

Standard LSE Plan

LANCASTER CHOICE ENERGY
2018 INTEGRATED RESOURCE PLAN
August 1, 2018

Table of Contents

1. EXECUTIVE SUMMARY	1
2. STUDY DESIGN	2
2.1. OBJECTIVES	3
2.2. METHODOLOGY	3
2.2.1. MODELING TOOL(S)	3
2.2.2. MODELING APPROACH	3
2.2.3. ASSUMPTIONS	3
3. STUDY RESULTS	4
3.1. PORTFOLIO RESULTS	4
3.2. CONFORMING PORTFOLIO	4
3.2.1. LOCAL AIR POLLUTANT MINIMIZATION	4
3.2.2. COST AND RATE ANALYSIS	5
3.3. DEVIATIONS FROM CURRENT RESOURCE PLANS	6
3.4. LOCAL NEEDS ANALYSIS	6
4. ACTION PLAN	7
4.1. PROPOSED ACTIVITIES	7
4.2. BARRIER ANALYSIS	7
4.3. PROPOSED COMMISSION DIRECTION	8
5. DATA	8
5.1. BASELINE RESOURCE DATA TEMPLATE	8
5.2. NEW RESOURCE DATA TEMPLATE	8
5.3. OTHER DATA	8
6. LESSONS LEARNED	9

1. Executive Summary

Although Lancaster Clean Energy (“LCE”) qualifies for an alternative plan, LCE has elected to submit a full Standard LSE Plan in order to provide the California Public Utilities Commission (“Commission”) with the most information possible and signal LCE’s support for the Commission’s efforts to help to achieve the State’s important greenhouse gas (“GHG”) reduction and system reliability goals.¹

The Commission and LCE’s governing board exercise concurrent jurisdiction and have shared responsibilities in this Integrated Resource Plan (“IRP”) process. The LCE shares the Commission’s goal of meeting the state’s GHG reduction and renewable energy goals and looks forward to a cooperative relationship with the Commission in fulfilling the direction of Senate Bill 350.

LCE was founded in 2014 and started serving load in May 2015. LCE currently serves 47,000 customers in a service territory that covers the City of Lancaster.

As described in detail in Section 2, below, LCE took the following steps to prepare its IRP. Total energy and capacity requirements were projected based on a forecast of enrolled customers. Requirements for renewable energy and other low carbon emitting resources were projected in accordance with LCE’s governing board policies and consistent with applicable regulatory requirements. Projected supply from resources already under contract were subtracted from the requirements to yield open positions, and contracts for additional resources (new and existing) were modeled to fill the open positions. LCE used the CPUC’s GHG Calculator tool to verify that total portfolio GHG emissions by 2030 would fall below the assigned GHG emissions benchmark.

LCE’s submitted its IRP its governing board on July 24, 2018, and LCE’s governing board formally approved LCE’s IRP on July 24, 2018 in Resolution No. 18-39.

LCE’s preferred portfolio includes the following resources in 2030:

- 34 MW of new Southern California Desert Solar PV generation (single axis tracking)
- 28 MW of existing CAISO Solar Tracking PV generation
- 52 MW of Behind the Meter Distributed PV generation
- 23 MW of new Tehachapi Wind generation
- 19 MW of existing CAISO Wind Generation
- 22 MW of existing Out-Of-State large Hydro-electric generation
- 15 MW of new lithium-ion batteries
- 32 MW of existing CAISO Unspecified (system energy) generation

¹ D.18-02-018 at 170 (Ordering Paragraph 3) authorizes CCA programs with a load of less than 700 gigawatt hours per year for the next five years to file Alternative Plans with reduced reporting requirements.

LCE's action plan includes the following key steps, goals, and targets:

- Conduct a competitive solicitation for new renewable resources
- Conduct a competitive solicitation for new storage resources
- Continue to manage LCE's supply portfolio to achieve LCE's policy objectives and ensure compliance with all regulatory requirements.

2. Study Design

This section describes the process used by LCE to develop its IRP.

Load Assignment

To project its load from 2018-2030, LCE used the load forecast set forth in the June 18, 2018 ALJ Ruling. Under this ruling LCE's load forecast is 581 GWh for 2030.

Portfolio

LCE's IRP includes one portfolio, a "Conforming Portfolio," based on LCE's assigned load forecast and the Commission's Reference System Portfolio. LCE's portfolio is fully consistent with the Commission's Reference System Portfolio:

- LCE's portfolio uses the LSE-Specific 2030 GHG Emissions Benchmark of 0.102 Million Metric Tons ("MMT") assigned to LCE in the June 18, 2018 ALJ Ruling.
- LCE's portfolio was developed using the same inputs and assumptions used by the Commission to develop the Reference System Plan, with the following Commission-approved exceptions:
 - LCE used the load assignment set forth in the June 18, 2018 ALJ Ruling.
 - LCE used the load modifier assumptions from the 2017 IEPR demand forecast projections of both PV and non-PV self-generation, and load-modifying demand response included in the "mid Baseline mid AAEE mid AAPV" case.

LCE has elected not to submit an Alternative Portfolio.

GHG Emissions Benchmark

LCE developed and evaluated its Portfolio using its specific GHG Emissions Benchmark as assigned in the June 18, 2018 ALJ Ruling. Under standard GHG emissions accounting as used in the RESOLVE model, CCA Program's Portfolio would account for 0.101 MMT of GHG emissions in 2030. This falls below LCE's assigned GHG emissions benchmark of 0.102 MMT.

GHG Accounting in IRP Planning

LCE used the Commission's Clean Net Short methodology and associated calculator tool to derive the GHG emissions reported above.

2.1. Objectives

LCE developed its IRP in accordance with the following objectives:

- Objective 1: identify and select a portfolio that is based on and fully consistent with the Commission’s reference system portfolio.
- Objective 2: identify and select a portfolio that reduces LCE’s 2030 GHG emissions to a level *below* LCE’s GHG Emissions Benchmark of 0.102 MMT.
- Objective 3: select a portfolio that uses cost-effective resources, as determined by LCE’s governing board.
- Objective 4: select a portfolio that minimizes negative impacts and emphasizes benefits for Disadvantaged Communities (“DACs”).
- Objective 5: select a portfolio that, to the maximum degree possible consistent LCE’s other goals and requirements, meets LCE’s share of procurement requirements, minimizing or eliminating any need for “on behalf of” procurement by investor owned utilities (“IOUs”).
- Objective 6: identify and select a portfolio that meets LCE’s resource policy objectives and supports the optional renewable retail product offerings administered by LCE.

2.2. Methodology

2.2.1. Modeling Tool(s)

LCE based its portfolio on the Commission’s reference system portfolio and used the tools and guidance provided by the Commission to develop its IRP. LCE did not conduct any independent modeling.

2.2.2. Modeling Approach

LCE did not model any scenarios in developing its IRP, nor did LCE perform any calculations, including post-processing calculations, used to generate metrics for portfolio analysis.

2.2.3. Assumptions

In developing its IRP, LCE did not use any inputs or assumptions that differed from the inputs and assumptions used by the Commission to prepare the Reference System Plan.

3. Study Results

3.1. Portfolio Results

LCE's IRP includes one portfolio, which is based on and consistent with the Commission's Reference System Portfolio. The contents of LCE's portfolio are itemized in the Data Template Excel workbooks identified as GHG Calculator, Base Resource, and New Resource and included as part of LCE's IRP. Broadly, LCE's portfolio identifies the following new resources that LCE plans to invest in:

- 34 MW of new solar.
- 23 MW of new wind.
- 15 MW of new battery storage.
- 33 MW of new behind-the-meter distributed solar.

LCE's portfolio also includes the following existing resources that LCE owns, currently contracts with, or plans to contract with:

- 28 MW of existing solar.
- 19 MW of existing wind.
- 22 MW of existing large hydroelectric.
- 32 MW of existing CAISO system energy.
- 19 MW of existing behind-the-meter distributed solar.

LCE's portfolio is a "Conforming Portfolio" based on and consistent with the Commission's Reference System Portfolio. LCE's portfolio does not include any deviations from the Reference System Portfolio, and CCA Program's IRP does not include any alternative portfolios.

3.2. Conforming Portfolio

LCE's IRP includes a single conforming portfolio. This is the portfolio that LCE prefers to use for planning purposes, and this is the portfolio that was approved by LCE's governing board and is hereby provided by LCE to the Commission for certification. LCE's governing board has approved LCE's portfolio as compliant with the requirements of Public Utilities Code Section 454.52(a)(1) for the reasons provided below.

3.2.1. Local Air Pollutant Minimization

LCE's portfolio minimizes localized air pollutants and other GHG emissions with early priority on disadvantaged communities.

In order to identify disadvantaged communities (“DACs”) that are located within its service territory, LCE used CalEnviroScreen 3.0 to identify the top 25% of impacted census tracts on a statewide basis and the top 5% of census tracts without an overall score but with highest pollution burden. This analysis provided the following information:

- LCE serves one census tract, number 6037900300, identified as a DAC (the “DAC Tract”).

LCE is a local government agency that serves a relatively small and discrete community. LCE does not have any localized air pollutant emitting electric generation facilities located within the DAC Tract.

LCE’s primary strategy for reducing emissions and contributing to the economic development of DACs is the aggressive procurement of zero-emissions renewable resources. When economically feasible, LCE intends to give preference to green power projects that are located within its DACs or otherwise contribute to DAC economic development (for instance, by increasing employment opportunities for DAC residents).

LCE also has the following current and planned activities/programs carried out in/for DACs:

- LCE intends to pursue a Community Solar Program for this DAC.
- LCE intends to develop an Electric Vehicle Incentive Program that will benefit this DAC.
- LCE plans to develop and adopt an official policy of not building or purchasing power from GHG-emitting resources located in the DAC Tract.

3.2.2. Cost and Rate Analysis

CCA rates are adopted by their local governing boards and are not set or overseen by the Commission. LCE’s governing board has determined that LCE’s portfolio achieves environmental, reliability, and other benefits in a cost-effective manner.

Numerous market factors could change the projected cost trajectory, including but not limited to the following:

- Wholesale energy prices.
- Locational marginal prices.
- Resource adequacy costs.
- Costs for services provided by the CAISO (e.g., ancillary services).
- Production from contracted resources and potential curtailment costs.
- Costs associated with allocated resources procured by other entities (e.g., CAM, Reliability Must Run Resources, etc.)

While LCE rates are influenced by power supply costs, customer rates will not necessarily change in lock-step with the projected change in power supply costs over time, as financial reserves are available to help provide rate stability.

Additionally, LCE’s portfolio accounts for the Resource Adequacy (“RA”) benefits of Investor Owned Utility (“IOU”) resources that its customers pay for through the Cost Allocation Mechanism (“CAM”). Based on the most recent year-ahead CAM resource list available on the Commission’s Resource Adequacy Compliance Materials webpage,² LCE calculates that its proportional share³ of the RA value for these resources is 31 MW.

3.3. Deviations from Current Resource Plans

LCE’s portfolio does not deviate from any of LCE’s currently filed or authorized resource plans, including Bundled Plans, RPS Plans, Energy Efficiency Business Plans, Distributed Resource Plans, and specific procurement-related applications.

3.4. Local Needs Analysis

LCE’s portfolio provides LCE’s share of its capacity area’s (“LCA”) local needs requirement. Under the CPUC’s Resource Adequacy Program, LCE must procure a specified portion of its Resource Adequacy obligation from resources located within the Big Creek/Ventura and LA Basin Local Reliability Areas.⁴ According to the Local Capacity Technical Analysis reports for years 2018 and 2022 associated with the CAISO board-approved 2017-18 Transmission Plan, these LCAs will have the following local area needs for 2018 and 2022:

LCA	2018 LCR Need (MW)	2022 LCR Need (MW)
Big Creek/Ventura	2321	2597
LA Basin	7525	6022

LCE plans to meet its share of this local area need through:

² Refer to the Commission’s Resource Adequacy Compliance Materials, available at: <http://cpuc.ca.gov/General.aspx?id=6311>.

³ Proportional Share is determined by its year-ahead share of peak load out of total coincident peak load for the IOU service territory the LSE is located in, as assigned in the Commission’s annual resource adequacy process. The LSE’s proportional share is assumed static through the IRP planning horizon for the purpose of projecting its share of CAM resource adequacy value

⁴ LCE uses the Commission’s resource adequacy program’s definition of local capacity areas for the purposes of its local needs analysis. These areas are: Greater Bay Area, Big Creek Ventura, CAISO System, LA Basin, San Diego IV, and Other PG&E.

- Existing Resource Adequacy Capacity procurement.
- Planned Resource Adequacy Capacity procurement.
- Resource Adequacy associated with planned renewable resource procurement.
- Allocated Resource Adequacy Capacity credits from Southern California Edison (“SCE”) CAM and Demand Response resources.

4. Action Plan

4.1. Proposed Activities

LCE intends to take the following near-term (over the next 1-3 years) steps to implement its IRP and associated portfolio:

- Conduct one or more competitive solicitations for new renewable resources.
- Conduct one or more competitive solicitations for new storage resources.
- Continue to manage LCE’s supply portfolio to achieve LCE’s policy objectives and ensure compliance with all regulatory requirements.

In addition, LCE plans to undertake the following activities to conduct outreach and seek input from any DACs that could be impacted by procurement resulting from the implementation of LCE’s plan:

- LCE plans to conduct community outreach through Town Hall discussions regarding programs available to the DAC.
- LCE plans to engage in a direct mail campaign encouraging DAC residents to participate in LCE’s Electric Vehicle Incentive Program.
- LCE will conduct Public Hearings during governing board meetings at which actions related to procurement activity occurs. DAC residents will be encouraged to participate in these hearings.

As a small, community-based utility, LCE has not adopted a specific methodology for evaluating proposed procurement located in disadvantaged communities. Instead, LCE plans to develop a policy of not building or purchasing power from GHG-emitting resources located within its DAC Tract.

4.2. Barrier Analysis

LCE has identified the following market, regulatory, financial, or other barriers or risks that may impede LCE’s ability to acquire the resources identified in its Portfolio:

- Factors that may that may restrict availability of Resource Adequacy Capacity such as retirement of conventional resources, the potential re-rating of renewable resource Effective Load Carrying Capacity, and the lack of an efficient and transparent mechanism for

transferring Resource Adequacy Capacity from the Investor Owned Utility portfolios as load migrates to CCA service.

- Factors that may increase LCE customer costs such as potential regulatory changes relating to the treatment of SCE generation costs and the share of costs allocated to LCE customers.
- The potential for reduced availability of large hydro-electric energy due to draught or increasing demand.

4.3. Proposed Commission Direction

Not applicable.

5. Data

5.1. Baseline Resource Data Template

LCE has provided the required baseline resource portfolio data in the attached Baseline Resource Data Template, titled Data_LCE_BaseRsrc_Identifier_20180801. This data includes all resources under obligation to serve LCE load, including resources under contract and resources owned by LCE.

5.2. New Resource Data Template

LCE's IRP includes only a single conforming portfolio and does not include any alternative portfolios. LCE has provided the required new resource portfolio data in the attached New Resource Data Template, titled Data_LCE_NewRsrc_Identifier_20180801. This data includes:

- Identification of all new resources, that LCE intends to invest in to serve its load over the IRP planning horizon (through 2030).
- Mapping of all new resources to their respective pre-defined RESOLVE candidate resource type.

5.3. Other Data

In addition to its Baseline Resource Data and New Resource Data, LCE is providing the following additional data as part of its IRP:

- Clean Net Short Calculator results in the attached template, titled LCE_GHG Calculator for IRP v1.4.5.

6. Lessons Learned

From this exercise, LCE has learned the following lessons:

- It would be helpful if LSEs were provided a greater amount of time from when data templates and other requirements are made available and when the plan must be submitted to the Commission. Under SB 350, each CCA's governing board is required to review and approve the CCA Program's IRP. The Commission should provide adequate time not only to develop IRPs, but also to allow for an adequate board review and approval process.
- Additional opportunities for collaboration and feedback on the data templates and tools could help reduce the burden of completing the templates and result in higher quality and more consistent data for the Commission.

Appendix A – Glossary of Terms and Acronyms

AAEE – Additional Available Energy Efficiency.

AAPV – Additional Available Photovoltaics.

Alternative Plan – An IRP filing designed for use by Smaller LSEs (Type 1) as well as multi-jurisdictional utilities (Type 2).

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.

Baseline Resource Data Template – Report of baseline resource portfolio data provided by the Commission, found at: <http://www.cpuc.ca.gov/irp/filingtemplates/>.

CAISO – California Independent System Operator.

CAISO Transmission Plan - The report prepared by the CAISO on an annual basis pursuant to Section 24 of its tariff, which documents the outcome of the Transmission Planning Process.

CalEnviroScreen 3.0 - A mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution’s effects.

CAM - Cost Allocation Mechanism.

CCA - Community Choice Aggregation.

CEC - The California Energy Commission.

Conforming Portfolio – Each LSE must produce a “Conforming Portfolio” that is demonstrated to be consistent with the Reference System Portfolio according to the following criteria: (1) use of either the GHG Planning Prices or the LSE-Specific 2030 GHG Emissions Benchmark, (2) use of input assumptions matching those used in developing the Reference System Portfolio, and (3) consistent with the 2017 IEPR “mid Baseline mid AAEE mid AAPV” forecast, unless superseded by Administrative Law Judge ruling.

DAC - Disadvantaged Community. For the purposes of IRP, and consistent with the results of the California Communities Environmental Health Screening Tool Version 3 (CalEnviroScreen 3.0), “disadvantaged communities” refer to the 25% highest scoring census tracts in the state along with the 22 census tracts that score in the highest 5% of CalEnviroScreen’s pollution burden, but which do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data.

Data Template – Data provided by the LSE should be reported in the “Baseline Resource Data Template” and the “New Resource Data Template” provided by the Commission. “Baseline” means existing resources and costs. “Existing” includes resources on the 3/15/2018 NQC List, or projects not yet online but that have secured a contract and may therefore be identified in the Commission’s RPS Contracts Database or an Application filed at the Commission, as of January 1, 2018. “New” means any new (incremental to the baseline) resources and costs associated with a particular LSE portfolio.

Distributed Resource Plans - Plans that identify optimal locations for the deployment of distributed resources.

EPA / USEPA – The United States Environmental Protection Agency.

Finalizing ALJ Ruling - Ruling finalizing individual LSE load forecasts for 2030 and associated GHG benchmarks for use in the IRP filings due August 1, 2018, as required by Commission Decision 18-02-018.

GHG – Greenhouse Gas.

GHG Emissions Benchmark – Each LSE filing a Standard LSE Plan must use either the GHG Emissions Benchmark or GHG Planning Price in developing its Conforming Portfolio. The LSE-specific benchmarks have been provided in an ALJ ruling. If the total emissions attributable to the LSE’s preferred portfolio exceed its GHG Emissions Benchmark for 2030, the LSE must explain the difference and describe additional measures it would take over the following 1 - 3 years to close the gap, along with the cost of those measures.

GHG Planning Price –The GHG Planning Price is equivalent to the marginal cost of GHG abatement associated with the 42 MMT Scenario for the years 2018 to 2026 (i.e., a curve that slopes upward from ~\$15/ton to ~\$23/ton), followed by a straight-line increase from ~\$23/ton in 2026 to \$150/ton in 2030, as shown in Table A. Each LSE must use either the GHG Planning Price or GHG Emissions Benchmark in developing its Conforming Portfolio.

IEPR – The CEC’s Integrated Energy Policy Report.

IRP – Integrated Resource Plan.

IRP Planning Horizon – The IRP Planning Horizon will typically cover 20 years. However, for the purposes of this IRP 2017-18 cycle, the IRP Planning Horizon will cover only up to the year 2030.

LCA – Local Capacity Area.

Long term – 10 or more years (unless otherwise specified)

LSE – Load-Serving Entity.

NO_x – Nitrogen Oxides.

Portfolio – A portfolio is a set of supply and/or demand resources with certain attributes that together serve a particular level of load.

Preferred Portfolio – Among all the portfolios developed by the LSE, the LSE will identify one as the most suitable to its own needs, deemed its “Preferred Portfolio.” Any deviations from the Conforming Portfolio must be justified and explained.

PV – Photovoltaic resources.

RA – Resource Adequacy.

Reference System Plan – The Reference System Plan refers to the Commission-approved integrated resource plan that includes an optimal portfolio (Reference System Portfolio) of future 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 Reference System Plan refers to the Commission-approved portfolio that is responsive to statutory requirements per Pub. Util. Code 454.51; it is part of the Reference System Plan.

RESOLVE – The model used by the Commission to develop the Reference System Plan and Reference System Portfolio.

RPS – Renewable Portfolio Standard.

Scenario – A scenario is a portfolio together with a set of assumptions about future conditions.

Short term – 1 to 3 years (unless otherwise specified)

Standard LSE Plan – A Standard LSE Plan is the type of integrated resource plan that an LSE is required to file if its assigned load forecast is ≥ 700 GWh in any of the first five years of the IRP planning horizon.

Standard LSE Plan Template – Each LSE required to file a Standard LSE Plan must use the Standard LSE Plan Template according to the instructions provided herein.

(End of Appendix A)