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Integrated Resource Planning (R.16-02-007)

Filing Requirements Reference Guide

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Version: July 20, 2018

This document is a reference guide for LSEs required to file Plans in the IRP process. It provides clarifying instructions on how to fulfill the Standard and Alternative LSE Plan requirements detailed in D.18-02-018. The questions included in this document reflect some of the questions IRP staff has received during informal meetings with representatives from various LSEs. Staff has documented and shared the questions and answers to ensure all LSE Plans are developed in a consistent and comprehensive manner.

This Reference Guide will serve as a living document. IRP staff will continue to update it with added guidance for LSEs as new questions arise. All updates will be posted to the IRP Filing Materials webpage.

Inputs and Assumptions

1. **In general, are LSEs required to use the Reference System Plan Inputs and Assumptions when developing their own LSE plans?**

   For Conforming Portfolios, LSEs should be aligning with the 2017 IEPR as closely as possible (including aligning fuel prices) and they should rely on Reference System Plan inputs and assumptions for all other data (e.g., baseline generating fleet, candidate resource cost assumptions, financial assumptions, etc.).

   - 2017 IEPR burner tip fuel price projections are based on the April 2018 Updated Model available at: http://www.energy.ca.gov/assessments/ng_burner_tip.html

   - 2017 IEPR carbon allowance price projections are found at: http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-03/TN222145_20180116T123231_2017_IEPR_Revised_Carbon_Allowance_Price_Projections.xlsx

   - Reference System Plan inputs and assumptions for all other data should be derived from the RESOLVE model released in September 2017. Descriptive information is documented in the RESOLVE Inputs and Assumptions document, also posted September 2017.

2. **How should an LSE reconcile use of the GHG Planning Price with the requirement to use values (including the GHG price) from the 2017 IEPR in developing its Conforming Portfolio?**

   If an LSE's analysis for the Conforming Portfolio uses the GHG Planning Price, rather than the GHG Benchmark, then the LSE may ignore the Cap & Trade allowance floor price included with the IEPR. If its analysis instead uses the GHG Benchmark and corresponding CNS Calculator, then there is no specific requirement on what to assume for carbon cost. The 2017 IEPR forecast of Cap & Trade floor price is available as an input to the LSE's portfolio development process.

3. **How should LSEs treat the "Other Electrification" component in the IEPR forecast?**

   The "Other Electrification" component in the IEPR refers to other transport-related electrification (e.g. ports, high-speed rail, airport ground equipment). The IEPR does not include a building electrification component, as previously indicated. Given that LSEs should be aligning

with the 2017 IEPR forecast as closely as possible, they should assume that Other Electrification is "other transport electrification" and not building electrification.

4. **What ELCC values should be assumed when measuring an LSE's capacity position?**

When procuring from existing resources to fill out future capacity position for RA compliance, LSEs should use the 3/15/2018 NQC List (which includes a worksheet showing technology-specific factors), thus inferring use of average ELCC as determined by the RA proceeding (see D. 17-06-027). When procuring NEW resources (a facility that does not exist today) to fill out future capacity position, or energy and capacity position, LSEs should use the marginal ELCCs established in Attachment B to D.18-02-018. This means using marginal ELCCs for counting the RA capacity of new resources and for evaluating bids from new resource solicitations.

5. **Which vintage of NQC values should LSEs use in portfolio development?**

LSEs should utilize the NQC list used for RA Year-Ahead compliance dated 3/15/2018. The 3/15/2018 version is permanently posted to the CPUC's IRP website here.

6. **Which LCR report should LSEs use for the local needs analysis?**

LSEs should use the Local Capacity Technical Analysis (LCT) reports for years 2018 and 2022 associated with the CAISO board-approved 2017-18 Transmission Plan when developing the local needs analysis of their Conforming Portfolios. LSEs may use the 2017 IEPR-based final LCT reports for 2019 and 2023 (expected to be available by the end of May2018 at the latest) to develop a local needs analysis in their Alternative Portfolios. LCT reports are available here.

7. **Which EV charging (and other load modifier) shapes are LSEs expected to use? Should these data come from the 2017 IEPR or from RESOLVE's RSP outputs?**

LSEs should use the 2017 IEPR for all load modifiers and load shapes, which are available on CEC's IEPR website here.

8. **Should LSEs use real or nominal dollars in developing their LSE Plans?**

All cost data (including generator O&M, startup costs, and fuel handling costs) shall be adjusted to 2016 dollars using a deflator series developed by the CEC (posted to website here) in the IEPR process, which equates to approximately 2% inflation, year over year. This is consistent with the convention in the RESOLVE model to report all costs in 2016 dollars.

9. **The burner-tip gas prices provided by the CEC in its April 2018 update seem high. The gas prices are approximately $1 over IHS values (and actual prices in 2018). Can LSEs use a different gas price in its Conforming Portfolio?**

No, LSEs should all be using the CEC's forecast for their Conforming Portfolios. The CEC's gas price forecast is in line with the EIA Annual Energy Outlook for 2018, comparing reference case Henry Hub prices. Furthermore, the prices were vetted through the WECC Anchor Dataset data

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subcommittee where representatives from CAISO, SDG&E and PG&E were present. The April 2018 burner tip price projections are the result of this WECC wide collaboration.

Completing the Standard LSE Plan Template (Word version)

10. **Section 2 of the Standard LSE Plan Template provides several pages of discussion and instruction on topics such as load data assumptions and GHG accounting. Are these topics intended to be included in Section 2 of the LSE Plan?**

    Section 2 was a logical place to include the instructions because it covers the approach to portfolio development, but "Section 3: Study Results" is where LSEs should present the results of using those assumptions, methodology, etc.

11. **After Section 3.b, in which the Preferred Portfolio and rationale are identified, it appears that all required information and evaluations should be solely associated with the Preferred Portfolio and there is no further evaluation or description of the Conforming or Alternative Portfolio(s). Is this the correct understanding?**

    There are two possibilities: (1) An LSE chooses the Conforming Portfolio as its Preferred Portfolio, in which case the reporting requirements for those portfolios are one and the same; or (2) An LSE chooses an Alternative Portfolio as its Preferred Portfolio. In the latter case, because an LSE is required to explain and justify any deviations between its Preferred Portfolio and its Conforming Portfolio, the LSE is expected to provide all information requested in Sections 3, 4, and 5 for *both* portfolios. In other words, the LSE should present the results for two portfolios, provide evidence showing how both portfolios minimize localized air pollutants and how it will affect the costs for its customers, and provide an action plan associated with both portfolios.

    As a reminder, for each portfolio considered by the LSE (including Alternative Portfolios), please follow the instructions within the New Resource Data Template to report new resources.

12. **Under "Section 3.b.ii. Cost and Rate Analysis," which requirements apply to which types of LSEs?**

    The section titled IOU Requirements applies only to IOUs. The section titled All LSEs applies to all LSEs, including IOUs.

Data Reporting in the Standard Plan Data Template (Excel)

13. **Does baseline resource reporting include contracted resources that are not yet online?**

    Yes. Specifically, baseline 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.

14. **How should an LSE report information from non-unit-specific energy-only contracts in the Baseline Resource Data Template?**

For non-unit-specific contracts such as those with a blend of units or resource types, the LSE should create a separate row for each resource type in the blended contract, such that it can make a valid selection in Column H ("Resource_Type") for each row. The total number of rows per contract in the template should thus equal [# of years in the contract] x [12 months in a year] x [number of resource types, i.e. unique Column H selections, included in the blended contract]. The fields "Contract_ID" and "Resource_Name" should be the same for all rows of this contract.

Energy-only contracts need to be broken out by month even if the contract only guarantees delivery on an annual basis. This should be done using the renewable generation shapes provided in the Clean Net Short calculator workbook. Specifically, users can unhide the different renewable technology profiles and use them as the basis for allocating annual energy to month, based on technology type reported.

15. **Sometimes an LSE purchases all the output from a facility and then sells the RA (and/or energy) in excess of its obligation/needs, so the volume of contracted RA is often different from its RA obligation. Should the LSE report the contracted quantity or the obligation quantity?**

The LSE should report the total contracted (purchased) output from a facility separated into two different sets of rows: the portion to meet its own load obligation, and the excess portion that it sold or will sell to another LSE. For example, both sets of rows have the same Resource_ID value and the same Nameplate_MW value because it is the same physical facility. The two sets of rows would have differing Contract_ID, Resource_Name, Contract_MW, Contract_GWh.

Field name	*Set of rows to meet own load*	*Set of rows to describe excess*
Contract_ID	Unique identifier for the portion of contract to meet own load obligation	Unique identifier for the portion of contract sold or to be sold to another LSE
Resource_Name	Name and description of contract and flag indicating this portion is to meet own load obligation	Name and description of contract and flag indicating this portion is excess sold or to be sold to another LSE. If a buyer is already determined, identify the LSE here, otherwise explicitly state the buyer is unknown.
Contract_MW	NQC MW of portion to meet own RA obligation	NQC MW of portion sold or to be sold to another LSE
Contract_GWh	Energy GWh of portion to meet own energy obligation	Energy GWh of portion sold or to be sold to another LSE

16. **In the Baseline Resource Data Template, do LSEs need to show the quantity of RA purchased or the quantity of RA used to fulfill their RA obligation?**

    In the near term (i.e., next year or the year after) there should be no difference between contracted (purchased) RA and the quantity of RA to meet an LSE's obligation. However, in later years (i.e., up to 2030), the LSE may not yet have RA contracts in place, so the LSE does not know what it will use to satisfy its RA obligation. In this case, the LSE can report what it expects to contract with (e.g., an unknown existing resource), or the LSE can choose to not speculate on what types of contracts it might sign in the future to meet its future RA obligations.

17. **For future procurement of existing resources that are not currently under contract through 2030, instead of entering the location as "unknown" or CAISO generic, could it be assumed that existing resources that an LSE currently has under contract has those contracts extended through the analysis period?**

    In this case, the LSE should report a new contract in the Baseline Template as immediately following an existing LSE contract that expires (i.e., beginning the month immediately following the month of expiration). The new contract with the same unit would appear to have the same terms as the contract that expired, except the new contract extends to at least 2030. LSEs may use the Resource_name field to distinguish between existing contracts and expected future contracts entered this way.

18. **Is "Energy_Contract_MW" or "Capacity_Contract_MW" intended to represent NQC capacity or nameplate capacity?**

    Report nameplate MW in the column "Nameplate_MW." Report NQC (or estimated NQC if not yet online) in the column "Contract_MW". CPUC staff revised the Data Template and replaced the columns "Energy_Contract_MW" and "Capacity_Contract_MW" with a single column called "Contract_MW." The distinction between contract type would be reported in the column "Owner_Contract_Type."

19. **What is the proper way to complete the data templates, given that they seem to require filling in multiple rows and drop-down menus?**

    The template is designed to accommodate the fact that some contracts have different capacity numbers for each month and year. Staff asks for the data in this flat and granular format to capture these kinds of cases. Staff will be using scripts and programs to import the data, so staff can handle many lines of data from dozens of LSEs. The important thing is uniform format from all LSEs.

20. **Should the market sales and purchases from unidentified resources be included in the Existing Resources data template?**

    No. The intent of the Baseline Resource Data Template is to gather data on LSE ownership or contractual relationship to specific existing units or unit types. If an LSE is short on energy or capacity staff will assume market purchases to fill the gap.

21. **Questions related to the "New Resource Data Template":**

    a. **Should the Mid AAEE from the IEPR be included in this table?**

    For the Conforming Portfolio, the LSE Plan should be consistent with the 2017 IEPR mid-mid AAEE case, so there is nothing additional for LSEs to report in this template. For any alternative portfolios, LSEs may propose alternatives to the 2017 IEPR mid-mid AAEE case. These would be considered modifications to the LSE's planned load and reported on the corresponding IEPR forms referenced in the "Instructions_IEPR_Forms" worksheet. Cost information associated with incremental demand-side programs would be reported on the "New_Costs" worksheet. (Cost information associated with baseline demand-side programs, e.g. consistent with the 2017 IEPR mid-mid AAEE case, would be reported in the Baseline Resource Data Template, "Baseline_Costs" worksheet.)

    b. **Should the incremental rooftop PV be included in this table?**

    See answer for Mid AAEE above. For the Conforming Portfolio, LSEs should be consistent with the 2017 IEPR mid committed BTM PV plus mid-mid AAPV case.

    c. **Are LSEs required to use RESOLVE model input assumptions for resource prices for future generic resources, such as a new solar contract in 2026?**

    For the Conforming Portfolio, yes. For Alternative Portfolio(s), no.

    d. **Are the units for the "New_Rsrc_Total_Fixed_Cost" a total dollar value or a $/MW value?**

    Total dollars. This does not include any transmission costs, as these are reported in separate columns on this worksheet.

    e. **How should LSEs report a new RA contract that is likely from an existing system resource? The specific resource will not be known. This would be a new resource commitment to the LSE's portfolio with a new cost but not a new resource added to the system.**

    This should be reported in the Baseline Resource Data Template, NOT the New Resource Data Template. The resource in question is part of the system baseline and not new steel-in-the-ground. CPUC staff revised the posted Baseline Resource Data Template to accommodate this special case.

    f. **Is it acceptable to provide levelized cost of energy (LCOE) instead of fixed cost in the New_Rsrc_Total_Fixed_Costs? If not, please provide details of what should be included in the total fixed cost? Should it be a levelized cost?**

    Staff agrees that for some LSEs it may be easier and sufficient to report levelized costs. Staff hereby supplements the new resource cost reporting requirement as follows:

    - LSEs were directed to report total fixed costs ($) for a new resource in column N of the *New_Resources* worksheet of the *New Resource Data Template*. This direction stands.

- LSEs are optionally allowed to instead report levelized fixed costs ($/kW-yr) and levelized variable costs ($/MWh) by adding two new columns of information to the *New_Resources* worksheet. This is useful for LSEs that are unable to report in the form of total fixed costs.

    a. LSEs using this option must report the levelized fixed cost ($/kw-yr) and levelized variable cost ($/MWh) components separately. This way staff can apply the appropriate new resource capacity factor that matches with assumptions in RESOLVE and/or SERVM, to calculate the all-in levelized cost ($/MWh).

    b. Report these two levelized cost components in two additional columns in the *New Resource Data Template*, specifically column T and column U of the workbook's *New_Resources* worksheet. The heading for column T must be **Levelized_Fixed_Cost** and the heading for column U must be **Levelized_Variable_Cost**.

    c. Report the assumptions that go into calculating the reported levelized costs. Describe sources, assumptions, and methods in the Standard LSE Template and provide any calculations in a separate supplemental Excel workbook.

Alternative LSE Plan Requirements

22. **One of the requirements for LSEs filing Type 1 Alternative Plans is to submit CEC Form S-1. However, only those LSEs with annual peak loads greater than 200 MW are required to file this form in the first place. Do these smaller LSEs still have to submit Form S-1 to the CPUC?**

    Yes. CPUC staff will need information on each LSE's capacity position, large and small, in order to represent them correctly when assembling the aggregate system portfolio and conducting production cost modeling for the Preferred System Plan. Detailed instructions for how to complete the Form S-1 are available in the CEC Staff Report, "Forms and Instructions for Submitting Electricity Resource Plans."

23. **For ESPs that are exempt from filing with the IEPR due to their small size, which load forecast should they use to calculate their GHG benchmark, and how should they calculate it?**

    ESPs in this situation should utilize their most recent load forecast submission for resource (RA) adequacy purposes and to extend that annual energy requirement (in GWh) out to 2030. Those ESPs should then follow the same instructions for other ESPs described in D.18-02-018 for calculating their individual GHG benchmarks.

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Requirements Related to Disadvantaged Communities

24. **Does staff have any additional guidance on how to approach the requirement to minimize local air pollutions and other GHG emissions with early priority on disadvantaged communities (DAC)?**

    LSEs are required to estimate emissions and examine whether emissions increase or decrease in DACs. Beyond that, Energy Division staff has no specific guidance and is open to different ideas for how to go about prioritizing emissions reductions in DACs.

25. **What level of granularity does Energy Division staff expect for DAC demographic information? Are zip codes sufficient?**

    Each LSE should provide a qualitative description of the demographics of the DAC customers it serves. The finest level of granularity would be census tracts, but LSEs may summarize at the zip code level if that is all that is available to them. If census tracts granularity is not being used, LSEs must explain the reason for the level of granularity they are providing.

26. **What additional guidance can Energy Division staff provide regarding how each LSE should calculate air pollutant emissions?**

    The Decision does not specify what emissions factors LSEs should use, but one method would be to use fuel burn output and apply emission factors. Staff's analysis used factors from the CEC Cost of Generation (2015) and the USEPA AP-42, the EPA's compilation of air emission factors. LSEs are encouraged, but not required, to use EPA's factors.

27. **Is Production Cost Modeling on the Reference System Plan going to identify air pollutant emissions estimates for the system portfolio?**

    Yes, generally by resource class and SERVM region (of which there are eight in California).

28. **Can Energy Division staff share the emissions assumptions it is using in SERVM for these purposes, in particular natural gas plant start-up fuel? If possible, please share the cold, warm, and hot start-up fuel for all NG plants in California.**

    SERVM uses confidential CAISO Master File unit-level data on fuel burn for cold, warm and hot starts (MMBtu/start). If LSEs have their own access to this confidential data, they may use it. SERVM currently has no assumptions for emissions factors for NOx and PM2.5, as this will be a post-processing step on the hourly fuel burn and start type that is reported from SERVM. SERVM may rely on RESOLVE DAC analysis assumptions for emissions factors (NOx lb/MWh and PM2.5 lb/MMBtu, by resource class).

29. **Can LSEs relying on system power use the Clean Net Short methodology and tool to calculate their portion of the criteria pollutants emitted from thermal units generating system power?**

LSEs are permitted, but not required, to use the CNS methodology and the CNS Calculator in estimating criteria pollutants associated with using system power. LSEs doing so should provide an explanation of how they derived their estimates.

30. **OP 6 of the Commission decision on IRP reads that the DACs are communities "scoring in the top 25% of statewide or in one of the 22 census tracts within the top 5% of communities with the highest pollution burden that do not have an overall score, using the most recent version of the California Environmental Protection Agency's (EPA) CalEnviroScreen tool." Where can LSEs find the additional "22 census tracks within the top 5%…" that do not have a score?**

LSEs can find the additional 22 census tracts here. This spreadsheet includes the top 25 scoring as well as the top 5% of the additional 22 census tracts.

Additional Guidance

31. **How should LSEs file their plans with the CPUC? Are they required to file all Excel spreadsheets workbooks used to develop their Plans?**

LSEs are expected to file all materials used to develop their Plans, including the completed Excel Data Templates and completed Clean Net Short calculator workbooks. Please follow the CPUC's Rules of Practice and Procedure with respect to formal filings, and please provide a courtesy copy of the filing to Energy Division staff via the CPUC's secure FTP application. Filers who do not already have a CPUC secure FTP account should follow the instructions on the secure FTP site. From within the secure FTP application, users can send secure emails to CPUC staff with large attachments. This mechanism allows filers to transmit their complete IRP filing to CPUC staff including any portions deemed confidential.

Additionally, LSEs should post the public versions of their IRP filings on their own websites before filing with the CPUC. When emailing their filings to the R.16-02-007 service list, LSEs should include a hyperlink to their website where the IRP filings can be found and downloaded by interested stakeholders.

32. **What is the correct way to input information from blended renewable energy-only contracts into the Clean Net Short (CNS) calculator, when the input fields allow for only capacity values?**

LSEs should apportion energy values from renewable energy-only contracts into estimated contributions from specific resources types based on historical deliveries from those contracts, or some other selected benchmark. LSEs should convert annual energy deliveries to estimated capacity values using the capacity factors found on the "Renewable Profiles" tab.

33. **Please clarify and summarize the different load forecast and resource reporting requirements for different "sizes" of ESPs.**

ESP "size"	Plan Type	Load Forecast	Resource Reporting

ESPs above the 700 GWh annual energy threshold for IRP	Standard	Use the ESP's IEPR Confidential Form 7.1, extended annually to 2030	Use the data templates provided by CPUC staff
ESPs below the 700 GWh annual energy threshold for IRP, but above the 200 MW peak load threshold for filing Form S-1 with the CEC	Type 1 Alternative	Use the ESP's IEPR Confidential Form 7.1, extended annually to 2030	Use CEC Form S-1, and S-2 (or EIA forms identified in D.18-02-018), extended to 2030
ESPs below the 700 GWh annual energy threshold for IRP, and below the 200 MW peak load threshold for filing Form S-1 with the CEC	Type 1 Alternative	Use the ESP's most recent year-ahead load forecast filing in RA, extended annually to 2030	

Note that the CEC Forms S-1 and S-2 contain both load and resource fields. The load fields should be consistent with corresponding load data reported in the LSE's IEPR Confidential Form 7.1 or most recent year-ahead RA load forecast, extended to 2030.

34. **ESPs filing the Standard LSE Plan are required to use the same load forecast they submitted in CEC Confidential Form 7.1 for their Conforming Portfolios. However, if the submitted form includes zero or unrealistically low values for later planning years, is the ESP permitted to input a best estimate forecast for load it expects to serve for those years for the Conforming Portfolio or only for any Alternate Portfolios?**

If an ESP's load forecast submitted in the Form 7.1 has zero or unrealistically low values in later planning years, it should use its most recent year-ahead load forecast filing in RA and extend the values out annually to 2030 (i.e., follow the same instructions for ESPs below the 200 MW peak load threshold requirement described in the table above). This forecast will be considered the ESP's "conforming" load forecast. As a reminder, for the purposes of calculating their LSE-specific 2030 GHG benchmarks and entering load values into the CNS Calculator for their Conforming Portfolios, all ESPs (regardless of size) should use their "conforming" load forecast.

35. **Does staff have any additional guidance on how to approach the requirement to strengthen the diversity, sustainability, and resilience of transmission and distribution systems and local communities? Or on how to enhance distribution system and demand side energy management?**

The IRP Decision does not specify how this requirement is to be met and thus leaves it to the LSEs to determine the best approach.

36. **Are LSEs required to conduct system modeling or use a particular modeling approach in preparing their IRPs?**

LSEs are not required to conduct system modeling. However, LSEs who do conduct modeling for their Conforming Portfolios are required to align with the 2017 IEPR as closely as possible

(including aligning fuel prices) and they should rely on Reference System Plan inputs and assumptions for all other data (e.g., baseline generating fleet, candidate resource cost assumptions, financial assumptions, etc.).

37. What level of confidentiality should ESPs assume for their IRP submittals?

Each LSE will have the burden to demonstrate what should be kept confidential in its filing. Please refer to GO-66D and D.06-06-066.