

Resource Data Template Version 3: User Guide Beta Version

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Integrated Resource Planning and Energy Resource Modeling Sections,
Energy Division, California Public Utilities Commission

1. Introduction

This document is a user guide to the Resource Data Template (RDT) version 3 (RDTv3). This user guide is intended to be the primary document instructing the user on the proper use of RDTv3. 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: [2022 IRP Filing Requirement Overview](#) (this document will be released as part of 6/15 filing requirements documents)

2. Differences from Previous Version

Staff provide details in this section in the 6/15 final release

3. Instructions for the fields in the template

The "unique_contracts" tab is the only table in RDTv3 for reporting the LSE's existing and planned energy and capacity contracts. A few general notes/instructions:

- As the name of this tab implies, each row entered into "unique_contracts" tab should describe one and only one contract. When something fundamental about the contract changes (e.g. the resource's nameplate is expanded), please enter them as separate contracts (in separate lines). For more details please read section 8.
- Please note that all the values should be entered as positive numbers (even when the contract is a sale).

The following table provides detailed instructions for all the fields in the "unique_contracts" tab.

Column Name	Instructions	Required data type
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 most recent RDT submission.	string
resource	The resource name, which must come from list RDTv3.resources.resource.	string
alternative_resource_name	Please provide other names that this project has or had if any. If more than one, please separate them with a comma.	string
contract_status	Status showing maturity of contracting process for this resource: One of online, development, review, plannedexisting or plannednew, as defined in section 5.	string

caiso_queue_position	<p>If available, please provide the CAISO Queue Position or Wholesale Distribution Access Tariff (WDAT) identifier for each resource that has one. For a list of the most current CAISO Queue Positions and WDAT numbers, please refer directly to the CAISO or PTO websites, or visit the CPUC's Tracking Energy Development (TED) page to be redirected to the appropriate source. Contracts with multiple numbers should include just the number separated by a comma (,). Please do not include cluster numbers with the CAISO Queue Numbers.</p> <p>For resources that do not yet have a CAISO Queue Position/WDAT identifier, LSEs should use a standardized title with the following format: <i>resourcetype_caiso_planned</i> or <i>resourcetype_wdat_planned</i>. For example, a wind resource that will be connected to the CAISO grid should be called <i>wind_caiso</i>. Imports without a CAISO queue number should include "Import" in this column.</p>	string
interconnection_substation	If CAISO Queue Position or WDAT identifier is not known or is outside of the state, then please provide interconnection substation of the resource or planned CAISO scheduling point if an out-of-state resource.	string
marginal_addition	If the contracted resource includes a marginal addition to an existing resource, report NQC value attributable to the marginal addition in September for the first year of contract delivery.	string
marginal_addition_to	If the contracted resource includes one or more marginal additions to an existing resource from list RDTv3.resources.resource, report the existing resource name here. The resource name must come from list RDTv3.resources.resource. For more instruction please see section 8	string

total_nameplate_capacity	<p>Please provide the total nameplate capacity of the whole project (maximum MW it can deliver) if the RDTv3 does not have specific MAXGEN for this resource (when the RDTv3.resources.MAXGEN is blank). This means for resources with supertype = existinggeneric, newresolve, newgeneric, newloadmod, supplierschoice, unspecifiedimport, unspecifiednonimport, unbundledrec.</p> <p><i><u>Note 1:</u> This field is for the whole project and not the LSE's portion of the project (LSE's contract).</i></p> <p><i><u>Note 2:</u> For hybrid/paired projects, this is the maximum rate (interconnection capacity) resource that can send energy to the grid. In most cases this will be less than the generator portion of the hybrid, plus the storage portion of the hybrid/paired.</i></p> <p><i><u>Note 3:</u> If LSE report this field for the resources that have MAXGEN values in the RDTv3.resources.MAXGEN, RECART will overwrite the LSE's reported value with the one in the RDTv3.resources.MAXGEN in the aggregation process.</i></p>	numeric

<p>contracted_nameplate_capacity</p>	<p>Please provide LSE's contracted nameplate capacity of the project.</p> <p><i>Note 1: This field is for LSE's contracted amount and not the whole project (resource).</i></p> <p><i>Note 2: If this is a hybrid/paired project, report the maximum rate (interconnection capacity) that the LSE can receive from this resource. In most cases this will be less than the LSE's generator portion of the hybrid, plus the LSE's storage portion of the hybrid/paired.</i></p>	<p>numeric</p>
<p>sep_contracted_mw_nqc</p>	<p>Please enter the contracted September Net Qualifying Capacity (NQC) value that counts for Resource Adequacy (RA) program credit for the project's first year online.</p> <p>If the contract either does not exist yet, or does not have a known NQC value, please estimate this value using the current methodologies in use by the CPUC's Resource Adequacy Program.</p> <p>If the contract is energy only, enter 0 here. Do not leave this blank.</p>	<p>numeric</p>
<p>contract_gwh_annual</p>	<p>Enter the annual amount of energy contracted for, in GWh. If this is an RA only contract, enter zero here. Do not leave this blank.</p>	<p>numeric</p>

	<p>If the amount changes over the course of contract, please provide the average annual amount.</p>	
<p>is_hybrid_paired</p>	<p>Drop down list; “no” and possible hybrid and paired technology combinations.</p> <ol style="list-style-type: none"> 1. Not Hybrid or Paired 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 + existing storage 11. existing wind + new storage 12. new biomass + existing storage 13. new biomass + new storage 14. new geothermal + existing storage 15. new geothermal + new storage 16. new solar + existing storage 17. new solar + new storage 18. new thermal + existing storage 19. new thermal + new storage 20. new wind + existing storage 	<p>string</p>

	21. new wind + new storage	
can_charge_from_grid	Drop down list: yes, no. "Yes" for when storage can charge from grid. "No" for when storage can ONLY charge from the associated generator.	string
total_generator_mw	<p>A hybrid/ paired resource consists of a generator and storage. This is the nameplate of the generator portion of the resource, in MW (the whole project). Only report this for hybrid or paired projects.</p> <p><i>Note 1: This field is for the whole generator capacity and not the LSE's portion of that.</i></p> <p><i>Note 2: Section 8 provides more details regarding how to report hybrid/paired projects.</i></p>	numeric
contracted_generator_mw	<p>A hybrid/paired resource consists of a generator and storage. Please provide LSE's contracted nameplate of the generator portion of the project, in MW. Only report this for hybrid or paired projects.</p> <p><i>Note 1: This field is for the LSE's contracted amount from the generator and not the whole generator capacity.</i></p>	numeric

	<i>Note 2: Section 8 provides more details regarding how to report hybrid projects.</i>	
total_storage_mw	<p>A hybrid/paired resource consists of a generator and storage. This is the nameplate of the storage portion of the project, in MW (the whole project). Only report this for hybrid or paired projects.</p> <p><i>Note 1: This field is for the whole storage capacity and not the LSE's portion of that.</i></p> <p><i>Note 2: Section 8 provides more details regarding how to report hybrid projects.</i></p>	numeric
contracted_storage_mw	<p>A hybrid/paired resource consists of a generator and storage. Please provide LSE's contracted nameplate of the storage portion of the project, in MW. Only report this for hybrid or paired projects.</p> <p><i>Note 1: This field is for the LSE's contracted amount from the storage and not the whole storage capacity.</i></p> <p><i>Note 2: Section 8 provides more details regarding how to report hybrid projects.</i></p>	numeric

solar_technology_sub_type	If the resource is a standalone solar, or a hybrid/paired with solar as the generator, report the technology type. Drop down list: Fixed, Tracking	string
storage_technology_sub_type	If the resource is a standalone storage, or a hybrid/paired with storage, report the technology sub type. Drop down list: Li, Flow, Other	string
total_storage_depth_mwh	If the resource is a standalone storage or a hybrid/paired (generator + storage) resource, report the storage total depth in MWh here. <i><u>Note: This field is for the whole storage resource and not the LSE's portion of the project.</u></i>	numeric
contracted_storage_depth_mwh	If the resource is a standalone storage or a hybrid/paired (generator + storage) resource, report the storage total depth in MWh that LSE has contracted for. <i>Note: This field is for the LSE's contracted amount from the storage and not the whole storage resource.</i>	numeric
viability_cod_reasonableness	Choose 1 - 4 below to report on project viability. This is only necessary for projects not online yet.	

	<p>4 - Interconnection studies complete and agreement signed consistent with reported COD; permitting application complete.</p> <p>3 - Interconnection Phase II study complete; permitting application approved; these support reported COD.</p> <p>2 - Interconnection Phase II study in progress; permitting application in progress; LSE has plan that supports reported COD.</p> <p>1 - Interconnection Phase II study not begun.</p>	string
viability_technical_feasibility	<p>Choose 1 – 3 below to report on technical feasibility. This is only necessary for resources not online yet.</p> <p>3. Project-specific independent engineering assessment is complete and supports the delivery profile (capacity and/or production) AND Project uses commercialized technology.</p> <p>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.</p> <p>1 – Project uses NEITHER commercialized technology NOR has project specific engineering assessment.</p>	string
viability_financing_sitecontrol	<p>Choose 1 - 5 or N/A below to report on financing. This is only necessary for resources not yet online.</p> <p>5 - All Financing Secured.</p> <p>4 - Partial Financing Secured.</p> <p>3 - Seeking Financing.</p>	string

	<p>2 – Project has site control but not Yet Seeking Financing.</p> <p>1 – Project does not yet have site control.</p> <p>N/A-No Financing Required.</p>	
resource_mix	<p>Please fill this field only if for the selected resource the</p> <ul style="list-style-type: none"> - Supertype = unspecifiedimport, unspecifiednonimport, supplierschoice - Resolve_final_group= caiso_unkown (this is for newgeneric and newresolve) _EXISTING_GENERIC_UNKNOWN, _NEW_GENERIC_UNKNOWN, <p>“supertype” and “resolve_final_group” are specified for each resource in the RDTv3.resources.resource.</p> <p>Please specify technology mix of energy making up a contract in the following form: [tectype1, value1] [tectype2, value2]... For tectype please use only the following values (case insensitive): thermal, solar, wind, wind_low_cf, wind_hi_cf, hydro, battery, geothermal, biogas, biomass, ct, ccgt, chp, nuclear, dr, other, unknown. The values should be equal to the MW of each technology and the sum of values should be equal to the total MW of the LSE’s contract.</p>	string
cam_d1911016_vamo_ghgfree_pcia	Drop down list: CAM, D.19-11-016, VAMO, GHG-free PCIA	string

	Note: for more details please see section 8	
buy_sell_own	Drop down list: Buy, Sell, Own Note: for more details, please see section 8	string
counterparty	drop down list of lse names, from RDTv3.lse_names.lse Note: for more details, please see section 8	string
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. Note: for more details, please see section 8	string
developer_name	If the project is new construction, please enter the name of the developer. If the project is not new construction, please enter "na"	string

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.	string
capacity_sub_area	Drop down list (the list will be provided in the 6/15 release)	string
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 submitting an executed contract even though CPUC does not need to approve, enter "SUBMITTED".	string
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.	string
COD_year	Enter the commercial operation date of the project (year) If the project is not yet online, enter the projected COD. Please select from the drop-down list.	numeric
COD_month	Enter the commercial operation date of the project (month) If the project is not yet online, enter the projected COD. Please select from the drop-down list.	numeric
COD_day	Enter the commercial operation date of the project (day) If the project is not yet online, enter the projected COD. Please select from the drop-down list.	numeric

contract_start_date_year	Enter the date (year) when energy/capacity deliveries are contracted to start, or planned to start if the project is yet contracted. Please select from the drop-down list.	numeric
contract_start_date_month	Enter the date (month) when energy/capacity deliveries are contracted to start, or planned to start if the project is yet contracted. Please select from the drop-down list.	numeric
contract_start_date_day	Enter the date (day) when energy/capacity deliveries are contracted to start, or planned to start if the project is yet contracted. Please select from the drop-down list.	numeric
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. Please select from the drop-down list.	numeric
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. Please select from the drop-down list.	numeric

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. Please select from the drop-down list.	numeric
contract_execution_date_year	Enter the date (year) when the contract was executed. If the contract has not been executed, enter "NA". Please select from the drop-down list.	numeric
contract_execution_date_month	Enter the date (month) when the contract was executed. If the contract has not been executed, enter "NA". Please select from the drop-down list.	numeric
contract_execution_date_day	Enter the date (day) when the contract was executed. If the contract has not been executed, enter "NA". Please select from the drop-down list.	numeric
tx_upgrades	Please report if transmission upgrade is needed for this project. if the resource is already online, enter "NA". Please select from the drop-down list.	string
tx_upgrade_date_year	Enter the date (year) when the transmission upgrade is needed for this project. Please select from the drop-down list.	numeric
tx_upgrade_date_month	Enter the date (month) when the transmission upgrade is needed for this project. Please select from the drop-down list.	numeric

tx_upgrade_date_day	Enter the date (day) when the transmission upgrade is needed for this project. Please select from the drop-down list.	numeric
tx_upgrade_description	Brief identifying description of upgrade(s) or any additional information that LSEs want to provide about upgrade(s) needed for this project	numeric
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>	string

<p>d2106035_procurement_cat</p>	<p>Please indicate using the drop-down list whether this project is planned to be used to meet procurement requirements of D.21-06-035. If this project does not count toward D.21-06-035 requirements, enter N/A. Select only procurement categories applicable to this project (do not select multiple categories unless applicable). This is not a formal compliance filing for D.21-06-035 and this data will only be used for project tracking purposes.</p> <p>Please choose the year based upon the obligation you are meeting (not the online year if the resource will be online early).</p> <p>“general” refers to procurement that is not planned to meet any of the other procurement categories of D.21-06-035.</p> <p>“ZE_gen_paired_dr” refers to the procurement category: Zero-emissions generation, generation paired with storage, or demand response resources, required by 2025, not necessarily in 2025.</p> <p>“long_duration_storage” refers to the long-duration storage resource procurement category due by 2026, with the possibility of extension to 2028 (choose _ext only if extension has been granted by CPUC).</p> <p>“firm_ZE” refers to firm zero-emitting resource procurement category due by 2026, with the possibility of extension to 2028 (choose _ext only if extension has been granted by CPUC).</p>	<p>string</p>
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	<p>Drop down list:</p> <p>2023_general</p> <p>2024_general</p> <p>2025_general</p> <p>2023_ZE_gen_paired_dr</p> <p>2024_ZE_gen_paired_dr</p> <p>2025_ZE_gen_paired_dr</p> <p>2026_long_duration_storage</p> <p>2027_long_duration_storage_ext</p> <p>2028_long_duration_storage_ext</p> <p>2026_firm_ZE</p> <p>2027_firm_ZE_ext</p> <p>2028_firm_ZE_ext</p> <p>2023_general_and_2024_general</p> <p>2023_general_2024_general_and_2025_general</p> <p>2024_general_and_2025_general</p> <p>2023_ZE_gen_paired_dr_and_2024_ZE_gen_paired_dr</p>	
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	<p>2023_ZE_gen_paired_dr_2024_ZE_gen_paired_dr_and_2025_ZE_gen_paired_dr</p> <p>202</p> <p>2023_general_and_2023_ZE_gen_paired_dr</p> <p>2024_general_and_2024_ZE_gen_paired_dr</p> <p>2025_general_and_2025_ZE_gen_paired_dr</p>	
mtr_tranche1_NQC	<p>Please enter the NQC value you expect this project will contribute to meeting your 2023 D.21-06-035 (MTR) obligation. The NQC entered should be based upon the ELCCs established for the MTR procurement, as well as the procedures regarding use of the ELCCs. The ELCC <i>Staff Transmittal Memo</i> and <i>Incremental ELCC Study for Mid-Term Reliability Procurement</i> contain this guidance and can be found on the IRP Procurement Track webpage, under “Additional Procurement Guidance.”</p> <p>Note: this column is not asking whether or not this contract will be delivering in 2023. This is ONLY asking whether this contract is contributing to meeting an LSE’s 2023 obligation, and if so, what the NQC will be. For the vast majority of projects, an LSE should expect to fill in only one of these columns and leave blank the other columns (i.e., the initial NQC shown will be assumed to carry forward at that level). An LSE will use multiple columns if</p>	numeric

	one project or contract is being used to meet multiple tranches of an LSE's requirement.	
mtr_tranche2_NQC	<p>Please enter the NQC value you expect this project will contribute to meeting your 2024 D.21-06-035 (MTR) obligation. Enter 0 if this project will not fulfill any amount of your 2024 tranche obligation. The NQC entered should be based upon the ELCCs established for the MTR procurement, as well as the procedures regarding use of the ELCCs. The ELCC <i>Staff Transmittal Memo</i> and <i>Incremental ELCC Study for Mid-Term Reliability Procurement</i> contain this guidance and can be found on the IRP Procurement Track webpage, under "Additional Procurement Guidance."</p> <p>Note: this column is not asking whether or not this contract will be delivering in 2024. This is ONLY asking whether this contract is contributing to meeting an LSE's 2024 obligation, and if so, what the NQC will be. For the vast majority of projects, an LSE should expect to fill in only one of these columns and leave blank the other columns (i.e., the initial NQC shown will be assumed to carry forward at that level). An LSE will would use multiple columns if one project or contract is being used to meet multiple tranches of an LSE's requirement.</p>	numeric
mtr_tranche3_NQC	<p>Please enter the NQC value you expect this project will contribute to meeting your 2025 D.21-06-035 (MTR) obligation. Enter 0 if this project will not fulfill any amount of your 2025 tranche obligation. The NQC entered should be based upon the ELCCs established for the MTR procurement, as well as the procedures regarding use of the ELCCs. The ELCC <i>Staff Transmittal Memo</i> and</p>	numeric

	<p><i>Incremental ELCC Study for Mid-Term Reliability Procurement</i> contain this guidance and can be found on the IRP Procurement Track webpage, under “Additional Procurement Guidance.”</p> <p>Note: this column is not asking whether or not this contract will be delivering in 2025. This is ONLY asking whether this contract is contributing to meeting an LSE’s 2025 obligation, and if so, what the NQC will be. For the vast majority of projects, an LSE should expect to fill in only one of these columns and leave blank the other columns (i.e., the initial NQC shown will be assumed to carry forward at that level). An LSE will would use multiple columns if one project or contract is being used to meet multiple tranches of an LSE’s requirement.</p>	
mtr_tranche4_NQC	<p>Please enter the NQC value you expect this project will contribute to meeting your 2026 tranche obligation. Enter 0 if this project will not fulfill any amount of your 2026 D.21-06-035 (MTR) obligation. The NQC entered should be based upon the ELCCs established for the MTR procurement, as well as the procedures regarding use of the ELCCs. The ELCC <i>Staff Transmittal Memo</i> and <i>Incremental ELCC Study for Mid-Term Reliability Procurement</i> contain this guidance and can be found on the IRP Procurement Track webpage, under “Additional Procurement Guidance.”</p> <p>Note: this column is not asking whether or not this contract will be delivering in 2026. This is ONLY asking whether this contract is contributing to meeting an LSE’s 2026 obligation, and if so, what the NQC will be. For the vast majority of projects, an LSE should expect to fill in only one of these columns</p>	numeric

	and leave blank the other columns (i.e., the initial NQC shown will be assumed to carry forward at that level). An LSE will would use multiple columns if one project or contract is being used to meet multiple tranches of an LSE's requirement.	
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. Please select from the drop-down list.	numeric
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. Please select from the drop-down list.	numeric
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. Please select from the drop-down list.	numeric

remediation_plan	<p>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. If this project is not counted toward D.19-11-016, please choose "na". Please select from the drop-down list: "yes", "no", "na".</p>	string
signed_contract	<p>Indicate whether or not an executed contract with the entity with contractual rights to the resource for 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.</p> <p>No indicates the project does not yet have an executed contract.</p> <p>Please select from the drop-down list: "yes", "no"</p>	string
notice_to_proceed	<p>Indicate whether or not a "notice to proceed" or similar contractual evidence of construction commencement has been submitted to the CPUC with this report. If this project is not counted toward D.19-11-016, please leave this field blank.</p> <p>Please select from the drop-down list: "yes", "no"</p>	string
public_contract	<p>Is this contract publicly announced? Please select from the drop-down list: "yes", "no"</p>	string

	Note: As long as the contract has been announced publicly in some way, please report it. If you think you need to add more details, please add to the note column.	
buying_energy_capacity	Please report if this is an energy only contract, capacity only contract, or it delivers both energy and capacity. Please select from the drop-down list: drop-down options of "EnergyCapacity, EnergyOnly, CapacityOnly"	string
NQC_reporting_source	Specify if you have reported the NQC(s) for this contract in the previous column(s) based on the specified amount in your contract or based on estimation. Please select from the drop-down list: "yes", "no"	string
procurement_origin	Please report the origin for procuring this project. Some examples are: RPS, D1911016, D2106035, emergencyreliability, storagemandate, selfgenerationincentiveprogram, localcapacityrequirement Note: If it's more than one, please list all.	string
csp_resource_category	Select the appropriate CSP category from the drop-down list. Please review section 9 for more details.	string
csp_annual_2024	Report the project's delivery for the CSP's 2024 study years based on the specified unit. Please review section 9 for more details.	numeric
csp_annual_2026	Report the project's delivery for the CSP's 2026 study years based on the specified unit. Please review section 9 for more details.	numeric

csp_annual_2030	Report the project's delivery for the CSP's 2030 study years based on the specified unit. Please review section 9 for more details.	numeric
csp_annual_2035	Report the project's delivery for the CSP's 2035 study years based on the specified unit. Please review section 9 for more details.	numeric
macro_supertype	This is a field reserved for RDTv3 macro use. Please do not enter any data into this field. This field will be automatically populated with supertype value by RDTv3 macro based on supertype value (RDTv3.resources.resource_supertype) corresponding to resource name.	
notes	Any additional information that LSEs want to provide and was not captured in the existing fields.	string

4. Resources

RDTv3 defines a list of valid resource names. This list is defined as of the Cutoff Date defined in the contract status section, be low. In RDTv3 this list is located in RDTv3.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 identifying 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:

- Baseline resources (either CAISO ID, ADS name, RPS name, name from the Mid-Term Reliability Baseline Generator List, or other name like DR program)
- Branch Group names of the form “GENERIC_BRANCH_branchname” where “branchname” is the name of the transmission branch name.
- CREZ names of the form “GENERIC_CREZ_crezname” where “crezname” is the name of the CREZ.
- Unbundled recs from a particular CREZ of the form “UNBUNDLED_crezname.”
- Special case values (“unspecified”, “unbundledrec”, “sellerschoice”)

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.

contract_status	Meaning
Online	Contract has been signed (or LSE owns the resource) and the resource is online as of Cutoff Date. The Cutoff Date is defined in the 2022 IRP Filing Requirement Overview .
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).
Review	Contract has been selected and is under review by LSE’s highest decision-making authority (e.g. board of directors) as of final resource table Cutoff Date. 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) in force and resource has a valid Resource ID in the resources table (RDTv3.resources.resource)

Plannednew	Contract is not yet (as of Cutoff Date) in force and resource does not have a valid Resource ID in the resources table (RDTv3.resources.resource)
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6. Supertype

Supertype is a property that is defined for each physical or generic resource defined in the resources table (RDTv3.resources.supertype). The table below defines meanings for the various supertypes.

supertype	Meaning
physical	A specific existing resource.
existinggeneric	Unspecified existing physical resource
newresolve	New resource that can be mapped to a particular CREZ
newgeneric	New resource that cannot be mapped to a particular CREZ or for which the LSE has not planned to procure a particular technology
newloadmod	New load modifier resource
specifiedimport	Specific existing resource with a CAISO ID that is imported from outside of the CAISO.
supplierschoice	LSE buys capacity/energy from a non-LSE entity that is able to provide a mix of resources that are not predetermined in a contract
unbundledrec	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
unspecifiedimport	Imports from outside of the CAISO, delivered over a particular intertie branch group. Resource mix not known.
unspecifiednonimport	A contract for a quantity of energy that is not unit specific, sourced from capacity within the CAISO

7. Key Relationships

For each entry in the RDT, there are several important relationships that must be maintained between certain fields within the input table.

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.

supertype	contract_status
physical	Online, Development, Plannedexisting
existinggeneric	Online, Plannedexisting
newresolve	Online, Development, Review, Plannednew
newgeneric	Online, Development, Review, Plannednew
newloadmod	Online, Development, Review, Plannednew
specifiedimport	Online, Plannedexisting
supplierschoice	Online, Plannedexisting
unbundledrec	Online, Plannedexisting
unspecifiedimport	Online, Plannedexisting
unspecifiednonimport	Online, Plannedexisting

8. Instructions for specific resources/contracts

A. D.19-11-016

1. 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, and thus will have a certain amount of procurement occurring on their behalf, the LSE must enter the resource(s) that are being procured on their behalf. This way the LSE gets credit for the reliability and emission reduction contribution for the procurements occurring on behalf of them.
 - If the specific resource(s) name being procured on their behalf is not known, the LSE should choose one of the generic resources with specific type. For example, “_NEW_GENERIC_SOLAR_1AXIS”, if a solar resource being procured on the LSE’s behalf.
 - For these resources, LSE needs to select “d1911016” in column “cam_d1911016_vamo_ghgfreepcia” and select “buy” in column “buy_sell_own”. LSE needs to select the counterparty from the drop-down list in the “counterparty” column.

2. If an LSE is only procuring its own obligations under D.19-11-016, the LSE must enter the resource/contract details the same way as it does for other contracts.
 - For these resources, LSE needs to select “d1911016” in column “ cam_d1911016_vamo_ghgfreepcia” and select “buy” or “own” in column “buy_sell_own”. If it is a buy, LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
3. For IOUs that are procuring their own obligation and on behalf of opt-out LSEs, the LSE must report the project(s) in multiple lines.
 - LSE must report the full project(s) in one line. For this line, LSE needs to select “d1911016” in column “ cam_d1911016_vamo_ghgfreepcia” and select “buy” or “own” in column “buy_sell_own”. If it is a buy, LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
 - LSE must add another line for the certain amount that they are procuring on behalf of the opt-out LSEs. For this line, LSE needs to select “d1911016” in column “ cam_d1911016_vamo_ghgfreepcia” and select “sell” in column “buy_sell_own”. LSE needs to select the counterparty from the drop-down list in the “counterparty” column.

B. CAM resources: Each LSE should input any eligible resources that are currently subject to the cost allocation mechanism (CAM). In estimating its share of resources subject to the CAM, each LSE should refer to the most recent year-ahead CAM resource list available on the Commission’s Resource Adequacy Compliance Materials webpage. The year-ahead CAM list reflects the contract start and end dates of Commission approved CAM resources. The list itemizes the resource adequacy capacity value by month for each IOU service territory. An LSE’s proportional share is determined by its year-ahead share of the total coincident peakload for each IOU service territory, as assigned in the Commission’s annual resource adequacy process. The LSE’s proportional share of that resource is assumed static through the IRP planning horizon, but it will be updated each IRP cycle based on the current proportional share assignment from the Commission’s annual resource adequacy process. LSEs should not make assumptions or predictions on what resources may be procured on behalf of all load and subject to the CAM in the future beyond what is already included in the most recent year-ahead CAM resource list.

1. IOUs that hold the contracts for the CAM resources must report the project(s) in multiple lines.

- LSE must report the full project(s) in one line. For this line, LSE needs to select “cam” in column “cam_d1911016_vamo_ghgfreepcia” and select “buy” or “own” in column “buy_sell_own”. If it is a buy, LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
 - LSE must add another line for the certain amount that other LSEs are receiving allocation for. For this line, LSE needs to select “cam” in column “cam_d1911016_vamo_ghgfreepcia” and select “sell” in column “buy_sell_own”. LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
2. LSEs that do not hold the contract and only are receiving an allocation of the CAM resource(s), should report their share of resource(s) subject to the CAM. For this, LSE needs to select “cam” in column “cam_d1911016_vamo_ghgfreepcia” and select “buy” in column “buy_sell_own”. LSE needs to select the counterparty from the drop-down list in the “counterparty” column.

C. GHG free PCIA resources: LSEs must enter their GHG free Power Charge Indifference Adjustment (PCIA) resources.

1. For reporting the GHG-free PCIA resources agreements, LSEs need to add a separate row and choose one of the generic resources with specific type (e.g, “_NEW_GENERIC_SOLAR_1AXIS”). LSEs need to select “ghgfreepcia” in “cam_d1911016_vamo_ghgfreepcia” column.
2. IOUs that are allocating the GHG-free PCIA resources to other LSEs must report the project(s) in multiple lines.
 - must report the full project(s) in one line. For this line, LSE needs to select “ghgfreepcia” in the “cam_d1911016_vamo_ghgfreepcia” column and select “buy” or “own” in “buy_sell_own” column. If it is a buy, LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
 - must add another line for the certain amount that other LSEs are receiving allocation for. For this line, LSE needs to select “ghgfreepcia” in column “cam_d1911016_vamo_ghgfreepcia” and select “sell” in column “buy_sell_own”
3. LSEs accepting GHG-free PCIA resources from IOUs should select “buy” in column “buy_sell_own”. LSEs also need to select “EnergyOnly” in the “buying_energy_capacity” column.
4. LSEs are not required to coordinate with one another about GHG-free PCIA allocations and buys/sells when putting together their plans. However, LSEs are encouraged to do so.

- D. VAMO:** LSEs must enter their known voluntary allocations and market offers (VAMO) agreements and then make their own assumptions about future allocations and buy/sell out to 2035.
1. For reporting the VAMO agreement, LSEs need to add a separate row and choose one of the generic resources with specific type (e.g, “_NEW_GENERIC_SOLAR_1AXIS”). LSEs need to select “VAMO” in “cam_d1911016_vamo_ghgfreepcia” column. LSEs also need to select “EnergyOnly” in the “buying_energy_capacity” column.
 2. IOUs that are allocating VAMO to other LSEs must report the project(s) in multiple lines.
 - must report the full project(s) in one line. For this line, LSE needs to select “vamo” in the “cam_d1911016_vamo_ghgfreepcia” column and select “buy” or “own” in “buy_sell_own” column. If it is a buy, LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
 - must add another line for the certain amount that other LSEs are receiving allocation for. For this line, LSE needs to select “vamo” in column “cam_d1911016_vamo_ghgfreepcia” and select “sell” in column “buy_sell_own”
 3. LSEs that accepting VAMO from IOUs should select “buy” in column “buy_sell_own”. LSEs also need to select “EnergyOnly” in the “buying_energy_capacity” column. If it is a buy, LSE needs to select the counterparty from the drop-down list in the “counterparty” column.
 4. LSEs are not required to coordinate with one another about VAMO allocations and buys/sells when putting together their plans. However, LSEs are encouraged to do so.
- E. Inter LSE Transfers:** For all other inter LSE transfers that are different from A-D above, LSEs need to enter them 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 (buy) or a sale (sell) in the “buy_sell_own” column.
1. LSE needs to select the counterparty from the drop-down list in the “counterparty” column. If the counter party is a non-LSE resource is being sold by the LSE , select “non-LSE counterparty” from the drop-down list.
- F. 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 "generator_supplier" field to name the non-LSE supplier with whom the LSE has a contract. Please also use the resource_mix field to describe the estimated mix of resource types in the contract. Also estimate the resource nameplate for the contract.

- G. 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.
- H. 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.
1. If this project is based on expanding an already existing resource in the "RDTv3.resources.resource" (e.g. adding more solar capacity to one of the existing solar resources in the resource tab):
 - Select one of the generic resources from "RDTv3.resources.resource" with a specific type that reflects this resource.
 - Instruction for marginal_addition field
 - Report the existing resource name in the "marginal_addition_to" field (the resource that has been expanded)
 1. **Hybrid/paired resource:** A hybrid/paired resource consists of a generator and storage. For reporting such a contract in RDTv3's "unique_contracts" tab, please follow this instruction:
 1. Select one of the generic resources from "RDTv3.resources.resource" with a specific type that reflects the generator portion of the hybrid/paired resource.
 2. Instruction for marginal_addition field
 3. If this resource has become hybrid/paired by adding storage to an already existing generator listed in the "RDTv3.resources.resource", report the existing resource name in the "marginal_addition_to" field

4. In the "total_nameplate_capacity" field, report the maximum rate (interconnection capacity) that this hybrid/paired project can deliver. In most cases, this will be less than the generator portion of the hybrid, plus the storage portion of the hybrid.
5. In the "contracted_nameplate_capacity" field, report the maximum rate (interconnection capacity) that the LSE can receive from this hybrid/paired project. In most cases, this will be less than the LSE's generator portion of the hybrid, plus the LSE's storage portion of the hybrid.
6. Select the hybrid technology combinations from the drop-down list in the "is_hybrid_colocated" field.
7. In the "can_charge_from_grid", specify if the storage can charge from the grid or if it can only charge from the paired generator.
8. In the "total_generator_mw" field, report the nameplate of the generator portion of the resource, in MW (the whole project).
9. In the "contracted_generator_mw" field, report LSE's contracted nameplate of the generator portion of the project, in MW.
10. In the "total_storage_mw" field, report the nameplate of the storage portion of the resource, in MW (the whole project).
11. In the "contracted_storage_mw" field, report LSE's contracted nameplate of the storage portion of the project, in MW.
12. specify solar - if the generator portion is solar - and storage technology types in "solar_technology_sub_type" and "storage_technology_sub_type."
13. In the "total_storage_depth_mwh" field, report the storage total depth in MWh (the whole project).
14. In the "tcontracted_storage_depth_mwh" field, report the storage total depth in MWh that LSE has contracted for.

9. CSP fields instructions

For each contract reported in the RDTv3's "unique_contracts" tab, LSEs need to specify what CSP category the contract falls under and also report the associated MW or GWh for the CSP's study years: 2024, 2026, 2030, and 2035. After filling out the RDT, the LSE should copy the numeric values from the "CSPReportSheet" tab from the RDTv3 directly into the "Supply Inputs" tab of the CSP workbook using the "paste values" option in Excel. Resources count towards an LSE's CSP portfolio only if their power output is delivered to (1) a California Balancing Authority area, if RPS- eligible, or (2) the CAISO system if the resource is not RPS-eligible.

A. This CSP portfolio includes:

- a. RPS-eligible delivered resources (whether within CAISO or a dedicated import; includes RPS Bucket 1 and any other RPS-eligible resources that meet the criteria to qualify as RPS Bucket 1 except for the contract execution date of the resource)
- b. Large hydro within CAISO
- c. Dedicated imports of Pacific Northwest hydro (under control of an Asset Controlling Supplier)
- d. Nuclear (whether within CAISO or a dedicated import)
- e. Coal (dedicated import)
- f. Shed demand response (load shedding at peak)
- g. Standalone Battery storage
- h. Pumped hydro storage
- i. Hybrid or paired solar and battery resources
- j. Generation with a defined hourly profile that:
 - i. Does not fit into one of the categories above, and
 - ii. Does not produce GHG emissions

B. The CSP portfolio excludes:

- a. Dispatchable gas resources (combined cycle, combustion turbine, etc.)
- b. Unspecified imports
- c. Gas-fired combined heat and power

For each contract in the "unique_contracts" tab, select the appropriate CSP category in the "csp_resource_category" column according to A and B above.

- The available CSP categories are: Large Hydro (GWh); Imported Hydro (GWh); Nuclear (GWh); Biogas (GWh); Biomass (GWh); Geothermal (GWh); Small Hydro (GWh); Wind Existing California (GWh); Wind New PG&E (GWh); Wind New SCE SDG&E

(GWh); Wind Pacific Northwest (GWh); Wind Wyoming (GWh); Wind New Mexico (GWh); Wind Offshore Morro Bay (GWh); Wind Offshore Humboldt (GWh); Solar Existing California (GWh); Solar New PG&E (GWh); Solar New SCE SDG&E (GWh); Solar Distributed (GWh); Hybrid or paired solar and battery (GWh); Shed DR (MW); Pumped Storage (MW); Battery Storage (MWh Energy Capacity); User-Specified Profiles; RPS Resource (GWh); GHG-free non-RPS Resource (GWh); Coal (GWh)

- The CSP categories have different units based on resource type (as specified for each)
 - Installed capacity for shed demand response and pumped hydro (MW)
 - Installed discharge depth for standalone batteries (MWh Energy Capacity)
 - and annual energy for all other resources (GWh)
- After choosing the CSP category, LSE must report the projects delivery for the CSP's study years: 2024, 2026, 2030, and 2035 based on the specified unit.
 - There are for columns in the "unique_contracts" tab to cover the CSP's study years: csp_annual_2024, csp_annual_2026, csp_annual_2030, csp_annual_2035.
- For resources that must be excluded from CSP portfolio based on A and B above (e.g. unspecified imports, Combined Cycle Gas Turbine Power Plant, etc.), please select "NA" for the CSP category. Please do not leave this field blank.

10. Reliability worksheet instructions

The purpose of the "Reliability" worksheet is to inform whether there are sufficient capacity contracts to meet each LSE's reliability needs. The worksheet is organized as follows:

Section Name	Instructions
MMT	Drop down list of GHG scenarios for 2035: 30MMT and 25MMT. Please select the appropriate scenario for each RDT.

Reliability Need	Please enter the modified peak values based on LSE's allocation. Staff will provide the target PRM in the final release.
BTM PV	Please enter the installed capacity values based on LSE's allocation.
ELCC (%)	No LSE inputs required. This section pulls in ELCCs (%) from the "misc" worksheet based on the MMT scenario selected. Staff will provide these ELCCs (%) in the final release. Note: In the final RDTV3's reliability worksheet version to be released in July 2022, staff will clarify ELCCs as either marginal or average ELCCs. If marginal ELCCs are used, staff will also provide adjustments to the LSE's reliability need above to represent the marginal need.
Contract ELCC (MW)	Please extend the formulas in columns BY:CE, CH:CV in the "unique_contracts" worksheet to all rows with contract information so that all contracts are included in the reliability calculation.
Load and Resource Table by Resource Type	Summary table and chart. No LSE inputs required.
Load and Resource Table by Contract Status	Summary table and chart. No LSE inputs required.

LSEs should be aware for their planning purposes that for a capacity contract to be included in the worksheet's reliability calculation in a specific year, the contract start date must be on or before June 1st of that year and the end date must be on or after October 1st of that year. Also, capacity contracts with "Sell" under the "buy_or_sell" column in the "unique_contracts" worksheet are subtracted from the total available capacity to meet LSE's reliability need.

Please note that the "Reliability" worksheet and its related inputs and calculations in other worksheets are still under development and subject to change in future releases. The final version will be released in July 2022. It will likely include updates to:

- ELCC categories in the “Reliability” worksheet
- Mapping between resources and ELCC categories in the “resources” worksheet
- “hybrid derate” in the “unique_contracts” worksheet

11. Error Checking Macro Instruction

LSEs are required to run the macro resulting in an error-free ReportSheet before their final submission.

Be aware that development of this macro is ongoing and is currently missing several features that will be added by the official release. Staff welcomes any suggested revisions to the macro that enable it to run more efficiently or accurately.

11.1 Recommendations:

- Because Excel’s undo feature does not revert changes made by macros, it is highly recommended that a backup version of RDTv3 file is saved before running the macro.
- It is not recommended to have other Excel documents open when running the macro, as conflicts can arise.
- Most errors arise when a required field of data has been left blank. It is recommended that LSEs review the requirements for the different contract attributes when error-checking.
- If the macro takes a long time to complete (i.e., more than 1 to 2 minutes) or any errors are shown on rows that contain no contract data, check for any invisible characters have been inadvertently pasted/entered on the unique_contracts sheet.

11.2 Instructions:

1. Once contract data has been entered in the RDTv3, go to the sheet titled “README”.
1. Click on the button titled **Run error check macro**.
 - a. If no errors are encountered with the macro itself, the ReportSheet should be shown.
 - i. Column A of the ReportSheet provides a list any duplicated contract IDs. All other columns will list the rows where errors were found.

- b. If an error is encountered with the macro itself, a message box will be shown describing which sub procedure the error occurred in. The logic for each sub procedure is outlined below.
2. The macro can be rerun as many times as needed, and will automatically clear the ReportSheet and recheck for errors with each rerun.

11.3 Macro sub procedure logic:

1. *program_start* Sub
 - a. Checks that the required worksheets are in the workbook (no worksheets have been removed/renamed).
2. *create_reports* Sub
 - a. Checks if ReportSheet exists.
 - i. If not, creates a sheet with the name.
 - ii. If so, clear the contents from the sheet.
 - b. Adds and formats headers
3. *Check_resources* Sub
 - a. Checks that each entry in *unique_contracts.resource* column matches a value on the *resources.resources* field.
Creates report of row numbers that does not exactly match.
 - b. Returns list of *lse_unique_contract_ids* that appear more than once in ReportSheet.
4. *check_viability* Sub
 - a. If *unique_contracts.contract_status* is "Development", "PlannedNew", then check that fields below are not blank:
 - i. *unique_contracts.viability_cod_reasonableness*
 - ii. *unique_contracts.viability_technical_feasibility*
 - iii. *unique_contracts.viability_financing_sitecontrol*
 - b. If blank, adds row number to ReportSheet.
5. *check_hybrid* Sub

- a. If *unique_contracts.is_hybrid_or_colocated* is not equal to “Not Hybrid” Check that the following fields *unique_contracts* are not blank:
 - i. *marginal_addition*
 - ii. *total_nameplate_capacity*
 - iii. *contracted_nameplate_capacity*
 - iv. *generator_mw*
 - v. *can_charge_from_grid*
 - vi. *storage_max_discharge_mw*
 - vii. *storage_depth_mwh*
- b. Check that *unique_contracts.generator_mw + unique_contracts.storage_max_discharge_mw* <= *total_nameplate_capacity*

6. *find_super_type* Sub

- a. Creates dictionary of *resources.resource* and *supertype* as key-value pairs.
- b. Iterates through each entry in *unique_contracts.resource*. When *resource-key* matches, prints to *unique_contracts.macro_supertype* field either the *supertype* from dictionary. Otherwise, prints “Null or invalid resource entered”.

7. *Super_Add_Columns* Sub

- a. Check that all entries in *resource_mix* conform to formatting guidance (at least a little).
- b. Confirm Additional Required Columns relationships and that required entries not NULL (see below table)
 - i. For each entry in *unique_contracts.macro_supertype*, if value is missing from required field, report row number and required column.

8. *super_contracts_status* Sub

- a. Confirm contract status relationships and that required entries not NULL (see below table)
- b. Check all contract rows have entries in *unique_contracts.contract_status* have entries.
- c. Confirm correct *macro_supertype-contract_status* relationships

- d. For each entry in *unique_contracts.macro_supertype*, report to LSEs row number where incorrect *unique_contracts.contract_status* is reported. Also report to LSEs all rows where *unique_contracts.contract_status* is NULL or missing.

9. *transaction_check* Sub

- a. Report any contract rows that do not have entries in *unique_contracts.buy_or_sell* equal to Buy, Sell, or Owned.
- b. Report any contract rows where *unique_contracts.buy_or_sell* is Buy or Sell without value in *unique_contracts.counterparty*.
- c. Report any contract rows that do not have entries in *unique_contracts* NQC_reporting_source.

10. *csp_check* Sub

- a. Report any contract rows that do not have entries in *unique_contracts.csp_resource_category*

11. *d2106035_tranche_check* Sub

- a. Report any contract rows that have entries in *unique_contracts.d2106035_tranche* but that lack entries into one of the *mtr_yyyy_nqc* columns