**COUNCIL AGENDA:** **8/25/20**
**FILE:** **20-930**
**ITEM:** **6.1**

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

# Memorandum

**TO:** HONORABLE MAYOR AND CITY COUNCIL

**FROM:** Lori Mitchell

**SUBJECT:** **SEE BELOW**

**DATE:** August 10, 2020

Approved D.DSyL

Date 8/13/20

**SUBJECT: INTEGRATED RESOURCE PLAN AND POWER PROCUREMENT**

## RECOMMENDATION

Adopt a resolution:

(a) Approving two portfolios to be submitted to the California Public Utilities Commission as part of the 2020 Integrated Resource Plan as follows:
   (1) Portfolio resulting in 46 million metric tons of carbon emissions from the electric system by 2030.
   (2) Portfolio resulting in 38 million metric tons of carbon emissions from the electric system by 2030 as the preferred portfolio.

(b) Amending Subsection A of Resolution No. 78711 to modify some of the criteria for the 2018 Integrated Resource Plan approved by City Council, and approving 2020 Integrated Resource Plan criteria that prioritize building additional renewable resources to meet state and local low-carbon goals and CPUC regulatory requirements.

(c) Authorizing the Director of Community Energy to use the findings from the Integrated Resource Plan modeling analysis to finalize, approve, and submit to the California Public Utilities Commission the 2020 Integrated Resource Plan; provided that such final plan reflects the criteria and includes the two portfolios approved by City Council herein; and provided further that the Director will submit the final 2020 Integrated Resource Plan to City Council pursuant to an information memorandum within ten days of filing the plan with the California Public Utilities Commission.

(d) Subject to the Energy Risk Management Policy, the appropriation of funds, and Risk Oversight Committee approval of all contracts with a duration of five years or more, increasing the authority granted to the Director of Community Energy or her designee for the procurement of:

(1) Long-term renewable energy by $500,000,000 for a total not to exceed amount of $1,500,000,000 in aggregate in Calendar Years 2024 through 2043; and

(2) Short- and medium-term power supply products, other than Resource Adequacy products by $212,000,000 to an amount not to exceed $275,000,000 in aggregate in Calendar Years 2024 through 2032.

(e) Amending Resolution No. 79109 to authorize the Director of Community Energy or her designee to use $130,000,000 previously authorized for long-term power supply contracts for the Calendar Years 2021 through 2023 for either long-term or short-term power supply products other than Resource Adequacy; provided that, energy procurement shall not exceed the coverage ratios established in the Risk Management Regulations.

## OUTCOME

Amending the 2018 Integrated Resource Plan ("IRP") Criteria approved in Resolution No. 78711, approving the 2020 IRP Criteria and portfolios, and authorizing the Director to file the 2020 IRP with the California Public Utilities Commission ("CPUC") will enable San José Clean Energy ("SJCE") to meet its 2020 IRP compliance obligation.

Approving the procurement authority will allow SJCE to meet: (1) SJCE's entire anticipated power needs in 2021; (2) 80 percent of SJCE's anticipated power needs in 2022 and 2023; and (3) 20 percent of SJCE's anticipated power needs in 2024 through 2032. The authority will also allow SJCE to enter into a further long-term agreement for 225 megawatts ("MW") currently under negotiation,[1] and to add an additional 100 MW of renewables and 50 MW of storage, for a total of approximately 600 MW of renewables and associated storage. These recommendations are consistent with SJCE's 2020 IRP and Risk Management Policy and Regulations.

## EXECUTIVE SUMMARY

SJCE is required to file a 2020 IRP with the CPUC on September 1, 2020. An IRP is a long-term planning tool to meet forecasted energy demand using both supply and demand side resources to ensure reliable electric service to customers in the most cost-effective way.[2] The CPUC's IRP proceeding requires Load Serving Entities ("LSE"s), which are Investor Owned Utilities ("IOUs"), Community Choice Aggregators ("CCAs") and other Energy Service Providers ("ESPs"), to file plans that demonstrate the LSE can meet its customers' electricity needs reliably and that the LSE will meet its greenhouse gas ("GHG") emissions target to ensure California achieves its overall GHG emissions reductions goals set forth in SB 350 and SB100.

[1] SJCE already has authority for 185MWs of this agreement but requires additional authority for 40MWs.
[22] https://blog.aee.net/understanding-irps-how-utilities-plan-for-the-future

The electric sector currently emits 60 million metric tons ("MMT") of carbon per year. The CPUC is requiring LSEs to present two plans: 1) one that would achieve the LSE's proportional share of emissions assuming the electric sector will reduce emissions to 46 MMT in 2030, and 2) a second plan that would achieve no more than the LSE's proportional share of emissions assuming the electric sector will reduce emissions to 38 MMT in 2030. Key environmental stakeholders, including the Natural Resources Defense Council and Union of Concerned Scientists, suggest that the electric sector should work towards a target of no more than 30 MMT of carbon emissions in 2030.

SJCE developed its 2020 IRP jointly with Peninsula Clean Energy ("PCE"), Clean Power Alliance ("CPA"), and East Bay Community Energy ("EBCE"). SJCE developed four portfolios consistent with the following:

1. meet its proportional share of the 46 MMT target
2. meet its proportional share of a 38 MMT target
3. meet its proportional share of a 30 MMT target
4. achieve Climate Smart San José's ("Climate Smart") goal of offering carbon neutral power starting in 2021.

The analysis highlighted several key findings:

1. Continued investment in new renewable projects, primarily solar plus storage, is the most cost-effective way to meet all of the emission reduction targets.
2. Climate Smart's goal of offering 100 percent carbon neutral power by 2021 requires SJCE to rely on existing resources and does little to meet the required statewide long-term emission reductions targets.
3. Significant investment in long-term contracts poses some risks as SJCE's load may change due to a number of factors including:
    a. Exit fee increases and increased opt-outs.
    b. Direct access expansion, where large commercial customers may choose to obtain service from another provider.
    c. Other market & technology changes.

The modeling shows that the most cost-effective emission reduction strategy is to procure more solar than is needed in the middle of the day along with sufficient battery storage to cover evening usage. It is important to note that this strategy could change as technologies mature and markets evolve. All utilities update their IRPs every few years to ensure prudent investment of ratepayer dollars. SJCE will continue to update its IRP to ensure prudent portfolio management.

SJCE recommends:

1. File the 2020 IRP with 46 and 38 MMT required portfolios and indicate a preference for the 38MMT portfolio to meet SJCE's regulatory requirements.
2. Amend the 2018 IRP criteria for 2020 to exclude the requirement to be 100% carbon-free in 2021. This is not required by the CPUC and including it increases the risk that SJCE is assessed penalties for non-compliance.

SJCE should continue implementing prudent portfolio management to manage regulatory and economic risks. SJCE will need to add new renewables at a measured pace to ensure SJCE's portfolio is cost-effective and does not result in excess supply. SJCE will use the information in the carbon-neutral and 30MMT portfolios to guide its procurement. Ultimately, SJCE considers that it will likely be appropriate for San José to shift the focus from continuing to pursue the Climate Smart goal of achieving carbon neutrality in the short-term (i.e., by 2021) to aggressively adding new renewables from long-term contracts (i.e., duration of ten years or more) with the goal of achieving SJCE's proportional share of a 30 MMT case by 2030. SJCE will continue to assess the results of the modeling and its alternatives in light of regulatory and market risks as it develops a proposal for the 2021 resource mix for Council consideration in the fall of 2020.

SJCE has already made significant progress toward all portfolios. SJCE has contracted for 262 MW of long-term renewables and is currently in negotiations to add another 225 MW, for a total of 487 MW, which will be ***enough renewable energy to meet 44 percent of SJCE's load in 2024***, the first year when all of these resources are anticipated to be operational. SJCE will also continue to add short-term renewable and GHG-free resources to meet council approved portfolio content goals.

The IRP modeling shows that to reduce emissions to the 38 MMT level, SJCE should add additional renewable resources by 2030 as follows:

- 100 MW of wind
- 320 MW of solar
- 200 MW of battery storage

To continue to make progress towards this goal, while also balancing the need to add renewables at a measured pace, SJCE requests an increase in the Director of Community Energy's ("Director") procurement authority. This additional authority would allow SJCE to add:

(1) long-term contracts for another 140 MW of renewables (40 MW for the contract under negotiation and 100 MW for additional resources) paired with 50 MW of battery storage. ***Together with SJCE's signed contracts and contracts under negotiation, this represents 54 percent of SJCE's load.***

(2) medium-term energy contracts to continue to build SJCE's portfolio and take advantage of attractive forward pricing.

SJCE will return to City Council in the fall with additional recommendations for SJCE's 2021 power mix to align with the IRP recommendation, as well as provide more information on exit fee increases and recommended strategies to ensure financial stability while also continuing to make progress on achieving San Jose's Climate Smart goals.

## BACKGROUND

In accordance with CPUC Decision ("D.") 18-02-018, D.19-11-016, and D.20-03-028, all LSEs, including IOU, CCAs, and ESPs are required to submit IRPs with the CPUC. The 2020 IRP filings are due on September 1, 2020[3].

On June 26, 2018, Council approved the criteria for SJCE's 2018 IRP and directed SJCE to present an IRP to Council for approval in March of every second year. On April 7, 2020, Council amended Subsection B of Resolution No. 78711 to require approval on a date prior to submitting the IRP to the CPUC, in response to the CPUC's delay in finalizing requirements and extending deadline for submission of IRPs for the 2020 compliance year.

Section 26.50.020 of the Municipal Code states that the City may enter contracts to procure power products for a term up to twenty-five (25) years. Section 26.50.050 of the Municipal Code requires the Director of Community Energy to submit a Risk Management Policy to City Council. On May 1, 2018, the City Council approved the Energy Risk Management Policy. The Energy Risk Management Policy created a Risk Oversight Committee ("ROC") responsible for overseeing compliance with the policy. The Energy Risk Management Policy and associated Energy Risk Management Regulations set forth a risk control structure and procurement requirements that apply to SJCE procurement activities and establish requirements for the competitive procurement of power products. The ROC has been in operation since mid-2018.

On June 4, 2019, City Council authorized the Director to negotiate and execute long-term Power Purchase Agreements ("PPAs") for new renewable projects in an amount not to exceed $50,000,000 annually and $1,080,000,000 in aggregate from 2020 through 2043. On April 7, 2020, City Council adopted a resolution that increased the authority of the Director or her designee for the procurement of Resource Adequacy products by $76,200,000, from $461,800,000 to an amount not to exceed $538,000,000 in aggregate, in calendar years 2021 through 2043; and increased the authority for procurement of power supply products, other than Resource Adequacy products, by $393,300,000, from $690,000,000 to an amount not to exceed $1,083,300,000 million in aggregate, in calendar years 2020 through 2026.

[3] D. 18-02-018 Decision Setting Requirements for Load Serving Entities Filing Integrated Resource Plans.
D. 19-11-016 Decision Requiring Electric System Reliability Procurement For 2021-2023.
D. 20-03-0282019-2020 Electric Resource Portfolios To Inform Integrated Resource Plans and Transmission Planning. Retrieved from CPUC website: https://apps.cpuc.ca.gov/apex/f?p=401:1:0

## ANALYSIS

### IRP Requirements

California state law requires all LSEs (IOUs, CCAs, and ESPs) to prepare and submit an IRP to the CPUC [4] every two years. The CPUC's IRP proceeding is an "umbrella" planning proceeding to consider all of the CPUC's electric procurement policies and programs, and ensure California has a safe, reliable, and cost-effective electricity supply.[5] The proceeding is intended to ensure that LSEs meet targets that allow the electricity sector to contribute to California's economy-wide GHG emissions reduction goals.

The CPUC requires LSEs to develop a ten-year look ahead at system needs in their IRPs, which include the reliability of the overall electric system, as well as the identification of specific areas with transmission limitations and flexibility needs such as those related to resources needed to integrate renewables.[6] The CPUC requires LSEs to present their supply plans through 2030, and to demonstrate that they meet their applicable GHG emissions targets determined by the CPUC to achieve state-wide carbon targets for the electric sector. To comply with the IRP, the CPUC requires LSEs to complete and submit three documents:[7] the IRP Narrative Template, the Resource Data Template, and the Clean System Power Calculator.

#### *Required Templates*

*Narrative Template*: This document should provide a written description of the approach to completing the IRP, including a description of the analytical work, results of the analysis, and plan of action.

*Resource Data Template*: This document is an Excel workbook to report existing energy and capacity contracts and identify the volumes of planned energy and capacity contracts that are indicated from the analysis as necessary to contribute to the 46 MMT and 38 MMT portfolios. The CPUC uses this document to analyze and aggregate individual entities' IRP portfolios.

*Clean System Power Calculator:* The document is also an Excel workbook. It is used to calculate the estimated GHG and criteria air pollutant emissions associated with the 46 MMT and 38 MMT resource portfolios detailed in the Resource Data Template. This workbook calculates the CPUC-determined implied emissions values associated with each type of generating resource. The CPUC uses this document to check that each entity meets the required GHG targets.

[4] the Senate Bill (SB) 350. Public Utilities Code Sections 454.51 and 454.52.
[5] https://www.cpuc.ca.gov/irp/
[6] D. 18-02-018 p. 3.
[7] D. 18-02-018, 19-11-016, and 20-03-028 define these filing requirements.

### *Required Assumptions*

The CPUC requires its jurisdictional entities to use certain standardized inputs and assumptions. The required assumptions include:

Load forecast: Each LSE is required to use the CPUC-approved, California Energy Commission (CEC)-developed 2019 Integrated Energy Policy Report (IEPR) demand forecast update, as modified by CPUC Rulemaking 16-02-007. The 2019 IEPR forecast identified annual retail sales for entities to 2030; then added and subtracted load to reflect the CEC's forecast for the expansion of Additional Achievable Energy Efficiency (AAEE), behind-the-meter solar PV generation, behind-the-meter combined heat & power generation, other self-generation, time of use rate effects, electric vehicle expansion, and other transport electrification. Since this forecast was developed in 2019, it does not consider any of the more recent load forecasting staff have completed due to COVID-19, the economic downturn, and shelter-in-place.

Baseline resources: These represent generating resources that are currently online or are contracted to come online during the IRP's planning timeframe. This list includes generating resources inside and outside California, but within the Western Electricity Coordinating Council (WECC).

Candidate resources: These represent resources that have not yet been built or contracted. The CPUC provides the types of future generating resources that may be included in entities' portfolios and when those resources may be available. The eligible resource types are natural gas generation (of various turbine and engine technologies), renewables (biomass, geothermal, solar PV, onshore wind, offshore wind), energy storage and demand response. The CPUC identified certain geographic assumptions related to the placement of these potential resources; the resources could be in California or out of state with eligible regions tied to existence or planned expansion of transmission lines.

Costs: The CPUC used its own pro forma financial model to create levelized fixed costs for each candidate resource type. These costs are then used as inputs to model to establish the least-cost portfolio.

Operating Assumptions: The CPUC inputs resource-specific operating costs. Components of the operational costs are aggregated costs for classes of generation resources, unit commitment costs, costs associated with dispatching resources for energy or ancillary services, and transmission costs based on zones (i.e. costs to move electricity over the transmission system in WECC).

Resource Adequacy Requirements: The CPUC assumptions require a 15% planning reserve margin, consistent with the rules in place for System Resource Adequacy for CPUC-jurisdictional entities. The CPUC also provides assumptions around how much Resource Adequacy ("RA") value certain resources will provide. These assumptions are provided for solar, wind and lithium-ion batteries.

GHG Emissions and Renewable Portfolio Standard: The 46 MMT and 38 MMT scenarios represent two different 2030 statewide electric sector GHG targets used to develop least-cost resource portfolios. The CPUC evaluated other potential GHG scenarios (including a 30 MMT scenario) before finalizing their selections.

***Reference System Plan***

As part of the IRP process, the CPUC developed a Reference System Plan ("RSP") which represents the total mix of resources at the system-level that the CPUC modeling shows is the most cost-effective way to achieve the 46 MMT scenario. The RSP was formally adopted by the CPUC; following that, it is sent to the California Independent System Operator ("CAISO") for inclusion in the CAISO's annual Transmission Planning Process.

The RSP includes four important elements. First, it identifies the 2030 statewide electric sector GHG planning target (in this case, 46 MMT). Second, it recommends a portfolio of resources that the CPUC believes represents the least-cost, least risk strategy to achieve the GHG target. These resources are identified based on the CPUC's required inputs and assumptions, described above. Third, a GHG planning price is reported that represents the marginal cost of GHG abatement associated with the RSP. Fourth, near-term CPUC policy actions are incorporated with the stated intention of ensuring results from the IRP modeling inform other CPUC proceedings.

***Preferred Portfolios and Process Subsequent to Submission of LSE IRPs***

Key environmental advocates participating in the 2020 IRP process are advocating that the CPUC establish a lower emissions target of 30 MMT for the electric sector in 2030, stressing the importance of progress towards reducing GHG emissions and arguing that the additional cost of a 30 MMT case is not materially higher than the 46 MMT case. In response to these comments, the CPUC required in D.20-03-028 that LSEs file portfolios resulting in no more than their proportional share of GHG emissions in a 38 MMT case for the electric sector.

LSEs can present either the 46 MMT or the 38 MMT as their Preferred Plan; that is, the plan they intend to implement. If an LSE submits a Preferred Plan that is more aggressive than the 38 MMT case, the LSE must explain how it will ensure reliability given the larger proportion of renewables, and hence the more flexible resources that are needed to meet evening demand.

The CPUC will review the IRPs submitted by all LSEs, conduct modeling that aggregates all of these IRPs, and evaluate achievement of applicable GHG reduction, Renewable Portfolio Standard ("RPS"), and reliability requirements. The CPUC may use the IRP process to provide further policy guidance and to require additional procurement if the CPUC finds that combined plans are insufficient to meet California's reliability requirements or to achieve California's environmental goals. The CPUC is also considering penalties associated with IRPs[8].

[8] Draft Resolution E-5080 would approve a citation program enforcing compliance with the filing requirements of IRPs by Load-Serving Entities. Retrieved from CPUC website 8/3/20:
https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M342/K417/342417805.PDF

## SJCE's IRP Process

During the previous 2018 IRP cycle, the CPUC expressed concern that some CCAs suggested they would use local and not state required plans for procurement planning, which would erode the integrity of the statewide planning process.[9] Additionally, the CPUC was concerned that individual resource build out in plans did not sufficiently address renewables integration issues with respect to California's reliability requirements.[10]

To address these concerns and improve planning, SJCE joined with three other CCAs to jointly develop their 2020 IRPs. The three CCAs that joined SJCE in this effort were Peninsula Clean Energy ("PCE"), Clean Power Alliance ("CPA"), and East Bay Community Energy ("EBCE"). These CCAs represent approximately 10 percent of California's load and 50 percent of CCA load. In this coordinated process, the load, resources, power needs, and expansion plans of all participating CCAs were developed and assessed together to understand interactions between the plans and ensure that the CCAs do not all plan to use or build the same resources. The CCAs also developed disaggregated plans to accommodate local requirements and provide for submission of individual plans as required by the CPUC.

### *Production Cost Modeling*

SJCE, PCE, EBCE, and CPA retained Siemens to complete production cost modeling and risk analysis to develop their 2020 IRPs. Production cost modeling involves using an hourly assessment of load and resources to identify the resources each LSE must add to meet its load and its regulatory and policy objectives in the most cost-effective way over the period studied. The CPUC does not require LSEs to use production cost modeling to prepare their IRPs, but it is generally considered a standard tool for utility planning. Siemens used production cost modeling to identify least cost portfolios to meet increasingly stringent environmental requirements. In addition, the CCAs directed Siemens to test how the portfolios perform under a range of conditions, including market and fuel prices, hydrology, and other variables (stochastic analysis).

The CPUC requires LSEs to use CPUC assumptions to prepare IRP portfolios. These assumptions include LSE load (which includes load growth/decline assumptions such as electrification and energy efficiency) and resource prices. SJCE used these assumptions to prepare the 2020 IRP, but asked Siemens to compare the CPUC's assumptions to Siemens assumptions used to advise clients. Siemens determined that the CPUC assumptions were generally reasonable but will use stochastic analysis to assess the impact of alternative assumptions.

Consistent with CPUC requirements, SJCE directed Siemens to prepare portfolios to achieve SJCE's proportional share of two emissions cases: 46 MMT by 2030 and 38 MMT by 2030. In addition, SJCE directed Siemens to create portfolios that achieve: 1) the Climate Smart goal of

[9] D. 19-04-040 Decision Adopting Preferred System Portfolio and Plan for the 2017-2018 Integrated Resource Cycle , p. 17. Retrieved from CPUC website: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M287/K437/287437887.PDF
[10] D. 19-04-040 p.105

offering carbon neutral power by 2021; and 2) SJCE's proportional share of a 30 MMT of carbon emissions by 2030 case.

Siemens used its production cost model to create SJCE's four portfolios. The portfolios were then run through the CPUC's Clean System Power ("CSP") calculator. The CSP calculator calculates a carbon emissions factor that results from an LSE's power resources, taking into account the operation of the electric system in California, including estimates of power curtailments due to excess solar generation during the middle of the day. Thus, the calculator estimates that even the ***SJCE portfolio intended to achieve carbon neutrality on an annual basis in 2021 will result in emissions. This is because carbon neutrality in 2021 is an annual goal, not a goal to match load each hour of the day with 100 percent carbon-free power.*** A carbon-free goal on an hour by hour basis rather than on an annual basis would be significantly more challenging and expensive and would eliminate the advantages of operating within a regional system.

Table 1 shows the key results of the production cost model which include the resource additions each portfolio requires by 2030, in addition to SJCE's current long-term contracts and the wind contract currently under negotiation. It also shows the carbon emissions that would result in 2030 from each portfolio of resources. The modeling shows the primary strategy to reducing emissions in the electric sector is to add both more solar and storage to our portfolio. It is also important to note that SJCE cannot add sufficient new resources quickly enough to achieve carbon neutrality in 2021 as project development and construction typically takes a few years. To achieve this goal SJCE would need to procure attributes from existing resources.

**Table 1**: IRP Model Results

| Portfolio | **Solar added to SJCE's portfolio by 2030 (MW)** | **Wind added to SJCE's portfolio by 2030 (MW)** | **Storage added to SJCE's portfolio by 2030 (MW)** | **Carbon Emissions in 2030 (Metric Tons of $CO_2$)** |
|---|---|---|---|---|
| **46 MMT** CPUC required case | 100 | 90 | 150 | 640,000 |
| **38 MMT** CPUC required case | 320 | 100 | 200 | 435,000 |
| **30 MMT** Environmental advocates case | 475 | 100 | 350 | 327,000 |
| Annual **carbon-neutrality** ClimateSmart case* | 700 | 100 | 400 | 238,000 |

*shows new resources needed to meet an annual carbon-neutrality goal; results in emissions as the goal is met on an annual basis not each hour of the day. These new resources cannot be added by 2021 due to project development and construction cycles. This goal could be met in 2021 by procuring attributes from existing resources but would not result in continuing to lower statewide emissions by adding new resources to the state-wide electric mix.

Figures 1 and 2 show a portfolio in 2026 with an additional 100 MW of wind, 500 MW of solar, and 250 MW of 4-hour batteries in relation to SJCE's projected load (similar to the 30MMT case) before and after adding the storage from the batteries. These charts show the impact of relying on additional solar paired with storage to meet our load and reduce emissions.

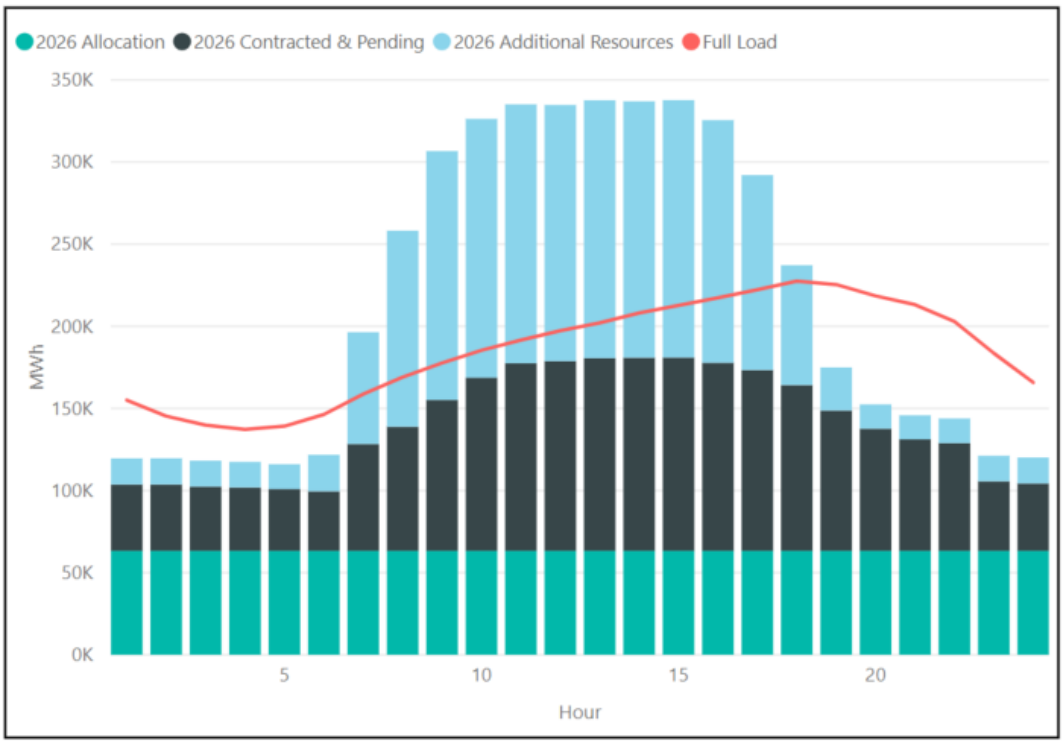


Figure 1. Increased solar procurement without storage

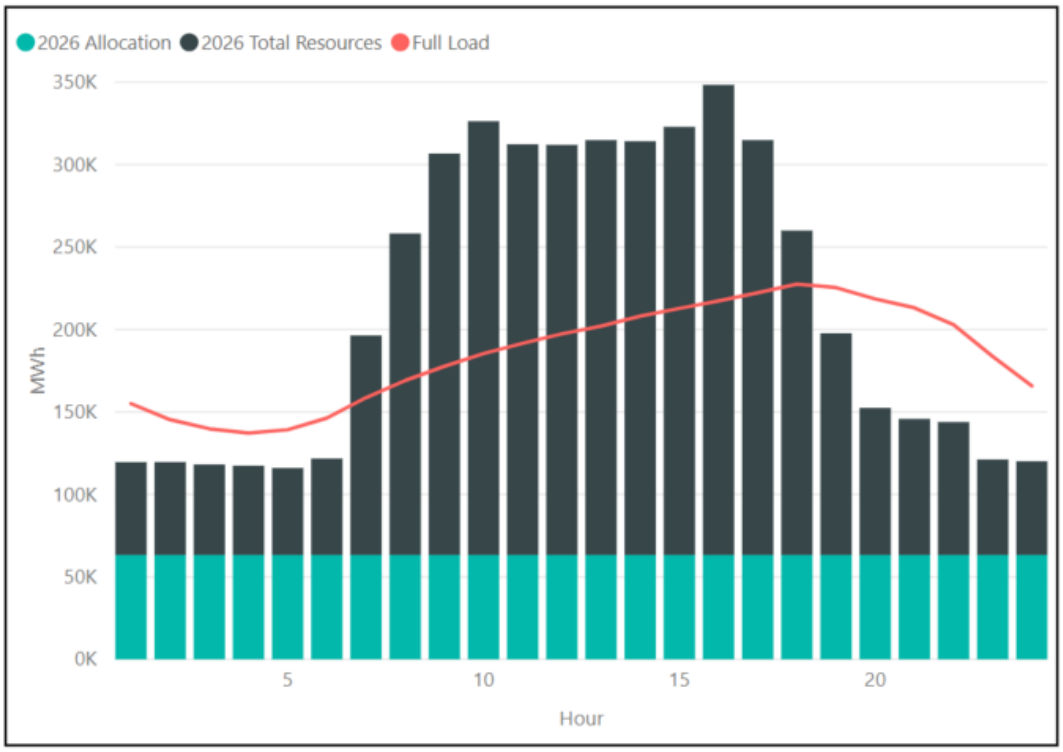


Figure 2. Increased solar procurement with storage

The modeling results shows that adding more solar paired with storage is the most cost-effective strategy. This is not surprising since solar energy is currently competitive with fossil fueled generation; however, the cost of battery storage is still changing as the technology matures. A measured build out pace is required to avoid excess procurement in the case of load loss and to leave room to benefit from technological advances and associated cost reductions.

***Recommended Portfolios to be Filed with the CPUC***

SJCE proposes to file the required 46 MMT and 38 MMT portfolios with the CPUC and to indicate that the 38 MMT portfolio is its preferred case. SJCE further proposes to use the 30 MMT and carbon-neutral by 2021 portfolios as stretch goals. ***SJCE will also bring forward recommendations in the fall of 2020 as to whether SJCE can meet the ClimateSmart goal of achieving carbon neutrality by 2021***. These recommendations will be based on the IRP results, updated information on the PCIA and associated financial impacts, as well as regulatory and market data.

SJCE does not recommend filing either the carbon-neutral by 2021 or the 30 MMT cases with the CPUC because doing so could result in unnecessary penalties. The CPUC is proposing to impose penalties related to the IRP process, the criteria and magnitude of which are currently under discussion and highly uncertain. One possible outcome is that the CPUC would impose penalties on LSEs that deviate from their "Preferred Plan" (the plan they intend to follow). SJCE considers this outcome would undermine the purpose of IRPs. An IRP should identify the

resources that will most cost-effectively meet an LSE's power needs in accordance with their goals and State requirements, but then an LSE should undertake procurement in accordance with the latest information and responses to its competitive initiatives. SJCE does not want to place its ratepayers at risk for CPUC penalties, in case SJCE possibly deviates from its stretch goals for increasing renewables and achieving carbon-neutrality.

SJCE has undertaken aggressive cost-effective long-term renewable resources procurement during its initial year and a half of operation. ***The procurement it has contracted to date, plus the contract it is currently negotiating, amount to nearly 500 MW of new renewable resources***. SJCE must continue to be financially prudent, particularly in these challenging economic circumstances.

SJCE must also ensure that it contributes to electric system reliability as it increases renewable supplies. SJCE has already taken substantial steps towards ensuring reliability by entering into a 150 MW, seven-year agreement with Calpine for the resource adequacy attributes of their existing fleet. Moreover, one of the three solar agreements SJCE has signed has an innovative requirement for fixed energy delivery from 6 a.m. to 10 p.m. every day, made possible by the addition of battery storage. A second agreement includes 10 MW of co-located batteries. Finally, SJCE is cooperating with other CCAs to investigate opportunities for longer-duration storage.

***Modifications to 2018 IRP Criteria***

On June 26, 2018, Council approved criteria for SJCE's 2018 IRP. SJCE recommends deleting the criteria that the base power mix be 100 percent GHG-free in 2021. As described above, this requirement is inconsistent with the two required portfolios and could result in increased penalties. The proposed 2020 IRP Criteria, redlined against the 2018 IRP Criteria, is included in Attachment 1.

In order to meet the 2021 carbon-neutral Climate Smart goal, SJCE would need to procure a significant amount of short-term renewable energy credits and low-carbon attributes from existing projects. These renewable energy credits ("RECs") and low-carbon attributes are available from existing resources but are more expensive than procuring power from new renewable projects through long-term contracts. ***The sale of these attributes from existing resources provides revenue to existing resources and supports their continued operation and maintenance but does not result in adding new clean resources to the California grid to reduce overall emissions.***

SJCE will present proposed resource mixes for 2021 for its various products to Council in the fall along with an evaluation of whether or not it can meet the Climate Smart 100% GHG-free goal. ***IRP results recommend focusing on increasing the renewable content of SJCE's portfolio by adding new resources through long-term contracts instead of achieving a carbon-neutrality goal by purchasing power from existing resources as the best strategy to lower state-wide emissions***. This approach also aligns with the environmental advocates' goal of reducing California's overall emissions to 30 MMT.

***Existing GHG-free resources and Exit Fees (PCIA)***

SJCE customers are already paying their share towards PG&E's existing in-state GHG-free resources through the Power Charge Indifference Adjustment ("PCIA"); however, they do not get credit for this payment in the Power Content Label. The Power Content Label is a public report required by State law of an LSE's power supply sources. SJCE and PG&E send the Power Content Label to customers each year so they better understand their power choices. SJCE currently purchases additional low-carbon resources, such as large hydroelectric or nuclear, to achieve our portfolio content goals as shown on SJCE's Power Content Label.

In D. 18-10-019, the CPUC determined that low-carbon power does not garner a price premium in the market. This decision is contrary to SJCE's experience and that of all other CCAs who routinely pay a premium for these products to achieve their portfolio content goals. To calculate the PCIA, the CPUC calculates the cost of resources in the IOU portfolios and subtracts the value of the resources that the IOUs should be able to monetize by selling the attributes to other suppliers or their customers. ***The CPUC ascribes a value to resource adequacy, renewable energy, and conventional power. However, since the CPUC does not ascribe value to the low-carbon resources*** in the IOU portfolios, it includes the full cost of these resources in the PCIA. This means that when CCAs buy low-carbon resources for their customers, their customers pay for low-carbon attributes twice: once through the PCIA, since they are not credited the value of those resources in the calculation of the PCIA or in the CCA Power Content Label, and a second time when a CCA buys low-carbon products that are represented in the Power Content Label.

CPUC staff have encouraged IOUs to voluntarily address this concern. Responding to that pressure, PG&E, the IOU serving Northern California, allowed CCAs to have their proportional share of low-carbon attributes for June through December 2020. ***This allocation saved SJCE approximately $5 million dollars and should result in a 94 percent low-carbon portfolio for SJCE in 2020 even though Council approved an 86 percent low-carbon portfolio***. Unfortunately, the decision to allocate these resources came after SJCE had already bought most of the low-carbon resources it needed to meet the Council approved resource mix. SJCE could try to sell some of the excess to recover the value for its customers, however PG&E has now allocated substantial low-carbon attributes to all the CCAs in its territory, therefore demand for these attributes is limited.

***PG&E has not committed to making a similar allocation for 2021, nor is the CPUC requiring this. If PG&E did allocate low-carbon attributes to SJCE, this would be a value of between $5,000,000 and $10,000,000 per year (depending on the price of low-carbon attributes).*** If SJCE buys all the low-carbon resources needed to meet the Climate Smart goal of offering carbon neutral power by 2021, and then PG&E allocates low-carbon attributes to SJCE, this will result in increased costs for customers.

Increased costs should be avoided particularly because of significant financial pressures related to rising PCIA rates (discussed later in this report). The PCIA Phase II working group focused on portfolio optimization recommended allocation of all products included in the PCIA to resolve

this issue. However, the recommendations of the Phase II working group have been delayed and opposed by PG&E. Regardless of whether PG&E allocates the low-carbon attributes, SJCE customers have paid for substantial low-carbon resources through the PCIA and should take credit for these payments even if the rules in place for the Power Content Label do not recognize them. SJCE has suspended purchasing additional GHG-free resources given this regulatory uncertainty.

***Impacts on Disadvantaged Communities***

San José has a very diverse community of residents and businesses including a large proportion of disadvantaged communities.[11] There are 14 census tracts that score within the top 25 percent of communities with the highest pollution burden using the CalEnviroScreen tool. Although the CalEnviroScreen tool only designates 14 census tracts as disadvantaged communities, AB 1550 passed on August 31, 2016 which amended California Health and Safety Code HSC § 3971314 designates an additional 53 census tracts within San José as low-income. These 67 census tracts are all represented in seven zip codes (95110, 95111, 95112, 95116, 95122, 95131, and 95133) and five Council districts (3, 4, 5, 7, and 8).

SJCE considers its disadvantaged communities in a number of ways. First and foremost, SJCE seeks to keep the cost of electricity as low as possible for our customers consistent with achieving our regulatory requirements and environmental goals. Program expenditures are monitored closely by SJCE staff, a Risk Oversight Committee, and Council. The City of San José has been a vocal advocate before the CPUC, other State policy makers and the public for regulatory reforms to reduce costs, optimize the value of the IOU resources, and to reduce exit fees.

SJCE also considers the environmental impact of its long-term forward procurement on affected communities. SJCE has been working with PCE and the Nature Conservancy to better assess the environmental impacts of projects bid into solicitations. In addition, each of the long-term renewable contracts SJCE has entered into includes community investment dollars. ***Funds have been allocated to the SJ Works program to place at-risk youth into internships at San José companies working on sustainability and clean energy.*** Additional funds will be similarly used to benefit disadvantaged communities.

SJCE is also exploring initiatives to reduce impacts on its disadvantaged and other communities by:

- Exploring, with input from the community, opportunities to develop and target energy programs in a manner that maximizes benefits to the San José community, such as targeting vehicle electrification to reduce traffic emissions that disproportionately adversely impact disadvantaged communities.
- Exploring opportunities for clean backup power at critical facilities, microgrids at new developments, and opportunities for group buys for solar plus storage for low- and moderate-income residents.

[11] https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

## Power Supply Procurement Authority Approval

Figure 3 shows SJCE's expected power supply costs, the total previously approved, the amounts already committed, and the requested authority in this memorandum. Attachment 2 detail the exact amounts.

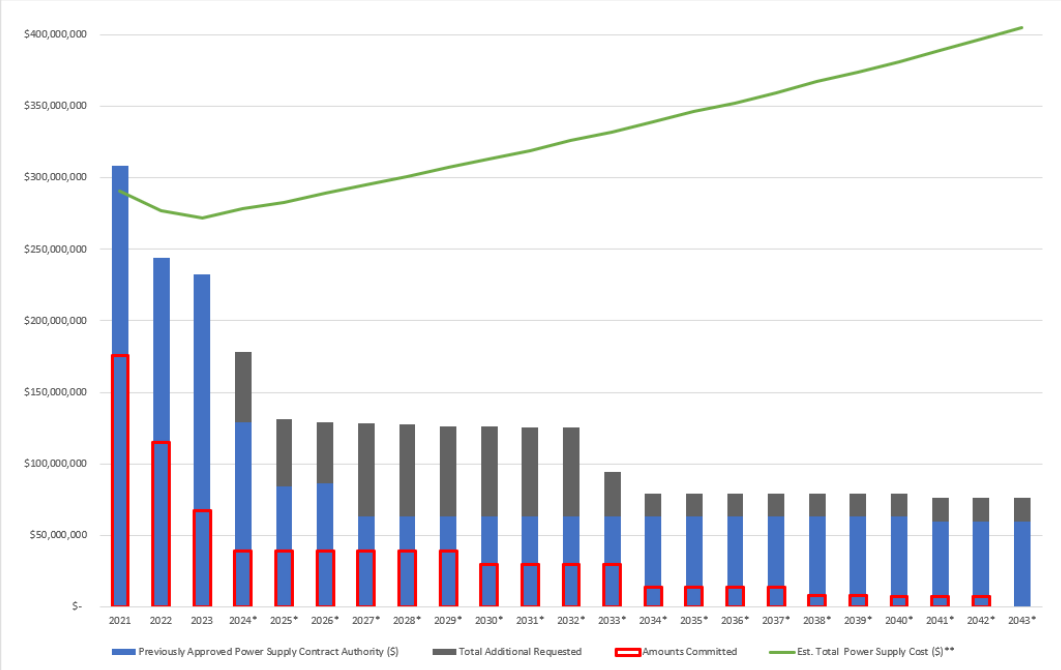


Figure 3. Summary of Existing and Requested Authority
*This period extends beyond SJCE's detailed pro-forma model. Accordingly, these numbers are early stage estimates of the annual costs each of these years.

SJCE procures power products in compliance with the Energy Risk Management Regulations. The Risk Management Regulations, as recently updated by the ROC, include the following forward procurement guidelines shown in Table 2:

**Table 2**. Power Supply Risk Management Coverage Thresholds

| | **Minimum Coverage** | **Maximum Coverage** |
|---|---|---|
| Rolling One Year Forward | 65-80% | 115%[12] |
| Rolling Two and Three Years Forward | 30% | 80% |
| Rolling Four Years forward and beyond | 0% | 70% |

SJCE generally assesses the additional authority needed to remain in compliance with the Risk Management Regulation Coverage Thresholds at the beginning of the year and requests authority for any necessary additional procurement authority in the spring. SJCE is asking for additional

[12] The Risk Management Regulations permit SJCE to buy up to 115% of the energy supply needed to meet its expected load to mitigate the risk of expensive procurement in the spot market during high cost periods resulting from unpredictable load increases. For example, load increases materially when the temperature increases; therefore, SJCE needs authority to procure power in meet unexpected load increases.

procurement authority now because COVID-19 has somewhat depressed power prices and SJCE seeks to take advantage of this condition in fall 2020. SJCE has also been in conversations with renewable and battery developers seeking to use their existing and planned projects to offer innovative products focused on the evening hours. SJCE has an open RFP with PCE for innovative renewable energy products. SJCE also seeks to layer in attractively priced power through contracts that may extend up to 10 years.

SJCE procurement will be in accordance with all Risk Management Regulation requirements including transacting with authorized counterparties, within pre-authorized credit and concentration limits, and using authorized Edison Electric Institute ("EEI") and Western System Power Pool ("WSPP") agreements.[13] SJCE will seek approval by the ROC for any contracts five years or longer.

***Allocation of Utility Resources included in the PCIA***

As described above, the CPUC is currently considering a proposal that would allocate to LSEs their proportional share of the portfolio of resources they pay for through the PCIA.[14] This proposal was developed after extensive negotiations between the IOUs, CCAs, and Direct Access providers, but it is currently opposed by PG&E. The CPUC's final decision is currently scheduled for fall 2020. ***If approved, the resource allocation could occur as soon as 2022 or 2023.***

The CPUC has not required the IOUs to inform LSEs of the volume of resources available for allocation. Through participation in CPUC proceedings, CCAs have obtained preliminary, nonbinding information about the GHG-free and RPS resources that may be available for allocation, but no information has been made available about volume or characteristics of RA that may be allocated to CCAs. Using this information, SJCE preliminarily estimated the impact of utility allocations to our portfolio over the next decade.

***Figures 4 and 5 show the percentage of RPS (Renewable) and GHG-free power SJCE would likely meet with the resources SJCE already has under contract, the additional procurement authority requested in this memo, and allocations from PG&E***. One chart shows these percentages if PG&E only allocates GHG-free resources included in the PCIA, but not the RPS resources. The second chart shows these percentages if PG&E allocates both the GHG-free resources and the RPS resources included in the PCIA.

The blue lines represent the carbon neutral percentages SJCE would achieve assuming our load does not change and if it is reduced by 20%. The amount of renewable power varies from 45% to 85% depending on whether SJCE receives an allocation and how load may change. In 2023 and 2024, the percentage of carbon neutral power may be higher than 100% if SJCE is allocated both RPS and GHG-free power**.** However, ***in 2026, the percentage of carbon neutral power drops***

[13] See Attachment 1 for key terms in the EEI and WSPP agreements.
[14] Final Report of Working Group 3 Co-Chairs: Southern California Edison (U-338e), California Community Choice Association, And Commercial Energy. Retrieved from CPUC website 8/3/20: https://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=335710541

***significantly due to the decommissioning of diablo canyon nuclear power plant.*** SJCE would no longer be allocated GHG-free attributes from this resource once it is offline. The decommissioning of this power plant should also reduce PCIA fees, although it is not clear this will occur given that PCIA has historically risen.

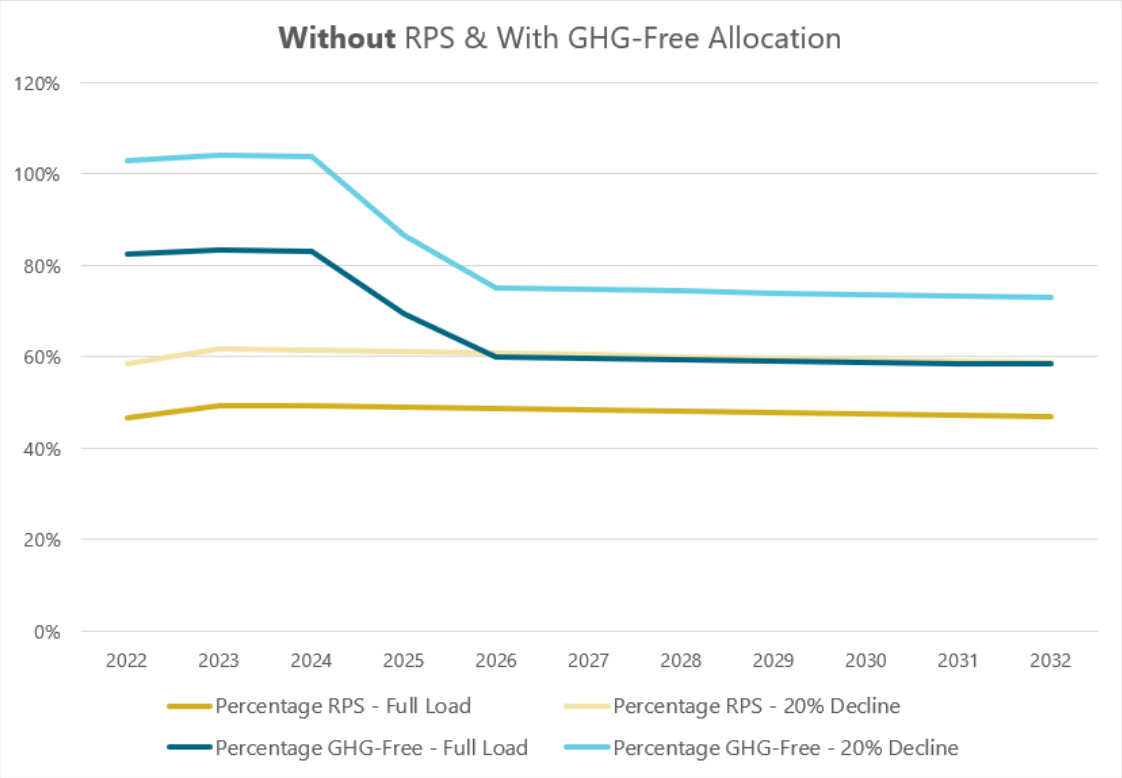


Figure 4. SJCE's expected percent of RPS and GHG-free power with an allocation of PCIA GHG-free resources only

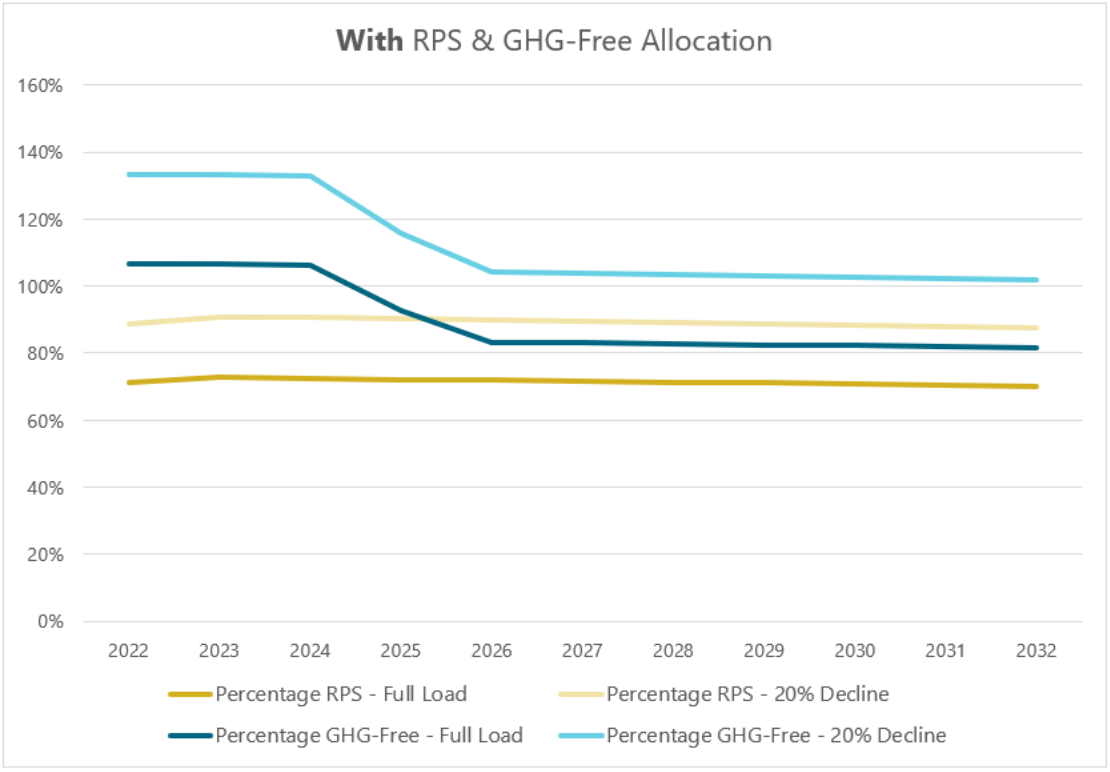


Figure 5. SJCE's expected percent of RPS and GHG-free power with an allocation of PCIA GHG-free & RPS resources.

As currently proposed, both the GHG-free and the RPS allocations would be voluntary rather than mandatory. However, if an LSE rejects the GHG-free allocation, it gets no credit for the value of these resources in the PCIA, whereas if an LSE rejects the RPS allocation, it gets a financial credit, intended to reflect the current market value of the resources, against the cost of the RPS resources in the PCIA. In other words, if an LSE rejects a GHG-free allocation, its customers will continue to pay for GHG-free resources in the PCIA and will get no benefit for this payment. However, if an LSE rejects the RPS allocation, its customers will only have to pay for the above market costs of the RPS resources in the PCIA, rather than the full cost of those resources.

Until the allocation of PCIA resources is resolved, it is prudent for SJCE to reserve room for the allocation of resources from PG&E. As shown in Figures 4 and 5, these allocations could significantly affect SJCE's portfolio mix. They also show that ***if these PCIA resources are allocated, SJCE will come very close to achieving the ClimateSmart carbon-neutrality goal throughout the next decade***. SJCE's recommendations for additional procurement authority consider these impacts.

***Long-Term Renewable Procurement Including Storage***

SJCE recommends an increase in its authority to enter into long-term contracts with renewables and storage by $500,000,000 to $1,500,000,000 in aggregate from 2024 through 2043. Any such

agreements would include the key terms listed in Attachment 3, with modifications developed in coordination with the City Attorney, and subject to approval of the full final agreements by the ROC.

SJCE has contracted for portions of three new solar projects, as shown in Table 3 below:

**Table 3 – Long Term Contracts**

| Project | Term | Technology | MW | Online Date | Location (County) |
|---|---|---|---|---|---|
| 1 | 20 years | Solar + Storage | 100 + 10 | 12/31/2022 | Fresno |
| 2 | 15 years | Solar | 100 | 12/31/2022 | Kern |
| 3 | 12 years | Solar | 62 | 12/31/2021 | Kern |

The additional authority, coupled with the authority SJCE has already obtained, would allow SJCE to add another 325 MW of renewables and 50 MW of co-located battery storage. Figure 6 below illustrates that the proposed procurement fits within SJCE's existing load.

Figure 6 illustrates, as is also shown in figure 5, that if SJCE were offered and accepted an allocation of its share of PG&E's RPS and GHG-free resources, with the additional procurement requested in this memo, SJCE's GHG-free resources would slightly exceed SJCE's total load in 2023 and 2024. However, this would only occur if SJCE accepted all of the GHG-free and RPS offered to SJCE in the allocations. SJCE could reject some or all of the RPS allocation and instead get credit against the PCIA. Moreover, as shown in Figures 4 and 5, exceedances would only happen in 2023 and 2024.

Figure 6 also suggests that with the allocations and the additional procurement, SJCE's resources would exceed its load in certain hours. Figures 1 and 2 illustrate that an increased solar build out has that effect and must therefore include sufficient storage. Moreover, in the case of Figure 6, this effect is also caused by the PG&E allocation which is comprised of the attributes only (credit for RPS and GHG-free) rather than real energy with a particular delivery shape. Finally, as is shown in Figures 4 and 5, these effects will diminish after 2024 when PG&E's nuclear plant is decommissioned. Nonetheless, Figures 1, 2, and 6 illustrate the importance of focusing on products with appropriate hourly delivery profiles, and the use of storage to shape renewable resources to ensure that the electric system remains in balance during all hours of the day.

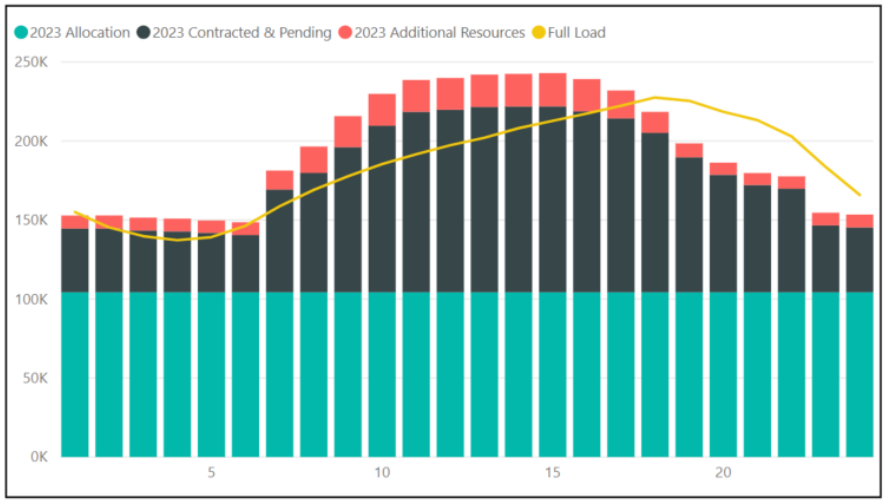

Figure 6. SJCE's recommended long-term renewables procurement

***Short and Medium-Term Power Supply Recommendations (Excluding RA)***

SJCE seeks to increase the authority to procure short and medium-term power supply products, other than RA, to an amount not to exceed $275,000,000 in aggregate for calendar years 2024 through 2032. This is an increase of $212,000,000 from the previously authorized $63,000,000 for this period.

SJCE seeks to enter some medium-term contracts to take advantage of energy prices that have been depressed by the economic slowdown occasioned by COVID and to have some cost certainty over the medium-term. This procurement is consistent with the Risk Management Regulations, and with prudent industry practice to layer in short and medium-term contracts.

***2021-2023 Procurement Authority***

SJCE seeks authority to more flexibly spend $130,000,000 previously authorized for 2021-2023. In Resolution 79109, Council authorized expenditures pursuant to long-term renewable contracts in an amount not to exceed $50,000,000 annually and $1,080,000,000 from Calendar Years 2020 through 2043. Since SJCE was unable to identify cost-competitive long-term agreements commencing service before the end of 2021, SJCE now requires these funds to buy energy and short-term Renewable Energy Credits to meet its energy and renewable requirements for the years 2021 through 2023. Accordingly, SJCE is requesting City Council to amend Section 1 of Resolution 79109, to include the following language (in *italics and underlined*):

"The Director of Community Energy or her designee is hereby authorized to negotiate and execute long-term Power Purchase Agreements for renewable projects, including the key terms listed in Attachment 1 to the Memorandum from the Director dated May 22, 2019, with modifications, as appropriate, in consultation with the City Attorney and approval of the full final agreements by the Risk Oversight Committee, in an amount not to exceed $50,000,000 annually and $1,080,000,000 in aggregate from 2020 through 2043, subject to the Energy Risk Management Policy and the appropriation of funds; provided that the Director of Community

Energy or her designee may allocate an amount not to exceed $130,000,000 from 2021 through 2023 for either long-term or short-term power supply products, other than Resource Adequacy, subject to the coverage ratios established in the Risk Management Regulations."

## Market Risks

SJCE faces and continues to monitor a variety of risks in building its supply portfolio. In addition to standard utility and market risks, SJCE currently faces the following regulatory and market risks:

- Current regulations have resulted in increasing PCIA rates[15].
- The CPUC is considering expanding Direct Access.
- COVID-19 and resulting shelter-in-place orders have reduced load, which may persist in an economic recession.

### *PCIA Risk*

PG&E's PCIA has increased by 600 percent in seven years, as shown in Figure 7. This increase suggests that the approach for calculating the PCIA is deeply flawed, particularly given that during the same period, energy markets, and thus the value of PG&E's resources, have been relatively stable.

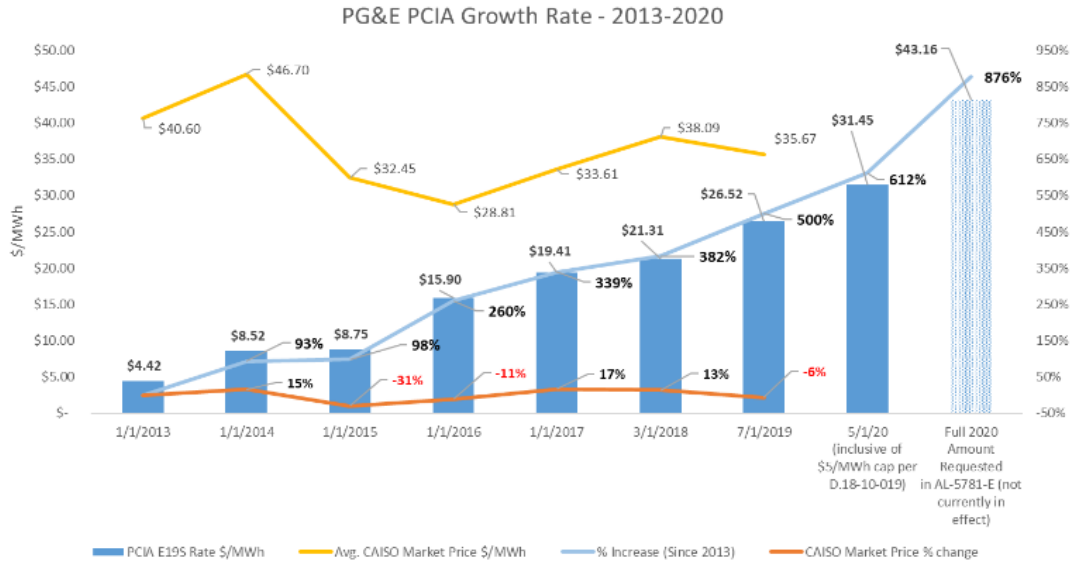


Figure 7. Increases in the PCIA since 2013

On May 27, 2020, SJCE decreased customer rates to shield customers from an increase of 14 to 24 percent in the 2020 PG&E PCIA.[16] The rate change is expected to result in approximately $20,000,000 in reduced revenue for SJCE over the next 12 months. PG&E PCIA fees, effective

[15] The PCIA is a non-bypassable charge that applies to CCA and ESP customers intended to reimburse an IOU for the above market costs of resources the IOU bought or built before the customer changed supplier.
[16] May 27, 2020, SJCE Information Council Memo, "SJCE Rate Adjustment in Response to PG&E's Rate Changes and PCIA Increase"

May 1, 2020, increased on average by about $5/MWh, up to the CPUC approved annual PCIA cost cap, for a total of approximately $31.70/MWh in 2020 PCIA fees.

PG&E's total 2020 cost projections and revenue requirements identified in Advice Letter 5781-E are expected to exceed the 2020 revenue amount they may collect from CCAs under the 2020 PCIA cap. As a result, PG&E is expected to begin recovering deferred 2020 PCIA costs in 2021. Depending on how the CPUC interprets its requirement for a PCIA cap, collection of the 2020 PCIA deferred costs ***could increase average PCIA costs across SJCE customer classes to approximately $43.40/MWh in 2021 (an increased cost to SJCE customers of approximately $46,000,000 in 2021).*** The CPUC will determine 2021 PCIA cost increases and implementation details in the fall of 2020.

To shield customers from increasing PG&E PCIA costs in 2020 and 2021, and to maintain SJCE financial stability in the face of the potential $46,000,000 in reduced program revenues, SJCE is exploring modifying its 2021 portfolio mix and rates. These portfolios are being calibrated to meet SJCE's financial reserve requirements and align with IRP results. ***The power mix and rate options will be refined, and recommendations presented for City Council consideration in fall 2020.***

As a potential cost-saving measure for 2021, the renewable energy content of SJCE's base product offering, GreenSource, might be reduced. Another consideration could be to change the pricing of GreenSource relative to PG&E's generation rates. For example, other CCAs have not always offered cheaper rates but instead offered competitive prices with a higher renewable content. Another option could be to maintain a discount to PG&E in GreenSource, while adding a third product offering[17] to customers that has higher renewable content. One potential impact of a change in product offerings and pricing is a possible increase in customer opt-outs. SJCE has conducted customer surveys of residential, commercial, and industrial customers to begin to assess customer preferences. Those surveys will continue in the coming months, and the launch of any new SJCE product would be accompanied by a substantial outreach campaign.

### *Direct Access Expansion Risk*

Direct Access is the ability of customers to choose another supplier to provide electricity. These suppliers are known as Electric Service Providers (ESPs). Direct Access first became available in California under deregulation in 2000, and combined with a variety of factors, led to a crisis in the electricity sector. In response, the Legislature suspended Direct Access in 2001. It later re-opened a restricted program for non-residential customers, with participation capped by year. However, in 2018, SB 237 directed the CPUC to expand Direct Access by 4,000 GWh and to prepare a report to evaluate the impacts of re-opening the program to all non-residential customers.[18]

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[17] SJCE will continue to offer TotalGreen, its 100 percent renewable product.

[18] Senate Bill 237 and Order Instituting Rulemaking to Implement Senate Bill 237 Related to Direct Access, Retrieved from CPUC website 8/3/20:
https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M275/K804/275804783.PDF

If the Direct Access program is expanded, SJCE could lose additional customer load. Commercial customers currently make up half of SJCE's total load. When Direct Access was made available in California in 2000, approximately 10 percent of load in San José's territory left PG&E to be served by an ESP. When the CPUC expanded Direct Access in 2019, SJCE lost 1.9 percent of its total load. A CPUC report for the Legislature on whether to fully re-open Direct Access was delayed in June 2020 and will likely be released later this year. SJCE is evaluating product offerings to retain these customers and will bring forward recommendations in the fall of 2020.

### *COVID-19 Load Impacts*

SJCE's load has been affected by the impacts of COVID-19. As shown in Figure 8, SJCE's average load loss since mid-March 2020 has been -6.7 percent. SJCE is planning for continued impacts of COVID-19 and a likely COVID-19 induced recession. The 2009 recession reduced energy consumption by 4.9 percent over an 18-month period.

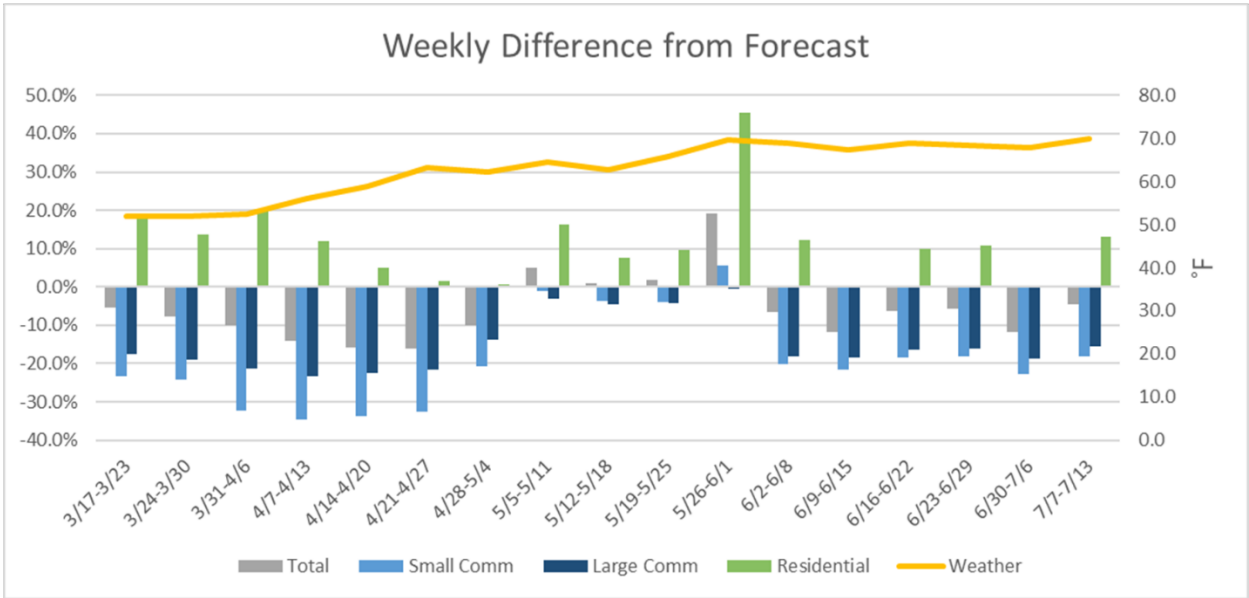

Figure 8. Weekly Load Change since mid-March

## CONCLUSION

SJCE seeks authority to submit the 2020 IRP to the CPUC including two portfolios, a 46 MMT portfolio and a 38 MMT portfolio indicating that the 38MMT portfolio is its preferred portfolio. SJCE also seeks to modify the 2018 IRP criteria and establish 2020 IRP criteria without a requirement that SJCE be carbon neutral in 2021 as this requirement is inconsistent with the required CPUC portfolios.

SJCE requests City Council to delegate authority to the Director for moderate additional procurement, subject to continuing monitoring and evaluation of risks and ongoing oversight and approval of final contracts of five years or longer by the ROC.

## EVALUATION AND FOLLOW-UP

Staff will finalize and file the 2020 IRP with the CPUC consistent with the input of City Council. Staff will submit the final 2020 IRP to Council in an informational memo within ten days of filing the plan with the CPUC.

Staff will add all executed contracts to its quarterly summaries of executed short, mid, and long-term power supply contracts. This report will include: the counterparty name, the product type, the energy delivery period, the agreement date, and the total contracted amount for the quarter.

Staff will return to City Council in the fall of 2020 with recommendations for the power mix for SJCE products in 2021 as well as to provide more information on exit fee increases and recommended strategies to ensure financial stability including whether or not to delay the goal of achieving carbon-neutrality in 2021.

## CLIMATE SMART SAN JOSE

The recommendations in this memo are inconsistent with one or more Climate Smart San José energy, water, or mobility goals; specifically, that SJCE achieve carbon-neutrality in 2021. The CPUC requires SJCE to present two plans for its 2020 IRP: 1) a plan that would achieve the SJCE's proportional share of emissions assuming the electric sector will reduce emissions to 46 MMT in 2030, and 2) a second plan that would achieve no more than SJCE's proportional share of emissions assuming the electric sector will reduce emissions to 38 MMT in 2030. The electric sector currently emits 60 MMT of carbon per year.

The IRP results indicate that SJCE should focus on adding new renewable resources that will transition to a low-carbon electricity sector over the long term rather than procuring carbon-free attributes from existing resources. SJCE recommends deleting the 2018 IRP criteria for the 2020 IRP that SJCE be carbon neutral in 2021 as this requirement is inconsistent with the required CPUC portfolios. The recommendations will allow SJCE to meet its regulatory requirements and to focus on continuing to add new renewable resources to SJCE's portfolio that will assist in transitioning to a low-carbon electricity sector over the long-term.

## PUBLIC OUTREACH

The SJCE, EBCE, PCE and CPA held an informational meeting on the IRP for the renewable trades on December 19, 2019 and have updated environmental advocates as the process has progressed through weekly calls between CCA's and the environmental community.

This memorandum will be posted on the City's website for the August 25, 2020 City Council meeting.

## COORDINATION

This memorandum has been coordinated with the City Attorney's Office and the City Manager's Budget Office.

## COMMISSION RECOMMENDATION/INPUT

Due to COVID-19, the Clean Energy Community Advisory Committee ("CECAC") has not had a quorum to meet, and SJCE has been operating with constraints resulting from shelter-in-place orders. Thus, the CECAC has been unable to provide a recommendation or input due to the lack of a quorum for its meetings.

## FISCAL/POLICY ALIGNMENT

The recommended actions support Climate Smart San José (action 1.1 Transition to a Renewable Energy Future) and the Envision San José 2040 General Plan (Goal MS-2 and Appendix 8: GHG Reduction Strategy).

## COST SUMMARY/IMPLICATIONS

Approving the recommendation will allow SJCE to procure power supply needs in line with approved Risk Management Regulations to meet: (1) SJCE's entire anticipated power needs in 2021 (fiscal years 2020-2021 through 2021-2022); (2) 80 percent of SJCE's anticipated power needs in 2022 and 2023 (fiscal years 2021-2022 through 2023-2024); and (3) 20 percent of SJCE's anticipated power needs in 2024 through 2032 (fiscal years 2023-2024 through 2032-2033). The City appropriates funding annually to cover the projected energy costs. The payments under these contracts are made based on the actual energy delivered, subject to the appropriation of funds.

## CEQA

Not a Project, File No. PP17-003, Agreements/Contracts (New or Amended) resulting in no physical changes to the environment.

The approval requested is not a "project" subject to CEQA because it involves the administrative activity of purchasing power that will result in no physical changes to the environment. Even if this approval were a "project" subject to CEQA, the approval requested would be exempt because the activity of purchasing power is purely a financial transaction, and any construction that may occur by a private party in the future in reliance on this approval would be subject to CEQA review by a governmental agency at that time when actual details of any physical proposal would be more than speculative.

/s/
LORI MITCHELL
Director, Community Energy

For questions, please contact Lori Mitchell, Director of Community Energy Department, at (408) 535-4880.

Attachment 1 – Proposed 2020 IRP Proposed Criteria Redlined Against the 2018 IRP Criteria
Attachment 2 – Requested Additional Procurement Authority
Attachment 3 – Key Terms and the Edison Electric Power Purchase Agreement

**ATTACHMENT 1 – 2020 IRP Proposed Criteria Redlined Against the 2018 IRP Criteria**

- SJCE will offer at least one power mix option with a rate equal to or less than Pacific Gas and Electric Company (PG&E)'s rates.
- SJCE will offer at least one power mix option at 10 percent or more renewables than PG&E.
- SJCE will offer at least one power mix option that is 100 percent renewable.
- SJCE's initial resource mix will include a proportion of renewable energy exceeding California's prevailing RPS procurement mandate.
- ~~*By 2021, SJCE's residents will have a base power mix that is 100 percent free of GHG emissions.*~~
- SJCE will maintain, at minimum, low- income programs at the same level as PG&E.
- After becoming established, SJCE will develop local programs including energy efficiency, demand response, distributed generation and renewable energy.
- SJCE will encourage distributed renewable generation in the local area through the offering of a net energy metering tariff; a standardized power purchase agreement or "Feed- In Tariff"; and other creative, customer- focused programs targeting increased access to local renewable energy sources.
- By 2030, SJCE's base offering will be at least 60 percent renewable.
- By 2030, San José will have 668 MW of local renewables and by 2040, San José will be the world's first one GW solar city.
- By 2030, 60 percent of all passenger vehicles in the City will be electric.
- By 2020, 100 percent of new homes will be ZNE, and by 2030, 25 percent of existing homes will be energy efficient and all- electric.
- SJCE will comply with all applicable State Law including RPS, Resource Adequacy (RA) requirements, and GHG reduction requirements.
- SJCE will identify the disadvantaged communities SJCE will serve, describe the impacts of such service on the disadvantaged communities, and set forth SJCE's plans to benefit these communities.

**Attachment 2** - Requested Additional Procurement Authority

| CY | Est. Total Energy Costs | Est. Total Energy Costs - RMR Max | Requested Additional Renewable Authority ($) | Requested Additional Energy Authority ($) | Amounts Committed | Est. Total Power Supply Cost ($)** | Previously Approved Power Supply Contract Authority ($) | Total Additional Requested | Total Approved + Additional Requested Authority ($) |
|---|---|---|---|---|---|---|---|---|---|
| 2021 | $ 194,000,000 | $ 223,000,000 | $ - | $ - | $ 176,000,000 | $ 291,000,000 | $ 308,100,000 | $ - | $ 308,100,000 |
| 2022 | $ 176,000,000 | $ 140,000,000 | $ - | $ - | $ 115,000,000 | $ 277,000,000 | $ 244,200,000 | $ - | $ 244,200,000 |
| 2023 | $ 168,000,000 | $ 134,000,000 | $ - | $ - | $ 67,000,000 | $ 272,000,000 | $ 232,100,000 | $ - | $ 232,100,000 |
| 2024* | $ 168,000,000 | $ 34,000,000 | $ 36,000,000 | $ 13,000,000 | $ 39,000,000 | $ 278,000,000 | $ 129,200,000 | $ 49,000,000 | $ 178,500,000 |
| 2025* | $ 168,000,000 | $ 32,000,000 | $ 36,000,000 | $ 11,000,000 | $ 39,000,000 | $ 283,000,000 | $ 84,550,000 | $ 47,000,000 | $ 130,800,000 |
| 2026* | $ 168,000,000 | $ 31,000,000 | $ 35,000,000 | $ 8,000,000 | $ 39,000,000 | $ 289,000,000 | $ 86,050,000 | $ 43,000,000 | $ 129,300,000 |
| 2027* | $ 168,000,000 | $ 30,000,000 | $ 35,000,000 | $ 30,000,000 | $ 39,000,000 | $ 295,000,000 | $ 63,300,000 | $ 65,000,000 | $ 128,000,000 |
| 2028* | $ 168,000,000 | $ 30,000,000 | $ 34,000,000 | $ 30,000,000 | $ 39,000,000 | $ 301,000,000 | $ 63,300,000 | $ 64,000,000 | $ 127,500,000 |
| 2029* | $ 168,000,000 | $ 30,000,000 | $ 33,000,000 | $ 30,000,000 | $ 39,000,000 | $ 307,000,000 | $ 63,300,000 | $ 63,000,000 | $ 126,900,000 |
| 2030* | $ 168,000,000 | $ 30,000,000 | $ 33,000,000 | $ 30,000,000 | $ 30,000,000 | $ 313,000,000 | $ 63,300,000 | $ 63,000,000 | $ 126,300,000 |
| 2031* | $ 168,000,000 | $ 30,000,000 | $ 33,000,000 | $ 30,000,000 | $ 30,000,000 | $ 319,000,000 | $ 63,300,000 | $ 63,000,000 | $ 125,800,000 |
| 2032* | $ 168,000,000 | $ 30,000,000 | $ 32,000,000 | $ 30,000,000 | $ 30,000,000 | $ 326,000,000 | $ 63,300,000 | $ 62,000,000 | $ 125,300,000 |
| 2033* | $ - | | $ 32,000,000 | $ - | $ 30,000,000 | $ 332,000,000 | $ 63,300,000 | $ 32,000,000 | $ 94,600,000 |
| 2034* | $ - | | $ 16,100,000 | $ - | $ 14,000,000 | $ 339,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2035* | $ - | | $ 16,100,000 | $ - | $ 14,000,000 | $ 346,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2036* | $ - | | $ 16,100,000 | $ - | $ 14,000,000 | $ 352,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2037* | $ - | | $ 16,100,000 | $ - | $ 14,000,000 | $ 359,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2038* | $ - | | $ 16,100,000 | $ - | $ 8,000,000 | $ 367,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2039* | $ - | | $ 16,100,000 | $ - | $ 8,000,000 | $ 374,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2040* | $ - | | $ 16,100,000 | $ - | $ 7,000,000 | $ 381,000,000 | $ 63,300,000 | $ 16,100,000 | $ 79,500,000 |
| 2041* | $ - | | $ 16,100,000 | $ - | $ 7,000,000 | $ 389,000,000 | $ 60,000,000 | $ 16,100,000 | $ 76,200,000 |
| 2042* | $ - | | $ 16,100,000 | $ - | $ 7,000,000 | $ 397,000,000 | $ 60,000,000 | $ 16,100,000 | $ 76,200,000 |
| 2043* | $ - | | $ 16,100,000 | $ - | $ - | $ 405,000,000 | $ 60,000,000 | $ 16,100,000 | $ 76,200,000 |
| **Total** | $ - | | $ 500,000,000 | $ 212,000,000 | | | $ 2,150,400,000 | $ 712,000,000 | $ 2,862,500,000 |

** This period extends beyond SJCE's detailed pro-forma. Accordingly, these numbers are preliminary estimates of the annual costs each of these years.*

*** Includes all power supply costs: RPS, RA, RA for D. 19-11-016, GHG-free, Energy, and CAISO fees.*

*Totals may round column values.*

**Attachment 3**

**Key Terms and the Edison Electric Power Purchase Agreement**

## Overview

Under a long-term power purchase agreement ("PPA"), the buyer or "offtaker" agrees to purchase the energy output from an energy facility, as well as its associated environmental attributes and capacity (if any), for a term of 15 to 20 years at a specified price. A PPA may also provide a hedge against price volatility in the energy market. The seller will not transfer ownership of the facility to the buyer.

The seller is an independent energy producer that will develop, own, and operate an energy project. A PPA provides an assured source of revenue that is essential for the project to become viable. Technically, the energy output from a renewable energy resource could be sold without a long-term agreement by placing bids into the spot market. However, these spot transactions are exposed to fluctuating market prices, which are too unpredictable for investors and developers to commit financing to build the project.

From the buyer's perspective, the spot market is also very risky. Prices can spike and rise well above long-term contract prices. PPAs provide certainty regarding the price of energy and associated attribute for a given period of time.

## Cover Page

While all of the information contained in the PPA is important, the Cover Page summarizes certain key terms that are essential to the Agreement. The Cover Page will be completely and accurately filled out before signing the PPA.

## Parties

- **Seller**: The seller will usually be a limited liability company that owns and operates the renewable energy facility that will generate the energy and attributes sold to the buyer. Generally, the seller would only own one asset, which is the facility named in the PPA. The seller will likely be a subsidiary of a well-established and reputable renewable energy developer.
- **Buyer**: The buyer will be the City of San José doing business as SJCE, which is permitted under California law to buy energy at wholesale because it is certified as a Community Choice Aggregator. SJCE will purchase the renewable energy facility's output to serve San José's load. SJCE will not own the facility.

## Product

Under the PPA, SJCE will purchase some or all of the following products: (1) energy, (2) environmental attributes, and (3) capacity.

- **Energy**: SJCE will purchase from seller all of the electricity that is generated by a specific renewable energy facility (e.g., solar, wind, geothermal, battery storage), or a separately metered portion of a facility.
- **Environmental Attributes**: The production of renewable energy avoids adverse environmental effects such as emission of carbon or other air pollutants. SJCE will also buy other attributes associated with the production of renewable energy that have a value because they are necessary to comply with California renewable energy and greenhouse gas reduction programs.
- **Capacity**: Capacity, also known as resource adequacy ("RA") attributes, is the ability to provide adequate supply during peak load and generation outage conditions. All utilities and CCAs are required to procure RA to meet their customer load obligations.

**Term**

The term of the PPA allows the seller to amortize the debt and obtain a return on the investment. The PPA is effective and binding on the date that it is signed.

Upon the execution of the PPA, the seller will set out to build the facility. The PPA will include milestones to track construction progress and provide SJCE with liquidated damages if some of those are missed. Two of the most important milestones are the Guaranteed Construction Start Date and Guaranteed Commercial Operation Date.

- **Guaranteed Construction Start Date**: This milestone requires the seller to obtain all permits, execute a construction contract, and obtain interconnection to begin construction of the project by certain date. Any delay in this milestone would cause the expected commercial operation date ("COD") to slip, so SJCE would be entitled to liquidated delay damages. These damages may be returned to the Seller if the Seller nonetheless meets the Guaranteed Commercial Operation Date. SJCE and the seller may mutually agree to extend the Guaranteed Construction Start Date.
- **Guaranteed Commercial Operation Date**: This is the date on which the project has completed all the phases required to safely operate the facility and deliver energy to the transmission system. While the PPA begins at the effective date, the term of the contract is determined by COD (*e.g.*, the seller will deliver energy for 20 years from COD). If the seller misses the Guaranteed COD, the PPA will allow for an extension (usually 120 to 180 days) and SJCE would receive liquidated delay damages. If COD is not completed by the end of the extension time, SJCE may terminate the contract and retain the development security. SJCE and the seller may also mutually agree to extend the Guaranteed COD.

**Curtailment Risk**

One of the risks associated with a long-term PPA agreement is the curtailment of output. PPAs usually include a right for either party to curtail output without paying damages and/or the energy that was supposed to be delivered.

- **Seller curtailment**: The PPA will grant the seller a right to curtail the facility's output for unplanned outages due to an emergency or force majeure.
- **Buyer curtailment**: The PPA will permit SJCE to curtail deliveries for convenience without compensating the seller up to a certain amount ("Curtailment Cap"). SJCE may want to exercise this right if market prices are negative due to an over-supply of generation on the grid. This may occur during certain hours of the year such as the Spring when there is a lot of renewable energy on the grid and load is low due to mild weather conditions. The Curtailment Cap is usually defined as a yearly output quantity equal to a predetermined number of hours. If the buyer curtailment exceeds the Curtailment Cap, the PPA requires the buyer to pay the PPA price for the curtailed generation.

**Guarantees**

PPAs include provisions that require the seller to both develop the project and guarantee performance standards for the facility once it is constructed. Those guarantees are established to protect the buyer.

- **Development Security**: This security ensures payment of liquidated damages for delays related to the Guaranteed Construction Start Date. The Development Security must be in the form of cash or a letter of credit that the seller must deliver to buyer, usually within thirty days of the effective date.
- **Performance Guarantee**. The seller must guarantee the performance of the facility by establishing a minimum amount of electricity and associated attributes that the facility is expected to produce over a period of time (usually two years). The Performance Guarantee requires the seller to pay the buyer if the project's output fails to meet the guaranteed deliveries over that period. The guarantee allows recovery of the cost of purchasing replacement power and energy related products in the market if the facility does not generate the expected energy and attributes.

**Excess Energy**

Under a PPA, the seller must specify the output (in megawatt-hours ("MWhs")) that the facility is expected to produce each year for two reasons. First, as indicated above, the seller must guarantee performance of the facility, and this expected output amount is the basis for that performance. Second, SJCE may not be interested in buying the full output of the facility if it exceeds the estimated output specified in the PPA unless the price is competitive.

To encourage the seller to make an accurate estimate of the expected output, the PPA provides for a reduced contract price for each MWh of energy in excess of the estimated annual output (generally between 105% and 125%) and a zero-dollar rate for any additional product above certain threshold (usually 125%). Also, the PPA will exempt SJCE from any obligation to compensate the seller for delivered energy that exceeds a percentage limit (usually 115%).

In other words, SJCE will have the option to buy energy in excess of the expected output at a discounted price (*e.g.*, if output is 105% to 125% of expected generation) or obtain it for free if the excess energy goes over certain output thresholds. However, SJCE has no obligation to pay the seller if the energy generated exceeds certain limits.

**Liquidated Damages**

- **Delay Damages:** Damages are assessed for each day of delay, in the amount of the Development Security divided by the maximum number of permitted delay days (usually 120). Failure to start construction within a number of days of the Guaranteed Construction Start Date may constitute an event of default, and buyer has the right to terminate the PPA and retain the Development Security.
- **Shortfall Damages:** If the facility does not meet the guaranteed output during a performance guarantee period, the seller must pay shortfall damages to the buyer. These damages compensate the buyer for the cost of replacement energy and are estimated based on: (1) the difference between the guaranteed output and the energy delivered or not delivered due to an excusable event, (2) multiplied by the positive difference, if any, of the cost of buying replacement energy and the PPA price.
- **Termination Payment:** If there is an event of default from either party, the defaulting party may have to pay a Termination Payment to the other party. These payments are usually estimated in the agreement. *Buyer default*: lost revenues for the developer for the remainder of the PPA. *Seller default*: cost that the buyer is expected to incur in buying replacement power and expenses associated with switching providers. The buyer can draw on the Performance Guarantee if the default is related to poor performance of the facility.

**Designated Fund and Appropriation of Funds**

The PPA will include provisions that will limit SJCE's liability to the Department of Community Energy's Designated Fund. This fund is used solely for SJCE's costs and expenses. Specifically, the PPA will provide that obligations under the agreement are special limited obligations of SJCE payable solely from the Designated Fund, and that those obligations shall not be a charge upon the revenues or general fund of the City of San José or upon any non-SJCE moneys or other property of the Community Energy Department or the City of San José.

The PPA will also provide that the agreement will not financially bind future governing bodies and will not constitute an obligation of future legislative bodies of the City to appropriate funds for purposes of the PPA.

**Project Attributes**

- Counterparty and experience
- Technology (solar, wind, geothermal, etc.)
- Price $/MWh
- Contract quantity (MWh)
- Commercial operation date (COD)
- Hourly generation profile
- Project capacity (MW) and RA value

- Project location & congestion costs
- Curtailment risk
- CAISO scheduling
- Use of prevailing wages for project construction
- Status of permitting & CEQA

# Master Power Purchase & Sale Agreement



Version 2.1 (modified 4/25/00)

**MASTER POWER PURCHASE AND SALES AGREEMENT**

**TABLE OF CONTENTS**

# MASTER POWER PURCHASE AND SALE AGREEMENT

## COVER SHEET

This *Master Power Purchase and Sale Agreement* ("*Master Agreement*" ) is made as of the following date: _____ ("Effective Date"). The *Master Agreement*, together with the exhibits, schedules and any written supplements hereto, the Party A Tariff, if any, the Party B Tariff, if any, any designated collateral, credit support or margin agreement or similar arrangement between the Parties and all Transactions (including any confirmations accepted in accordance with Section 2.3 hereto) shall be referred to as the "Agreement." The Parties to this *Master Agreement* are the following:

Name ("_____" or "Party A")

All Notices:

Street: _____

City: _____ Zip: _____

Attn: Contract Administration
Phone: _____
Facsimile: _____
Duns: _____
Federal Tax ID Number: _____

**Invoices:**
Attn: _____
Phone: _____
Facsimile: _____

**Scheduling:**
Attn: _____
Phone: _____
Facsimile: _____

**Payments:**
Attn: _____
Phone: _____
Facsimile: _____

**Wire Transfer:**
BNK: _____
ABA: _____
ACCT: _____

**Credit and Collections:**
Attn: _____
Phone: _____
Facsimile: _____

With additional Notices of an Event of Default or Potential Event of Default to:
Attn: _____
Phone: _____
Facsimile: _____

Name ("Counterparty" or "Party B")

All Notices:

Street: _____

City: _____ Zip: _____

Attn: Contract Administration
Phone: _____
Facsimile: _____
Duns: _____
Federal Tax ID Number: _____

**Invoices:**
Attn: _____
Phone: _____
Facsimile: _____

**Scheduling:**
Attn: _____
Phone: _____
Facsimile: _____

**Payments:**
Attn: _____
Phone: _____
Facsimile: _____

**Wire Transfer:**
BNK: _____
ABA: _____
ACCT: _____

**Credit and Collections:**
Attn: _____
Phone: _____
Facsimile: _____

With additional Notices of an Event of Default or Potential Event of Default to:
Attn: _____
Phone: _____
Facsimile: _____

The Parties hereby agree that the General Terms and Conditions are incorporated herein, and to the following provisions as provided for in the General Terms and Conditions:

Party A Tariff Tariff _____ Dated _____ Docket Number _____

Party B Tariff Tariff _____ Dated _____ Docket Number _____

---

**Article Two**

Transaction Terms and Conditions [] Optional provision in Section 2.4. If not checked, inapplicable.

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**Article Four**

Remedies for Failure to Deliver or Receive [] Accelerated Payment of Damages. If not checked, inapplicable.

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**Article Five**

Events of Default; Remedies

[] Cross Default for Party A:

[] Party A:_____ Cross Default Amount $_____

[] Other Entity:_____ Cross Default Amount $_____

[] Cross Default for Party B:

[] Party B:_____ Cross Default Amount $_____

[] Other Entity:_____ Cross Default Amount $_____

5.6 Closeout Setoff

[] Option A (Applicable if no other selection is made.)

[] Option B - Affiliates shall have the meaning set forth in the Agreement unless otherwise specified as follows:_____

_____

[] Option C (No Setoff)

---

**Article 8**

Credit and Collateral Requirements

8.1 Party A Credit Protection:

(a) Financial Information:

[] Option A
[] Option B Specify: _____
[] Option C Specify: _____

(b) Credit Assurances:

[] Not Applicable
[] Applicable

(c) Collateral Threshold:

[] Not Applicable
[] Applicable

If applicable, complete the following:

Party B Collateral Threshold: $ _____; provided, however, that Party B's Collateral Threshold shall be zero if an Event of Default or Potential Event of Default with respect to Party B has occurred and is continuing.

Party B Independent Amount: $_____

Party B Rounding Amount: $_____

(d) Downgrade Event:

[] Not Applicable
[] Applicable

If applicable, complete the following:

[] It shall be a Downgrade Event for Party B if Party B's Credit Rating falls below _____ from S&P or _____ from Moody's or if Party B is not rated by either S&P or Moody's

[] Other:
Specify:_____

(e) Guarantor for Party B:_____

Guarantee Amount:_____

8.2 Party B Credit Protection:

(a) Financial Information:

[] Option A
[] Option B Specify: _____
[] Option C Specify: _____

(b) Credit Assurances:

[] Not Applicable
[] Applicable

(c) Collateral Threshold:

[] Not Applicable
[] Applicable

If applicable, complete the following:

Party A Collateral Threshold: $ _____; provided, however, that Party A's Collateral Threshold shall be zero if an Event of Default or Potential Event of Default with respect to Party A has occurred and is continuing.

Party A Independent Amount: $_____

Party A Rounding Amount: $_____

(d) Downgrade Event:

[] Not Applicable
[] Applicable

If applicable, complete the following:

[] It shall be a Downgrade Event for Party A if Party A's Credit Rating falls below _____ from S&P or _____ from Moody's or if Party A is not rated by either S&P or Moody's

[] Other:
Specify:_____

(e) Guarantor for Party A:_____

Guarantee Amount:_____

---

**Article 10**

Confidentiality — [] Confidentiality Applicable — If not checked, inapplicable.

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**Schedule M**

[] Party A is a Governmental Entity or Public Power System
[] Party B is a Governmental Entity or Public Power System
[] Add Section 3.6. If not checked, inapplicable
[] Add Section 8.6. If not checked, inapplicable

**Other Changes** — Specify, if any: _____

IN WITNESS WHEREOF, the Parties have caused this Master Agreement to be duly executed as of the date first above written.

| Party A Name | Party B Name |
|---|---|
| By: _____ | By: _____ |
| Name: _____ | Name: _____ |
| Title: _____ | Title: _____ |

**DISCLAIMER: This Master Power Purchase and Sale Agreement was prepared by a committee of representatives of Edison Electric Institute ("EEI") and National Energy Marketers Association ("NEM") member companies to facilitate orderly trading in and development of wholesale power markets. Neither EEI nor NEM nor any member company nor any of their agents, representatives or attorneys shall be responsible for its use, or any damages resulting therefrom. By providing this Agreement EEI and NEM do not offer legal advice and all users are urged to consult their own legal counsel to ensure that their commercial objectives will be achieved and their legal interests are adequately protected.**

## GENERAL TERMS AND CONDITIONS

## ARTICLE ONE: GENERAL DEFINITIONS

1.1 "Affiliate" means, with respect to any person, any other person (other than an individual) that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such person. For this purpose, "control" means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

1.2 "Agreement" has the meaning set forth in the Cover Sheet.

1.3 "Bankrupt" means with respect to any entity, such entity (i) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it, (ii) makes an assignment or any general arrangement for the benefit of creditors, (iii) otherwise becomes bankrupt or insolvent (however evidenced), (iv) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets, or (v) is generally unable to pay its debts as they fall due.

1.4 "Business Day" means any day except a Saturday, Sunday, or a Federal Reserve Bank holiday. A Business Day shall open at 8:00 a.m. and close at 5:00 p.m. local time for the relevant Party's principal place of business. The relevant Party, in each instance unless otherwise specified, shall be the Party from whom the notice, payment or delivery is being sent and by whom the notice or payment or delivery is to be received.

1.5 "Buyer" means the Party to a Transaction that is obligated to purchase and receive, or cause to be received, the Product, as specified in the Transaction.

1.6 "Call Option" means an Option entitling, but not obligating, the Option Buyer to purchase and receive the Product from the Option Seller at a price equal to the Strike Price for the Delivery Period for which the Option may be exercised, all as specified in the Transaction. Upon proper exercise of the Option by the Option Buyer, the Option Seller will be obligated to sell and deliver the Product for the Delivery Period for which the Option has been exercised.

1.7 "Claiming Party" has the meaning set forth in Section 3.3.

1.8 "Claims" means all third party claims or actions, threatened or filed and, whether groundless, false, fraudulent or otherwise, that directly or indirectly relate to the subject matter of an indemnity, and the resulting losses, damages, expenses, attorneys' fees and court costs, whether incurred by settlement or otherwise, and whether such claims or actions are threatened or filed prior to or after the termination of this Agreement.

1.9 "Confirmation" has the meaning set forth in Section 2.3.

1.10 "Contract Price" means the price in $U.S. (unless otherwise provided for) to be paid by Buyer to Seller for the purchase of the Product, as specified in the Transaction.

1.11 "Costs" means, with respect to the Non-Defaulting Party, brokerage fees, commissions and other similar third party transaction costs and expenses reasonably incurred by such Party either in terminating any arrangement pursuant to which it has hedged its obligations or entering into new arrangements which replace a Terminated Transaction; and all reasonable attorneys' fees and expenses incurred by the Non-Defaulting Party in connection with the termination of a Transaction.

1.12 "Credit Rating" means, with respect to any entity, the rating then assigned to such entity's unsecured, senior long-term debt obligations (not supported by third party credit enhancements) or if such entity does not have a rating for its senior unsecured long-term debt, then the rating then assigned to such entity as an issues rating by S&P, Moody's or any other rating agency agreed by the Parties as set forth in the Cover Sheet.

1.13 "Cross Default Amount" means the cross default amount, if any, set forth in the Cover Sheet for a Party.

1.14 "Defaulting Party" has the meaning set forth in Section 5.1.

1.15 "Delivery Period" means the period of delivery for a Transaction, as specified in the Transaction.

1.16 "Delivery Point" means the point at which the Product will be delivered and received, as specified in the Transaction.

1.17 "Downgrade Event" has the meaning set forth on the Cover Sheet.

1.18 "Early Termination Date" has the meaning set forth in Section 5.2.

1.19 "Effective Date" has the meaning set forth on the Cover Sheet.

1.20 "Equitable Defenses" means any bankruptcy, insolvency, reorganization and other laws affecting creditors' rights generally, and with regard to equitable remedies, the discretion of the court before which proceedings to obtain same may be pending.

1.21 "Event of Default" has the meaning set forth in Section 5.1.

1.22 "FERC" means the Federal Energy Regulatory Commission or any successor government agency.

1.23 "Force Majeure" means an event or circumstance which prevents one Party from performing its obligations under one or more Transactions, which event or circumstance was not anticipated as of the date the Transaction was agreed to, which is not within the reasonable control of, or the result of the negligence of, the Claiming Party, and which, by the exercise of due diligence, the Claiming Party is unable to overcome or avoid or cause to be avoided. Force Majeure shall not be based on (i) the loss of Buyer's markets; (ii) Buyer's inability economically

to use or resell the Product purchased hereunder; (iii) the loss or failure of Seller's supply; or (iv) Seller's ability to sell the Product at a price greater than the Contract Price. Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment by a Transmission Provider unless (i) such Party has contracted for firm transmission with a Transmission Provider for the Product to be delivered to or received at the Delivery Point and (ii) such curtailment is due to "force majeure" or "uncontrollable force" or a similar term as defined under the Transmission Provider's tariff; provided, however, that existence of the foregoing factors shall not be sufficient to conclusively or presumptively prove the existence of a Force Majeure absent a showing of other facts and circumstances which in the aggregate with such factors establish that a Force Majeure as defined in the first sentence hereof has occurred. The applicability of Force Majeure to the Transaction is governed by the terms of the Products and Related Definitions contained in Schedule P.

1.24 "Gains" means, with respect to any Party, an amount equal to the present value of the economic benefit to it, if any (exclusive of Costs), resulting from the termination of a Terminated Transaction, determined in a commercially reasonable manner.

1.25 "Guarantor" means, with respect to a Party, the guarantor, if any, specified for such Party on the Cover Sheet.

1.26 "Interest Rate" means, for any date, the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in *The Wall Street Journal* under "Money Rates" on such day (or if not published on such day on the most recent preceding day on which published), plus two percent (2%) and (b) the maximum rate permitted by applicable law.

1.27 "Letter(s) of Credit" means one or more irrevocable, transferable standby letters of credit issued by a U.S. commercial bank or a foreign bank with a U.S. branch with such bank having a credit rating of at least A- from S&P or A3 from Moody's, in a form acceptable to the Party in whose favor the letter of credit is issued. Costs of a Letter of Credit shall be borne by the applicant for such Letter of Credit.

1.28 "Losses" means, with respect to any Party, an amount equal to the present value of the economic loss to it, if any (exclusive of Costs), resulting from termination of a Terminated Transaction, determined in a commercially reasonable manner.

1.29 "Master Agreement" has the meaning set forth on the Cover Sheet.

1.30 "Moody's" means Moody's Investor Services, Inc. or its successor.

1.31 "NERC Business Day" means any day except a Saturday, Sunday or a holiday as defined by the North American Electric Reliability Council or any successor organization thereto. A NERC Business Day shall open at 8:00 a.m. and close at 5:00 p.m. local time for the relevant Party's principal place of business. The relevant Party, in each instance unless otherwise specified, shall be the Party from whom the notice, payment or delivery is being sent and by whom the notice or payment or delivery is to be received.

1.32 "Non-Defaulting Party" has the meaning set forth in Section 5.2.

1.33 "Offsetting Transactions" mean any two or more outstanding Transactions, having the same or overlapping Delivery Period(s), Delivery Point and payment date, where under one or more of such Transactions, one Party is the Seller, and under the other such Transaction(s), the same Party is the Buyer.

1.34 "Option" means the right but not the obligation to purchase or sell a Product as specified in a Transaction.

1.35 "Option Buyer" means the Party specified in a Transaction as the purchaser of an option, as defined in Schedule P.

1.36 "Option Seller" means the Party specified in a Transaction as the seller of an option , as defined in Schedule P.

1.37 "Party A Collateral Threshold" means the collateral threshold, if any, set forth in the Cover Sheet for Party A.

1.38 "Party B Collateral Threshold" means the collateral threshold, if any, set forth in the Cover Sheet for Party B.

1.39 "Party A Independent Amount" means the amount , if any, set forth in the Cover Sheet for Party A.

1.40 "Party B Independent Amount" means the amount , if any, set forth in the Cover Sheet for Party B.

1.41 "Party A Rounding Amount" means the amount, if any, set forth in the Cover Sheet for Party A.

1.42 "Party B Rounding Amount" means the amount, if any, set forth in the Cover Sheet for Party B.

1.43 "Party A Tariff" means the tariff, if any, specified in the Cover Sheet for Party A.

1.44 "Party B Tariff" means the tariff, if any, specified in the Cover Sheet for Party B.

1.45 "Performance Assurance" means collateral in the form of either cash, Letter(s) of Credit, or other security acceptable to the Requesting Party.

1.46 "Potential Event of Default" means an event which, with notice or passage of time or both, would constitute an Event of Default.

1.47 "Product" means electric capacity, energy or other product(s) related thereto as specified in a Transaction by reference to a Product listed in Schedule P hereto or as otherwise specified by the Parties in the Transaction.

1.48 "Put Option" means an Option entitling, but not obligating, the Option Buyer to sell and deliver the Product to the Option Seller at a price equal to the Strike Price for the Delivery Period for which the option may be exercised, all as specified in a Transaction. Upon proper exercise of the Option by the Option Buyer, the Option Seller will be obligated to purchase and receive the Product.

1.49 "Quantity" means that quantity of the Product that Seller agrees to make available or sell and deliver, or cause to be delivered, to Buyer, and that Buyer agrees to purchase and receive, or cause to be received, from Seller as specified in the Transaction.

1.50 "Recording" has the meaning set forth in Section 2.4.

1.51 "Replacement Price" means the price at which Buyer, acting in a commercially reasonable manner, purchases at the Delivery Point a replacement for any Product specified in a Transaction but not delivered by Seller, plus (i) costs reasonably incurred by Buyer in purchasing such substitute Product and (ii) additional transmission charges, if any, reasonably incurred by Buyer to the Delivery Point, or at Buyer's option, the market price at the Delivery Point for such Product not delivered as determined by Buyer in a commercially reasonable manner; provided, however, in no event shall such price include any penalties, ratcheted demand or similar charges, nor shall Buyer be required to utilize or change its utilization of its owned or controlled assets or market positions to minimize Seller's liability. For the purposes of this definition, Buyer shall be considered to have purchased replacement Product to the extent Buyer shall have entered into one or more arrangements in a commercially reasonable manner whereby Buyer repurchases its obligation to sell and deliver the Product to another party at the Delivery Point.

1.52 "S&P" means the Standard & Poor's Rating Group (a division of McGraw-Hill, Inc.) or its successor.

1.53 "Sales Price" means the price at which Seller, acting in a commercially reasonable manner, resells at the Delivery Point any Product not received by Buyer, deducting from such proceeds any (i) costs reasonably incurred by Seller in reselling such Product and (ii) additional transmission charges, if any, reasonably incurred by Seller in delivering such Product to the third party purchasers, or at Seller's option, the market price at the Delivery Point for such Product not received as determined by Seller in a commercially reasonable manner; provided, however, in no event shall such price include any penalties, ratcheted demand or similar charges, nor shall Seller be required to utilize or change its utilization of its owned or controlled assets, including contractual assets, or market positions to minimize Buyer's liability. For purposes of this definition, Seller shall be considered to have resold such Product to the extent Seller shall have entered into one or more arrangements in a commercially reasonable manner whereby Seller repurchases its obligation to purchase and receive the Product from another party at the Delivery Point.

1.54 "Schedule" or "Scheduling" means the actions of Seller, Buyer and/or their designated representatives, including each Party's Transmission Providers, if applicable, of notifying, requesting and confirming to each other the quantity and type of Product to be delivered on any given day or days during the Delivery Period at a specified Delivery Point.

1.55 "Seller" means the Party to a Transaction that is obligated to sell and deliver, or cause to be delivered, the Product, as specified in the Transaction.

1.56 "Settlement Amount" means, with respect to a Transaction and the Non-Defaulting Party, the Losses or Gains, and Costs, expressed in U.S. Dollars, which such party incurs as a result of the liquidation of a Terminated Transaction pursuant to Section 5.2.

1.57 "Strike Price" means the price to be paid for the purchase of the Product pursuant to an Option.

1.58 "Terminated Transaction" has the meaning set forth in Section 5.2.

1.59 "Termination Payment" has the meaning set forth in Section 5.3.

1.60 "Transaction" means a particular transaction agreed to by the Parties relating to the sale and purchase of a Product pursuant to this Master Agreement.

1.61 "Transmission Provider" means any entity or entities transmitting or transporting the Product on behalf of Seller or Buyer to or from the Delivery Point in a particular Transaction.

## ARTICLE TWO: TRANSACTION TERMS AND CONDITIONS

2.1 Transactions. A Transaction shall be entered into upon agreement of the Parties orally or, if expressly required by either Party with respect to a particular Transaction, in writing, including an electronic means of communication. Each Party agrees not to contest, or assert any defense to, the validity or enforceability of the Transaction entered into in accordance with this Master Agreement (i) based on any law requiring agreements to be in writing or to be signed by the parties, or (ii) based on any lack of authority of the Party or any lack of authority of any employee of the Party to enter into a Transaction.

2.2 Governing Terms. Unless otherwise specifically agreed, each Transaction between the Parties shall be governed by this Master Agreement. This Master Agreement (including all exhibits, schedules and any written supplements hereto), , the Party A Tariff, if any, and the Party B Tariff, if any, any designated collateral, credit support or margin agreement or similar arrangement between the Parties and all Transactions (including any Confirmations accepted in accordance with Section 2.3) shall form a single integrated agreement between the Parties. Any inconsistency between any terms of this Master Agreement and any terms of the Transaction shall be resolved in favor of the terms of such Transaction.

2.3 Confirmation. Seller may confirm a Transaction by forwarding to Buyer by facsimile within three (3) Business Days after the Transaction is entered into a confirmation ("Confirmation") substantially in the form of Exhibit A. If Buyer objects to any term(s) of such Confirmation, Buyer shall notify Seller in writing of such objections within two (2) Business Days of Buyer's receipt thereof, failing which Buyer shall be deemed to have accepted the terms as sent. If Seller fails to send a Confirmation within three (3) Business Days after the Transaction is entered into, a Confirmation substantially in the form of Exhibit A, may be forwarded by Buyer to Seller. If Seller objects to any term(s) of such Confirmation, Seller shall notify Buyer of such objections within two (2) Business Days of Seller's receipt thereof, failing

which Seller shall be deemed to have accepted the terms as sent. If Seller and Buyer each send a Confirmation and neither Party objects to the other Party's Confirmation within two (2) Business Days of receipt, Seller's Confirmation shall be deemed to be accepted and shall be the controlling Confirmation, unless (i) Seller's Confirmation was sent more than three (3) Business Days after the Transaction was entered into and (ii) Buyer's Confirmation was sent prior to Seller's Confirmation, in which case Buyer's Confirmation shall be deemed to be accepted and shall be the controlling Confirmation. Failure by either Party to send or either Party to return an executed Confirmation or any objection by either Party shall not invalidate the Transaction agreed to by the Parties.

2.4 Additional Confirmation Terms. If the Parties have elected on the Cover Sheet to make this Section 2.4 applicable to this Master Agreement, when a Confirmation contains provisions, other than those provisions relating to the commercial terms of the Transaction (e.g., price or special transmission conditions), which modify or supplement the general terms and conditions of this Master Agreement (e.g., arbitration provisions or additional representations and warranties), such provisions shall not be deemed to be accepted pursuant to Section 2.3 unless agreed to either orally or in writing by the Parties; provided that the foregoing shall not invalidate any Transaction agreed to by the Parties.

2.5 Recording. Unless a Party expressly objects to a Recording (defined below) at the beginning of a telephone conversation, each Party consents to the creation of a tape or electronic recording ("Recording") of all telephone conversations between the Parties to this Master Agreement, and that any such Recordings will be retained in confidence, secured from improper access, and may be submitted in evidence in any proceeding or action relating to this Agreement. Each Party waives any further notice of such monitoring or recording, and agrees to notify its officers and employees of such monitoring or recording and to obtain any necessary consent of such officers and employees. The Recording, and the terms and conditions described therein, if admissible, shall be the controlling evidence for the Parties' agreement with respect to a particular Transaction in the event a Confirmation is not fully executed (or deemed accepted) by both Parties. Upon full execution (or deemed acceptance) of a Confirmation, such Confirmation shall control in the event of any conflict with the terms of a Recording, or in the event of any conflict with the terms of this Master Agreement.

## ARTICLE THREE: OBLIGATIONS AND DELIVERIES

3.1 Seller's and Buyer's Obligations. With respect to each Transaction, Seller shall sell and deliver, or cause to be delivered, and Buyer shall purchase and receive, or cause to be received, the Quantity of the Product at the Delivery Point, and Buyer shall pay Seller the Contract Price; provided, however, with respect to Options, the obligations set forth in the preceding sentence shall only arise if the Option Buyer exercises its Option in accordance with its terms. Seller shall be responsible for any costs or charges imposed on or associated with the Product or its delivery of the Product up to the Delivery Point. Buyer shall be responsible for any costs or charges imposed on or associated with the Product or its receipt at and from the Delivery Point.

3.2 Transmission and Scheduling. Seller shall arrange and be responsible for transmission service to the Delivery Point and shall Schedule or arrange for Scheduling services

with its Transmission Providers, as specified by the Parties in the Transaction, or in the absence thereof, in accordance with the practice of the Transmission Providers, to deliver the Product to the Delivery Point. Buyer shall arrange and be responsible for transmission service at and from the Delivery Point and shall Schedule or arrange for Scheduling services with its Transmission Providers to receive the Product at the Delivery Point.

3.3 Force Majeure. To the extent either Party is prevented by Force Majeure from carrying out, in whole or part, its obligations under the Transaction and such Party (the "Claiming Party") gives notice and details of the Force Majeure to the other Party as soon as practicable, then, unless the terms of the Product specify otherwise, the Claiming Party shall be excused from the performance of its obligations with respect to such Transaction (other than the obligation to make payments then due or becoming due with respect to performance prior to the Force Majeure). The Claiming Party shall remedy the Force Majeure with all reasonable dispatch. The non-Claiming Party shall not be required to perform or resume performance of its obligations to the Claiming Party corresponding to the obligations of the Claiming Party excused by Force Majeure.

## ARTICLE FOUR: REMEDIES FOR FAILURE TO DELIVER/RECEIVE

4.1 Seller Failure. If Seller fails to schedule and/or deliver all or part of the Product pursuant to a Transaction, and such failure is not excused under the terms of the Product or by Buyer's failure to perform, then Seller shall pay Buyer, on the date payment would otherwise be due in respect of the month in which the failure occurred or, if "Accelerated Payment of Damages" is specified on the Cover Sheet, within five (5) Business Days of invoice receipt, an amount for such deficiency equal to the positive difference, if any, obtained by subtracting the Contract Price from the Replacement Price. The invoice for such amount shall include a written statement explaining in reasonable detail the calculation of such amount.

4.2 Buyer Failure. If Buyer fails to schedule and/or receive all or part of the Product pursuant to a Transaction and such failure is not excused under the terms of the Product or by Seller's failure to perform, then Buyer shall pay Seller, on the date payment would otherwise be due in respect of the month in which the failure occurred or, if "Accelerated Payment of Damages" is specified on the Cover Sheet, within five (5) Business Days of invoice receipt, an amount for such deficiency equal to the positive difference, if any, obtained by subtracting the Sales Price from the Contract Price. The invoice for such amount shall include a written statement explaining in reasonable detail the calculation of such amount.

## ARTICLE FIVE: EVENTS OF DEFAULT; REMEDIES

5.1 Events of Default. An "Event of Default" shall mean, with respect to a Party (a "Defaulting Party"), the occurrence of any of the following:

(a) the failure to make, when due, any payment required pursuant to this Agreement if such failure is not remedied within three (3) Business Days after written notice;

(b) any representation or warranty made by such Party herein is false or misleading in any material respect when made or when deemed made or repeated;

(c) the failure to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Event of Default, and except for such Party's obligations to deliver or receive the Product, the exclusive remedy for which is provided in Article Four) if such failure is not remedied within three (3) Business Days after written notice;

(d) such Party becomes Bankrupt;

(e) the failure of such Party to satisfy the creditworthiness/collateral requirements agreed to pursuant to Article Eight hereof;

(f) such Party consolidates or amalgamates with, or merges with or into, or transfers all or substantially all of its assets to, another entity and, at the time of such consolidation, amalgamation, merger or transfer, the resulting, surviving or transferee entity fails to assume all the obligations of such Party under this Agreement to which it or its predecessor was a party by operation of law or pursuant to an agreement reasonably satisfactory to the other Party;

(g) if the applicable cross default section in the Cover Sheet is indicated for such Party, the occurrence and continuation of (i) a default, event of default or other similar condition or event in respect of such Party or any other party specified in the Cover Sheet for such Party under one or more agreements or instruments, individually or collectively, relating to indebtedness for borrowed money in an aggregate amount of not less than the applicable Cross Default Amount (as specified in the Cover Sheet), which results in such indebtedness becoming, or becoming capable at such time of being declared, immediately due and payable or (ii) a default by such Party or any other party specified in the Cover Sheet for such Party in making on the due date therefor one or more payments, individually or collectively, in an aggregate amount of not less than the applicable Cross Default Amount (as specified in the Cover Sheet);

(h) with respect to such Party's Guarantor, if any:

(i) if any representation or warranty made by a Guarantor in connection with this Agreement is false or misleading in any material respect when made or when deemed made or repeated;

(ii) the failure of a Guarantor to make any payment required or to perform any other material covenant or obligation in any guaranty made in connection with this Agreement and such failure shall not be remedied within three (3) Business Days after written notice;

(iii) a Guarantor becomes Bankrupt;

(iv) the failure of a Guarantor's guaranty to be in full force and effect for purposes of this Agreement (other than in accordance with its terms) prior to the satisfaction of all obligations of such Party under each Transaction to which such guaranty shall relate without the written consent of the other Party; or

(v) a Guarantor shall repudiate, disaffirm, disclaim, or reject, in whole or in part, or challenge the validity of any guaranty.

5.2 Declaration of an Early Termination Date and Calculation of Settlement Amounts. If an Event of Default with respect to a Defaulting Party shall have occurred and be continuing, the other Party (the "Non-Defaulting Party") shall have the right (i) to designate a day, no earlier than the day such notice is effective and no later than 20 days after such notice is effective, as an early termination date ("Early Termination Date") to accelerate all amounts owing between the Parties and to liquidate and terminate all, but not less than all, Transactions (each referred to as a "Terminated Transaction") between the Parties, (ii) withhold any payments due to the Defaulting Party under this Agreement and (iii) suspend performance. The Non-Defaulting Party shall calculate, in a commercially reasonable manner, a Settlement Amount for each such Terminated Transaction as of the Early Termination Date (or, to the extent that in the reasonable opinion of the Non-Defaulting Party certain of such Terminated Transactions are commercially impracticable to liquidate and terminate or may not be liquidated and terminated under applicable law on the Early Termination Date, as soon thereafter as is reasonably practicable).

5.3 Net Out of Settlement Amounts. The Non-Defaulting Party shall aggregate all Settlement Amounts into a single amount by: netting out (a) all Settlement Amounts that are due to the Defaulting Party, plus, at the option of the Non-Defaulting Party, any cash or other form of security then available to the Non-Defaulting Party pursuant to Article Eight, plus any or all other amounts due to the Defaulting Party under this Agreement against (b) all Settlement Amounts that are due to the Non-Defaulting Party, plus any or all other amounts due to the Non-Defaulting Party under this Agreement, so that all such amounts shall be netted out to a single liquidated amount (the "Termination Payment") payable by one Party to the other. The Termination Payment shall be due to or due from the Non-Defaulting Party as appropriate.

5.4 Notice of Payment of Termination Payment. As soon as practicable after a liquidation, notice shall be given by the Non-Defaulting Party to the Defaulting Party of the amount of the Termination Payment and whether the Termination Payment is due to or due from the Non-Defaulting Party. The notice shall include a written statement explaining in reasonable detail the calculation of such amount. The Termination Payment shall be made by the Party that owes it within two (2) Business Days after such notice is effective.

5.5 Disputes With Respect to Termination Payment. If the Defaulting Party disputes the Non-Defaulting Party's calculation of the Termination Payment, in whole or in part, the Defaulting Party shall, within two (2) Business Days of receipt of Non-Defaulting Party's calculation of the Termination Payment, provide to the Non-Defaulting Party a detailed written

explanation of the basis for such dispute; provided, however, that if the Termination Payment is due from the Defaulting Party, the Defaulting Party shall first transfer Performance Assurance to the Non-Defaulting Party in an amount equal to the Termination Payment.

5.6 Closeout Setoffs.

Option A: After calculation of a Termination Payment in accordance with Section 5.3, if the Defaulting Party would be owed the Termination Payment, the Non-Defaulting Party shall be entitled, at its option and in its discretion, to (i) set off against such Termination Payment any amounts due and owing by the Defaulting Party to the Non-Defaulting Party under any other agreements, instruments or undertakings between the Defaulting Party and the Non-Defaulting Party and/or (ii) to the extent the Transactions are not yet liquidated in accordance with Section 5.2, withhold payment of the Termination Payment to the Defaulting Party. The remedy provided for in this Section shall be without prejudice and in addition to any right of setoff, combination of accounts, lien or other right to which any Party is at any time otherwise entitled (whether by operation of law, contract or otherwise).

Option B: After calculation of a Termination Payment in accordance with Section 5.3, if the Defaulting Party would be owed the Termination Payment, the Non-Defaulting Party shall be entitled, at its option and in its discretion, to (i) set off against such Termination Payment any amounts due and owing by the Defaulting Party or any of its Affiliates to the Non-Defaulting Party or any of its Affiliates under any other agreements, instruments or undertakings between the Defaulting Party or any of its Affiliates and the Non-Defaulting Party or any of its Affiliates and/or (ii) to the extent the Transactions are not yet liquidated in accordance with Section 5.2, withhold payment of the Termination Payment to the Defaulting Party. The remedy provided for in this Section shall be without prejudice and in addition to any right of setoff, combination of accounts, lien or other right to which any Party is at any time otherwise entitled (whether by operation of law, contract or otherwise).

Option C: Neither Option A nor B shall apply.

5.7 Suspension of Performance. Notwithstanding any other provision of this Master Agreement, if (a) an Event of Default or (b) a Potential Event of Default shall have occurred and be continuing, the Non-Defaulting Party, upon written notice to the Defaulting Party, shall have the right (i) to suspend performance under any or all Transactions; provided, however, in no event shall any such suspension continue for longer than ten (10) NERC Business Days with respect to any single Transaction unless an early Termination Date shall have been declared and notice thereof pursuant to Section 5.2 given, and (ii) to the extent an Event of Default shall have occurred and be continuing to exercise any remedy available at law or in equity.

## ARTICLE SIX: PAYMENT AND NETTING

6.1 Billing Period. Unless otherwise specifically agreed upon by the Parties in a Transaction, the calendar month shall be the standard period for all payments under this Agreement (other than Termination Payments and, if "Accelerated Payment of Damages" is specified by the Parties in the Cover Sheet, payments pursuant to Section 4.1 or 4.2 and Option premium payments pursuant to Section 6.7). As soon as practicable after the end of each month,

each Party will render to the other Party an invoice for the payment obligations, if any, incurred hereunder during the preceding month.

6.2 Timeliness of Payment. Unless otherwise agreed by the Parties in a Transaction, all invoices under this Master Agreement shall be due and payable in accordance with each Party's invoice instructions on or before the later of the twentieth (20th) day of each month, or tenth (10th) day after receipt of the invoice or, if such day is not a Business Day, then on the next Business Day. Each Party will make payments by electronic funds transfer, or by other mutually agreeable method(s), to the account designated by the other Party. Any amounts not paid by the due date will be deemed delinquent and will accrue interest at the Interest Rate, such interest to be calculated from and including the due date to but excluding the date the delinquent amount is paid in full.

6.3 Disputes and Adjustments of Invoices. A Party may, in good faith, dispute the correctness of any invoice or any adjustment to an invoice, rendered under this Agreement or adjust any invoice for any arithmetic or computational error within twelve (12) months of the date the invoice, or adjustment to an invoice, was rendered. In the event an invoice or portion thereof, or any other claim or adjustment arising hereunder, is disputed, payment of the undisputed portion of the invoice shall be required to be made when due, with notice of the objection given to the other Party. Any invoice dispute or invoice adjustment shall be in writing and shall state the basis for the dispute or adjustment. Payment of the disputed amount shall not be required until the dispute is resolved. Upon resolution of the dispute, any required payment shall be made within two (2) Business Days of such resolution along with interest accrued at the Interest Rate from and including the due date to but excluding the date paid. Inadvertent overpayments shall be returned upon request or deducted by the Party receiving such overpayment from subsequent payments, with interest accrued at the Interest Rate from and including the date of such overpayment to but excluding the date repaid or deducted by the Party receiving such overpayment. Any dispute with respect to an invoice is waived unless the other Party is notified in accordance with this Section 6.3 within twelve (12) months after the invoice is rendered or any specific adjustment to the invoice is made. If an invoice is not rendered within twelve (12) months after the close of the month during which performance of a Transaction occurred, the right to payment for such performance is waived.

6.4 Netting of Payments. The Parties hereby agree that they shall discharge mutual debts and payment obligations due and owing to each other on the same date pursuant to all Transactions through netting, in which case all amounts owed by each Party to the other Party for the purchase and sale of Products during the monthly billing period under this Master Agreement, including any related damages calculated pursuant to Article Four (unless one of the Parties elects to accelerate payment of such amounts as permitted by Article Four), interest, and payments or credits, shall be netted so that only the excess amount remaining due shall be paid by the Party who owes it.

6.5 Payment Obligation Absent Netting. If no mutual debts or payment obligations exist and only one Party owes a debt or obligation to the other during the monthly billing period, including, but not limited to, any related damage amounts calculated pursuant to Article Four, interest, and payments or credits, that Party shall pay such sum in full when due.

6.6 Security. Unless the Party benefiting from Performance Assurance or a guaranty notifies the other Party in writing, and except in connection with a liquidation and termination in accordance with Article Five, all amounts netted pursuant to this Article Six shall not take into account or include any Performance Assurance or guaranty which may be in effect to secure a Party's performance under this Agreement.

6.7 Payment for Options. The premium amount for the purchase of an Option shall be paid within two (2) Business Days of receipt of an invoice from the Option Seller. Upon exercise of an Option, payment for the Product underlying such Option shall be due in accordance with Section 6.1.

6.8 Transaction Netting. If the Parties enter into one or more Transactions, which in conjunction with one or more other outstanding Transactions, constitute Offsetting Transactions, then all such Offsetting Transactions may by agreement of the Parties, be netted into a single Transaction under which:

(a) the Party obligated to deliver the greater amount of Energy will deliver the difference between the total amount it is obligated to deliver and the total amount to be delivered to it under the Offsetting Transactions, and

(b) the Party owing the greater aggregate payment will pay the net difference owed between the Parties.

Each single Transaction resulting under this Section shall be deemed part of the single, indivisible contractual arrangement between the parties, and once such resulting Transaction occurs, outstanding obligations under the Offsetting Transactions which are satisfied by such offset shall terminate.

## ARTICLE SEVEN: LIMITATIONS

7.1 Limitation of Remedies, Liability and Damages. EXCEPT AS SET FORTH HEREIN, THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY AND ALL IMPLIED WARRANTIES ARE DISCLAIMED. THE PARTIES CONFIRM THAT THE EXPRESS REMEDIES AND MEASURES OF DAMAGES PROVIDED IN THIS AGREEMENT SATISFY THE ESSENTIAL PURPOSES HEREOF. FOR BREACH OF ANY PROVISION FOR WHICH AN EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED, SUCH EXPRESS REMEDY OR MEASURE OF DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY, THE OBLIGOR'S LIABILITY SHALL BE LIMITED AS SET FORTH IN SUCH PROVISION AND ALL OTHER REMEDIES OR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. IF NO REMEDY OR MEASURE OF DAMAGES IS EXPRESSLY PROVIDED HEREIN OR IN A TRANSACTION, THE OBLIGOR'S LIABILITY SHALL BE LIMITED TO DIRECT ACTUAL DAMAGES ONLY, SUCH DIRECT ACTUAL DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY AND ALL OTHER REMEDIES OR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. UNLESS EXPRESSLY HEREIN PROVIDED, NEITHER PARTY SHALL BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES, LOST PROFITS OR

OTHER BUSINESS INTERRUPTION DAMAGES, BY STATUTE, IN TORT OR CONTRACT, UNDER ANY INDEMNITY PROVISION OR OTHERWISE. IT IS THE INTENT OF THE PARTIES THAT THE LIMITATIONS HEREIN IMPOSED ON REMEDIES AND THE MEASURE OF DAMAGES BE WITHOUT REGARD TO THE CAUSE OR CAUSES RELATED THERETO, INCLUDING THE NEGLIGENCE OF ANY PARTY, WHETHER SUCH NEGLIGENCE BE SOLE, JOINT OR CONCURRENT, OR ACTIVE OR PASSIVE. TO THE EXTENT ANY DAMAGES REQUIRED TO BE PAID HEREUNDER ARE LIQUIDATED, THE PARTIES ACKNOWLEDGE THAT THE DAMAGES ARE DIFFICULT OR IMPOSSIBLE TO DETERMINE, OR OTHERWISE OBTAINING AN ADEQUATE REMEDY IS INCONVENIENT AND THE DAMAGES CALCULATED HEREUNDER CONSTITUTE A REASONABLE APPROXIMATION OF THE HARM OR LOSS.

## ARTICLE EIGHT: CREDIT AND COLLATERAL REQUIREMENTS

8.1 Party A Credit Protection. The applicable credit and collateral requirements shall be as specified on the Cover Sheet. If no option in Section 8.1(a) is specified on the Cover Sheet, Section 8.l(a) Option C shall apply exclusively. If none of Sections 8.1(b), 8.1(c) or 8.1(d) are specified on the Cover Sheet, Section 8.1(b) shall apply exclusively.

(a) Financial Information. Option A: If requested by Party A, Party B shall deliver (i) within 120 days following the end of each fiscal year, a copy of Party B's annual report containing audited consolidated financial statements for such fiscal year and (ii) within 60 days after the end of each of its first three fiscal quarters of each fiscal year, a copy of Party B's quarterly report containing unaudited consolidated financial statements for such fiscal quarter. In all cases the statements shall be for the most recent accounting period and prepared in accordance with generally accepted accounting principles; provided, however, that should any such statements not be available on a timely basis due to a delay in preparation or certification, such delay shall not be an Event of Default so long as Party B diligently pursues the preparation, certification and delivery of the statements.

Option B: If requested by Party A, Party B shall deliver (i) within 120 days following the end of each fiscal year, a copy of the annual report containing audited consolidated financial statements for such fiscal year for the party(s) specified on the Cover Sheet and (ii) within 60 days after the end of each of its first three fiscal quarters of each fiscal year, a copy of quarterly report containing unaudited consolidated financial statements for such fiscal quarter for the party(s) specified on the Cover Sheet. In all cases the statements shall be for the most recent accounting period and shall be prepared in accordance with generally accepted accounting principles; provided, however, that should any such statements not be available on a timely basis due to a delay in preparation or certification, such delay shall not be an Event of Default so long as the relevant entity diligently pursues the preparation, certification and delivery of the statements.

Option C: Party A may request from Party B the information specified in the Cover Sheet.

(b) Credit Assurances. If Party A has reasonable grounds to believe that Party B's creditworthiness or performance under this Agreement has become unsatisfactory, Party A will provide Party B with written notice requesting Performance Assurance in an amount determined by Party A in a commercially reasonable manner. Upon receipt of such notice Party B shall have three (3) Business Days to remedy the situation by providing such Performance Assurance to Party A. In the event that Party B fails to provide such Performance Assurance, or a guaranty or other credit assurance acceptable to Party A within three (3) Business Days of receipt of notice, then an Event of Default under Article Five will be deemed to have occurred and Party A will be entitled to the remedies set forth in Article Five of this Master Agreement.

(c) Collateral Threshold. If at any time and from time to time during the term of this Agreement (and notwithstanding whether an Event of Default has occurred), the Termination Payment that would be owed to Party A plus Party B's Independent Amount, if any, exceeds the Party B Collateral Threshold, then Party A, on any Business Day, may request that Party B provide Performance Assurance in an amount equal to the amount by which the Termination Payment plus Party B's Independent Amount, if any, exceeds the Party B Collateral Threshold (rounding upwards for any fractional amount to the next Party B Rounding Amount) ("Party B Performance Assurance"), less any Party B Performance Assurance already posted with Party A. Such Party B Performance Assurance shall be delivered to Party A within three (3) Business Days of the date of such request. On any Business Day (but no more frequently than weekly with respect to Letters of Credit and daily with respect to cash), Party B, at its sole cost, may request that such Party B Performance Assurance be reduced correspondingly to the amount of such excess Termination Payment plus Party B's Independent Amount, if any, (rounding upwards for any fractional amount to the next Party B Rounding Amount). In the event that Party B fails to provide Party B Performance Assurance pursuant to the terms of this Article Eight within three (3) Business Days, then an Event of Default under Article Five shall be deemed to have occurred and Party A will be entitled to the remedies set forth in Article Five of this Master Agreement.

For purposes of this Section 8.1(c), the calculation of the Termination Payment shall be calculated pursuant to Section 5.3 by Party A as if all outstanding Transactions had been liquidated, and in addition thereto, shall include all amounts owed but not yet paid by Party B to Party A, whether or not such amounts are due, for performance already provided pursuant to any and all Transactions.

(d) Downgrade Event. If at any time there shall occur a Downgrade Event in respect of Party B, then Party A may require Party B to provide Performance Assurance in an amount determined by Party A in a commercially reasonable manner. In the event Party B shall fail to provide such Performance Assurance or a guaranty or other credit assurance acceptable to Party A within three (3) Business Days of receipt of notice, then an Event of Default shall be deemed to have occurred and Party A will be entitled to the remedies set forth in Article Five of this Master Agreement.

(e) If specified on the Cover Sheet, Party B shall deliver to Party A, prior to or concurrently with the execution and delivery of this Master Agreement a guarantee in an amount not less than the Guarantee Amount specified on the Cover Sheet and in a form reasonably acceptable to Party A.

8.2 Party B Credit Protection. The applicable credit and collateral requirements shall be as specified on the Cover Sheet. If no option in Section 8.2(a) is specified on the Cover Sheet, Section 8.2(a) Option C shall apply exclusively. If none of Sections 8.2(b), 8.2(c) or 8.2(d) are specified on the Cover Sheet, Section 8.2(b) shall apply exclusively.

(a) Financial Information. Option A: If requested by Party B, Party A shall deliver (i) within 120 days following the end of each fiscal year, a copy of Party A's annual report containing audited consolidated financial statements for such fiscal year and (ii) within 60 days after the end of each of its first three fiscal quarters of each fiscal year, a copy of such Party's quarterly report containing unaudited consolidated financial statements for such fiscal quarter. In all cases the statements shall be for the most recent accounting period and prepared in accordance with generally accepted accounting principles; provided, however, that should any such statements not be available on a timely basis due to a delay in preparation or certification, such delay shall not be an Event of Default so long as such Party diligently pursues the preparation, certification and delivery of the statements.

Option B: If requested by Party B, Party A shall deliver (i) within 120 days following the end of each fiscal year, a copy of the annual report containing audited consolidated financial statements for such fiscal year for the party(s) specified on the Cover Sheet and (ii) within 60 days after the end of each of its first three fiscal quarters of each fiscal year, a copy of quarterly report containing unaudited consolidated financial statements for such fiscal quarter for the party(s) specified on the Cover Sheet. In all cases the statements shall be for the most recent accounting period and shall be prepared in accordance with generally accepted accounting principles; provided, however, that should any such statements not be available on a timely basis due to a delay in preparation or certification, such delay shall not be an Event of Default so long as the relevant entity diligently pursues the preparation, certification and delivery of the statements.

Option C: Party B may request from Party A the information specified in the Cover Sheet.

(b) Credit Assurances. If Party B has reasonable grounds to believe that Party A's creditworthiness or performance under this Agreement has become unsatisfactory, Party B will provide Party A with written notice requesting Performance Assurance in an amount determined by Party B in a commercially reasonable manner. Upon receipt of such notice Party A shall have three (3) Business Days to remedy the situation by providing such Performance Assurance to Party B. In the event that Party A fails to provide such Performance Assurance, or a guaranty or other credit assurance acceptable to Party B within three (3) Business Days of receipt of notice, then an Event of Default under Article Five will be deemed to have occurred and Party B will be entitled to the remedies set forth in Article Five of this Master Agreement.

(c) Collateral Threshold. If at any time and from time to time during the term of this Agreement (and notwithstanding whether an Event of Default has occurred), the Termination Payment that would be owed to Party B plus Party A's Independent Amount, if any, exceeds the Party A Collateral Threshold, then Party B, on any Business Day, may request that Party A provide Performance Assurance in an amount equal to the amount by which the Termination Payment plus Party A's Independent Amount, if any, exceeds the Party A Collateral

Threshold (rounding upwards for any fractional amount to the next Party A Rounding Amount) ("Party A Performance Assurance"), less any Party A Performance Assurance already posted with Party B. Such Party A Performance Assurance shall be delivered to Party B within three (3) Business Days of the date of such request. On any Business Day (but no more frequently than weekly with respect to Letters of Credit and daily with respect to cash), Party A, at its sole cost, may request that such Party A Performance Assurance be reduced correspondingly to the amount of such excess Termination Payment plus Party A's Independent Amount, if any, (rounding upwards for any fractional amount to the next Party A Rounding Amount). In the event that Party A fails to provide Party A Performance Assurance pursuant to the terms of this Article Eight within three (3) Business Days, then an Event of Default under Article Five shall be deemed to have occurred and Party B will be entitled to the remedies set forth in Article Five of this Master Agreement.

For purposes of this Section 8.2(c), the calculation of the Termination Payment shall be calculated pursuant to Section 5.3 by Party B as if all outstanding Transactions had been liquidated, and in addition thereto, shall include all amounts owed but not yet paid by Party A to Party B, whether or not such amounts are due, for performance already provided pursuant to any and all Transactions.

(d) Downgrade Event. If at any time there shall occur a Downgrade Event in respect of Party A, then Party B may require Party A to provide Performance Assurance in an amount determined by Party B in a commercially reasonable manner. In the event Party A shall fail to provide such Performance Assurance or a guaranty or other credit assurance acceptable to Party B within three (3) Business Days of receipt of notice, then an Event of Default shall be deemed to have occurred and Party B will be entitled to the remedies set forth in Article Five of this Master Agreement.

(e) If specified on the Cover Sheet, Party A shall deliver to Party B, prior to or concurrently with the execution and delivery of this Master Agreement a guarantee in an amount not less than the Guarantee Amount specified on the Cover Sheet and in a form reasonably acceptable to Party B.

8.3 Grant of Security Interest/Remedies. To secure its obligations under this Agreement and to the extent either or both Parties deliver Performance Assurance hereunder, each Party (a "Pledgor") hereby grants to the other Party (the "Secured Party") a present and continuing security interest in, and lien on (and right of setoff against), and assignment of, all cash collateral and cash equivalent collateral and any and all proceeds resulting therefrom or the liquidation thereof, whether now or hereafter held by, on behalf of, or for the benefit of, such Secured Party, and each Party agrees to take such action as the other Party reasonably requires in order to perfect the Secured Party's first-priority security interest in, and lien on (and right of setoff against), such collateral and any and all proceeds resulting therefrom or from the liquidation thereof. Upon or any time after the occurrence or deemed occurrence and during the continuation of an Event of Default or an Early Termination Date, the Non-Defaulting Party may do any one or more of the following: (i) exercise any of the rights and remedies of a Secured Party with respect to all Performance Assurance, including any such rights and remedies under law then in effect; (ii) exercise its rights of setoff against any and all property of the Defaulting Party in the possession of the Non-Defaulting Party or its agent; (iii) draw on any outstanding

Letter of Credit issued for its benefit; and (iv) liquidate all Performance Assurance then held by or for the benefit of the Secured Party free from any claim or right of any nature whatsoever of the Defaulting Party, including any equity or right of purchase or redemption by the Defaulting Party. The Secured Party shall apply the proceeds of the collateral realized upon the exercise of any such rights or remedies to reduce the Pledgor's obligations under the Agreement (the Pledgor remaining liable for any amounts owing to the Secured Party after such application), subject to the Secured Party's obligation to return any surplus proceeds remaining after such obligations are satisfied in full.

## ARTICLE NINE: GOVERNMENTAL CHARGES

9.1 Cooperation. Each Party shall use reasonable efforts to implement the provisions of and to administer this Master Agreement in accordance with the intent of the parties to minimize all taxes , so long as neither Party is materially adversely affected by such efforts.

9.2 Governmental Charges. Seller shall pay or cause to be paid all taxes imposed by any government authority("Governmental Charges") on or with respect to the Product or a Transaction arising prior to the Delivery Point. Buyer shall pay or cause to be paid all Governmental Charges on or with respect to the Product or a Transaction at and from the Delivery Point (other than ad valorem, franchise or income taxes which are related to the sale of the Product and are, therefore, the responsibility of the Seller). In the event Seller is required by law or regulation to remit or pay Governmental Charges which are Buyer's responsibility hereunder, Buyer shall promptly reimburse Seller for such Governmental Charges. If Buyer is required by law or regulation to remit or pay Governmental Charges which are Seller's responsibility hereunder, Buyer may deduct the amount of any such Governmental Charges from the sums due to Seller under Article 6 of this Agreement. Nothing shall obligate or cause a Party to pay or be liable to pay any Governmental Charges for which it is exempt under the law.

## ARTICLE TEN: MISCELLANEOUS

10.1 Term of Master Agreement. The term of this Master Agreement shall commence on the Effective Date and shall remain in effect until terminated by either Party upon (thirty) 30 days' prior written notice; provided, however, that such termination shall not affect or excuse the performance of either Party under any provision of this Master Agreement that by its terms survives any such termination and, provided further, that this Master Agreement and any other documents executed and delivered hereunder shall remain in effect with respect to the Transaction(s) entered into prior to the effective date of such termination until both Parties have fulfilled all of their obligations with respect to such Transaction(s), or such Transaction(s) that have been terminated under Section 5.2 of this Agreement.

10.2 Representations and Warranties. On the Effective Date and the date of entering into each Transaction, each Party represents and warrants to the other Party that:

(i) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation;

(ii) it has all regulatory authorizations necessary for it to legally perform its obligations under this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3);

(iii) the execution, delivery and performance of this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3) are within its powers, have been duly authorized by all necessary action and do not violate any of the terms and conditions in its governing documents, any contracts to which it is a party or any law, rule, regulation, order or the like applicable to it;

(iv) this Master Agreement, each Transaction (including any Confirmation accepted in accordance with Section 2.3), and each other document executed and delivered in accordance with this Master Agreement constitutes its legally valid and binding obligation enforceable against it in accordance with its terms; subject to any Equitable Defenses.

(v) it is not Bankrupt and there are no proceedings pending or being contemplated by it or, to its knowledge, threatened against it which would result in it being or becoming Bankrupt;

(vi) there is not pending or, to its knowledge, threatened against it or any of its Affiliates any legal proceedings that could materially adversely affect its ability to perform its obligations under this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3);

(vii) no Event of Default or Potential Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3);

(viii) it is acting for its own account, has made its own independent decision to enter into this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3) and as to whether this Master Agreement and each such Transaction (including any Confirmation accepted in accordance with Section 2.3) is appropriate or proper for it based upon its own judgment, is not relying upon the advice or recommendations of the other Party in so doing, and is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions and risks of this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3);

(ix) it is a "forward contract merchant" within the meaning of the United States Bankruptcy Code;

(x) it has entered into this Master Agreement and each Transaction (including any Confirmation accepted in accordance with Section 2.3) in connection with the conduct of its business and it has the capacity or ability to make or take delivery of all Products referred to in the Transaction to which it is a Party;

(xi) with respect to each Transaction (including any Confirmation accepted in accordance with Section 2.3) involving the purchase or sale of a Product or an Option, it is a producer, processor, commercial user or merchant handling the Product, and it is entering into such Transaction for purposes related to its business as such; and

(xii) the material economic terms of each Transaction are subject to individual negotiation by the Parties.

10.3 Title and Risk of Loss. Title to and risk of loss related to the Product shall transfer from Seller to Buyer at the Delivery Point. Seller warrants that it will deliver to Buyer the Quantity of the Product free and clear of all liens, security interests, claims and encumbrances or any interest therein or thereto by any person arising prior to the Delivery Point.

10.4 Indemnity. Each Party shall indemnify, defend and hold harmless the other Party from and against any Claims arising from or out of any event, circumstance, act or incident first occurring or existing during the period when control and title to Product is vested in such Party as provided in Section 10.3. Each Party shall indemnify, defend and hold harmless the other Party against any Governmental Charges for which such Party is responsible under Article Nine.

10.5 Assignment. Neither Party shall assign this Agreement or its rights hereunder without the prior written consent of the other Party, which consent may be withheld in the exercise of its sole discretion; provided, however, either Party may, without the consent of the other Party (and without relieving itself from liability hereunder), (i) transfer, sell, pledge, encumber or assign this Agreement or the accounts, revenues or proceeds hereof in connection with any financing or other financial arrangements, (ii) transfer or assign this Agreement to an affiliate of such Party which affiliate's creditworthiness is equal to or higher than that of such Party, or (iii) transfer or assign this Agreement to any person or entity succeeding to all or substantially all of the assets whose creditworthiness is equal to or higher than that of such Party; provided, however, that in each such case, any such assignee shall agree in writing to be bound by the terms and conditions hereof and so long as the transferring Party delivers such tax and enforceability assurance as the non-transferring Party may reasonably request.

10.6 Governing Law. THIS AGREEMENT AND THE RIGHTS AND DUTIES OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED, ENFORCED AND PERFORMED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW. EACH PARTY WAIVES ITS RESPECTIVE RIGHT TO ANY JURY TRIAL WITH RESPECT TO ANY LITIGATION ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT.

10.7 Notices. All notices, requests, statements or payments shall be made as specified in the Cover Sheet. Notices (other than scheduling requests) shall, unless otherwise specified herein, be in writing and may be delivered by hand delivery, United States mail, overnight courier service or facsimile. Notice by facsimile or hand delivery shall be effective at the close of business on the day actually received, if received during business hours on a Business Day, and otherwise shall be effective at the close of business on the next Business Day. Notice by overnight United States mail or courier shall be effective on the next Business Day after it was sent. A Party may change its addresses by providing notice of same in accordance herewith.

10.8 General. This Master Agreement (including the exhibits, schedules and any written supplements hereto), the Party A Tariff, if any, the Party B Tariff, if any, any designated collateral, credit support or margin agreement or similar arrangement between the Parties and all Transactions (including any Confirmation accepted in accordance with Section 2.3) constitute the entire agreement between the Parties relating to the subject matter. Notwithstanding the foregoing, any collateral, credit support or margin agreement or similar arrangement between the Parties shall, upon designation by the Parties, be deemed part of this Agreement and shall be incorporated herein by reference. This Agreement shall be considered for all purposes as prepared through the joint efforts of the parties and shall not be construed against one party or the other as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof. Except to the extent herein provided for, no amendment or modification to this Master Agreement shall be enforceable unless reduced to writing and executed by both Parties. Each Party agrees if it seeks to amend any applicable wholesale power sales tariff during the term of this Agreement, such amendment will not in any way affect outstanding Transactions under this Agreement without the prior written consent of the other Party. Each Party further agrees that it will not assert, or defend itself, on the basis that any applicable tariff is inconsistent with this Agreement. This Agreement shall not impart any rights enforceable by any third party (other than a permitted successor or assignee bound to this Agreement). Waiver by a Party of any default by the other Party shall not be construed as a waiver of any other default. Any provision declared or rendered unlawful by any applicable court of law or regulatory agency or deemed unlawful because of a statutory change (individually or collectively, such events referred to as "Regulatory Event") will not otherwise affect the remaining lawful obligations that arise under this Agreement; and provided, further, that if a Regulatory Event occurs, the Parties shall use their best efforts to reform this Agreement in order to give effect to the original intention of the Parties. The term "including" when used in this Agreement shall be by way of example only and shall not be considered in any way to be in limitation. The headings used herein are for convenience and reference purposes only. All indemnity and audit rights shall survive the termination of this Agreement for twelve (12) months. This Agreement shall be binding on each Party's successors and permitted assigns.

10.9 Audit. Each Party has the right, at its sole expense and during normal working hours, to examine the records of the other Party to the extent reasonably necessary to verify the accuracy of any statement, charge or computation made pursuant to this Master Agreement. If requested, a Party shall provide to the other Party statements evidencing the Quantity delivered at the Delivery Point. If any such examination reveals any inaccuracy in any statement, the necessary adjustments in such statement and the payments thereof will be made promptly and shall bear interest calculated at the Interest Rate from the date the overpayment or underpayment was made until paid; provided, however, that no adjustment for any statement or payment will be

made unless objection to the accuracy thereof was made prior to the lapse of twelve (12) months from the rendition thereof, and thereafter any objection shall be deemed waived.

10.10 Forward Contract. The Parties acknowledge and agree that all Transactions constitute "forward contracts" within the meaning of the United States Bankruptcy Code.

10.11 Confidentiality. If the Parties have elected on the Cover Sheet to make this Section 10.11 applicable to this Master Agreement, neither Party shall disclose the terms or conditions of a Transaction under this Master Agreement to a third party (other than the Party's employees, lenders, counsel, accountants or advisors who have a need to know such information and have agreed to keep such terms confidential) except in order to comply with any applicable law, regulation, or any exchange, control area or independent system operator rule or in connection with any court or regulatory proceeding; provided, however, each Party shall, to the extent practicable, use reasonable efforts to prevent or limit the disclosure. The Parties shall be entitled to all remedies available at law or in equity to enforce, or seek relief in connection with, this confidentiality obligation.

## SCHEDULE M

**(THIS SCHEDULE IS INCLUDED IF THE APPROPRIATE BOX ON THE COVER SHEET IS MARKED INDICATING A PARTY IS A GOVERNMENTAL ENTITY OR PUBLIC POWER SYSTEM)**

A. The Parties agree to add the following definitions in Article One.

"Act" means _____.[1]

"Governmental Entity or Public Power System" means a municipality, county, governmental board, public power authority, public utility district, joint action agency, or other similar political subdivision or public entity of the United States, one or more States or territories or any combination thereof.

"Special Fund" means a fund or account of the Governmental Entity or Public Power System set aside and or pledged to satisfy the Public Power System's obligations hereunder out of which amounts shall be paid to satisfy all of the Public Power System's obligations under this Master Agreement for the entire Delivery Period.

B. The following sentence shall be added to the end of the definition of "Force Majeure" in Article One.

If the Claiming Party is a Governmental Entity or Public Power System, Force Majeure does not include any action taken by the Governmental Entity or Public Power System in its governmental capacity.

C. The Parties agree to add the following representations and warranties to Section 10.2:

Further and with respect to a Party that is a Governmental Entity or Public Power System, such Governmental Entity or Public Power System represents and warrants to the other Party continuing throughout the term of this Master Agreement, with respect to this Master Agreement and each Transaction, as follows: (i) all acts necessary to the valid execution, delivery and performance of this Master Agreement, including without limitation, competitive bidding, public notice, election, referendum, prior appropriation or other required procedures has or will be taken and performed as required under the Act and the Public Power System's ordinances, bylaws or other regulations, (ii) all persons making up the governing body of Governmental Entity or Public Power System are the duly elected or appointed incumbents in their positions and hold such

[1] Cite the state enabling and other relevant statutes applicable to Governmental Entity or Public Power System.

positions in good standing in accordance with the Act and other applicable law, (iii) entry into and performance of this Master Agreement by Governmental Entity or Public Power System are for a proper public purpose within the meaning of the Act and all other relevant constitutional, organic or other governing documents and applicable law, (iv) the term of this Master Agreement does not extend beyond any applicable limitation imposed by the Act or other relevant constitutional, organic or other governing documents and applicable law, (v) the Public Power System's obligations to make payments hereunder are unsubordinated obligations and such payments are (a) operating and maintenance costs (or similar designation) which enjoy first priority of payment at all times under any and all bond ordinances or indentures to which it is a party, the Act and all other relevant constitutional, organic or other governing documents and applicable law or (b) otherwise not subject to any prior claim under any and all bond ordinances or indentures to which it is a party, the Act and all other relevant constitutional, organic or other governing documents and applicable law and are available without limitation or deduction to satisfy all Governmental Entity or Public Power System' obligations hereunder and under each Transaction or (c) are to be made solely from a Special Fund, (vi) entry into and performance of this Master Agreement and each Transaction by the Governmental Entity or Public Power System will not adversely affect the exclusion from gross income for federal income tax purposes of interest on any obligation of Governmental Entity or Public Power System otherwise entitled to such exclusion, and (vii) obligations to make payments hereunder do not constitute any kind of indebtedness of Governmental Entity or Public Power System or create any kind of lien on, or security interest in, any property or revenues of Governmental Entity or Public Power System which, in either case, is proscribed by any provision of the Act or any other relevant constitutional, organic or other governing documents and applicable law, any order or judgment of any court or other agency of government applicable to it or its assets, or any contractual restriction binding on or affecting it or any of its assets.

D. The Parties agree to add the following sections to Article Three:

Section 3.4 Public Power System's Deliveries. On the Effective Date and as a condition to the obligations of the other Party under this Agreement, Governmental Entity or Public Power System shall provide the other Party hereto (i) certified copies of all ordinances, resolutions, public notices and other documents evidencing the necessary authorizations with respect to the execution, delivery and performance by Governmental Entity or Public Power System of this Master Agreement and (ii) an opinion of counsel for Governmental Entity or Public Power System, in form and substance reasonably satisfactory to the Other Party, regarding the validity, binding effect and enforceability of this Master Agreement against Governmental Entity or Public Power System in

respect of the Act and all other relevant constitutional organic or other governing documents and applicable law.

Section 3.5 No Immunity Claim. Governmental Entity or Public Power System warrants and covenants that with respect to its contractual obligations hereunder and performance thereof, it will not claim immunity on the grounds of sovereignty or similar grounds with respect to itself or its revenues or assets from (a) suit, (b) jurisdiction of court (including a court located outside the jurisdiction of its organization), (c) relief by way of injunction, order for specific performance or recovery of property, (d) attachment of assets, or (e) execution or enforcement of any judgment.

E. If the appropriate box is checked on the Cover Sheet, as an alternative to selecting one of the options under Section 8.3, the Parties agree to add the following section to Article Three:

Section 3.6 Governmental Entity or Public Power System Security. With respect to each Transaction, Governmental Entity or Public Power System shall either (i) have created and set aside a Special Fund or (ii) upon execution of this Master Agreement and prior to the commencement of each subsequent fiscal year of Governmental Entity or Public Power System during any Delivery Period, have obtained all necessary budgetary approvals and certifications for payment of all of its obligations under this Master Agreement for such fiscal year; any breach of this provision shall be deemed to have arisen during a fiscal period of Governmental Entity or Public Power System for which budgetary approval or certification of its obligations under this Master Agreement is in effect and, notwithstanding anything to the contrary in Article Four, an Early Termination Date shall automatically and without further notice occur hereunder as of such date wherein Governmental Entity or Public Power System shall be treated as the Defaulting Party. Governmental Entity or Public Power System shall have allocated to the Special Fund or its general funds a revenue base that is adequate to cover Public Power System's payment obligations hereunder throughout the entire Delivery Period.

F. If the appropriate box is checked on the Cover Sheet, the Parties agree to add the following section to Article Eight:

Section 8.4 Governmental Security. As security for payment and performance of Public Power System's obligations hereunder, Public Power System hereby pledges, sets over, assigns and grants to the other Party a security interest in all of Public Power System's right, title and interest in and to [specify collateral].

G. The Parties agree to add the following sentence at the end of Section 10.6 - Governing Law:

> NOTWITHSTANDING THE FOREGOING, IN RESPECT OF THE APPLICABILITY OF THE ACT AS HEREIN PROVIDED, THE LAWS OF THE STATE OF _____[2] SHALL APPLY.

[2] Insert relevant state for Governmental Entity or Public Power System.

## SCHEDULE P: PRODUCTS AND RELATED DEFINITIONS

"Ancillary Services" means any of the services identified by a Transmission Provider in its transmission tariff as "ancillary services" including, but not limited to, regulation and frequency response, energy imbalance, operating reserve-spinning and operating reserve-supplemental, as may be specified in the Transaction.

"Capacity" has the meaning specified in the Transaction.

"Energy" means three-phase, 60-cycle alternating current electric energy, expressed in megawatt hours.

"Firm (LD)" means, with respect to a Transaction, that either Party shall be relieved of its obligations to sell and deliver or purchase and receive without liability only to the extent that, and for the period during which, such performance is prevented by Force Majeure. In the absence of Force Majeure, the Party to which performance is owed shall be entitled to receive from the Party which failed to deliver/receive an amount determined pursuant to Article Four.

"Firm Transmission Contingent - Contract Path" means, with respect to a Transaction, that the performance of either Seller or Buyer (as specified in the Transaction) shall be excused, and no damages shall be payable including any amounts determined pursuant to Article Four, if the transmission for such Transaction is interrupted or curtailed and (i) such Party has provided for firm transmission with the transmission provider(s) for the Product in the case of the Seller from the generation source to the Delivery Point or in the case of the Buyer from the Delivery Point to the ultimate sink, and (ii) such interruption or curtailment is due to "force majeure" or "uncontrollable force" or a similar term as defined under the applicable transmission provider's tariff. This contingency shall excuse performance for the duration of the interruption or curtailment notwithstanding the provisions of the definition of "Force Majeure" in Section 1.23 to the contrary.

"Firm Transmission Contingent - Delivery Point" means, with respect to a Transaction, that the performance of either Seller or Buyer (as specified in the Transaction) shall be excused, and no damages shall be payable including any amounts determined pursuant to Article Four, if the transmission to the Delivery Point (in the case of Seller) or from the Delivery Point (in the case of Buyer) for such Transaction is interrupted or curtailed and (i) such Party has provided for firm transmission with the transmission provider(s) for the Product, in the case of the Seller, to be delivered to the Delivery Point or, in the case of Buyer, to be received at the Delivery Point and (ii) such interruption or curtailment is due to "force majeure" or "uncontrollable force" or a similar term as defined under the applicable transmission provider's tariff. This transmission contingency excuses performance for the duration of the interruption or curtailment, notwithstanding the provisions of the definition of "Force Majeure" in Section 1.23 to the contrary. Interruptions or curtailments of transmission other than the transmission either immediately to or from the Delivery Point shall not excuse performance

"Firm (No Force Majeure)" means, with respect to a Transaction, that if either Party fails to perform its obligation to sell and deliver or purchase and receive the Product, the Party to which performance is owed shall be entitled to receive from the Party which failed to perform an

amount determined pursuant to Article Four. Force Majeure shall not excuse performance of a Firm (No Force Majeure) Transaction.

"Into _____ (the "Receiving Transmission Provider"), Seller's Daily Choice" means that, in accordance with the provisions set forth below, (1) the Product shall be scheduled and delivered to an interconnection or interface ("Interface") either (a) on the Receiving Transmission Provider's transmission system border or (b) within the control area of the Receiving Transmission Provider if the Product is from a source of generation in that control area, which Interface, in either case, the Receiving Transmission Provider identifies as available for delivery of the Product in or into its control area; and (2) Seller has the right on a daily prescheduled basis to designate the Interface where the Product shall be delivered. An "Into" Product shall be subject to the following provisions:

1. Prescheduling and Notification. Subject to the provisions of Section 6, not later than the prescheduling deadline of 11:00 a.m. CPT on the Business Day before the next delivery day or as otherwise agreed to by Buyer and Seller, Seller shall notify Buyer ("Seller's Notification") of Seller's immediate upstream counterparty and the Interface (the "Designated Interface") where Seller shall deliver the Product for the next delivery day, and Buyer shall notify Seller of Buyer's immediate downstream counterparty.

2. Availability of "Firm Transmission" to Buyer at Designated Interface; "Timely Request for Transmission," "ADI" and "Available Transmission." In determining availability to Buyer of next-day firm transmission ("Firm Transmission") from the Designated Interface, a "Timely Request for Transmission" shall mean a properly completed request for Firm Transmission made by Buyer in accordance with the controlling tariff procedures, which request shall be submitted to the Receiving Transmission Provider no later than 30 minutes after delivery of Seller's Notification, provided, however, if the Receiving Transmission Provider is not accepting requests for Firm Transmission at the time of Seller's Notification, then such request by Buyer shall be made within 30 minutes of the time when the Receiving Transmission Provider first opens thereafter for purposes of accepting requests for Firm Transmission.

Pursuant to the terms hereof, delivery of the Product may under certain circumstances be redesignated to occur at an Interface other than the Designated Interface (any such alternate designated interface, an "ADI") either (a) on the Receiving Transmission Provider's transmission system border or (b) within the control area of the Receiving Transmission Provider if the Product is from a source of generation in that control area, which ADI, in either case, the Receiving Transmission Provider identifies as available for delivery of the Product in or into its control area using either firm or non-firm transmission, as available on a day-ahead or hourly basis (individually or collectively referred to as "Available Transmission") within the Receiving Transmission Provider's transmission system.

3. Rights of Buyer and Seller Depending Upon Availability of/Timely Request for Firm Transmission.

A. Timely Request for Firm Transmission made by Buyer, Accepted by the Receiving Transmission Provider and Purchased by Buyer. If a Timely Request for Firm Transmission is made by Buyer and is accepted by the Receiving Transmission Provider

and Buyer purchases such Firm Transmission, then Seller shall deliver and Buyer shall receive the Product at the Designated Interface.

i. If the Firm Transmission purchased by Buyer within the Receiving Transmission Provider's transmission system from the Designated Interface ceases to be available to Buyer for any reason, or if Seller is unable to deliver the Product at the Designated Interface for any reason except Buyer's non-performance, then at Seller's choice from among the following, Seller shall: (a) to the extent Firm Transmission is available to Buyer from an ADI on a day-ahead basis, require Buyer to purchase such Firm Transmission from such ADI, and schedule and deliver the affected portion of the Product to such ADI on the basis of Buyer's purchase of Firm Transmission, or (b) require Buyer to purchase non-firm transmission, and schedule and deliver the affected portion of the Product on the basis of Buyer's purchase of non-firm transmission from the Designated Interface or an ADI designated by Seller, or (c) to the extent firm transmission is available on an hourly basis, require Buyer to purchase firm transmission, and schedule and deliver the affected portion of the Product on the basis of Buyer's purchase of such hourly firm transmission from the Designated Interface or an ADI designated by Seller.

ii. If the Available Transmission utilized by Buyer as required by Seller pursuant to Section 3A(i) ceases to be available to Buyer for any reason, then Seller shall again have those alternatives stated in Section 3A(i) in order to satisfy its obligations.

iii. Seller's obligation to schedule and deliver the Product at an ADI is subject to Buyer's obligation referenced in Section 4B to cooperate reasonably therewith. If Buyer and Seller cannot complete the scheduling and/or delivery at an ADI, then Buyer shall be deemed to have satisfied its receipt obligations to Seller and Seller shall be deemed to have failed its delivery obligations to Buyer, and Seller shall be liable to Buyer for amounts determined pursuant to Article Four.

iv. In each instance in which Buyer and Seller must make alternative scheduling arrangements for delivery at the Designated Interface or an ADI pursuant to Sections 3A(i) or (ii), and Firm Transmission had been purchased by both Seller and Buyer into and within the Receiving Transmission Provider's transmission system as to the scheduled delivery which could not be completed as a result of the interruption or curtailment of such Firm Transmission, Buyer and Seller shall bear their respective transmission expenses and/or associated congestion charges incurred in connection with efforts to complete delivery by such alternative scheduling and delivery arrangements. In any instance except as set forth in the immediately preceding sentence, Buyer and Seller must make alternative scheduling arrangements for delivery at the Designated Interface or an ADI under Sections 3A(i) or (ii), Seller shall be responsible for any additional transmission purchases and/or associated congestion charges incurred by Buyer in connection with such alternative scheduling arrangements.

B. Timely Request for Firm Transmission Made by Buyer but Rejected by the Receiving Transmission Provider. If Buyer's Timely Request for Firm Transmission is rejected by the Receiving Transmission Provider because of unavailability of Firm Transmission from the Designated Interface, then Buyer shall notify Seller within 15 minutes after receipt of the Receiving Transmission Provider's notice of rejection ("Buyer's Rejection Notice"). If Buyer timely notifies Seller of such unavailability of Firm Transmission from the Designated Interface, then Seller shall be obligated either (1) to the extent Firm Transmission is available to Buyer from an ADI on a day-ahead basis, to require Buyer to purchase (at Buyer's own expense) such Firm Transmission from such ADI and schedule and deliver the Product to such ADI on the basis of Buyer's purchase of Firm Transmission, and thereafter the provisions in Section 3A shall apply, or (2) to require Buyer to purchase (at Buyer's own expense) non-firm transmission, and schedule and deliver the Product on the basis of Buyer's purchase of non-firm transmission from the Designated Interface or an ADI designated by the Seller, in which case Seller shall bear the risk of interruption or curtailment of the non-firm transmission; provided, however, that if the non-firm transmission is interrupted or curtailed or if Seller is unable to deliver the Product for any reason, Seller shall have the right to schedule and deliver the Product to another ADI in order to satisfy its delivery obligations, in which case Seller shall be responsible for any additional transmission purchases and/or associated congestion charges incurred by Buyer in connection with Seller's inability to deliver the Product as originally prescheduled. If Buyer fails to timely notify Seller of the unavailability of Firm Transmission, then Buyer shall bear the risk of interruption or curtailment of transmission from the Designated Interface, and the provisions of Section 3D shall apply.

C. Timely Request for Firm Transmission Made by Buyer, Accepted by the Receiving Transmission Provider and not Purchased by Buyer. If Buyer's Timely Request for Firm Transmission is accepted by the Receiving Transmission Provider but Buyer elects to purchase non-firm transmission rather than Firm Transmission to take delivery of the Product, then Buyer shall bear the risk of interruption or curtailment of transmission from the Designated Interface. In such circumstances, if Seller's delivery is interrupted as a result of transmission relied upon by Buyer from the Designated Interface, then Seller shall be deemed to have satisfied its delivery obligations to Buyer, Buyer shall be deemed to have failed to receive the Product and Buyer shall be liable to Seller for amounts determined pursuant to Article Four.

D. No Timely Request for Firm Transmission Made by Buyer, or Buyer Fails to Timely Send Buyer's Rejection Notice. If Buyer fails to make a Timely Request for Firm Transmission or Buyer fails to timely deliver Buyer's Rejection Notice, then Buyer shall bear the risk of interruption or curtailment of transmission from the Designated Interface. In such circumstances, if Seller's delivery is interrupted as a result of transmission relied upon by Buyer from the Designated Interface, then Seller shall be deemed to have satisfied its delivery obligations to Buyer, Buyer shall be deemed to have failed to receive the Product and Buyer shall be liable to Seller for amounts determined pursuant to Article Four.

4. Transmission.

A. Seller's Responsibilities. Seller shall be responsible for transmission required to deliver the Product to the Designated Interface or ADI, as the case may be. It is expressly agreed that Seller is not required to utilize Firm Transmission for its delivery obligations hereunder, and Seller shall bear the risk of utilizing non-firm transmission. If Seller's scheduled delivery to Buyer is interrupted as a result of Buyer's attempted transmission of the Product beyond the Receiving Transmission Provider's system border, then Seller will be deemed to have satisfied its delivery obligations to Buyer, Buyer shall be deemed to have failed to receive the Product and Buyer shall be liable to Seller for damages pursuant to Article Four.

B. Buyer's Responsibilities. Buyer shall be responsible for transmission required to receive and transmit the Product at and from the Designated Interface or ADI, as the case may be, and except as specifically provided in Section 3A and 3B, shall be responsible for any costs associated with transmission therefrom. If Seller is attempting to complete the designation of an ADI as a result of Seller's rights and obligations hereunder, Buyer shall co-operate reasonably with Seller in order to effect such alternate designation.

5. Force Majeure. An "Into" Product shall be subject to the "Force Majeure" provisions in Section 1.23.

6. Multiple Parties in Delivery Chain Involving a Designated Interface. Seller and Buyer recognize that there may be multiple parties involved in the delivery and receipt of the Product at the Designated Interface or ADI to the extent that (1) Seller may be purchasing the Product from a succession of other sellers ("Other Sellers"), the first of which Other Sellers shall be causing the Product to be generated from a source ("Source Seller") and/or (2) Buyer may be selling the Product to a succession of other buyers ("Other Buyers"), the last of which Other Buyers shall be using the Product to serve its energy needs ("Sink Buyer"). Seller and Buyer further recognize that in certain Transactions neither Seller nor Buyer may originate the decision as to either (a) the original identification of the Designated Interface or ADI (which designation may be made by the Source Seller) or (b) the Timely Request for Firm Transmission or the purchase of other Available Transmission (which request may be made by the Sink Buyer). Accordingly, Seller and Buyer agree as follows:

A. If Seller is not the Source Seller, then Seller shall notify Buyer of the Designated Interface promptly after Seller is notified thereof by the Other Seller with whom Seller has a contractual relationship, but in no event may such designation of the Designated Interface be later than the prescheduling deadline pertaining to the Transaction between Buyer and Seller pursuant to Section 1.

B. If Buyer is not the Sink Buyer, then Buyer shall notify the Other Buyer with whom Buyer has a contractual relationship of the Designated Interface promptly after Seller notifies Buyer thereof, with the intent being that the party bearing actual responsibility to secure transmission shall have up to 30 minutes after receipt of the Designated Interface to submit its Timely Request for Firm Transmission.

C. Seller and Buyer each agree that any other communications or actions required to be given or made in connection with this "Into Product" (including without limitation, information relating to an ADI) shall be made or taken promptly after receipt of the relevant information from the Other Sellers and Other Buyers, as the case may be.

D. Seller and Buyer each agree that in certain Transactions time is of the essence and it may be desirable to provide necessary information to Other Sellers and Other Buyers in order to complete the scheduling and delivery of the Product. Accordingly, Seller and Buyer agree that each has the right, but not the obligation, to provide information at its own risk to Other Sellers and Other Buyers, as the case may be, in order to effect the prescheduling, scheduling and delivery of the Product

"Native Load" means the demand imposed on an electric utility or an entity by the requirements of retail customers located within a franchised service territory that the electric utility or entity has statutory obligation to serve.

"Non-Firm" means, with respect to a Transaction, that delivery or receipt of the Product may be interrupted for any reason or for no reason, without liability on the part of either Party.

"System Firm" means that the Product will be supplied from the owned or controlled generation or pre-existing purchased power assets of the system specified in the Transaction (the "System") with non-firm transmission to and from the Delivery Point, unless a different Transmission Contingency is specified in a Transaction. Seller's failure to deliver shall be excused: (i) by an event or circumstance which prevents Seller from performing its obligations, which event or circumstance was not anticipated as of the date the Transaction was agreed to, which is not within the reasonable control of, or the result of the negligence of, the Seller; (ii) by Buyer's failure to perform; (iii) to the extent necessary to preserve the integrity of, or prevent or limit any instability on, the System; (iv) to the extent the System or the control area or reliability council within which the System operates declares an emergency condition, as determined in the system's, or the control area's, or reliability council's reasonable judgment; or (v) by the interruption or curtailment of transmission to the Delivery Point or by the occurrence of any Transmission Contingency specified in a Transaction as excusing Seller's performance. Buyer's failure to receive shall be excused (i) by Force Majeure; (ii) by Seller's failure to perform, or (iii) by the interruption or curtailment of transmission from the Delivery Point or by the occurrence of any Transmission Contingency specified in a Transaction as excusing Buyer's performance. In any of such events, neither party shall be liable to the other for any damages, including any amounts determined pursuant to Article Four.

"Transmission Contingent" means, with respect to a Transaction, that the performance of either Seller or Buyer (as specified in the Transaction) shall be excused, and no damages shall be payable including any amounts determined pursuant to Article Four, if the transmission for such Transaction is unavailable or interrupted or curtailed for any reason, at any time, anywhere from the Seller's proposed generating source to the Buyer's proposed ultimate sink, regardless of whether transmission, if any, that such Party is attempting to secure and/or has purchased for the Product is firm or non-firm. If the transmission (whether firm or non-firm) that Seller or Buyer is attempting to secure is from source to sink is unavailable, this contingency excuses performance for the entire Transaction. If the transmission (whether firm or non-firm) that Seller

or Buyer has secured from source to sink is interrupted or curtailed for any reason, this contingency excuses performance for the duration of the interruption or curtailment notwithstanding the provisions of the definition of "Force Majeure" in Article 1.23 to the contrary.

"Unit Firm" means, with respect to a Transaction, that the Product subject to the Transaction is intended to be supplied from a generation asset or assets specified in the Transaction. Seller's failure to deliver under a "Unit Firm" Transaction shall be excused: (i) if the specified generation asset(s) are unavailable as a result of a Forced Outage (as defined in the NERC Generating Unit Availability Data System (GADS) Forced Outage reporting guidelines) or (ii) by an event or circumstance that affects the specified generation asset(s) so as to prevent Seller from performing its obligations, which event or circumstance was not anticipated as of the date the Transaction was agreed to, and which is not within the reasonable control of, or the result of the negligence of, the Seller or (iii) by Buyer's failure to perform. In any of such events, Seller shall not be liable to Buyer for any damages, including any amounts determined pursuant to Article Four.

**EXHIBIT A**

**MASTER POWER PURCHASE AND SALE AGREEMENT**
**CONFIRMATION LETTER**

This confirmation letter shall confirm the Transaction agreed to on _____, ___ between _____ ("Party A") and _____ ("Party B") regarding the sale/purchase of the Product under the terms and conditions as follows:

Seller: _____

Buyer: _____

Product:

[] Into _____, Seller's Daily Choice

[] Firm (LD)

[] Firm (No Force Majeure)

[] System Firm

(Specify System: _____)

[] Unit Firm

(Specify Unit(s): _____)

[] Other _____

[] Transmission Contingency (If not marked, no transmission contingency)

| | | | | | |
|---|---|---|---|---|---|
| [] | FT-Contract Path Contingency | [] | Seller | [] | Buyer |
| [] | FT-Delivery Point Contingency | [] | Seller | [] | Buyer |
| [] | Transmission Contingent | [] | Seller | [] | Buyer |

[] Other transmission contingency

(Specify: _____)

Contract Quantity: _____

Delivery Point: _____

Contract Price:

Energy Price: _____

Other Charges: _____

Delivery Period: _____

Special Conditions: _____

Scheduling: _____

Option Buyer: _____

Option Seller: _____

Type of Option: _____

Strike Price: _____

Premium: _____

Exercise Period: _____

This confirmation letter is being provided pursuant to and in accordance with the Master Power Purchase and Sale Agreement dated _____ (the "Master Agreement") between Party A and Party B, and constitutes part of and is subject to the terms and provisions of such Master Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Master Agreement.

| [Party A] | [Party B] |
|---|---|
| Name: _____ | Name: _____ |
| Title: _____ | Title: _____ |
| Phone No: _____ | Phone No: _____ |
| Fax: _____ | Fax: _____ |