

Resource Data Template Version 2: User Guide

July 1, 2021

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1. Introduction

This document is a user guide to the new Resource Data Template (RDT) version 2 (RDTv2). RDT version 1 (RDTv1) was first used by the California Public Utilities Commission (CPUC) to collect Load Serving Entity (LSE) compliance data for the Fall of 2020 data collection period pursuant to their collective Integrated Resource Planning (IRP) obligations. Part of these obligations require all LSEs to submit this RDT on an annual basis.

The RDT attempts to take a snapshot of the LSE contracted and planned monthly total energy (GWh) and capacity (MW) forecast positions over a ten year look ahead period. RDTv2, which this user guide covers, is an update to RDTv1. This user guide is intended to be the primary document instructing the user on the proper use of RDTv2.

This user guide does not contain the actual dates for any compliance obligations, for example, the contract cutoff date corresponding to finalization of the resource table, or any other compliance obligation due dates. Those dates and any other significant compliance obligation details including the reporting period over which the LSEs are required to submit data are contained in a separate document: 2021 IRP Data Request Overview.

This user guide is designed to be as simple as possible. It is designed to assist the LSE in submitting part of their reporting obligations to the CPUC, through the RDT.

2. Differences with Previous Version

RDTv2 attempts to be as consistent with RDTv1 as possible, with a few exceptions:

- **Minimize use of embedded equations in RDT:** We are using RDTv2 to capture lots of data, so we are attempting to minimize any unnecessary complexity. We will continue to use Excel to limit data entry and error checking wherever possible. Staff developed an error checking macro as part of RDTv2, based on the rules and relationships spelled out in this user guide. LSEs need to trace the errors identified by the macro, and correct them before submitting. In order to run the macro, LSEs must FIRST enable macros. Then, they are instructed to complete the RDT data entry fully, then push the button on the README tab. The error checking macro will produce an error report that list of errors and the row number that includes the error. The LSE is to correct errors and rerun the macro until there are no more errors produced before submitting the overall filing to the CPUC.
- **Removal of dashboard:** RDTv1 contained a dashboard that provided some summary information for the LSE in real time. We have decided to eliminate this feature in RDTv2 in order to minimize confusion.
- **Special Cases:** Special cases are specific combinations of supertype and resource name that trigger the need for additional information. RDTv1 attempted to put all additional required special case information into a single field. RDTv2 instead uses multiple additional special fields to capture additional required information. Special case rules and the additional fields they trigger are discussed below.
- **LSE Unique Contract Identifier:** This new field, `lse_unique_contract_id`, allows the LSE to provide a unique contract identifier for each different contract with the same resource. The actual value of this identifier is up to the LSE submitting the RDT so long as it creates a unique key for each separate contract with the same resource.
- Many data columns have been moved from one table to another, and many data columns have been deleted. For this reason, it may be difficult to simply cut and paste from previous submissions.

3. Submission Date

Each LSE must submit a completed an RDTv2 to the CPUC by the Submission Date. The Submission date, and detailed filing instructions, are defined in a separate document: [2021 IRP Data Request Overview](#).

4. Resources

RDT defines a list of valid resource names. This list is defined as of the Cutoff Date defined in the contract status section, below. In RDTv2 this list is located in `RDTv2.Resources.resource`. This list contains specified physical resources, unspecified resources that are delivered over a specific transmission branch group, or unspecified resources that are from a specific competitive renewable energy zone (CREZ). There are also options for resources that have less specific information.

Creating a Resources List presents challenges, including a date by which resources are considered online for purposes of IRP compliance, the source of data as it relates to format and categorization, and how complete the list is related to resources that are planned or coming online.

The types of resource names in the resource list are:

- i. Baseline resources (either CAISO ID, ADS name, RPS name, name from the Mid-Term Reliability dataset, or other name like DR program)
- ii. Branch Group names of the form GENERIC_BRANCH_branchname where branchname is the name of the transmission branch name.
- iii. CREZ names of the form GENERIC_CREZ_crezname where crezname is the name of the CREZ.
- iv. Unbundled recs from a particular CREZ of the form UNBUNDLED_crezname.
- v. Special case values (unspecified_import, unspecified_non_import, unbundled_rec, supplier_choice)

5. Contract Status

Contract_status takes one of the following values: Online, Development, Review, PlannedExisting and PlannedNew. These are the only accepted values for contract_status (case insensitive). The meanings of these terms are defined in the table below. The actual value for the final resource table cutoff date, referred to as the Cutoff Date, is identified in a separate document which will be part of the RDTv2's final release.

contract_status	Meaning
Online	Contract has been signed (or LSE owns the resource) and the resource is online as of Cutoff Date (8/1/2021)
Development	Contract has been signed and approved by CPUC and/or LSE's highest decision-making authority as applicable (or LSE owns the resource), but resource is still under development and not yet online (as of Cutoff Date: 8/1/2021).
Review	Contract has been selected and is under review by LSE's highest decision-making authority (e.g. board of directors) as of Cutoff Date(8/1/2021). For LSE-owned resources, this means that the decision-making authority is reviewing whether to authorize an LSE-owned resource. This includes

	contracts shortlisted as a result of an RFO or a similar procurement method. It can also include bilateral contracts not resulting from a Request for Offer (RFO).
PlannedExisting	Contract is not yet (as of Cutoff Date: 8/1/2021) in force and resource has a valid Resource ID in the resources table (RDTv2.resources.resource)
PlannedNew	Contract is not yet (as of Cutoff Date: 8/1/2021) in force and resource does not have a valid Resource ID in the resources table (RDTv2.resources.resource)

6. Supertype

Supertype is a property that is defined for each physical or generic resource defined in the resources table (RDTv2.resources.supertype). The table below defines meanings for the various supertypes.

supertype	Meaning
physical	A specific existing resource
existing_generic	Unspecified existing physical resource an LSE is planning to contract in the future
new_resolve	New resource that can be mapped to a particular CREZ
new_generic	New resource that cannot be mapped to a particular CREZ or for which the LSE has not planned to procure a particular technology
new_loadmod	New load modifier resource
specified_imports	Specific existing resource with a CAISO ID that is imported from outside of the CAISO.
supplier_choice	A contract with a non LSE entity to provide capacity/energy from a set of resources which are specified on a month or year to year basis by the supplier
unbundled_rec	A contract for Renewable Energy Credits, not unit specific energy, that is not actually delivered to CAISO. There is no energy or capacity product associated with this contract, and this is primarily for RPS compliance
unspecified_import	Non-unit specific imports from outside of the CAISO, delivered over a particular intertie branch group, resource mix not known

unspecified_non_import	A firm contract for a quantity of energy that is not unit specific, sourced from capacity within the CAISO
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7. Key Relationships

For each entry in the RDT there are several important relationships that must be maintained between certain fields within the input tables. The detailed filing instructions are defined in a separate document, which will be part of the RDTv2's final release.

1) supertype-to-contract_status: For every value of supertype, contract_status can take the values indicated in the table below. Any other choice will be flagged as an error.

2) Special Cases, or special superotypes: All superotypes besides those corresponding to physical resources trigger the need for additional information as indicated in the table below. For all superotypes, the LSE must fill out the additional required columns in the unique_contracts table. RDTv2 will not alert you to needing to fill out these extra columns. Each LSE needs to identify the additional columns that need to be filled out based on any supertype other than physical. Omission of any required additional columns fields will be flagged as an error.

supertype	contract_status	Additional Required Columns
physical	Online, Development, PlannedExisting	
existing_generic	Online, PlannedExisting	special_mix, special_resource_nameplate
new_resolve	Online, Development, Review, PlannedNew	special_mix, special_resource_nameplate
new_generic	Online, Development, Review, PlannedNew	special_mix, special_resource_nameplate
new_loadmod	Online, Development, Review, PlannedNew	special_mix, special_resource_nameplate
specified_imports	Online, PlannedExisting	
supplier_choice	Online, PlannedExisting	special_generator_supplier, special_mix, special_resource_nameplate
unbundled_rec	Online, PlannedExisting	special_mix
unspecified_import	Online, PlannedExisting	special_mix, special_resource_nameplate
unspecified_non_import	Online, PlannedExisting	special_mix, special_resource_nameplate

Special fields definitions:

special_counterparty – drop down list of lse names, from **RDTv2.lse_names.lse**

special_generator_supplier: Name of non-LSE supplier selling capacity. No drop down. Please capitalize all names, include no special characters, and underscore instead of spaces between words. This field is only for purchases where the specific resource is not specified or can be a mix of more than one resource.

special_resource_nameplate: Estimated nameplate of the new resource in MW. Please only provide the numerical value (do not put 'MW' in the cell). This field is also used for non-unit specific import and non-unit specific non-import contracts and suppliers_choice contracts. In the event of energy only contracts, please estimate the nameplate of the resource, and enter 0 in the contracted_nqc_mw_if_known and nqc_fraction_if_nqc_not_known fields.

special_mix – technology mix of energy making up a contract. Please specify special_mix of the particular technology mix in the following form, using characters [and] as well as commas to delineate values within square brackets, as shown: “[tectype1, value1] [tectype2, value2]”. See additional examples below. For tectype please use only the following values (case insensitive): **ct, ccgt, chp, solar, wind_low_cf, wind_hi_cf, hydro, battery, geothermal, biomass, biogas, nuclear**. Please map technology type for each resource within mix to one of these values. The sum of values should either equal the total MW of the contract, or one, that is to say the values (value1, value2, etc) can either correspond to MW values corresponding to each resource in the mix, or fractions of total contract MW. For example: “[solar, 11] [battery, 2]” or “[wind_low_cf, .93] [battery, .07]”.

8. Instructions for Specific Resources

- **CAM resources:** CAM resources should not be reported in the RDTv2 either by the LSE that holds the contract or the LSE receiving an allocation.
- **D.19-11-016:** If an LSE opted-out of its procurement obligation under D.19-11-016, or was not assigned a procurement obligation under D.19-11-016, should not report IOUs procuring on behalf of opt-out LSEs and those LSEs that were not assigned a procurement obligation should report the full occurring procurement. these resources in their RDTv2.
- **Inter LSE Transfers:** Transfers are to be entered by selecting the resource being either purchased or sold in the **resource** column (selected from the drop down list), indicating whether it is a purchase or a sale in the **buy_or_sell** field, and selecting the counterparty from the drop down list in the **special_counterparty** column. If the resource is being sold by the LSE to a non-LSE counterparty, select “non-LSE counterparty” from the drop down list.
- **suppliers_choice:** This listing is only for when the LSE is purchasing from a non-LSE counterparty AND the resource being procured is not unit specific or the LSE does not know the specific mix of generation. If the counterparty is an LSE, then please follow directions for either unspecified import or unspecified non-import resources. In the event of a supplier’s

choice, the LSE is requested to select “suppliers_choice” in the drop down in the resource tab and use the **special_generator_supplier** field to name the non-LSE supplier with whom the LSE has a contract. Please also use the **special_mix** field to describe the estimated mix of resource types in the contract. Also estimate a special **_resource_nameplate** for the contract.

- **Resources with changing operational characteristics over the course of the time horizon:** Some resources, like a hybrid resource that will charge from the grid in later years, may have operational characteristics that change over the course of the time horizon. In these cases, please enter them as two (or more) separate lines in the "unique_contracts" table.
- **Marginal additions:** Marginal additions refer to the resources that their capacity has been expanded (e.g. adding batteries to an existing solar facility, adding additional generators to an existing facility, ...) over the reporting time frame. For these resources, LSEs would still report the total NQC but indicate expansion using the provided columns in the "unique_contracts" table. As an example, consider a storage resource that gets expanded with additional storage capacity in 2025:

	lse_unique_contract_id	resource	marginal_addition
Before expansion	id_A	Resource name	No
After expansion	Id_B	Resource name	Yes

9. Instructions for Filling Out Tables

Note that the only place where LSE name and MMT selection are indicated is in the submitted Excel workbook filename There are two tables to fill out: unique_contracts, and monthly_gwh_mw. Please note that all the values should be entered as positive numbers.

The following tables give detailed instructions for each table:

Column names for table unique_contracts:

Column Name	Instructions
lse_unique_contract_id	An identifier provided by the LSE to distinguish unique contracts with a given resource. Where possible, please use the same "cpuc_contract_id" you used in your 2020 RDT.
resource	The resource name, which must come from list RDTv2.resources.resource.

alternative_resource_name	Please provide other names that this project has or had if any. If more than one, please separate them with comma.
contract_status	Status showing maturity of contracting process for this resource: One of Online, Development, Review, PlannedExisting or PlannedNew, as defined above.
lse_owned	Is the resource owned by the LSE? Drop down list: yes, no
marginal_addition	Is this contract a marginal addition to an existing unit? Drop down: yes, no
viability_cod_reasonableness	Choose 1 - 4 below to report on project viability. This is only necessary for projects not online yet. For online projects leave this blank. 4 - Interconnection studies complete and agreement signed consistent with reported COD; permitting application complete. 3 - Interconnection Phase II study complete; permitting application approved; these support reported COD. 2 - Interconnection Phase II study in progress; permitting application in progress; LSE has plan that supports reported COD. 1 - Interconnection Phase II study not begun.
viability_technical_feasibility	Choose 1 – 3 below to report on technical feasibility. This is only necessary for resources not online yet. For online projects leave this blank. 3- Project-specific independent engineering assessment is complete and supports the delivery profile (capacity and/or production) AND Project uses commercialized technology. 2 - Project will use a commercialized technology solution that is currently in use at a minimum of two operating facilities of similar or larger size. 1 – Project uses NEITHER commercialized technology NOR has project specific engineering assessment.
viability_financing_sitecontrol	Choose 1 - 5 or N/A below to report on financing. This is only necessary for resources not yet online. For online projects leave this blank. 5 - All Financing Secured. 4 - Partial Financing Secured. 3 - Seeking Financing. 2 – Project has site control but not Yet Seeking Financing.

	1 – Project does not yet have site control. N/A-No Financing Required.
storage_max_discharge_mw	If the resource is a standalone storage or a hybrid (generator + storage) resource, report the battery's maximum rate of discharge in MW here.
storage_depth_mwh	If the resource is a standalone storage or a hybrid (generator + storage) resource, report the storage total depth in MWh here.
is_hybrid	Drop down list; “no” and possible hybrid technology combinations. <ol style="list-style-type: none"> 1. Not Hybrid 2. existing biomass + existing storage 3. existing biomass + new storage 4. existing geothermal + existing storage 5. existing geothermal + new storage 6. existing solar + existing storage 7. existing solar + new storage 8. existing thermal + existing storage 9. existing thermal + new storage 10. existing wind_high_cf + existing storage 11. existing wind_high_cf + new storage 12. existing wind_low_cf + existing storage 13. existing wind_low_cf + new storage 14. new biomass + existing storage 15. new biomass + new storage 16. new geothermal + existing storage 17. new geothermal + new storage 18. new solar + existing storage 19. new solar + new storage 20. new thermal + existing storage 21. new thermal + new storage 22. new wind_high_cf + existing storage 23. new wind_high_cf + new storage 24. new wind_low_cf + existing storage

	25. new wind_low_cf + new storage
hybrid_generator_mw	A hybrid resource consists of a generator and storage. This is the nameplate of the generator portion of the resource, in MW. Only report this for hybrid or co-located resources.
hybrid_combined_max_mw	The maximum rate the hybrid resource can send energy to the grid. In most cases this will be close to the sum of the generator portion of the hybrid, plus the battery portion of the hybrid.
hybrid_can_charge_from_grid	Drop down list: yes, no. "yes" for when storage can charge from grid AND paired resource. "no" for when storage can ONLY charge from paired resource
storage_duration_hours	The number of MWh that the battery is capable of storing
special_mix	Technology mix of energy making up a contract. Please specify special_mix of the particular technology mix in the following form: [tectype1, value1] [tectype2, value2]... For tectype please use only the following values (case insensitive): ct, ccgt, chp, solar, wind_low_cf, wind_hi_cf, hydro, battery, geothermal, biomass, biogas, nuclear . The sum of values should either equal the total MW of the contract, or one, that is to say the values (value1, value2, etc) can either correspond to MW values or fractions of total contract MW.
special_resource_nameplate	Estimated nameplate of the new resource in MW. Please only provide the numerical value (do not put 'MW' in the cell). This field is also used for non-unit specific contracts and suppliers_choice contracts. In the event of energy only contracts, enter 0 in this field.
buy_or_sell	If this is a transfer sale or purchase and your LSE is purchasing/selling energy and or capacity from/to another LSE, please report it here. Drop down list: Buy, Sell, N/A
special_counterparty	Drop down list of LSE names, from RDTv2.lse_names.lse
special_generator_supplier	Name of supplier selling capacity. No drop down. Please capitalize all names, include no special characters, and underscore instead of spaces between words.

capacity_area	Drop down list; Options include CAISO local areas, PTO area in CAISO if not Local Area, or PTO of interconnection in WECC if not in CAISO.
cpuc_approval_ref	Insert the Decision # or Advice Letter # by which the resource was approved by the CPUC, if applicable. If pending approval by the CPUC, enter "FILED". If an advice letter is required but has not yet been submitted, enter "NOT FILED." If your contract does not require CPUC approval, please leave this field blank.
county	Select the county the project is located in from the drop down list. If the project is not located in California, select the state it is located in. Drop down list; counties in CA, other states in WECC
COD_year	Enter the commercial operation date of the project (year) If the project is not yet online, enter the projected COD.
COD_month	Enter the commercial operation date of the project (month) If the project is not yet online, enter the projected COD.
COD_day	Enter the commercial operation date of the project (day) If the project is not yet online, enter the projected COD.
contract_end_date_year	Enter the date (year) when energy/capacity deliveries are contracted to end, or planned to end if the project is yet contracted.
contract_end_date_month	Enter the date (month) when energy/capacity deliveries are contracted to end, or planned to end if the project is yet contracted.
Contract_end_date_day	Enter the date (day) when energy/capacity deliveries are contracted to end, or planned to end if the project is yet contracted.
contract_execution_date_year	Enter the date (year) when the contract was executed. If the contract has not been executed, enter "N/A".

contract_execution_date_month	Enter the date (month) when the contract was executed. If the contract has not been executed, enter "N/A".
contract_execution_date_day	Enter the date (day) when the contract was executed. If the contract has not been executed, enter "N/A".
d1911016_tranche	<p>Please indicate using the drop-down list whether this project satisfies tranche requirements per D.19-11-016. If this project does not count toward D.19-11-016 requirements, enter N/A. Select only tranches applicable to this project (do not select multiple tranches unless applicable). Projects will only be counted towards a tranche obligation where indicated.</p> <p>Drop down list:</p> <p>N/A, 1, 2, 3, 1 & 2, 1 & 2 & 3, 1 & 3, 2 & 3</p>
previous_COD_year	If this project was included on a previous D.19-11-016 backstop procurement progress report template or other CPUC filing, please indicate the previously submitted COD (year). If this has not been included on a previous report, , enter "N/A". If this project is not counted toward D.19-11-016, please leave this field blank.
previous_COD_month	If this project was included on a previous D.19-11-016 backstop procurement progress report template or other CPUC filing, please indicate the previously submitted COD (month). If this has not been included on a previous report, , enter "N/A". If this project is not counted toward D.19-11-016, please leave this field blank.
previous_COD_day	If this project was included on a previous D.19-11-016 backstop procurement progress report template or other CPUC filing, please indicate the previously

	submitted COD (day). If this has not been included on a previous report, , enter "N/A". If this project is not counted toward D.19-11-016, please leave this field blank.
remediation_plan	Please indicate whether you are submitting a remediation plan with this report. This indicates that the project has failed to meet one or more milestone requirements on time. Drop down list; "yes" and "no". If this project is not counted toward D.19-11-016, please leave this field blank.
signed_contract_new_construction	Indicate whether or not an executed contract with the entity with contractual rights to the resource for new construction of a commercially viable technology exists. If this project is counted toward D.19-11-016, you must submit this contract to the CPUC with this report, unless you have submitted the contract with a previous report and it has not been since modified. "N/A" indicates the project is between LSEs, for demand response, or for an import, not for new construction. No indicates the project does not yet have an executed contract. Drop down list; "yes" "no" "n/a"
notice_to_proceed	Indicate whether or not a "notice to proceed" or similar contractual evidence of construction has been submitted to the CPUC with this report or a previous report. If this project is not counted toward D.19-11-016, please leave this field blank. Drop down list; "yes" and "no"
signed_contract_between_lses_dr_import	Indicate whether or not an executed contract for demand response, imports or sale of excess resources between reporting LSEs has been submitted to the CPUC with this report or a previous report. "N/A" indicates the project is for new construction, not between LSEs, for demand response, or for an import. No indicates the project does not yet have an executed contract. If this project is not counted toward D.19-11-016, please leave this field blank. Drop down list; "yes" "no" "n/a"
public_contract	Is this contract publicly announced? Drop down list: yes, no

buying_energy_capacity	Specify if you are buying energy, capacity, or both from this resource. Drop-down options of "Energy&Capacity, EnergyOnly, CapacityOnly"
macro_supertype	This is a field reserved for RDTv2 macro use. Please do not enter any data into this field. This field will be automatically populated with supertype value by RDTv2 macro based on supertype value (RDTv2.resources.resource_supertype) corresponding to resource name. This field will be activated in the RDTv2's final release.
Notes	Any additional information that LSEs want to provide and was not captured in the existing fields.

Column names for table Monthly_gwh_mw:

Column Name	Instructions
resource	Must correspond to resource name used in unique_contracts
lse_unique_contract_id	Must correspond to lse_unique_contract_id used in unique_contracts.
year	Year of the energy/capacity procured
month	Month of the energy/capacity procured
contract_gwh	Enter the amount of energy contracted for, in GWh, or forecast monthly energy production for resources that do not have a specific GWh identified in the contract. If this is an RA only contract, enter zero here. Do not leave this blank.
contracted_nqc_mw_if_known	If the contract for this resource in this year and month contains a Net Qualifying Capacity (NQC) value that counts for Resource Adequacy (RA) credit, report it here in MW. DO NOT estimate this value if it is not explicitly reported in the contract. If the contract is energy only, enter 0 here. If you plan to buy capacity value but do not know the NQC (for example, because this is a to-be-built future resource), leave this column blank and use the nqc_fraction_if_nqc_not_known instead to report capacity.
nqc_fraction_if_nqc_not_known	The purpose of this field is to allow LSEs to report that they are buying RA capacity for a resource that either does not exist yet, or does not have a known NQC value. In this field, please enter a fraction between 0 and 1, where 0 means completely

energy-only, and 1 means that the LSE plans to purchase all available RA capacity value from the resource. 0.5 means that the LSE is planning to purchase capacity value corresponding to half of total capacity value that is available. ONLY fill this field out if you plan on purchasing capacity value, but have not filled out the contracted_nqc_mw_if_known column. If you filled out contracted_nqc_mw already, leave this blank.