15]](#footnote-16) AReM/DACC agree with Shell and further argue that the legislature is capable of establishing a non-bypassable charge should they choose to do so, like in
SB 859.[[16]](#footnote-17) Finally, AReM/DACC mention that the Commission, in D.14-12-081, held that the costs of the BioMAT program were to be recovered solely from the IOUs bundled customers.[[17]](#footnote-18)

The concerns about the Commission’s authority to establish a
non-bypassable charge for the BioMAT program lack merit. Shell and AReM/DAAC are right in pointing out that SB 1122 makes no statement regarding cost recovery; however, silence is not a directive. As the Public Advocates Office states, the Commission “first looks to the plain language” of the statute, and because the statute is silent on cost recovery, the creation of a non-bypassable charge does not violate the statute.[[18]](#footnote-19) The Commission has broad statutory authority from Pub. Util. Code § 701 and can exercise the authority to establish a non-bypassable charge.

BioMAT is one of the policy programs aiming to achieve statewide air quality, climate, waste diversion, and public safety goals. As noted in the staff proposal, the purpose of the proposal is “to help the BioMAT program meet statewide goals and recognize the program’s resulting benefits to the entire state for meeting these goals” as well as ensuring equity among all who benefit from this program.  Because the benefits of BioMAT program are shared by all Californians, it is equitable that the cost of the program is shared by all Californians. Therefore, it is appropriate for the Commission to exercise its broad authority to impose a non-bypassable charge on all customers in each IOU’s service territory in order to support the BioMAT program.[[19]](#footnote-20)

In its comments, PG&E provides a model that is similar to the tree mortality non-bypassable charge, by which, the proposed non-bypassable charge could be achieved.[[20]](#footnote-21) Since the IOUs are required to retain the RA and RPS attributes pursuant to Pub. Util. Code § 399.20(h) and (i), PG&E interprets the staff proposal to suggest that the RA and RPS attributes would be retained by the IOUs for use towards their compliance requirements and costs recorded to the non-bypassable charge would be offset through imputed revenues from bundled customers.

SCE also proposes a model which entails recording the net costs of the BioMAT (after accounting for market revenues associated with the BioMAT energy and attributes) contracted resources through a balancing account specific to the BioMAT Program and allocating the net costs to all customers through a delivery charge, similar to SCE’s cost recovery for the tree mortality
non-bypassable charge.

We find these proposals reasonable. Accordingly, the administration of the BioMAT non-bypassable charge should be modeled off the tree mortality
non-bypassable charge, established in D.18-12-003.

The BioMAT NBC must be included in the PPP in the following manner:

1. Each IOU must establish a BioMAT Non-Bypassable Charge Balancing Account (BNBCBA) that must be used for collecting the net costs for BioMAT-related procurement.
2. Each IOU must design its BioMAT NBC rate by using the then-current 12-month coincident peak demand basis for revenue allocation that is used for the cost allocation mechanism (CAM), set on a per kWh basis for each customer group, and added to the other components of the PPP rate for billing. The IOUs must file their BioMAT NBC rate design and implementation plan along with its request to establish a BioMAT Non-bypassable Charge Balancing Account (BNBCBA) via Tier 2 Advice Letter within 30 days from the issuance of this decision.

Once the IOUs’ BioMAT NBC rate design, implementation plan, and BNBCBA are approved by the Commission, all future BioMAT costs must be allocated to all customers.

*Proposal 2:* Allow non-IOU LSEs to enter into BioMAT contracts and recover their costs through the IOU’s non-bypassable charge for the BioMAT program.

*Outcome:* Not adopted.

Parties were divided in response to the secondary recommendation authorizing non-IOU LSEs to participate in the BioMAT program. Joint CCAs support all LSE procurement, arguing that allowing all LSEs to participate in the BioMAT program is reasonable and critical in maintaining their support and the legality of a non-bypassable charge. Joint CCAs add that additional details are needed on how CCAs may participate in the procurement program.[[21]](#footnote-22)

Several parties, including AReM/DACC, Dairy Cares, Public Advocates Office, and Shell, either oppose expanding the BioMAT program to all LSEs or foresee challenges or legal issues with going forward with the proposal. PG&E, Public Advocates Office, and SCE note that the plain language of Pub. Util. Code §399.20 and D.14-12-081 directs the IOUs to procure the megawatts required by statute. PG&E adds that a change from the legislature and modification of
D.14-12-081 would be required to implement the expansion. SDG&E supports the ability for a non-IOU LSE to participate in the BioMAT program, but has concerns given the limited oversight the Commission may have over non-IOU entities. SDG&E recommends that non-IOU LSEs should adhere to the same oversight as IOUs. CBEA disagrees with SDG&E, and argues that if a project “accepts the posted offering price and other terms and conditions of the BioMAT tariff, then it has met the just and reasonable test, whether it is contracting with an IOU or a non-IOU LSE.”[[22]](#footnote-23)

PG&E also notes that there are many details in the staff proposal that the Energy Division staff will need to clarify, including (1) if LSEs would be required to procure; (2) which LSEs would be covered under this requirement; (3) how procurement capacity would be allocated amongst LSEs; and (4) how cost allocation would work. PG&E recommends that this proposal not be evaluated until additional details are provided.

The Commission agrees with PG&E, Public Advocates Office, and SCE: Pub. Util. Code § 399.20 expressly directs electrical corporations to offer BioMAT as a tariffed program subject to the Commission’s jurisdiction. D.14-12-081 directs the IOUs to procure bioenergy generation in accordance with the procurement requirements established pursuant to Pub. Util. Code
§ 399.20(f)(2)(A). The Commission also shares the concerns expressed by

SCE, SDG&E, and Dairy Cares. SCE asserted that the CPUC has limited jurisdiction over non-IOU LSEs’ procurement and cannot compel a prudency review of non-IOU LSEs’ contract administration for cost recovery purposes;[[23]](#footnote-24) SDG&E raised program administration and contracts’ costs oversight issues that contribute to difficulties in designing and overseeing an effective NBC with all LSEs procuring.[[24]](#footnote-25) Dairy Cares agrees that authorizing procurement "would be problematic because of jurisdictional limits and other regulatory distinctions between IOUs and LSEs."[[25]](#footnote-26) These are valid concerns and may present problems in assessing the value of a project's attributes and cost allocation, given the Commission's limited oversight over non-IOU LSEs. Therefore, the Commission does not adopt the staff proposal which allows non-IOU LSEs to enter into BioMAT contracts and recover non-IOU LSEs’ costs through the IOU’s
non-bypassable charge for the BioMAT program.

### Definition of Category 2 “Other Agriculture” Projects

*Proposal:* Eligible BioMAT Category 2 – Other Agriculture projects must utilize the waste, residue or by-products of growing crops, raising livestock or growing horticultural products consistent with activities described as “crop production” and “animal production” in Titles 111 and 112 of the North American Industry Classification System (NAICS). Agricultural wastes include, but are not limited to, agricultural crop residues; fruits and vegetables; orchard and vineyard removal; and crop tree and vineyard prunings. Agricultural waste also includes waste, residues and by-products from agricultural drying, hulling, shelling, and ginning operations as well as fresh fruit and vegetable packing operations.

*Outcome:* Adopted.

D. 19-12-004 removed the requirement that Category 2 – Other Agriculture projects be located on agricultural premises. The staff proposal notes that, in absence of that requirement, the program loses a distinguishing factor between Category 1 and Category 2 Other Agriculture because some agricultural waste could also be potentially considered food processing waste or organic waste diversion. To clarify how to distinguish between Category 1 “municipal organic waste division” and “food processing” feedstocks versus Category 2 “other agriculture” feedstocks, staff proposes to distinguish a project’s category by the feedstock’s commercial source, as defined by NAICS.

Parties either support or do not comment on the proposed definition. PG&E supports the proposed definition, and for clarity, PG&E recommends that the final definition specify that a Category 2 project must source feedstock directly from an agricultural operation, as defined under NAICS code 111 or 112. PG&E considers the term “directly” important to capture the explanation from the Commission that feedstock sourced from a food processor that does not otherwise meet the requirements of NAICS 111 or 112 would not be eligible for Category 2, even though the food processor may source from an agricultural operation.[[26]](#footnote-27)

Phoenix Energy requests that the Commission clarify with specific examples, including peach pits and olive pits, on “California Ag byproducts which are highly likely candidates for BioMAT projects using gasification technology.”[[27]](#footnote-28) Dairy Cares disagrees with Phoenix Energy’s “mischaracterization of peach pits and olive pits as being treated as ‘urban’ waste under the BioMAT program.”[[28]](#footnote-29)

The Commission finds the unopposed staff proposal reasonable and adopts it. The new definition should help distinguish Category 1 from Category 2 and avoid ambiguity in program and category eligibility.

The Commission rejects PG&E’s request to add the word “directly” into the proposed definition because the Commission finds that PG&E is not clear on why it is necessary to include the word “directly” into the new definition as the new definition adequately distinguishes Category 1 from Category 2.

The Commission also rejects Phoenix Energy’s request to clarify whether peach pits and olive pits are eligible “Other Agriculture” feedstock. The Commission agrees with Dairy Cares that the NAICS treats the waste Phoenix Energy describes as food processing waste, because “peach pits and olive pits result from further processing.” Thus, the definition proposed by staff adequately makes the distinction.

### Directed Biogas Reporting

*Proposal:* BioMAT projects using “directed biogas” must submit their annual Common Carrier Pipeline report submitted to the California Energy Commission (CEC) to the Buyer as part of their Annual Fuel Attestation.

*Outcome:* Adopted with modification.

“Directed biogas” refers to biomethane delivered through a common carrier pipeline. Common carrier pipelines are those pipelines that are part of the state’s existing natural gas pipeline system and are defined in the CEC’s RPS Eligibility Guidebook. When using directed biogas, the power producer does not withdraw the identical biomethane injected into the pipeline but instead withdraws common carrier pipeline gas (probably natural gas) that matches on a therm-for-therm basis what the biomethane seller injected into the pipeline. The use of directed biogas is allowable under BioMAT contracts provided that the directed biogas feedstock meets BioMAT fuel resource category requirements, and the project also meets the CEC RPS eligibility guidebook standards for biomethane delivered through a common carrier pipeline. The CEC has developed facility annual Common Carrier Pipeline reports that directed biogas systems must submit to maintain their RPS eligibility status. Therefore, it is reasonable to require facilities to also submit these annual reports to the Buyer as part of their Annual Fuel Attestations so that Buyers can confirm project fuel use and PPA fuel use compliance by matching reported directed biogas usage with biomethane injection data.

Parties either support or do not comment on the staff proposal. However, the IOUs agree with each other on the need for the Commission to go further and require monthly reporting and allow for the IOUs to enforce biomethane accounting mechanisms and enforcement provisions to adequately and transparently allow for biomethane transactions. IOUs request reporting of monthly fuel reports, monthly attestations, supporting documentation, nomination records, procurement invoices, and meter data.[[29]](#footnote-30) SDG&E particularly agrees with PG&E that "payments for energy deliveries be made only after a BioMAT supplier provides the IOU buyer with records that demonstrate biomethane volumes correspond with energy amounts delivered.”[[30]](#footnote-31)

FCE disagrees with the IOUs that there is a need to go beyond the staff proposal, claiming that the CEC already requires monthly data.[[31]](#footnote-32) FCE claims that the IOUs’ demands are unjustified, onerous and unnecessary, and the present staff proposal facilitates a simple, straightforward delivery of relevant information that "eliminates unnecessarily burdensome monthly reporting requirements for the project."[[32]](#footnote-33)

The Commission finds the staff proposal reasonable and adopts it. The Commission also finds the IOUs’ request to require monthly reporting requirements, consistent with materials required by the CEC, appropriate and reasonable. Monthly reporting is necessary to ensure that ratepayer funds are spent reasonably. Accordingly, the Commission adopts the staff proposal as modified:

BioMAT projects using “directed biogas” must submit their annual Common Carrier Pipeline report submitted to the California Energy Commission (CEC) to the Buyer as part of their Annual Fuel Attestation. Applicable BioMAT projects using common carrier pipelines must also provide monthly reporting to the IOUs, consistent with those documents required by the California Energy Commission for RPS compliance.

### Guaranteed Commercial Operation Date

*Proposal:* Amend the BioMAT Contract and Tariff so that the Guaranteed Commercial Operation Date (GCOD) is 36 months from the Contract Execution Date with the potential for a 6-month extension.

*Outcome:* Adopted.

The current rule provides that a project’s guaranteed commercial operation date is 24 months from the contract execution date with the possibility of a 6-month extension. The staff proposal notes that some projects require interconnection upgrades with substantial completion timelines that inhibit the ability of a facility to begin operation within the two-year GCOD deadline required in current PPAs, even with an allowable six-month extension. The proposed change aims to align actual interconnection timelines with a PPA’s GCOD.

Parties generally support or do not oppose this proposal. SCE only supports the 6-month extension for actions beyond a Seller's control and that qualify as Permitted Extensions in Sections 1.1.2.1 through 1.1.4 of the PPA.[[33]](#footnote-34) SCE also urges the Commission to reject FCE’s additional proposition for extensions on an open-ended day-to-day basis as necessary to enable completion of interconnection, testing, commissioning, and commencement of commercial operations.”[[34]](#footnote-35)

SCE and SDG&E each request modifications or guidelines to be included with this proposal that a 6 month extension request be made in a timely manner to the LSE once the project is aware of a delay beyond its reasonable control, and that a 6-month extension be granted due to (1) permitting delays,
(2) transmission delays, and (3) delays due to force majeure.[[35]](#footnote-36)

The Commission finds the unopposed staff proposal reasonable and adopts it. SCE and SDG&E do not explain the need for limiting the GCOD extensions to certain circumstances. Therefore, the Commission keeps the eligibility requirements for GCOD extensions the same.

## BioMAT Contract Term Changes

The Commission approved the current BioMAT contract terms in
D. 15-09-004 and adopted amendments in D. 16-10-025, D. 17-08-021, and
D. 18-11-004. The staff proposes revisions to BioMAT contract terms in
five areas: Guaranteed energy production and contract quantity adjustment; performance tolerance band forecasting; station service load; telemetry requirements; and metering requirements.

### Guaranteed Energy Production and Contract Quantity Adjustments

*Proposal:* Reduce Guaranteed Energy Production (GEP) requirements from 180% to 120%, over two consecutive years, for the first two years of the contract. Allow the BioMAT seller to (1) decrease Contract Quantity on an annual basis for any and all contract years, and (2) increase Contract Quantity once for any and all contract years, if the increase occurs during the first two contract years.

*Outcome:* Adopted with modifications.

Currently, BioMAT PPAs require that 180% of the contracted energy be delivered over two consecutive years for all years of the contract. If the facility has a GEP failure, they must pay the IOU GEP Damages. Sellers are also allowed a one-time decrease in Contract Quantity during the first two years of the contract. The purpose of these PPA terms is to promote energy supply forecasting certainty for the IOUs and PPA accountability. The staff proposal aims to provide more operational flexibility to the sellers.

Several parties, including BAC, BTC, CBEA, Dairy Cares, FCE, Phoenix Energy, SNC, and Wisewood Energy, support these changes on the basis that the revised rules would increase project flexibility, ease project financing, and decrease costs over time to the benefit of all.[[36]](#footnote-37)

Opposing the proposed change, the IOUs argue that the revised rule harms ratepayers by giving Sellers the option to price arbitrage between different economic opportunities and providing no compensation to ratepayers for unknown quantity risk or loss of electricity products such as RECs, RA, and capacity attributes.[[37]](#footnote-38) SCE argues that the current Contract Quantity requirements provide enough flexibility to account for early operational issues, and reducing the 2-year GEP threshold to 120% substantially increases the uncertainty risk on the Buyer during the early years of the Delivery Term.[[38]](#footnote-39) Requiring the current 180% of GEP over two years encourages Sellers to ensure the facilities are fully operational when they declare commercial operation. In PG&E’s view, moving from 180% to 120% GEP increases the level of variability in delivery uncertainty by a factor of four. The greater level of uncertainty makes it more challenging for the IOU to manage its energy portfolio because of the greater uncertainty in quantity delivered, which in turns creates additional costs for customers as the utility must manage around this uncertainty. For example, the IOUs would have less certainty in RPS deliveries, which makes it more difficult for the IOUs to forecast and manage their RPS position and could result in the IOUs having to ‘over procure’ resources to ensure they meet RPS requirements.

The Joint Environmental Groups also recommend the Commission reject this proposal as it maximizes flexibility and opportunities to increase profits for sellers and increases risk to ratepayers and IOUs without providing additional benefits to either group. The Joint Environmental Groups also claim that it is unclear whether granting this flexibility will help achieve the state’s waste diversion or emission reduction goals.[[39]](#footnote-40)

In D. 14-12-081 the Commission rejected BAC’s proposal to allow a generators to deliver 140% of its contracted amount over the first two years, stating that the suggested change was “inconsistent with the ReMAT treatment of the same types of generation and would have the effect of shifting the risk of variable energy deliveries from the generator to ratepayers.”[[40]](#footnote-41) The Commission now recognizes the value that increased flexibility may provide to BioMAT projects and possibly ratepayers. However, the Commission will not allow such a significant departure from previously approved contract terms. The Commission finds the overall goal of the proposed rule change reasonable; however, there should be a balancing act between providing flexibility to developers and sellers and ensuring that there is no increased risk to ratepayers. Therefore, the Commission modifies the proposed rule change in order to address concerns raised by the IOU comments on forecasting needs. Accordingly, the Commission requires that 140%, as opposed to 120%, of the Contract Quantity must be delivered over two consecutive years for the first two years of the contract and 180% of contracted energy must be delivered every two years for remaining years. Additionally, projects may increase contract quantity once in first two years of the contract and decrease contract quantity annually throughout the contract. The Commission will monitor the impact of this change and may revisit this rule in the future.

### Performance Tolerance Band Forecasting Penalty

*Proposal:* Waive the Performance Tolerance Band Forecasting Penalty for the first year of a BioMAT facility’s operation.

*Outcome:* Adopted.

Section 14.2 of BioMAT PPA sets a “Performance Tolerance Band” equal to +/- 3% of the contract capacity. For example, the Performance Tolerance Band for a 3 MW project would be +/- 90 kilowatt (kW). If the seller deviates from the performance tolerance band in any hour of any month in the delivery term, it must pay a forecasting penalty set at 150 percent of the contract price for each MW deviation. This penalty is proposed to be waived for the first year.

Parties either support or provide no comments on this proposal.

Overall, this proposal is supported as it increases flexibility for projects to optimize their operations, and reduce project risks and improve overall financial viability. FCE argues that this may alleviate project risks as it “may take some time for small projects with inconsistent feedstock inputs to improve forecasting capabilities.”[[41]](#footnote-42) Similarly, SNC believes that this would provide greater flexibility to community-scale facilities that are new to the electricity generation market and utilizing new technologies, especially for Category 3.[[42]](#footnote-43) The increased flexibility will allow for BioMAT projects to provide greater value to the state and customers by being better able to co-locate and function with other operational goals, such as onsite electricity and district heating.[[43]](#footnote-44)

Several parties also make additional requests: FCE recommends the performance tolerance band be expanded to +/- 500 kW.[[44]](#footnote-45) SCE disagrees with FCE’s specific recommendation to expand the tolerance band, arguing that
+/- 500 kW far exceeds the 3% RPS standard.[[45]](#footnote-46) Wisewood Energy encourages the Commission to consider a 50% reduction in the penalty for the second year in addition to the penalty waiver in the first year.[[46]](#footnote-47)

Arguing that the current rules allow for flexibility, PG&E opposes this proposal.

The Commission finds the staff proposal reasonable and adopts it. The Commission recognizes the importance of the forecasting penalty. However, as also noted in the staff proposal, the bioenergy market is still nascent, and it may take time for new market players to improve energy forecasting capabilities. Waiving the forecasting penalty for the first year should alleviate costs for small projects.

The Commission also declines to adopt FCE’s and Wisewood Energy’s requests to expand the tolerance band to +/- 500 kW. As noted by SCE, a
17 percent allowance (500 kW allowance of a 3000 kW resource) is excessive and not appropriate given the three percent allowance that has existed in RPS contracts for almost two decades.[[47]](#footnote-48)

### Station Service Load

*Proposal:* Allow projects to utilize non-BioMAT fuel to supply the station service load of their systems if such fuel use conforms with the Station Service rules established in the CEC’s RPS Eligibility Guidelines.

*Outcome:* Adopted with modification.

As explained in the staff proposal, Section 4.4.1 of the BioMAT PPA states that the fuel used to generate electricity and useful thermal output used for station use/parasitic load must conform with the fuel resource category of the BioMAT project. By contrast, the CEC’s RPS Eligibility Guidebook states only that the energy used for parasitic load is not RPS-eligible and may not generate RECs, but otherwise does not restrict the fuel source that may be used to generate electricity for parasitic load.[[48]](#footnote-49) BioMAT’s prohibition against the use of non-BioMAT fuel to service parasitic load is stricter than the rest of the RPS program and can add cost and complexity to system integrity operations.

Several parties support the proposal for the increased flexibility and allowance to use energy on-site that is not exported or sold to ratepayers, thereby reducing the burden on the sellers.[[49]](#footnote-50)

In contrast, PG&E, SCE and Joint Environmental Groups oppose the proposed change. Arguing that the proposal scope is too expansive in allowing alternate fuel use, SCE maintains that any alternate fuel use, outside of the "limited scope… to avoid ramping down in unplanned outages," should not be allowed.[[50]](#footnote-51) PG&E is concerned that the staff proposal may result in a BioMAT facility burning some fossil fuel because it is cheaper to do so, resulting in less BioMAT fuel being used, and yet customers still paying for power that is not 100% derived from bioenergy. SCE and PG&E both agree that it would be overly complex to account for energy use coming from BioMAT eligible fuel and separately account for non-BioMAT fuel, and that there is no way to “distinguish which fuel source created which output watt of power.”[[51]](#footnote-52) Therefore, PG&E proposes that the seller account for its fossil fuel use and that the BioMAT payment be reduced pro-rata to reflect the percentage of energy being produced from non-BioMAT fuels.[[52]](#footnote-53)

Joint Environmental Groups agree with PG&E that the proposal should be rejected as it runs counter to the BioMAT program's ability to reduce air pollution and GHG emissions and that allowing for fossil fuel to be burned
on-site may result in "customers paying for power that is not 100% derived from bio-energy."[[53]](#footnote-54)

The Commission considers the proposal scope to be too expansive. We are concerned with allowing projects to potentially use non-BioMAT fuel in the operations of its projects and, specifically, fossil fuels. We share the Joint Environmental Groups’ concern with the allowance of fossil fuel usage in station service load because consuming fossil fuels would result in greater greenhouse gas emissions that add to the global carbon budget and exacerbate the threat of climate change. To mitigate, we modify the staff proposal to read:

1. Projects must attest to total fuel input for all on-site energy generation (Million British Thermal Units (MMBTUs)) and fuel input from BioMAT eligible feedstock (MMBTUs).
2. The facility must discount their invoice[[54]](#footnote-55) by a prorated amount based on a ratio of non-BioMAT eligible energy to total energy generation.

This modification will still provide the project with the flexibility to use alternate fuels, if it must, while protecting ratepayers from potentially funding the use of fossil fuels.

### Telemetry

*Proposal:* Revise Appendix E of the BioMAT PPA so that the Seller must follow all relevant telemetry requirements set by their interconnection tariff.

*Outcome:* Adopted.

Appendix E of the BioMAT PPAs requires that all projects sized 0.5 MW and larger must install and maintain a Telemetering System at the Facility in accordance with the California Independent System Operator (CAISO) Business Practice Manual for direct telemetry. However, CAISO’s telemetry rules are only applicable to facilities that interconnect at the transmission level, which is not the case for most BioMAT facilities. Instead, Rule 21 is the applicable interconnection standard for facilities interconnecting at the distribution level, which has its own standards for telemetering equipment. Similarly, when interconnecting at the transmission level through the CAISO tariff or at the distribution level through the Wholesale Distribution Access Tariff (WDAT), there are relevant interconnection standards that may or may not require telemetering. In order to maintain consistency with relevant interconnection standards— Rule 21, the CAISO tariff, or WDAT—staff recommends that PPAs be revised so that telemetry requirements are not prescriptive, but rather set through the interconnection process.

Parties request further clarification and guidance about how to interpret and apply various interconnection standards. Generally, non-IOUs caution against allowing individual utilities “too much discretion” that may lead to unnecessary costs and delays as a result of this proposal,[[55]](#footnote-56) and state that any proposal from the Commission should allow a BioMAT project to comply with CAISO telemetry or Rule 21 telemetry, as relevant.[[56]](#footnote-57) BAC and Wisewood Energy recommend the Commission adopt additional interconnection parameters specific to BioMAT projects.

Supporting the proposal, SDG&E reasons that it ensures that a Seller must follow all relevant telemetry requirements set by their interconnection tariff.[[57]](#footnote-58)

Opposing the staff proposal, SCE argues that limiting telemetry to only the interconnection requirements may obfuscate alternate functions performed by telemetry. Should the Commission limit telemetry to only the interconnection provider, SCE argues, the BioMAT project may not include equipment a provider would need to forward marketing and CAISO specific information.

PG&E requests that the "Staff Proposal should clarify that the Seller must follow all relevant telemetry requirements as set by the CAISO and/or applicable interconnection tariffs, standards, guidance documents, or as required in an interconnection study or review process."[[58]](#footnote-59)

It appears that there is need to clarify what the proposal entails. The Commission confirms that it is not the staff’s intent to limit the BioMAT interconnection requirements to only those of the interconnection provider and exclude CAISO telemetering requirements. Upon review of the comments, the Commission clarifies that the Seller must follow all relevant telemetry requirements as set by the CAISO and/or applicable interconnection tariffs, standards, guidance documents, or as required in an interconnection study or review process. Accordingly, we modify the proposal to read:

Telemetry requirements are set through the interconnection process. The applicable telemetry requirement, as specified by the governing interconnection standard (*e.g*. Electric Rule 21 or the Wholesale Distribution Access Tariff), must be followed.

The modified proposal is adopted.

### Metering Requirements

*Proposal:* Revise BioMAT PPA Metering Requirements to allow projects to install CAISO revenue meters on the low-voltage or high-voltage side of the final step-up transformer if the meter can be programmed to account for transformer losses when installed on the low-voltage side.

*Outcome:* Adopted.

BioMAT PPAs require that generators be metered through a single CAISO revenue meter located on the high‐voltage side of a Project’s final step‐up transformer nearest to the Interconnection Point. This requirement protects ratepayers from paying for losses associated with the project transformer, however it can also increase interconnection costs for ratepayers and projects that might otherwise be able to interconnect on the low‐voltage side of the Project’s final step‐up transformer. The staff proposal would allow projects to install CAISO revenue meters on the low-voltage or high-voltage side of the final
step-up transformer if the meter can be programmed to account for transformer losses when installed on the low-voltage side.

Parties, including BAC, CBEA, Dairy Cares, Phoenix Energy, SNC, Wisewood Energy, support the staff proposal, because it may reduce interconnection costs for small projects, provide greater flexibility in project design, and thereby reducing ratepayer costs.[[59]](#footnote-60)

SCE cautions that, if allowed, the CAISO would need to agree to a metering exception which occurs on a case-by-case basis and would likely affect project schedules.[[60]](#footnote-61) SCE requests that the proposal should limit low-voltage side metering to only those projects that do not share transformations with any other generator or load, because low-voltage side metering is possible if transformation is not shared among resources.[[61]](#footnote-62)

SDG&E supports the proposal if the meter can be programmed to account for transformer losses when installed on the low-voltage side.[[62]](#footnote-63)

Opposing the staff proposal, PG&E argues that the value of low-voltage side metering is not clearly defined, explained, or enumerated. PG&E states that high-voltage side metering is the current tariff requirement, industry standard, and best practice; and low-side metering requires extra adjustments to estimate what is being delivered and adds an extra level of complexity to the program.[[63]](#footnote-64)

Public Advocates Office recommends, to verify the presumption that some projects may sufficiently lower their interconnection costs to more than compensate for lost revenue by obviating the need for additional [equipment], that the seller must verify proper meter programming to account for losses and provide annual attestations for continued verification. The added evidence will help support the staff proposal’s stated objective to “account for the losses to protect ratepayers from paying for energy that is lost in the step-up transformer.”[[64]](#footnote-65)

Upon review of the comments, the Commission agrees that there is need for further evidence for cost savings. The Commission accepts the Public Advocates Office’s recommendation that the seller must verify proper meter programming to account for losses and provide annual attestations for continued verification as a reasonable safeguard against costs to ratepayers.

The Commission also adopts SCE’s recommendation that the proposal limit low-voltage side metering to only those projects that do not share transformation with any other generator or load.

## BioMAT Process Changes

The staff proposes process changes in three areas: Greenhouse gas modeling, deadlines for contract execution, and program queue management procedures.

### Greenhouse Gas Modeling

*Proposal:* Form a technical working group to develop a project-specific lifecycle greenhouse gas (GHG) emissions reduction model to quantify the net GHG impacts of BioMAT project operations.

*Outcome:* Adopted.

The Commission received extensive comments on this proposal. The majority of parties support or do not oppose this proposal, with the opinion that this would allow industry to more easily communicate additional environmental benefits from bioenergy, provide educational insights to improve bioenergy technologies over time, and verify environmental benefits, among other benefits.[[65]](#footnote-66) However, there are split opinions on how to progress.

There are also concerns about how the results of the modeling will be used. For example, National Fuel Cell Research Center supports the proposal but opposes the model being used to establish program eligibility of BioMAT projects, as all BioMAT resources are already RPS eligible.[[66]](#footnote-67)Similarly,CBEA opposes on the basis that the use of BioMAT qualifying fuels is more than sufficient to guarantee at least the carbon neutrality of projects, and requiring demonstration of GHG reductions will impede the program’s success and could lead to higher project costs.[[67]](#footnote-68) GPI also opposes for several reasons, including that the modeling effort will increase program costs and will serve to hinder the goals of streamlining and simplifying the program**.** GPIcautions that a model may not be worth pursuing given the BioMAT fuel-eligibility requirements and the likely contentious nature of any working group that would form.

There are several recommendations for how to structure the working group such as retaining an independent expert to develop the model and appointing a multi-stakeholder oversight committee to address parties’ process concerns; including experts and modeling professionals to mitigate a contentious development process and consider constrained staff resources.[[68]](#footnote-69)

The Commission finds the extensive and thoughtful comments on the staff proposal very informative. Upon review of these comments, the Commission approves the formation of a Technical Working Group to quantify the environmental impact of BioMAT project operations. Specifically, the tool should evaluate the net lifecycle emissions under similar assumptions defined in the Draft BioMAT Calculator Brief document (greenhouse gases and criteria pollutants, if possible). The Commission clarifies that the ultimate use of the tool should not be a screening tool for BioMAT program eligibility. BioMAT program eligibility has already been determined and is not an issue within the scope of this proposal.

The benefits of developing a Life Cycle Assessment (LCA) tool is not disputed by the parties. Such a tool will allow the Commission to quantify the emissions impact of its BioMAT program and describe the environmental benefits to the state; introduce the Commission to using LCA methodologies in the context of energy programs and policy; and encourage work on a tool with other stakeholders and state agencies that may be able to estimate the environmental impact of future energy programs and projects, *e.g*., renewable natural gas projects.

As expressed by several parties, subject matter expertise and input from state agencies, academia, and industry experts is crucial for the success of the technical working group. The Energy Division Director has authority within the Working Group to make final recommendations for any resulting work products.

Energy Division shall form a Technical Working Group with the goal of developing a project-specific lifecycle greenhouse gas emissions reduction model to quantify the net GHG impacts of BioMAT project operations. In forming the working group, Energy Division should solicit subject matter experts and participants from parties, public agencies, and academia.

### Contract Execution

*Proposal:* Apply the following deadlines once a BioMAT program participant declares price acceptance:

1. The IOU has 20 days from the notification of PPA award to determine if the application has any deficiencies requiring a cure, and request the necessary information to cure the deficiency;
	1. After receiving the additional information from the applicant, the IOU must determine if the application has any deficiencies requiring a cure within 10 days of receiving information from the applicant; and
	2. The IOU will continue to notify the applicant if the application has any deficiencies requiring a cure within 10 days of receiving additional information from the applicant until the IOU determines that there are no deficiencies, at which point the IOU must immediately notify the applicant that there are no deficiencies and BioMAT contracts must be executed within 20 days of the date that the IOU notified the applicant that there are no deficiencies.
2. If there are no deficiencies, the IOU must inform the applicant that there were no deficiencies within 20 days from the notification of the PPA award and BioMAT contracts must be executed within 20 days of the date that the IOU notifies the applicant.

*Outcome:* Adopted.

All parties, except PG&E, support this proposal. Proponents argue that the recommended deadlines may mitigate the unreasonable delays that have occurred in the past.[[69]](#footnote-70) They argue that this recommendation will increase confidence and integrity in the program and “directly translate into reduced capital cost which will directly translate into improved ratepayer benefit.”[[70]](#footnote-71) Furthermore, the proposed deadlines will increase accountability for the program,[[71]](#footnote-72) prevent delays,[[72]](#footnote-73) and allow project applicants a reasonable opportunity to address deficiencies that may be identified by the IOU during the application process.[[73]](#footnote-74)

PG&E contends that implementing generic deadlines may have the unintended consequence of penalizing parties dealing with unforeseen, yet understandable circumstances and adds that the proposed process lacks the flexibility that the current process allows.[[74]](#footnote-75) PG&E provides the following example: BioMAT applicants may need additional time to complete or remedy deficiencies in their project information that they did not anticipate. For example, a seller’s status with the California Secretary of State may lapse while in the BioMAT queue, requiring the seller to renew prior to contract execution. IOUs may also run into barriers such as changes in law or policy (such as modifications to CPUC decisions or changes in federal law that have direct implications to the BioMAT contract). In these instances, having rigid deadlines may result in unreasonable outcomes.

Parties also suggested modifications to the staff proposal. FCE recommends the 20 days allowed for contract execution be changed to
20 business days.[[75]](#footnote-76) SCE recommends that the Commission clarify how many iterations of cures are given to each applicant prior to a PPR rejection notice.[[76]](#footnote-77)

Upon review of the comments, the Commission adopts the staff proposal as modified. The contract execution dates will be modified to allow the IOUs
20 business days, as opposed to calendar days, from the notification of the PPA award to determine if the application has any deficiencies requiring a cure and to request the necessary information to cure the deficiency.  These deadline requirements will provide consistency to the program, lead to timely execution of contracts, and ensure that projects are moved out of the queue after price acceptance, so that the price adjustments properly represent project development within the BioMAT categories.

The Commission does not offer any clarification as to how many iterations of cures should be given to each applicant prior to a PPR rejection notice. SCE has not provided convincing arguments demonstrating the need to create a cap for the number of cures allowed before rejection, and insufficient reason has been given to indicate whether a cap would remedy any issues described.

### Program Queue Procedures

*Proposal:* Revise queue management procedures so that:

1. Applicants must attest at the start of each program period that they still meet the project’s eligibility criteria;

ii. Applicants must immediately notify the program administrator in the event of a change in eligibility; and

1. If an Applicant does not attest at the start of each program period that it still meets the project’s eligibility criteria, or if an Applicant notifies the program administrator that it no longer meets the eligibility criteria, the program administer may remove the Applicant’s project from the program queue.

*Outcome:* Adopted.

The purpose of applying additional queue management procedures is to ensure the proper functioning of BioMAT’s market-based pricing mechanism by protecting against overpayments in the case of incorrect price increases or a market participation decrease in the case of incorrect price decreases. As explained in the staff proposal, the presence of an ineligible project in the BioMAT queue can trigger incorrect price adjustments if the project is not identified and removed from the queue at the time that the project becomes ineligible. For example, if an ineligible project is one of five projects in a category queue, then that project will be contributing to the achievement of market depth that that can trigger a price adjustment. Additionally, the presence of any ineligible projects in the first-come, first-served program queues could delay eligible projects from being awarded contracts in a Program Period. Price adjustments and the awarding of contracts should be based on the market activity of projects that are actively pursuing PPAs. Applying additional queue management procedures should eliminate ineligible projects.

No party opposes the proposed revisions for the queue management procedures. Parties providing comments on the issue, including the IOUs and CBEA, support the proposed program queue procedures as they will provide statewide consistency among the IOUs for managing the BioMAT program and ensure effective management of the project queue.[[77]](#footnote-78) CBEA argues that projects in the queue that no longer meet program eligibility requirements inhibit qualified projects from entering and moving through the queue. [[78]](#footnote-79) Effective management of the project queue ensures that the contract offering price at any given time is accurate and efficient.[[79]](#footnote-80)

Placer County APCD goes beyond the scope of the staff proposal and claims to recognize a “mistake within the Tariff related to queue management,”[[80]](#footnote-81) specifically related to the use of Appendix A to the Program Participant Request (PPR) Fuel Resource Attestation Form (Form 79-1187). Appendix A is a checklist to be used by applicable woody biomass projects, and is currently required to be filled out “at the time of submitting its queue application.” Placer County APCD claims that it is inappropriate for the program to currently require that Category
3 projects attest to highly detailed feedstock information during the BioMAT queue application stage of the project because it “essentially requires projects to have feedstock contracts that include specific biomass removal projects identified before they enter the BioMAT queue.” Placer County APCD recommends that Category 3 projects should simply be required to attest to complying with all fuel requirements, as is required under Category 1 and 2, and the check list form from Appendix A should be filled out, executed and submitted as part of the program’s auditing requirements.

Joint Environmental Groups disagree with Placer County APCD and argues that this amount of detail is warranted given the high contract prices for Category 3 energy, and that “if Category 3 BioMAT projects are not required to submit detailed documentation providing specific details about fuel sourcing, it is very likely that projects will be built in areas that are unable to support their fuel demand.”[[81]](#footnote-82)

The staff proposal is unopposed and is adopted. The revised rules should ensure consistency among the IOUs for managing the BioMAT program and effective management of the project queue.

The Commission rejects Placer County APCD’s recommendation to eliminate the requirement for a Category 3 project to declare certain feedstock information as compliant with sustainability criteria at time of program application. The Commission agrees with the Joint Environmental Groups that the amount of detail is warranted given the high contract prices for Category 3 energy and to ensure that projects will be built in areas that are able to support their demand with eligible fuel.

## BioMAT Program Clarifications

The staff proposes clarifications for BioMAT RPS eligibility and the “strategically located” eligibility requirement of BioMAT.

### BioMAT RPS Eligibility

*Clarification:* Eligibility for BioMAT is consistent with the RPS program as defined in the RPS Eligibility Guidebook.

Outcome: Adopted as modified.

Currently, the CEC RPS Eligibility Guidebook describes eligibility and compliance rules that apply to all RPS-eligible projects, including BioMAT projects. The BioMAT tariff and PPA contain separate and additional rules and requirements that apply to BioMAT projects. As noted in the staff proposal, BioMAT program rules and the CEC RPS Eligibility Guidebook may potentially cause confusion within the bioenergy market. BioMAT and RPS rules should be read as complementary and binding for program participants.

SCE recommends amending the proposal to include the clarification that “RPS eligibility is not necessarily sufficient for BioMAT eligibility.”[[82]](#footnote-83)

The Commission adopts the proposed clarification as modified. The adopted clarification reads as follows:

Eligibility for BioMAT is consistent with the RPS program as defined in the RPS Eligibility Guidebook; however, RPS eligibility is not sufficient for BioMAT eligibility.

### Strategic Location

*Clarification:* The “strategically located” eligibility requirement of BioMAT, which sets a $300,000 cost threshold for transmission upgrades, does not provide for or limit transmission upgrade cost reimbursement.

*Outcome:* Adopted with modification.

BioMAT projects must be “strategically located” to qualify for the program. D.14-12-081 defines a project as strategically located if the cost of network transmission upgrades when the project interconnects to the distribution system does not exceed $300,000, or if the project developer pays any difference between the actual network transmission upgrade costs and $300,000.[[83]](#footnote-84) In D.18-11-004, the Commission clarified that “the definition of “Strategically Located” means that the generator be (1) interconnected to the distribution system or the transmission system, and (2) sited near load, meaning sited in an area where the cost of upgrades for interconnection of the proposed generation to the distribution or to an existing transmission system does not exceed $300,000, or if the project developer pays all transmission upgrade costs in excess of $300,000.”[[84]](#footnote-85)

The $300,000 cost threshold aims to incentivize developers to select project locations and interconnections that minimize impact to the grid and protect ratepayers.[[85]](#footnote-86) It is not intended to provide a limit on reimbursement that a project developer may receive pursuant to CAISO’s tariff, or other tariff, for network transmission upgrade costs. For BioMAT projects that interconnect through the distribution system, their relevant interconnection costs are set through Rule 21, the CAISO tariff, or WDAT. Table E.3 of Rule 21 states that Transmission Network Upgrade Costs are set by the applicable CAISO Tariff at signing of the Interconnection Agreement. Network transmission upgrade costs are distinct from distribution upgrade costs because they are under the jurisdiction of CAISO. The Commission neither authorizes nor controls network transmission upgrade costs or reimbursement amounts.

Parties who commented on the staff proposal support it and request further clarifications based on the existing program requirements. Commenting parties also urged the Commission to consider using this requirement as a tool to address ongoing interconnection issues in the BioMAT program.

PG&E supports the clarification that “strategically-located” eligibility requirements, as they relate to transmission upgrades, remain the same for the BioMAT program. PG&E also supports the consideration of a geographic component to strategically-located eligibility requirements.

The Commission finds the staff proposal reasonable and consistent with prior Commission decisions, but modifies it to reflect the buydown option. The Commission also notes that this clarification does not modify the “strategically located” definition adopted in D. 18-11-004.

The modified clarification reads as follows: The “strategically located” eligibility requirement of BioMAT, which is a $300,000 cost threshold for transmission upgrades, or requires the generator to pay any difference between the actual network transmission upgrade costs and $300,000, does not provide for or limit transmission upgrade cost reimbursement that a generator may receive under the applicable interconnection tariff.

# Conclusion

To summarize, we adopt the staff proposal as modified and implement the following changes to BioMAT program rules, contract terms, process and provide clarifications.

| **Issue** | **Current Rule** | **Adopted Rule** |
| --- | --- | --- |
|  |
| **BioMAT Program Rule Changes** |
| **Program End Date** | The program sunsets in February 2021. | The program end date is extended to December 31, 2025. |
| **Cost Allocation** | Bundled electricity customers and customers who depart bundled service after PPA execution pay for BioMAT. | Allocate BioMAT procurement costs through a non-bypassable charge to all customers in each IOU’s service territory. |
| **Definition of “Other Agriculture”** | Eligible BioMAT Category 2 – Other Agriculture projects must be located on an agricultural premise and utilize waste, residue, or by-products of growing crops, raising livestock or growing horticultural products. | Eligible BioMAT Category 2 – Other Agriculture projects must utilize the waste, residue or by-products of growing crops, raising livestock or growing horticultural products consistent with activities described as “crop production” and “animal production” in Titles 111 and 112 of the North American Industry Classification System (NAICS). |
| **Directed Biogas Reporting** | No additional reporting requirements for projects utilizing directed biogas. | Projects utilizing directed biogas must submit their annual Common Carrier Pipeline report submitted to the CEC to the Buyer as part of their Annual Fuel Attestation. Monthly reporting requirements consistent with materials required by the CEC also apply. |
| **Guaranteed Commercial Operation Date** | A project’s GCOD is 24 months from the contract execution date with the possibility of a 6-month extension. | A project’s GCOD is 36 months from the contract execution date with the possibility of a 6-month extension. |
| **BioMAT Contract Term Changes** |
| **Guaranteed Contract Quantity** | 180% of contracted energy must be delivered over two consecutive years for all years of the contract. | 140% of contracted energy must be delivered over two consecutive years for first two years, and 180% of contracted energy must be delivered every two years for remaining years. Projects may increase contract quantity once in first two years of the contract and decrease contract quantity annually throughout the contract. |
| **Performance Tolerance Band Forecasting Penalty** | A project pays a forecasting penalty if it delivers +/- 3% of contract capacity in any hour of any month. | A project pays a forecasting penalty if it delivers +/- 3% of contract capacity in any hour of any month, except for the first year when the penalty is waived. |
| **Station Service Load** | Fuel used by a facility to generate station service load electricity must conform with the BioMAT fuel resource category. | Projects must attest to total fuel input for all on-site energy generation (Million British Thermal Units (MMBTUs)) and fuel input from BioMAT eligible feedstock (MMBTUs).The facility must discount their energy invoice by a prorated amount based on a ratio of non-BioMAT eligible energy to total energy generation. |
| **Telemetry** | All projects >0.5 MW must install and maintain a Telemetering System at the facility. | Telemetry requirements are set through the interconnection process. |
| **Metering** | Projects must be metered through a CAISO revenue meter on the high‐voltage side of the final step‐up transformer. | Projects are allowed to be metered through a CAISO revenue meter on the high-or-low‐voltage side of a Project’s final step‐up transformer. Low-voltage side metering will be limited to projects that do not share transformation with any other generator or load. |
| **BioMAT Process Changes** |
| **Greenhouse Gas Modeling** | No GHG accounting | Establish a technical working group to develop a project-specific lifecycle GHG model to quantify program emissions impacts. |
| **Contract Execution Deadlines** | No deadline for contract execution after an Applicant accepts offer price. | Set deadlines for the IOU to review applications and execute contracts. |
| **Program Queue Management** | The requirements for an Applicant to report to the IOU when a project’s eligibility status changes differ by IOU.  | All applicants must attest at the start of each program period that they meet program eligibility criteria and may be removed from program queue if they fail to report a change in eligibility status. |
| **BioMAT Program Clarifications** |
| **RPS Eligibility Guidebook** | RPS Eligibility Guidebook rules and requirements apply to BioMAT. | No change. Simply affirm the current rules. |
| **Strategic Location**  | There is a $300,000 cost cap in BioMAT to determine strategic location—not to provide interconnection reimbursements. | No change. Simply affirm the current rules. |

In the BioMAT Ruling, parties were asked to comment on additional actions that the Commission should take to address program cost, program barriers, expanding program participation, safety, and/or equity.

The Commission does not make a determination as to these program areas in this decision. The BioMAT program will continue to be monitored, reviewed, and revised, as necessary, in Rulemaking 18-07-003 or its successor proceeding.

# Next Steps

Not later than 45 days after the effective date of this decision, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas

& Electric Company must each file with Energy Division and serve on the service list of this proceeding a Tier 2 Advice Letter with all the revisions to their Bioenergy Market Adjusting (BioMAT) tariffs, standard contracts, and all ancillary documents, necessary to implement the revisions to the BioMAT program as listed in Section 4 of this decision. The Advice Letter must include both a clean, fully revised final copy of each document, as well as a copy of each document, redlined to show the changes made to conform to the requirements of this decision.

# Comments on Proposed Decision

The proposed decision of the ALJs in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission’s Rules of Practice and Procedure. Comments were filed on August 13, 2020 by the following parties: BAC; CBEA; Center for Biological Diversity and Sierra Club; FCE; Green Power Institute; IOUs, jointly; Joint CCAs; Placer County APCD; Public Advocates Office; and Shell. Reply comments were filed on August 18, 2020 by the following parties: AReM/DACC; FCE; IOUs, jointly; and Phoenix Energy. We have carefully reviewed these comments. In response, corrections and clarifications are made. We address certain comments below.

The Proposed Decision (PD) declined to adopt SCE’s recommendation that the proposal limit low-voltage side metering to only those projects that do not share transformation with any other generator or load. While SCE noted some project limitations and complications of the proposal, PD did not adopt the recommendation because a project can individually determine applicability of the options and whether the potential benefits from allowing low-voltage side metering outweigh the costs and risks for any potential CAISO scheduling issues or challenges. In their comments on the PD, IOUs claim that “shared transformers impose additional risks on utility customers.” They collectively request that “unless and until the Commission has a sufficient record on the risks to utility customers of projects using shared transformers and what is reasonable and necessary to protect utility customers, and the Commission is assured that the CAISO’s requirements are met, the Commission in its final decision should limit low-voltage side metering to those projects that do not share transformation with any other generator or load.”[[86]](#footnote-87) The Commission finds this request reasonable and adopts it. Low-voltage side metering should be limited to those projects that do not share transformation with any other generator or load.

The IOUs also request that the Commission clarify that the 20 business-day notification deadline applies from the date of the notification of PPA award and that it applies to applicants with and without deficiencies in the application.[[87]](#footnote-88) The IOUs state that these two modifications will correct a technical error and help maintain consistency in the new timeline. The Commission finds the IOUs’ request reasonable and adopts it.

BAC objects to restricting public agency participation in the technical working group to state agencies.[[88]](#footnote-89) The proposed decision is revised to expand participation in the technical working group to public agencies.

Noting that many BioMAT projects are combined heat and power systems, CBEA requests that the Commission clarify “station use/parasitic load” and “all on-site energy generation” can include energy used by a host facility behind the meter for productive use as well as for parasitic load. CBEA also requests that the Commission make a distinction between RPS qualifying but non-BioMAT qualifying fuels that are still renewable fuels, and non-BioMAT qualifying fuels that are in fact fossil fuels. CBEA requests that the Commission require facilities to discount their invoice by a prorated amount only when the non-BioMAT qualifying fuel is fossil fuel, rather than when the non-BioMAT qualifying fuel is an RPS-qualified renewable fuel, which would allow BioMAT priced payments for ineligible-BioMAT generation. Because these two issues are not addressed in the staff proposal, we cannot make a determination on the merits of CBEA’s requests herein. CBEA’s requests are denied.

The IOUs express a need for each facility to be required to install the CAISO Automated Dispatch Systems (ADS) with an automated interface, arguing that ADS requirements are similar to those implemented in the Renewable Auction Mechanism pro forma PPAs from Federal Energy Regulatory Commission 764 and the PURPA agreements adopted in D. 20-05-006.[[89]](#footnote-90) The IOUs add that these requirements ensure that the resources can follow CAISO dispatch signals. In FCE’s view, if this technology will be considered for BioMAT facilities, the installation of ADS should occur on a case-by-case basis and be coordinated by CAISO, not through BioMAT tariff. Because the issue of ADS installation was not included in the staff proposal, we will not make a determination herein.

# Assignment of Proceeding

Clifford Rechtschaffen is the assigned Commissioner and Nilgun Atamturk and Manisha Lakhanpal are the assigned Administrative Law Judges in this proceeding.

Findings of Fact

The Commission set the ending date for BioMAT at five years from the program starting date—February 2021.

A five-year program extension will provide more long-term programmatic certainty and allow more time for additional project development, while maintaining the Commission’s direction to establish a clear program end date.

It is reasonable not to abandon projects that are well into development in order to avoid further delay in the achievement of the BioMAT program goals during economically volatile times.

SB 1122 makes no statement regarding cost recovery for the BioMAT program.

The Commission has broad statutory authority from Pub. Util. Code § 701 and can exercise its authority to establish a non-bypassable charge.

Because the benefits of BioMAT program are shared by all Californians, it is only equitable that the costs of the program are shared by all Californians.

Pub. Util. Code § 399.20 expressly directs electrical corporations to offer BioMAT as a tariffed program subject to the Commission’s jurisdiction.
D.14-12-081 directs the IOUs to procure bioenergy generation in accordance with the procurement requirements established pursuant to Pub. Util. Code
§ 399.20(f)(2)(A).

The Commission’s limited oversight over non-IOU LSEs’ procurement may present problems in assessing the value of a project's attributes and cost allocation.

D. 19-12-004 removed the requirement that Category 2 – Other Agriculture projects be located on agricultural premises. In absence of that requirement, the program loses a distinguishing factor between Category 1 and Category 2 Other Agriculture because some agricultural waste could also be potentially considered food processing waste or organic waste diversion.

The CEC has developed facility annual Common Carrier Pipeline reports that directed biogas systems must submit to maintain their RPS eligibility status.

 It is reasonable to require facilities to also submit annual Common Carrier Pipeline reports to the Buyer as part of their Annual Fuel Attestations so that Buyers can confirm project fuel use and power purchase agreement fuel use compliance by matching reported directed biogas usage with biomethane injection data.

The IOU’s request to require monthly reporting requirements, consistent with materials required by the CEC, is appropriate and reasonable.

It is reasonable to provide more operational flexibility to sellers through revised Guaranteed Energy Production and Contract Quantity requirements.

It is reasonable to waive the Performance Tolerance Band Forecasting Penalty for the first year of a BioMAT facility’s operation.

BioMAT’s prohibition against the use of non-BioMAT fuel to service parasitic load is stricter than the rest of the RPS program and can add cost and complexity to system integrity operations.

It is reasonable to limit the allowance of fossil fuel usage in station service load because consuming fossil fuels would result in greater greenhouse gas emissions that add to the global carbon budget and exacerbate the threat of climate change.

BioMAT program eligibility has already been determined and is not an issue within the scope of the staff proposal.

A Life Cycle Assessment (LCA) tool will allow the Commission to quantify the emissions impact of its BioMAT program and describe the environmental benefits to the state. It will also introduce the Commission to using LCA methodologies in the context of energy programs and policy. It will not be used to determine eligibility for BioMAT.

The proposed deadline requirements will provide consistency to the program, lead to timely execution of contracts, and ensure that projects are moved out of the queue after price acceptance, so that the price adjustments properly represent project development within the BioMAT categories.

The CEC RPS Eligibility Guidebook describes eligibility and compliance rules that apply to all RPS-eligible projects, including BioMAT projects. The BioMAT tariff and PPA contain separate and additional rules and requirements that apply to BioMAT projects.

Eligibility for BioMAT is consistent with the RPS program as defined in the RPS Eligibility Guidebook; however, RPS eligibility is not sufficient for BioMAT eligibility.

The “strategic location” $300,000 cost threshold is not a limit on reimbursement that a project developer may receive pursuant to CAISO’s tariff, or other tariff, for network transmission upgrade costs.

Conclusions of Law

The staff proposal to revise the BioMAT program end date to
December 31, 2025 should be adopted.

All the changes to the PPA adopted in this decision should apply to new contracts. For contracts that are executed but not yet operational, the IOUs should give the sellers the option of keeping the existing contracts terms or executing a contract amendment that is consistent with the changes adopted in this decision.

It is appropriate for the Commission to exercise its broad authority to impose a non-bypassable charge on all customers in each IOU’s service territory in order to support the BioMAT program.

The administration of the BioMAT non-bypassable charge should be modeled off the tree mortality non-bypassable charge, established in D.18-12-003.

The staff proposal allowing all load-serving entities to procure under the BioMAT program should not be adopted.

In order to clarify how to distinguish between Category 1 “municipal organic waste division” and “food processing” feedstocks versus Category 2 “other agriculture” feedstocks, staff proposal to distinguish a project’s category by the feedstock’s commercial source, as defined by NAICS, should be adopted.

BioMAT projects using “directed biogas” must submit their annual Common Carrier Pipeline report submitted to the CEC to the Buyer as part of their Annual Fuel Attestation.

Applicable BioMAT projects using common carrier pipelines should provide monthly reporting to the IOUs, consistent with those documents required by the California Energy Commission for RPS compliance.

The BioMAT Contract and Tariff should be amended so that the Guaranteed Commercial Operation Date (GCOD) is 36 months from the Contract Execution Date with the potential for a 6-month extension.

140 percent of the Contract Quantity should be delivered over two consecutive years for the first two years of the BioMAT contract and 180% of contracted energy must be delivered every two years for remaining years. Projects should be allowed to increase contract quantity once in first two years of the contract and decrease contract quantity annually throughout the contract.

Waiving the forecasting penalty for the first year should alleviate costs for small projects.

In order to provide a BioMAT project with the flexibility to use alternate fuels, if it must, while protecting ratepayers from potentially funding the use of fossil fuels, projects should attest to total fuel input for all on-site energy generation (Million British Thermal Units (MMBTUs)) and fuel input from BioMAT eligible feedstock (MMBTUs). The facility should also discount their invoice by a prorated amount based on a ratio of non-BioMAT eligible energy to total energy generation.

The applicable telemetry requirement, as specified by the governing interconnection standard (e.g. Electric Rule 21 or the Wholesale Distribution Access Tariff), should be followed.

Public Advocates Office’s recommendation that the seller must verify proper meter programming to account for losses and provide annual attestations for continued verification as a reasonable safeguard against costs to ratepayers should be adopted.

The Commission should authorize the Director of Energy Division to form a Technical Working Group with the goal of developing a project-specific lifecycle greenhouse gas emissions reduction model to quantify the net GHG impacts of BioMAT project operations. In forming the working group, Energy Division should solicit participants from parties, state agencies, and academia.

Because the proposed deadline requirements will provide consistency to the program, lead to timely execution of contracts, and ensure that projects are moved out of the queue after price acceptance, they should be adopted.

The proposed queue management procedures should ensure consistency among the IOUs for managing the BioMAT program and help effective management of the project queue.

ORDER

**IT IS ORDERED** that:

1. Not later than 45 days after the effective date of this decision, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego
Gas & Electric Company must each file with Energy Division and serve on the service list of this proceeding a Tier 2 Advice Letter with all the revisions to their Bioenergy Market Adjusting (BioMAT) tariffs, standard contracts, and all ancillary documents, necessary to implement the revisions to the BioMAT program as listed in Section 4 of this decision. The Advice Letter must include both a clean, fully revised final copy of each document, as well as a copy of each document, redlined to show the changes made to conform to the requirements of this decision.
2. Not later than the first business day of the month after the Advice Letters including the tariff, standard contract, and all ancillary documents necessary to revise the Bioenergy Market Adjusting Tariff (BioMAT) program are approved for each of Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company must each begin executing contracts and accepting program participation requests under the revised BioMAT tariff and contract, and must offer amendments to existing contracts for projects that are not yet operational in accordance with this decision. The contracts may be filed as Tier 2 Advice Letters, if no other changes are made to the contracts. If other changes are made, the contract amendments must be filed as Tier 3 Advice Letters.
3. Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company shall each file their BioMAT Non-bypassable Charge rate design and implementation plan along with its request to establish a BioMAT Non-bypassable Charge Balancing Account via Tier 2 Advice Letter within 30 days from the issuance of this decision. Once the BioMAT Non-bypassable Charge rate design, implementation plan, and BioMAT
Non-bypassable Charge Balancing Account are approved by the Commission, all future BioMAT costs shall be allocated to all customers.
4. The Director of Energy Division is authorized to take appropriate steps, commencing not later than six months after the issuance of this decision, including but not limited to, holding a workshop to explore possible standards and format to establish a technical working group with the goal of developing a project-specific lifecycle greenhouse gas emissions reduction model to quantify the net greenhouse gas impacts of the Bioenergy Market Adjusting Tariff program project operations.

Rulemaking 18-07-003 remains open.

This order is effective today.

Dated August 27, 2020, at San Francisco, California.

MARYBEL BATJER

 President

LIANE M. RANDOLPH

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

GENEVIEVE SHIROMA

 Commissioners

1. The RPS program is codified at Pub. Util. Code § 399.11-399.32. [↑](#footnote-ref-2)
2. The provisions of SB 1122 are codified at Pub. Util. Code § 399.20(f). [↑](#footnote-ref-3)
3. Category 3 generation facilities use sustainably harvested forest biomass fuel (D.14-12-081
at 83-85) and/or high hazard zone fuel (as modified by D.16-10-025 at 10). [↑](#footnote-ref-4)
4. The Joint CCAs consist of California Choice Energy Authority, Marin Clean Energy, Peninsula

Clean Energy Authority, Pioneer Community Energy, and Sonoma Clean Power Authority. [↑](#footnote-ref-5)
5. Phoenix Energy Comments at 6; BAC Comments at 5. [↑](#footnote-ref-6)
6. SCE Reply Comments at 6. [↑](#footnote-ref-7)
7. PG&E Reply Comments at 13. [↑](#footnote-ref-8)
8. The “program end date” means that participants may not accept the offered contract price after this date. [↑](#footnote-ref-9)
9. D.14-12-081 at 3 and 71. [↑](#footnote-ref-10)
10. Public Advocates Office Comments at 3; Joint Environmental Groups Comments at 3. [↑](#footnote-ref-11)
11. D. 14-12-081 at 71. [↑](#footnote-ref-12)
12. SCE Comments at 2. [↑](#footnote-ref-13)
13. Joint CCAs Reply Comments at 2. [↑](#footnote-ref-14)
14. Shell Comments at 3. [↑](#footnote-ref-15)
15. Shell Comments at 3. [↑](#footnote-ref-16)
16. AReM/DACC Comments at 3-5. [↑](#footnote-ref-17)
17. AReM/DACC Comments at 6. [↑](#footnote-ref-18)
18. Public Advocates Office Comments at 4. [↑](#footnote-ref-19)
19. And *see*, Pub. Util. Code Section 365.1(c)(2). [↑](#footnote-ref-20)
20. PG&E Reply Comments at 3. [↑](#footnote-ref-21)
21. Joint CCAs Reply Comments at 3. [↑](#footnote-ref-22)
22. CBEA Reply Comments at 2. [↑](#footnote-ref-23)
23. SCE Comments at 3. [↑](#footnote-ref-24)
24. SDG&E Comments at 3. [↑](#footnote-ref-25)
25. Dairy Cares Reply Comments at 3. [↑](#footnote-ref-26)
26. PG&E Comments at 3. [↑](#footnote-ref-27)
27. Phoenix Energy Comments at 5. [↑](#footnote-ref-28)
28. Dairy Cares further states that “[these wastes] are appropriately treated as food processing waste consistent with CPUC agricultural tariffs and the North American Industry Classification System. Peach pits and olive pits result from further ‘processing’ of peaches and olives in the canning process.” (Dairy Cares Reply Comments at 4.) [↑](#footnote-ref-29)
29. PG&E Comments at 4; SDG&E Comments at 5. [↑](#footnote-ref-30)
30. SDG&E Reply Comments at 6. [↑](#footnote-ref-31)
31. FCE Reply Comments at 3. [↑](#footnote-ref-32)
32. FCE Reply Comments at 3. [↑](#footnote-ref-33)
33. SCE Reply Comments at 5 and 6. [↑](#footnote-ref-34)
34. FCE Comments at 4. [↑](#footnote-ref-35)
35. SDG&E Comments at 2; SCE Comments at 6. [↑](#footnote-ref-36)
36. BAC Comments at 6; CBEA Reply Comments at 3; SNC Comments at 3; Phoenix Energy Comments at 6; Wisewood Energy Reply Comments at 4. [↑](#footnote-ref-37)
37. PG&E Comments at 4-6; SCE Comments at 7. [↑](#footnote-ref-38)
38. SCE Comments at 7. [↑](#footnote-ref-39)
39. Joint Environmental Groups at 5. [↑](#footnote-ref-40)
40. D.14-12-081 at 69. [↑](#footnote-ref-41)
41. FCE Comments at 5. [↑](#footnote-ref-42)
42. SNC Comments at 3. [↑](#footnote-ref-43)
43. Wisewood Energy Comments at 4; CBEA Comments at 3; FCE Comments at 5. [↑](#footnote-ref-44)
44. FCE Comments at 5-6. [↑](#footnote-ref-45)
45. SCE Reply Comments at 10. [↑](#footnote-ref-46)
46. Wisewood Energy Comments at 4. [↑](#footnote-ref-47)
47. SCE Reply Comments at 10. [↑](#footnote-ref-48)
48. Renewables Portfolio Standard Eligibility Ninth Edition (Revised). California Energy Commission. January 2017. CEC-300-2016-006-ED9-CMF-REV. https://efiling.energy.ca.gov/getdocument.aspx?tn=217317 [↑](#footnote-ref-49)
49. *See* Phoenix Energy Comments at 7; FCE Comments at 6; CBEA Comments at 3; Wisewood Energy Comments at 5. [↑](#footnote-ref-50)
50. SCE Comments at 8. [↑](#footnote-ref-51)
51. PG&E Reply Comments at 10; SCE Reply Comments at 7. [↑](#footnote-ref-52)
52. PG&E Comments at 6. [↑](#footnote-ref-53)
53. Joint Environmental Groups Reply Comments at 3-4. [↑](#footnote-ref-54)
54. The invoice is what the seller provides to the IOU regarding the amount of energy (or electricity) sold and the payment (monetary) amount owed for that energy. [↑](#footnote-ref-55)
55. BAC Comments at 7. [↑](#footnote-ref-56)
56. Dairy Cares Comments at 4. [↑](#footnote-ref-57)
57. SDG&E Comments at 2. [↑](#footnote-ref-58)
58. PG&E Comments at 7. [↑](#footnote-ref-59)
59. Wisewood Energy Comments at 6; BAC Comments at 7; SNC Comments at 4; CBEA Comments at 4; Phoenix Energy Comments at 7. [↑](#footnote-ref-60)
60. SCE Comments at 10. [↑](#footnote-ref-61)
61. SCE Comments at 10. [↑](#footnote-ref-62)
62. SDG&E Comments at 2. [↑](#footnote-ref-63)
63. PG&E Comments at 7. [↑](#footnote-ref-64)
64. Public Advocates Office Comments at 7-8. [↑](#footnote-ref-65)
65. Phoenix Energy Comments at 7; Wisewood Energy Comments at 6. [↑](#footnote-ref-66)
66. National Fuel Cell Research Center Comments at 4. [↑](#footnote-ref-67)
67. CBEA Comments at 5. [↑](#footnote-ref-68)
68. BAC Comments at 7-8; Joint Environmental Groups Reply Comments at 6; Placer County APCD Comments at 2. [↑](#footnote-ref-69)
69. Phoenix Energy Comments at 8; BAC Comments at 9; CBEA Comments at 5. [↑](#footnote-ref-70)
70. Phoenix Energy Comments at 8. [↑](#footnote-ref-71)
71. Dairy Cares Comments at 4. [↑](#footnote-ref-72)
72. Phoenix Energy Comments at 8; FCE Comments at 8. [↑](#footnote-ref-73)
73. FCE Comments at 8. [↑](#footnote-ref-74)
74. PG&E Comments at 7-8. [↑](#footnote-ref-75)
75. FCE Comments at 8; SCE Comments at 11. [↑](#footnote-ref-76)
76. SCE Comments at 11. [↑](#footnote-ref-77)
77. PG&E Comments at 8. [↑](#footnote-ref-78)
78. CBEA Comments at 5. [↑](#footnote-ref-79)
79. CBEA Comments at 5. [↑](#footnote-ref-80)
80. Placer APCD Comments at 3. [↑](#footnote-ref-81)
81. Joint Environmental Groups Reply Comments at 8. [↑](#footnote-ref-82)
82. SCE Comments at 12. [↑](#footnote-ref-83)
83. D. 14-12-081 at Conclusion of Law 41. [↑](#footnote-ref-84)
84. D. 18-11-004 at 20. [↑](#footnote-ref-85)
85. D. 18-11-004 at Finding of Fact 10. [↑](#footnote-ref-86)
86. IOU Comments on PD at 9. [↑](#footnote-ref-87)
87. IOU Comments on PD at 6. [↑](#footnote-ref-88)
88. BAC Comments on PD at 6. [↑](#footnote-ref-89)
89. IOU Comments on PD at 11. [↑](#footnote-ref-90)