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# Standard LSE Plan

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SOLANA ENERGY ALLIANCE

2020 INTEGRATED RESOURCE PLAN

SEPTEMBER 1, 2020

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**I. Executive Summary**

Solana Beach is a vibrant coastal community of over 13,000 residents located approximately twenty miles north of downtown San Diego. In July 2017, the City of Solana Beach became the third city in San

Diego County to adopt a 100% clean energy Climate Action Plan (“CAP”).<sup>1</sup> The goals of Solana Beach’s CAP go above and beyond the State of California’s renewable targets and climate change initiatives and provides a comprehensive roadmap to address the challenges of climate change. Acting on climate change means reducing greenhouse gas (GHG) emissions from activities within the City and helping the community adapt to climate change and improve its resilience over the long term.

Pursuant to the guidance in the CAP, on May 24, 2017, the Solana Beach City Council voted to become the first city in San Diego County to form a CCA program.<sup>2</sup> The program, called Solana Energy Alliance, or SEA, launched on June 1, 2018 and recently completed its second year of operation. SEA is the only CCA program currently operating in San Diego Gas & Electric Company’s (“SDG&E”) service territory and serves approximately 8,000 residential and commercial customers in Solana Beach, representing a total annual load of approximately 60 gigawatt-hours. Specific to implementing CCA, the following objectives were adopted in the City’s CAP:

- Install 10.8 MW of residential rooftop solar PV systems
- Install 2 MW of commercial rooftop solar PV systems
- Install solar hot water heaters at:
  - o 20 percent of the City’s existing commercial spaces
  - o 25 percent of new homes and home retrofits
- Increase energy efficiency retrofits to achieve:
  - o 15 percent reduction in residential energy consumption
  - o 15 percent reduction in commercial energy consumption

The City remains committed to implementing the objectives in its CAP and has determined that to more cost-effectively meet its objectives, and at lower risk to its citizens, achieving greater economies of scale is necessary. To that end, the City of Solana Beach, along with the Cities of Carlsbad and Del Mar (all located in San Diego County) on October 9, 2019 formed a Joint Power Authority (“JPA”) –Clean Energy Alliance (“CEA”) -- for the purpose of pursuing implementation of a CCA program within their respective jurisdictions.<sup>3</sup> CEA is governed by the CEA Board, which includes one appointed designee from each of the Member Agencies, include a representative from the City of Solana Beach. CEA was formed with the following objectives: 1) procure a power supply from a minimum 50 percent renewable energy sources (with a 100 percent renewable service offering available on a voluntary basis); 2) help meet the goals of Member Agency Climate Action Plans to reduce GHG emissions; 3) provide cost-competitive electric services to customers of CEA; 4) gain local control of the territory’s energy procurement needs; and 5) provide local clean energy programs and benefits.

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<sup>1</sup> See *City of Solana Beach Climate Action Plan*, July 12, 2017 at [https://www.ci.solana-beach.ca.us/vertical/Sites/%7B840804C2-F869-4904-9AE3-720581350CE7%7D/uploads/City\\_of\\_Solana\\_Beach\\_Climate\\_Action\\_Plan\(1\).pdf](https://www.ci.solana-beach.ca.us/vertical/Sites/%7B840804C2-F869-4904-9AE3-720581350CE7%7D/uploads/City_of_Solana_Beach_Climate_Action_Plan(1).pdf)

<sup>2</sup> See *Solana Beach City Council Minutes*, May 24, 2017 at [https://www.ci.solana-beach.ca.us/vertical/Sites/%7B840804C2-F869-4904-9AE3-720581350CE7%7D/uploads/05-24-17\\_Reg\\_MINUTES\\_Final\\_-\\_gw\\_edits.pdf](https://www.ci.solana-beach.ca.us/vertical/Sites/%7B840804C2-F869-4904-9AE3-720581350CE7%7D/uploads/05-24-17_Reg_MINUTES_Final_-_gw_edits.pdf)

<sup>3</sup> See *Clean Energy Alliance Joint Powers Agreement* at [https://3f6546f2-fb89-4cd6-ad52-25ac88ef55d5.filesusr.com/ugd/216202\\_1357f83ce3f9486fa6458a38c5f1bd29.pdf](https://3f6546f2-fb89-4cd6-ad52-25ac88ef55d5.filesusr.com/ugd/216202_1357f83ce3f9486fa6458a38c5f1bd29.pdf)

On December 19, 2019, CEA submitted an Implementation Plan and Statement of Intent<sup>4</sup> to the Commission describing CEA's plans to implement a voluntary CCA program for electric customers within the jurisdictional boundaries of the Member Agencies. CEA's Implementation Plan was subsequently certified by the Commission on March 16, 2020. As described therein, CEA will enroll eligible customers by May 2021. During recent discussions with SDG&E regarding potential impacts to CEA's launch date resulting from SDG&E's upgrades of its customer billing and information systems, SEA has requested that it be allowed to transition its customers to CEA as early as possible in 2021. If approved by SDG&E, SEA expects to transition its customers to CEA earlier than May 2021. During the transition month, Solana Beach intends to transition all of its approximately 8,000 customers from SEA to CEA.

Concurrent with CEA's Implementation Plan, in December 2019 SEA filed an Amended Implementation Plan and Statement of Intent ("Amended Plan") with the Commission.<sup>5</sup> The Amended Plan provides updates to SEA's original Implementation Plan and Statement of Intent which was accepted by the Commission February 19, 2018. The Amended Plan describes SEA's intentions to merge with CEA in order to better achieve its financial, local procurement and GHG reduction goals. The Amended Plan also describes planned transition actions such as customer notifications beginning in October 2020, and furthermore, that SEA customers will maintain their 2017 PCIA vintage rates after the transition to CEA.

The transition of SEA customers to CEA by May 2021 is an unprecedented situation and creates unique challenges for SEA in developing its 2020 Integrated Resource Plan (IRP). To address this challenge, and pursuant to consultation with the Energy Division, SEA has coordinated with CEA to provide a 2020 IRP that CEA is preparing and will file and that also includes SEA's pre-May 2021 loads and resources. This approach is also consistent with R. 16-02-007 finalizing individual load-serving entity load forecasts and greenhouse gas benchmarks for use in the 2020 IRP filings where SEA's loads were included in CEA's load forecast and 2030 GHG emissions benchmark.<sup>6</sup> R. 16-02-007 did not separately assign SEA a load forecast after 2020 nor did it assign a 2030 GHG emissions benchmark.

SEA is submitting this IRP pursuant to Energy Division staff to formally document the inclusion of SEA's loads and resources in CEA's 2020 IRP.

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<sup>4</sup> See *Clean Energy Alliance Implementation Plan and Statement of Intent* at <https://www.thecleanenergyalliance.org/implementation-plan>

<sup>5</sup> See *Solana Energy Alliance Amended Implementation Plan*, Attachment A, at <https://solanaenergyalliance.org/wp-content/uploads/2018/03/City-of-Solana-Beach-CCA-Implementation-Plan-Final.pdf>

<sup>6</sup> See *Administrative Law Judge's Ruling Correcting April 15, 2020 Ruling Finalizing Load Forecasts and Greenhouse Gas Benchmarks for Individual 2020 Integrated Resource Plan Filings*, Attachment A, at <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M338/K276/338276679.PDF>

## II. Study Design

### **Load Assignments for Each LSE**

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. Consistent with this, R. 16-02-007 did not separately assign SEA a load forecast after 2020 nor did it assign a 2030 GHG emissions benchmark to SEA.<sup>7</sup>

### **Required and Optional Portfolios**

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please refer to CEA's 2020 IRP for more information on this subject.

### **GHG Emissions Benchmark**

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. Consistent with this, R. 16-02-007 did not separately assign SEA a 2030 GHG emissions benchmark to SEA. Please refer to CEA's 2020 IRP for more information on this subject.

#### a. Objectives

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

#### b. Methodology

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

- i. Modeling Tool(s)  
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- ii. Modeling Approach  
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<sup>7</sup> *Id.* at 4, Table 2

### III. Study Results

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

#### a. Conforming and Alternative Portfolios

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

#### b. Preferred Conforming Portfolios

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

#### c. GHG Emissions Results

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

#### d. Local Air Pollutant Minimization and Disadvantaged Communities

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

- i. Local Air Pollutants  
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- ii. Focus on Disadvantaged Communities  
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#### e. Cost and Rate Analysis

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

**Requirements for IOUs Only**

Not applicable.

*System Average Rates Associated with Preferred Conforming Portfolio (2019 \$)*

	2020	2021	2022	2023	...	2030
<i>¢/kWh</i>						
<i>Rev. Req. \$</i>						

*Revenue Requirements and System Average Bundled Rates for Preferred Conforming Portfolio (2019 \$)*

<i>Line No.</i>	<i>Cost Category</i>	<i>2020</i>	<i>...</i>	<i>2030</i>
1	<i>Distribution</i>			
2	<i>Transmission</i>			
3	<i>Generation</i>			
4	<i>Demand Side Programs</i>			
5	<i>Other</i>			
6 (sum lines 1-5)	<i>Baseline Revenue Requirement</i>			
7	<i>System Sales (GWh)</i>			
8	<i>Bundled Sales (GWh)</i>			
9	<i>System Average Delivery Rate (¢/kWh)</i>			
10	<i>Bundled Generation Rate (¢/kWh)</i>			
11	<i>System Average Bundled Rate (¢/kWh)</i>			

**Requirements for All LSEs**

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

f. System Reliability Analysis

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.





### g. Hydro Generation Risk Management

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

### h. Long-Duration Storage Development

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

### i. Out-of-State Wind Development

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

### j. Transmission Development

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

## IV. Action Plan

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

### a. Proposed Activities

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### b. Procurement Activities

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### c. Potential Barriers

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d. Commission Direction or Actions

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e. Diablo Canyon Power Plant Replacement

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## V. Lessons Learned

As referenced in Section 1, SEA will be transitioning its customers to CEA by May 2021. SEA has coordinated with CEA to provide a single 2020 IRP that CEA is preparing and will file. Please reference CEA's IRP for additional information.

## **Glossary of Terms**

**Alternative Portfolio:** LSEs are permitted to submit “Alternative Portfolios” developed from scenarios using different assumptions from those used in the Reference System Plan. Any deviations from the “Conforming Portfolio” must be explained and justified.

**Approve (Plan):** the CPUC’s obligation to approve an LSE’s integrated resource plan derives from Public Utilities Code Section 454.52(b)(2) and the procurement planning process described in Public Utilities Code Section 454.5, in addition to the CPUC obligation to ensure safe and reliable service at just and reasonable rates under Public Utilities Code Section 451.

**Balancing Authority Area (CAISO):** the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

**Baseline resources:** Those resources assumed to be fixed as a capacity expansion model input, as opposed to Candidate resources, which are selected by the model and are incremental to the Baseline. Baseline resources are existing (already online) or owned or contracted to come online within the planning horizon. Existing resources with announced retirements are excluded from the Baseline for the applicable years. Being “contracted” refers to a resource holding signed contract/s with an LSE/s for much of its energy and capacity, as applicable, for a significant portion of its useful life. The contracts refer to those approved by the CPUC and/or the LSE’s governing board, as applicable. These criteria indicate the resource is relatively certain to come online. Baseline resources that are not online at the time of modeling may have a failure rate applied to their nameplate capacity to allow for the risk of them failing to come online.

**Candidate resource:** those resources, such as renewables, energy storage, natural gas generation, and demand response, available for selection in IRP capacity expansion modeling, incremental to the Baseline resources.

**Capacity Expansion Model:** a capacity expansion model is a computer model that simulates generation and transmission investment to meet forecast electric load over many years, usually with the objective of minimizing the total cost of owning and operating the electrical system. Capacity expansion models can also be configured to only allow solutions that meet specific requirements, such as providing a minimum amount of capacity to ensure the reliability of the system or maintaining greenhouse gas emissions below an established level.

**Certify (a Community Choice Aggregator Plan):** Public Utilities Code 454.52(b)(3) requires the CPUC to certify the integrated resource plans of CCAs. “Certify” requires a formal act of the Commission to determine that the CCA’s Plan complies with the requirements of the statute and the process established via Public Utilities Code 454.51(a). In addition, the Commission must review the CCA Plans to determine any potential impacts on public utility bundled customers under Public Utilities Code Sections 451 and 454, among others.

**Clean System Power (CSP, formerly “Clean Net Short”) methodology:** the methodology used to estimate GHG emissions associated with an LSE’s Portfolio based on how the LSE will expect to rely on system power on an hourly basis.

**Community Choice Aggregator:** a governmental entity formed by a city or county to procure electricity for its residents, businesses, and municipal facilities.

**Conforming Portfolio:** the LSE portfolio that conforms to IRP Planning Standards, the 2030 LSE-specific GHG Emissions Benchmark, use of the LSE's assigned load forecast, use of inputs and assumptions matching those used in developing the Reference System Portfolio, as well as other IRP requirements including the filing of a complete Narrative Template, a Resource Data Template and Clean System Power Calculator.

**Effective Load Carrying Capacity:** a percentage that expresses how well a resource is able avoid loss-of-load events (considering availability and use limitations). The percentage is relative to a reference resource, for example a resource that is always available with no use limitations. It is calculated via probabilistic reliability modeling, and yields a single percentage value for a given resource or grouping of resources.

**Electric Service Provider:** an entity that offers electric service to a retail or end-use customer, but which does not fall within the definition of an electrical corporation under Public Utilities Code Section 218.

**Filing Entity:** an entity required by statute to file an integrated resource plan with CPUC.

**Future:** a set of assumptions about future conditions, such as load or gas prices.

**GHG Benchmark (or LSE-specific 2030 GHG Benchmark):** the mass-based GHG emission planning targets calculated by staff for each LSE based on the methodology established by the California Air Resources Board and required for use in LSE Portfolio development in IRP.

**GHG Planning Price:** the systemwide marginal GHG abatement cost associated with achieving a specific electric sector 2030 GHG planning target.

**Integrated Resources Planning Standards (Planning Standards):** the set of CPUC IRP rules, guidelines, formulas and metrics that LSEs must include in their LSE Plans.

**Integrated Resource Planning (IRP) process:** integrated resource planning process; the repeating cycle through which integrated resource plans are prepared, submitted, and reviewed by the CPUC

**Long term:** more than 5 years unless otherwise specified.

**Load Serving Entity:** an electrical corporation, electric service provider, community choice aggregator, or electric cooperative.

**Load Serving Entity (LSE) Plan:** an LSE's integrated resource plan; the full set of documents and information submitted by an LSE to the CPUC as part of the IRP process.

**Load Serving Entity (LSE) Portfolio:** a set of supply- and/or demand-side resources with certain attributes that together serve the LSE's assigned load over the IRP planning horizon.

**Loss of Load Expectation (LOLE):** a metric that quantifies the expected frequency of loss-of-load events per year. Loss-of-load is any instance where available generating capacity is insufficient to serve electric demand. If one or more instances of loss-of-load occurring within the same day regardless of duration are counted as one loss-of-load event, then the LOLE metric can be compared to a reference point such as the industry probabilistic reliability standard of "one expected day in 10 years," i.e. an LOLE of 0.1.

**Net Qualifying Capacity:** *Qualifying Capacity reduced, as applicable, based on: (1) testing and verification; (2) application of performance criteria; and (3) deliverability restrictions. The Net Qualifying Capacity determination shall be made by the California ISO pursuant to the provisions of this California ISO Tariff and the applicable Business Practice Manual.*

**Non-modeled costs:** *embedded fixed costs in today's energy system (e.g., existing distribution revenue requirement, existing transmission revenue requirement, and energy efficiency program cost).*

**Nonstandard LSE Plan:** *type of integrated resource plan that an LSE may be eligible to file if it serves load outside the CAISO balancing authority area.*

**Optimization:** *an exercise undertaken in the CPUC's Integrated Resource Planning (IRP) process using a capacity expansion model to identify a least-cost portfolio of electricity resources for meeting specific policy constraints, such as GHG reduction or RPS targets, while maintaining reliability given a set of assumptions about the future. Optimization in IRP considers resources assumed to be online over the planning horizon (baseline resources), some of which the model may choose not to retain, and additional resources (candidate resources) that the model is able to select to meet future grid needs.*

**Planned resource:** *any resource included in an LSE portfolio, whether already online or not, that is yet to be procured. Relating this to capacity expansion modeling terms, planned resources can be baseline resources (needing contract renewal, or currently owned/contracted by another LSE), candidate resources, or possibly resources that were not considered by the modeling, e.g., due to the passage of time between the modeling taking place and LSEs developing their plans. Planned resources can be specific (e.g., with a CAISO ID) or generic, with only the type, size and some geographic information identified.*

**Qualifying capacity:** *the maximum amount of Resource Adequacy Benefits a generating facility could provide before an assessment of its net qualifying capacity.*

**Preferred Conforming Portfolio:** *the conforming portfolio preferred by an LSE as the most suitable to its own needs; submitted to CPUC for review as one element of the LSE's overall IRP plan.*

**Preferred System Plan:** *the Commission's integrated resource plan composed of both the aggregation of LSE portfolios (i.e., Preferred System Portfolio) and the set of actions necessary to implement that portfolio (i.e., Preferred System Action Plan).*

**Preferred System Portfolio:** *the combined portfolios of individual LSEs within the CAISO, aggregated, reviewed and possibly modified by Commission staff as a proposal to the Commission, and adopted by the Commission as most responsive to statutory requirements per Pub. Util. Code 454.51; part of the Preferred System Plan.*

**Reference System Plan:** *the Commission's integrated resource plan that includes an optimal portfolio (Reference System Portfolio) of resources for serving load in the CAISO balancing authority area and meeting multiple state goals, including meeting GHG reduction and reliability targets at least cost.*

**Reference System Portfolio:** *the multi-LSE portfolio identified by staff for Commission review and adopted/modified by the Commission as most responsive to statutory requirements per Pub. Util. Code 454.51; part of the Reference System Plan.*

**Short term:** *1 to 3 years (unless otherwise specified).*

**Staff:** CPUC Energy Division staff (unless otherwise specified).

**Standard LSE Plan:** type of integrated resource plan that an LSE is required to file if it serves load within the CAISO balancing authority area (unless the LSE demonstrates exemption from the IRP process).