

# **NCPA Third Phase Agreement and Power Purchase Agreement with sPower – Antelope Solar Expansion Project 1b**

**NCPA Facilities Committee  
January 4, 2017**

## Purpose

- NCPA staff seeks a recommendation from the NCPA Facilities Committee to the NCPA Commission to adopt and approve the following:
  - Third Phase Agreement for Renewable Energy Power Purchase Agreement with Antelope Expansion 1b, LLC; and
  - Power Purchase Agreement between Antelope Expansion 1b, LLC and NCPA

# Contents

- Introduction
  - Buyers and Seller
  - The Facility
  - Contract Structure
- Overview of Commercial Terms
- Key Provisions
- Purchase Option & Energy Storage Option
- Third Phase Agreement: Voting Thresholds
- Approval Process
- Summary & Conclusion

## Introduction – The Buyer & Seller

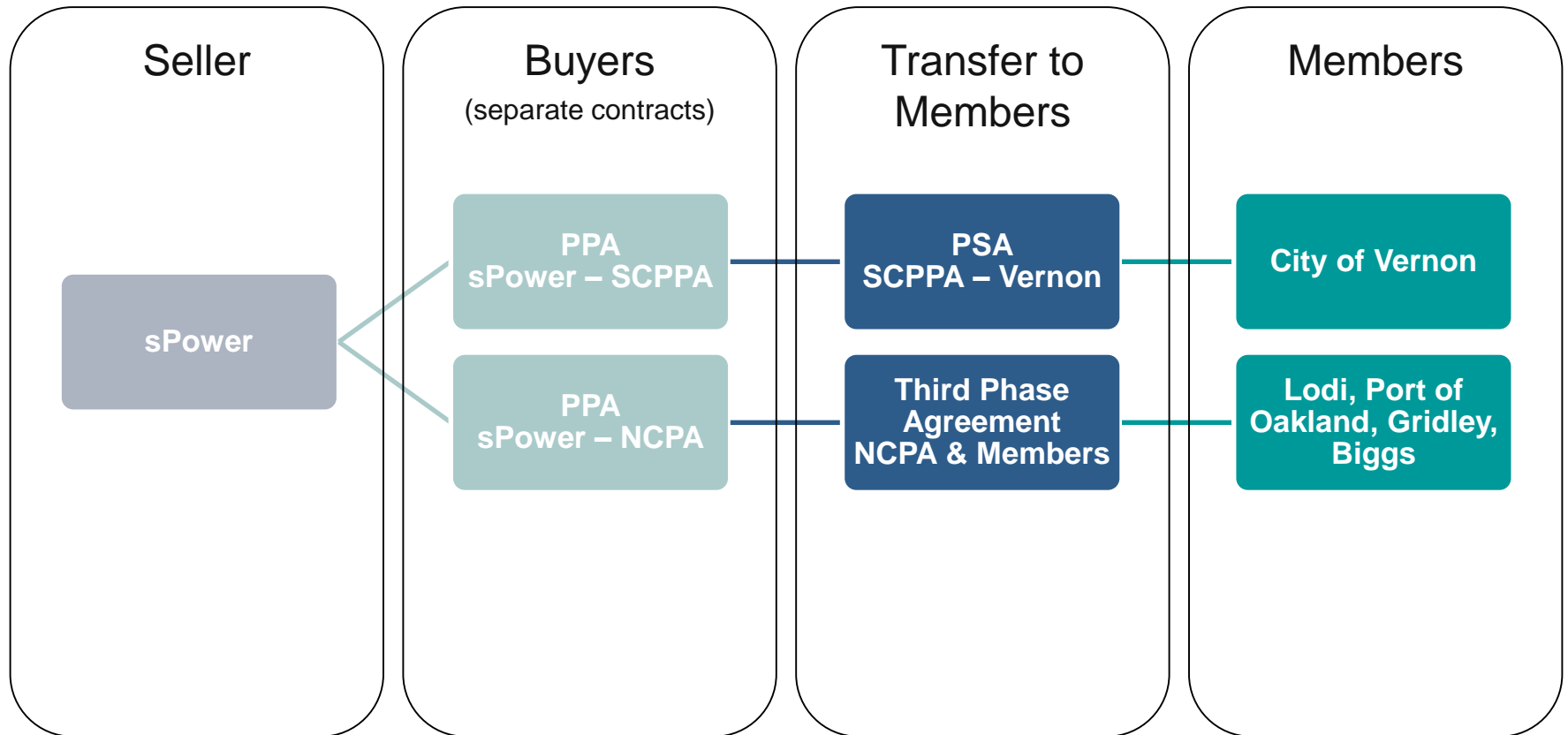
- Buyer
  - NCPA (Northern California Power Agency)
    - City of Lodi (10 MW share)
    - City of Oakland, Acting By and Through its Board of Port Commissioners (4 MW share)
    - City of Gridley (0.75 MW share)
    - City of Biggs (0.25 MW share)
- Seller
  - Antelope Expansion 1b, LLC, an affiliate of sPower

(note: SCPPA is evaluating a 20 MW share for the city of Vernon)

## Introduction – The Facility

- Antelope Expansion 1b is a 15 MW facility
- The Facility is located in Los Angeles county and will be interconnected to the Antelope Valley substation
- Expansion to existing PV facilities owned & operated by sPower
- SCPPA learned of the Facility from its “rolling RFP” process, for renewable energy supply
- sPower was a respondent to SCPPA’s RFP process
- Prices competitive with NCPA RFP for solar PV

## Introduction – Contract Structure



## Introduction – Contract Structure (Cont)

- NCPA Third Phase Agreement
  - Parties: NCPA, Biggs, Gridley, Port of Oakland, Lodi
  - Facilitates transfer of the product from NCPA to the Participating Members
  - Establishes the transaction as a “NCPA Project,” as defined in the Amended & Restated Facilities Agreement
    - Obligates participants to pay for all “project costs”
    - All direct and indirect costs
  - Protects non-participants from cross-member risks
  - Second Phase agreement terminates when Third Phase Agreement takes effect
- Power Purchase Agreement between sPower & NCPA
  - Facilitates transaction between Seller and Buyer.

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## Overview of Commercial Terms

Description	Detail
Price	\$39/MWh, no escalation
Online Date	Dec. 2020 to Dec. 2021
Term	Expires on the 20 <sup>th</sup> anniversary of commercial operation date
Capacity	15 MW
Energy	40,000 MWh – 44,000 MWh / year
Local Resource Adequacy	Yes*

\*Participants will not be able to use this resource for their own Local RA needs. However, Participants may capture the value by selling the attribute.

# Overview of Commercial Terms

Description	Detail
Renewable Energy Credits (and all environmental attributes)	Yes Portfolio Content Category 1
Scheduling Coordination	Provided by Buyer or Buyer designee. Seller pays Buyer for SC services**.
Payment structure	No debt. NCPA pays only for Products delivered or deemed delivered

\*\*NCPA proposes to apply Power Management & Administrative Services costs to Participating Members pursuant to the PMASA, and apply Seller’s contribution toward SC services under the PPA to Participating Members.

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## The PPA addresses a number of risks

- Adverse market prices
- Delay in construction & incomplete project
- Failure to qualify as Local Resource Adequacy
- Changes in renewable energy laws
- Costs resulting from inaccurate energy schedules during first 90 days of commercial operations
- Annual generation output

## The PPA allows NCPA to use economic bids to mitigate risks of adverse market prices

- Section 7.4(b): Economic Curtailment
  - Facility will respond to dispatch orders resulting from market awards and schedules (economic bids)
  - Buyer does not pay for first 750 MWh
  - Buyer pays for curtailments in excess of 750 MWh
  - Applicable rate: \$39/MWh
- No limit to the number hours or amount of energy NCPA can “curtail” through economic bids
- All energy curtailments (CAISO dispatch orders or economic awards) count toward Seller’s annual production quota

## The PPA protects NCPA from delay & incomplete construction

- Appendix I: Milestone schedule during construction
  - Penalties for non-performance
  - Liquidated damages (\$/day)
- Section 5.7: Performance Security
  - Escrow account funded and replenished by Seller
- Section 2.4: Early Termination at Buyer's sole discretion for Seller's non-performance
  - Failure to provide performance security, missing key milestones, missing commercial operations date, etc.
  - Buyer has right to terminate and collect liquidated damages

## The PPA protects the value of the contract if the plant is not certified for Local RA

- Section 3.5: Contract rate reduced if NCPA is unable to obtain and use this resource for Local RA
  - \$7/MWh during first 90 days of commercial operations
  - \$10/MWh beyond 90 days of commercial operation
  - Pro-rated for any portion of plant capacity that can be obtained and used for Local RA
- Example: Rate of \$39/MWh would be reduced to \$32/MWh for the first 90 days and \$29/MWh thereafter.

## The PPA addresses changes in law

- Section 7.7(b) allows Buyer to change the contract price if a change in law causes the facility to cease to be RPS compliant
- Convert from a fixed rate to a bounded indexed rate
  - 85% to 100% of the generation P-Node price (or other mutually acceptable index)
  - Averaged value tracked on a monthly basis
- Seller retains renewable energy credits
- Buyer retains energy and capacity rights
- Buyer has 2 years following the change in law to invoke this change



## **Seller will share imbalance energy charges during first 90-days of commercial operation**

- Section 7.3(b) provides for sharing of imbalance energy settlements
  - Applies for the earlier of: first 90 days of commercial operations, or
  - Until the resource is accepted by CAISO into PIRP (Participating Intermittent Resource Program)
- sPower responsible for creating generation schedules during this time
- Buyer and Seller will share (50/50) imbalance energy settlements during this period up to \$4,300 (\$2,150 each to buyer and seller)

## **Seller is accountable to an annual production target**

- **Appendix C: Annual Contract Quantity (MWh)**
  - Production target for each year of contract term
  - PPA addresses production above 110% of target and below 80% of target
  - Production above 110% priced at \$23.40/MWh (Appendix A-1)
  - Production less than 80%: Seller must make up energy production in the following year, or pay Buyer for the shortfall, at Buyer's sole direction (Article 9)
- Buyer can terminate PPA if production falls below 62.5% of target in two consecutive years (Section 9.5)

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## The PPA provides Buyer the option to purchase the facility after year 10

- Appendix M: Purchase Option Agreement
- Allows Buyer to purchase (to own) the facility from Seller at fixed time increments
  - End of 10<sup>th</sup> year of operations
  - End of 15<sup>th</sup> year, and
  - End of 20<sup>th</sup> year
- Price will be specified at these points in time
- PPA identifies a minimum purchase price at each point in time

## The PPA allows an option to add Energy Storage equipment at the facility

- Appendix O
- At Buyer's design specifications and expense
- No penalty if not used

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- **Voting Thresholds**

## The NCPA 3<sup>rd</sup> Phase Agreement specifies voting thresholds for certain actions

- Unanimous vote of all 4 Participating Members:
  - PPA Early Termination
  - PPA Purchase Option
  - PPA Energy Storage Option
  - PPA “Assignment of Agreement” (i.e. becoming direct party to the contract, removing NCPA)
  - Third Phase “Transfer of Rights” to Third Parties (including other NCPA Members)
- Majority vote required for all other actions

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## Approval Process (expected)

Action	NCPA Third Phase	Power Purchase Agreement
Jan 4: Facilities Committee	X	X
Jan 12: Utility Directors	X	X
Jan 19: NCPA Commission	X	X
Feb-Mar: Participating Members' governing board review Third Phase Agreement. Execute and return to NCPA, if approved.	X	(attached for reference, only)
Mar: NCPA Signs Third Phase & PPA after receipt of executed Third Phase agreement from Participating members	Execute	Execute

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## Summary & Conclusion

- The PPA between NCPA & sPower delivers RPS-eligible energy for 20 years at \$39/MWh
- Includes energy, local Resource Adequacy capacity, Renewable Energy Credits, and all other environmental attributes
- Several protections afforded to Buyer
  - Construction, market price risk, forecasting error
- Includes options to buy the facility and add energy storage capability
- NCPA Third Phase mitigates cross-member risk to NCPA Members not party to this project

General description of each Article of the Power Purchase Agreement

# SUPPLEMENTAL MATERIALS

## Articles 1 & 2

- Article 1: Definitions and rules for interpretation
- Article 2: Effective Date, Term, & Early Termination
  - 2.1 identifies criteria, actions of Seller/Buyer, in order for the PPA to become effective
  - 2.2 Term
  - 2.3 Survivability: Identifies specific Articles and sections that survive termination of the PPA, and duration/events for survival
  - 2.4 Early Termination: lists 11 specific events that may result in early termination and describes the effects of early termination

## Article 3: Development of the Facility

- Buyer rights to participate in CEQA review and access site during construction
- Seller obligation to design, permit, construct the facility, including site visits
- Process to certify commercial operations, including specific actions by Seller and Buyer, sequence of events, and timing
- Consequences to Seller if Buyer is unable to claim Local Resource Adequacy attribute
- Establishes construction milestone schedule and consequences for deviations
- Decommissioning costs

## Article 4: Operations & Maintenance of the Facility

- Seller obligation to operate & maintain the facility; use qualified personnel; maintain proper safety, security, and reliability of the facility; comply with applicable standards; secure pollution credits if necessary; at Seller's expense.
- Seller obligation to devise and implement an O&M plan, make this plan available to Buyer, and provide quarterly updates to Buyer after COD.
- Outage coordination between Seller and Buyer (and Scheduling Coordinator)

## Article 5: Compliance During Construction & Operations; Security

- Seller warrant and guarantee to its performance to its various requirements. Applies to physical attributes of the facility, timetables, design, and status of liens on the facility or property (among others).
- Buyers' right to monitor construction and operations, with any results or finding by Buyer to be solely for its benefit. Buyers' review in no way relieves Seller from any of its obligations under the PPA.
- Seller's obligation to create and implement a Quality Assurance Program, periodically create and provide to Buyer performance reports, and create and maintain a Performance Security escrow account



## Article 6: Purchase & Sale of Product

- Buyer shall purchase at the applicable rate
  - Test energy (before commercial operations);
  - All Products associated with the facility during commercial operations;
  - Excess Energy (see Section 1 for definition)
- Seller ensures the Facility is CEC certified as a renewable energy resource
- Seller is prohibited from selling the facility products to third parties, except in specific circumstances
- Consequences to Buyer if Buyer fails to perform to its duties under the PPA, with specific exemptions

## Article 7: Transmission & Scheduling; Title and Risk of Loss

- Seller is responsible for all costs and benefits to all products up to the point of delivery (POD), Buyer takes possession at the POD and is in exclusive control of all products at and from the POD.
- Seller to use prudent utility practices to maximize output from the facility
- Buyer shall provide for Scheduling Coordination services. Seller pays Buyer \$39,000/year for these services.
- Seller & Buyer cooperate to cause the facility to enter the Participating Intermittent Resource Program.
  - Seller and Buyer share in imbalance energy costs for the first 90 days of commercial operation up to a total of \$10,000/mo (\$5,000 each)

## Article 7: Transmission & Scheduling; Title and Risk of Loss (continued)

- Seller is responsible for preparing, or arranging for, the creation of generation forecasts and providing those to Buyer and the facility SC. An itemized list of forecast with due dates are provided.
- Buyer has rights to real-time data on meteorological information, MW capacity, and other facility information. This includes information collected through SCADA systems and all electrical metering devices.
- Seller must comply with any operational orders issued by CAISO, or applicable authority. Generation curtailments made under this authority result in no payment from Buyer to Seller.

## Article 7: Transmission & Scheduling; Title and Risk of Loss (continued)

- Buyer has the right to submit economic bids for generation output.
  - The PPA grants Buyer rights to curtail generation output under this mechanism with no limit per year.
  - PPA exempts Buyer from payment for reduced generation output for the first 750 MWh/year.
  - Buyer must compensate seller for any reductions beyond the 750 MWh/year threshold. Compensation rate is the PPA rate of \$39/MWh.
- Seller is credited for any energy curtailments for the purposes of meeting its annual production targets.
- Buyer has right to change the pricing structure, in the event of regulatory change, to a bounded index rate.

## Article 8: Environmental Attributes

- Seller will transfer environmental attributes, including Renewable Energy Credits (RECs) to Buyer, and Buyer will accept them.
- RECs will be administered in WREGIS.
- Seller is responsible for all required arrangements to ensure RECs are eligible to meet state statutes for renewable energy, including arranging for a Qualified Reporting Entity.

## Article 9: Makeup of Shortfall Energy

- Buyer has the right to submit economic bids for generation output.
  - The PPA grants Buyer rights to curtail generation output under this mechanism with no limit per year.
  - PPA exempts Buyer from payment for reduced generation output for the first 750 MWh/year.
  - Buyer must compensate seller for any reductions beyond the 750 MWh/year threshold. Compensation rate is the PPA rate of \$39/MWh.
- Seller is credited for any energy curtailments for the purposes of meeting its annual production targets.
- Buyer has right to change the pricing structure, in the event of regulatory change, to a bounded index rate.

## Article 10: Capacity Rights

- Capacity Rights are any capacity or resource adequacy attributes that exist today or in a future period during the term of the PPA (Section 1.1)
- Seller transfers all Capacity Rights to Buyer under this PPA
- Seller warrants and represents that it has not and will not claim or transfer Capacity Rights to itself or any third party during the term of this PPA
- Seller incurs all costs associated with making Capacity Rights available to Buyer

## Article 11: Billing; Payment; Audits; Metering; Attestations; Policies

- Detailed description of the billing and payment schedule, responsibilities of Seller and Buyer, and the dispute resolution protocols.
- Buyer pays Seller for all energy, capacity, and environmental attributes in the month following energy production. Seller will apply adjustments to any changes to data following the billing cycle (e.g. RECs are created in WREGIS 3 months after the operating month and may not match metered data, due to rounding)
- Establishes CAISO protocols as the PPA metering standards. Seller is responsible for maintaining compliance with these standards.
- Seller is responsible for any applicable taxes.



## Article 12: Representations, Warranties, and Covenants

- General representations made by Buyer and Seller regarding organizational structure, authority to transact, and ability to perform to the standards & requirements.
- Seller warranties regarding compliance with Ancillary Documents requirements, applicable laws, CEQA determinations, etc. Includes site control.
- Seller obligation to notify Buyers of material adverse impacts, including quarterly attestation to Buyer.
- Limits Seller's use of debt to 80% of the Facility Cost.
- Establishes Buyers' option to add energy storage equipment to the facility, with Buyer responsible for all cost in excess of \$39,000.

## Articles 13 & 14

- Article 13: Default; Termination and Remedies; Performance Damage
  - Specifies what constitutes default under the PPA, remedies for default, and conditions by which the non-defaulting party may terminate the PPA.
- Article 14: Miscellaneous (non-exhaustive list)
  - Establishes roles for Authorized Representatives (and alternates), defines noticing requirements/procedures and dispute resolution processes.
  - Defines Force Majeure
  - Defines rights of Buyer and Seller to assign rights of the agreement to other parties.

## Appendix A, B, & C

- Appendix A-1: Contract price
  - Prices for test energy & excess energy (\$23.40/MWh)
  - Price for all other energy (\$39/MWh)
- Appendix A-1: Contract price schedule (not used)
- Appendix B-1: Facility, Permits & Operators
  - List of facility characteristics, including major permits
- Appendix B-2: Map of Facility
- Appendix C: Annual contract quantity for each contract year

## Appendix D, E, & F

- Appendix D: Form Attestation (example)
  - Seller attestation to Buyer regarding sale and transfer of Environmental Attributes
- Appendix E: Form of Letter of Credit (example)
  - Letter issued by financial institution, on behalf of Seller, regarding a letter of credit with Buyer as beneficiary.
  - Includes 4 Exhibits that provide letter templates for various actions related to the Letter of Credit
- Appendix F: Insurance
  - Buyer defines insurance requirements upon Seller, including automobile, commercial general liability, etc.

## Appendix G, H, & I

- Appendix G: Quality Assurance Program
  - Seller's quality assurance program, per Article 5
- Appendix H: Qualified Operators
  - List of third parties that may be subcontracted to operate the facility
- Appendix I: Milestone Schedule
  - Itemized list of construction activities with guaranteed completion date. Lists per-day liquidated damage rates, if applicable.

## Appendix G, H, I, & J

- Appendix G: Quality Assurance Program
  - Seller's quality assurance program, per Article 5
- Appendix H: Qualified Operators
  - List of third parties that may be subcontracted to operate the facility
- Appendix I: Milestone Schedule
  - Itemized list of construction activities with guaranteed completion date. Lists per-day liquidated damage rates, if applicable.
- Appendix J: List of Authorized Representatives

## Appendix K, L-1, & L-2

- Appendix K: Form of Option Agreement
  - Agreement for Buyers' right to purchase the facility
  - Exhibit A: Lists minimum purchase price at purchase option intervals
- Appendix L-1: Form of Construction Start Certificate
  - Certificate issued by Seller to Buyer noting the start of construction of the facility
- Appendix L-2: Form of Commercial Operation Date Certificate
  - Certificate issued by an independent engineer to Buyer noting Initial Commissioning Completion

## Appendix M-1, M-2, N, O, and Schedule 12.2(h)

- Appendix M-1 & M-2: Reserved
- Appendix N: Site Control Documents
  - Attachment of Site Control Documents, which includes:
    - Land option / Land Lease
    - Shared Facilities Agreement
- Appendix O: Storage Option Agreement
  - Defines and facilitates Buyer's option to add Energy Storage equipment at the facility
- Schedule 12.2(h): Specified upstream equity owners and organizational and ownership structure of Seller and Upstream Equity Owners