

Integrated Resource Planning (IRP) Mid-term Reliability (MTR) Net Qualifying Capacity (NQC) Validation Tool

Energy Division Office Hours

July 10, 2023



California Public
Utilities Commission

1. Introduction

Logistics & Scope

- Draft of the MTR NQC Validation Tool (Tool) and Instructions are available on the [IRP Procurement Track website](#).
- These office hours will be recorded, with the recording posted to the same webpage.
- The final Tool will be released ahead of the August 1, 2023, IRP Compliance filing deadline; final instructions will be included in the filing requirements document.
- The objectives of these office hours are to:
 - Clarify the role of the Tool in LSEs' August 1, 2023, compliance filings.
 - Advance LSEs' understanding of how to use the Tool.
 - Ensure that LSEs have a chance to ask Energy Division staff questions about the Tool and the requirements.
- IRP staff cannot answer LSE-specific contracting questions during these office hours.

Questions

- We invite stakeholders to ask clarifying questions using the chat feature of this Webex but ask stakeholders to save specific questions to the “Q&A” portion at the end office hours.
- Outstanding questions stakeholders have emailed IRP staff will not all be addressed in these office hours.
- Should time not permit attention to every question please email your questions to IRPDataRequest@cpuc.ca.gov

Agenda

Topic	Timing	Presenter(s)
1. Introduction	5 min	Christine Root
2. Context, Process, & Timing	10 min	Lauren Reiser
3. Brief Review of MTR ELCC materials	10 min	Lauren Reiser
<u>4. MTR NQC Validation Tool</u>		
4.1 Sample Entries & Tool Walkthrough	15 min	Sarah Goldmuntz
4.2 Common Errors	10 min	Sarah Goldmuntz
5. LSE Q&A	30 min	All

2. Context, Process, and Timing

IRP Procurement Orders and Compliance Review Schedule

Table 1. CPUC Procurement Orders (MW NQC)

CPUC Orders	Total	2021	2022	2023	2024	2025	2026	2027	2028
D.19-11-016 Applies to 25 LSEs since 18/43 LSEs opted out.	3,300 MW	1,650 MW by Aug 1	825 MW by Aug 1	825 MW by Aug 1	n/a	n/a	n/a	n/a	n/a
D.21-06-035 (MTR) Applies to all CPUC-jurisdictional LSEs. No opt-outs allowed.	11,500 MW	n/a	n/a	2,000 MW by Aug 1	6,000 MW by June 1	1,500 MW ¹ by June 1	n/a ²	n/a	2,000 MW by June 1
D.23-02-040 (Supplemental MTR) Applies to all CPUC-jurisdictional LSEs. No opt-outs allowed.	4,000 MW	n/a	n/a	n/a	n/a	n/a	2,000 MW by June 1	2,000 MW by June 1	n/a
Cumulative Procurement Ordered	18,800 MW	1,650 MW	2,475 MW	5,300 MW	11,300 MW	12,800 MW	14,800 MW	16,800 MW	18,800 MW

Table 2. CPUC Review of LSE Contracting Progress

	2021	2022	2023	2024	2025	2026	2027	2028
CPUC Reviews LSE Compliance Filings and CPUC could order Backstop Procurement	February 2021	February 2022	February 2023 & December 2023	December 2024	December 2025	December 2026	December 2027	December 2028
CPUC Reviews LSE Compliance Filings only	August 2021	August 2022	August 2023 ³	June 2024	June 2025	June 2026	June 2027	June 2028

(1) D.21-06-035 required 2,500 of the 9,000 MW required between 2023-2025 be "Diablo-Canyon Replacement".

(2) D.21-06-035 required 2,000 MW of Long-Lead Time Procurement by 2026, with an option to extend to 2028: 1,000 MW of long-duration storage and 1,000 MW of firm zero-emitting. D.23-02-040 automatically extends the procurement obligation to 2028.

(3) In August 2023, the Commission can order back stop for the for remaining D.19-11-016 procurement obligations.

August 1, 2023, Compliance Filings

- On August 1, 2023, all LSEs with obligations under D.19-11-016 and D.21-06-035 are required to make compliance filings.
 - LSEs are also requested to report on their D.23-02-040 obligations and any recent procurement in the LA Basin LCR.
- Compliance Filings are explained in the August 2023 Filing Requirement Overview as well as the RDTv3 User Guide.
- 8/1 Filings Include:
 - Public RDTv3
 - Confidential RDTv3 (incl. NQC validation Tool)
 - Contracts, milestone documentation, & engineering assessments as required
- Not required for this filing:
 - Narrative Template or CSP Tool
 - Reliability or CSP tabs of the RDTv3
- Expectations:
 - All D.19-11-016 procurement should be online
 - All 2023 D.21-06-035 procurement or bridge resources should be online
 - LSEs should have significant progress toward the remainder of their D.21-06-035 and D.23-02-040 obligations

MTR NQC Validation Tool Overview

- IRP staff developed this MTR NQC Validation Tool (“Tool”) to help validate procurement volumes that LSEs are reporting for their D.21-06-035 and D.23-02-040 compliance (MTR).
 - LSEs are instructed to only include MWs (NQC) that they are using to satisfy their collective MTR procurement obligations in the Tool. The RDT itself should still include all IRP compliance MWs.
 - Excess D.19-11-016 procurement being used for MTR compliance should be included, but only the volumes for MTR.
 - Energy-only contracts can be omitted from the Tool.
- IRP staff plans to use information from the Tool as a part of its holistic review of LSE compliance, but it is not the only information staff will review.
- This Tool will help staff determine compliance with official Commission Decisions and any outputs should not be taken as final NQC values or compliance decisions.
- This Tool will not track & validate Diablo Canyon Procurement at this time.

3. Brief Review of MTR ELCC Materials

MTR ELCC Materials

2021 Materials

- [2021 Staff transmittal memo](#)
 - ELCCs for '23 (T1) and '24 (T2) compliance dates; '25 (T3) + '26 (T4) compliance dates for contracts entered before 11/30/2022.
 - Direction on geothermal counting & other clarifications.
- [2021 Study for Mid-Term Reliability Procurement by E3 and Astrapé \(2021 Study\)](#)

2023 Materials

- [June 2023 Staff Memo](#)
 - Addresses requirements in D.23-02-040 to provide final guidance on procurement adopted in that decision.
 - Confirms that ELCC values issued in 2023 MTR Study are still effective.
 - Clarifies which ELCCs stakeholders should use for OOS wind resources not explicitly mentioned in previous ELCC studies.
- [2023 Staff Transmittal Memo](#)
 - ELCCs for '25 (T3) + '26 (T4) compliance dates for contracts entered after 11/30/2022.
 - ELCCs for procurement adopted in D.23-02-040 – '27 (T5) + '28 (T6).
 - Directions for ELCCs for delayed contracts.
- [Incremental ELCC Study for Mid-Term Reliability Procurement \(January 2023 Update\)](#)

ELCCs for Resources Identified in MTR Studies

	Tranche 1 2,000 MW 2023	Tranche 2 6,000 MW 2024	Tranche 3 1,500 MW 2025	Tranche 4 2,000 MW 2026	Tranche 5 2,000 MW 2027	Tranche 6 6,000 MW 2028
Source(s)	2021 Study	2021 Study	2021 Study for contracts signed <u>before</u> 11/30/2022 2023 Study for contracts signed <u>after</u> 11/30/2022	2021 Study for contracts signed <u>before</u> 11/30/2022 2023 Study for contracts signed <u>after</u> 11/30/2022	2023 Study	2023 Study

ELCCs in NQC Validation Tool

- ELCCs are available on the “misc” tab of the RDT.
- For the Tool, the ELCCs in the dropdown menu follow the general format below.

Resource type

- 4hr_storage
- 4hr_storage
- hydro

Year

- 2026
- 2026
- N/A

Contract Execution

- pre_nov302022
- post_nov302022
- N/A

Additional ELCC Guidance

- D.21-06-035:
 - *For all other resource types, counting will be in accordance with the system resource adequacy NQC counting rules at the time the contract for the new resource or capacity added to an existing resource is executed.*
- IRP staff guidance
 - LSEs are obligated to fill each tranche of their procurement obligation, regardless of resource delays. In this way, all LSEs have equal access to each tranche's ELCCs.

Pending Tool Updates

- Update 2027 & 2028 Tranche obligations to accurately reflect procurement requirements.
- Demand response (loadmod) ELCC will be updated
- COD logic for tranche assumptions will likely reflect compliance cutoff dates, per D.21-06-035.
- Updated Tool summary will have a row where LSEs can enter pending trades, per D.23-02-040.
- Other minor clean-ups to the data validation will make the logic cleaner and more accurate and will be released in the final Tool.

4. MTR NQC Validation Tool

NQC Validation Tool fields

- **lse_unique_contract_id:** LSE selects contract from list of LSE reported contracts on the “unique_contracts” tab.
 - Each row on the "elcc_template" tab should correspond to one tranche. If a contract is being used for more than once tranche, filers are directed to enter multiple lines for each tranche.
- **resource_type:** LSE selects the contract's resource type from the drop-down menu.
 - For resources that are hybrids/paired, LSEs should select the correct generation-storage and *not* a separate line for the contract's generation and storage components.
- **LSE_Selected_MTR_Tranche:** select the tranche for which the resource is counting for.
- **%_nameplate/tranche_non_hybrid/hybrid(gen+storage):** Manually enter the percentage (0-100%) of the specific contract selected will be counted towards the specific tranche.
- **elcc_non_hybrid/hybrid (gen+storage):** Select the appropriate Tranche for which this contract will count for.

Key Fields: non-hybrid contracts

id	contract_name	sep_contracted_mw_nqc	is_hybrid_paired	can_charge_from_grid	contracted_generator_mw	contracted_storage_mw	contract_start_date_year	contract_start_date_month	contract_start_date_day	contract_execution_date_year	contract_execution_date_month	contract_execution_date_day	d2106035_procurement_cat	mtr_tranche1_NQC	mtr_tranche2_NQC	mtr_tranche3_NQC	mtr_tranche4_NQC	mtr_tranche5_NQC	mtr_tranche6_NQC	mtr_NQC_ZE_gen_paired_dr	
sample_1_geothermal		37	34	NotHybrid	NA		2028	5	5	2023	2	10	firm_ZE							34.5	34.5
sample_1_hybrid				NewSolarNewStorage	YES	200	2024	1	14	2022	5	15	general	15.6	43.8	28.2					
sample_1_LDES		36	32	NotHybrid	NO		2028	3	1	2023	1	10	long_duration_storage							32	32
sample_1_non-hybrid		100	94.9	NotHybrid	YES		2023	4	23	2022	12	1	general	72.2	22.7						
sample_2_hybrid				NewWindNewStorage	NO	500	2024	2	2	2023	3	5	general	193	18.4						
sample_2_non-hybrid		350	24	NotHybrid	NO		2024	10	15	2022	6	1	general			23.45					
sample_3_hybrid				NewSolarNewStorage	YES	300	2023	12	25	2022	8	6	ZE_gen_paired_dr	87.8							
sample_3_non-hybrid		175	130	NotHybrid	YES		2026	1	2	2023	2	10	general				26.8	103.6			
sample_4_hybrid				NewSolarNewStorage	NO	150	2023	11	26	2023	1	1	ZE_gen_paired_dr	46.9	38						
sample_4_non-hybrid		350	266	NotHybrid	YES		2026	5	31	2023	1	1	general				193	72.5			

Key Fields: hybrid contracts

base_unique_contract_id	contracted_name_plate_capacity	sep_contracted_mw_nqc	is_hybrid_paired	can_charge_from_grid	contracted_generator_mw	contracted_storage_mw	contract_start_date_year	contract_start_date_month	contract_start_date_day	contract_execution_date_year	contract_execution_date_month	contract_execution_date_day	d2106035_procurement_cat	mtr_tranche1_NQC	mtr_tranche2_NQC	mtr_tranche3_NQC	mtr_tranche4_NQC	mtr_tranche5_NQC	mtr_tranche6_NQC	mtr_NQC_ZE_gen_paired_dr	
sample_1_geothermal	37	34	NotHybrid	NA			2028	5	5	2023	2	10	firm_ZE							34.5	34.5
sample_1_hybrid			NewSolarNewStorage	YES	200	100	2024	1	14	2022	5	15	general	15.6	43.8	28.2					
sample_1_LDES	36	32	NotHybrid	NO			2028	3	1	2023	1	10	long_duration_storage							32	32
sample_1_non-hybrid	100	94.9	NotHybrid	YES			2023	4	23	2022	12	1	general	72.2	22.7						
sample_2_hybrid			NewWindNewStorage	NO	500	200	2024	2	2	2023	3	5	general	193	18.4						
sample_2_non-hybrid	350	24	NotHybrid	NO			2024	10	15	2022	6	1	general			23.45					
sample_3_hybrid			NewSolarNewStorage	YES	300	75	2023	12	25	2022	8	6	ZE_gen_paired_dr	87.8							
sample_3_non-hybrid	175	130	NotHybrid	YES			2026	1	2	2023	2	10	general				26.8	103.6			
sample_4_hybrid			NewSolarNewStorage	NO	150	75	2023	11	26	2023	1	1	ZE_gen_paired_dr	46.9	38						
sample_4_non-hybrid	350	266	NotHybrid	YES			2026	5	31	2023	1	1	general				193	72.5			

4.1 Sample Entries & Tool Walkthrough

1. Select a contract

lse_unique_contract_id	resource_type	LSE_Selected_MTR_ %_nameplate/tranche_non_ %_nameplate/tranche_hybr Tranche	id_gen	storage	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal							
sample_1_hybrid							
sample_1_hybrid							
sample_1_hybrid							
sample_1_LDES							
sample_1_non-hybrid							
sample_1_non-hybrid							
sample_2_hybrid							
sample_2_hybrid							
sample_2_non-hybrid							
sample_3_hybrid							
sample_3_non-hybrid							
sample_3_non-hybrid							
sample_4_hybrid							
sample_4_hybrid							
sample_4_non-hybrid							
sample_4_non-hybrid							

Each contract will get a separate row for each tranche in which the specific contract will count towards a distinct tranche.

2. Select each contract's resource type

lse_unique_contract_id	resource_type	LSE_Selected_MTR_ %_nameplate/tranche_non_ %_nameplate/tranche_hybrid_ %_nameplate/tranche_hybrid_	Tranche	hybrid	d_gen	storage	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal	geothermal								
sample_1_hybrid	solar storage								
sample_1_hybrid	solar storage								
sample_1_hybrid	solar storage								
sample_1_LDES	storage								
sample_1_non-hybrid	storage								
sample_1_non-hybrid	storage								
sample_2_hybrid	solar storage								
sample_2_hybrid	solar storage								
sample_2_non-hybrid	solar								
sample_3_hybrid	solar storage								
sample_3_non-hybrid	storage								
sample_3_non-hybrid	storage								
sample_4_hybrid	wind storage								
sample_4_hybrid	wind storage								
sample_4_non-hybrid	storage								
sample_4_non-hybrid	storage								

Then, select the resource type that corresponds with the selected contract.

2. Select each contract's resource type

lse_unique_contract_id	resource_type	LSE_Selected_MTR_ %_nameplate/tranche_non_ %_nameplate/tranche_hybri %_nameplate/tranche_hybrid_ d_gen	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal	geothermal				
sample_1_hybrid	solar storage				
sample_1_hybrid	solar storage				
sample_1_hybrid	solar storage				
sample_1_LDES	storage				
sample_1_non-hybrid	storage				
sample_1_non-hybrid	storage				
sample_2_hybrid	solar storage				
sample_2_hybrid	solar storage				
sample_2_non-hybrid	solar				
sample_3_hybrid	solar storage				
sample_3_non-hybrid	storage				
sample_3_non-hybrid	storage				
sample_4_hybrid	wind storage				
sample_4_hybrid	wind storage				
sample_4_non-hybrid	storage				
sample_4_non-hybrid	storage				

For hybrid/paired resources, choose the resource type that correspond with the contracted resource types

2. Select each contract's resource type

lse_unique_contract_id	resource_type	LSE_Selected_MTR_ %_nameplate/tranche_non_ %_nameplate/tranche_hybr Tranche	id_gen	storage	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal	geothermal						
sample_1_hybrid	storage						
sample_1_hybrid	solar						
sample_1_LDES	storage						
sample_1_non-hybrid	storage						
sample_1_non-hybrid	storage						
sample_2_hybrid	solar						
sample_2_hybrid	storage						
sample_2_non-hybrid	solar						
sample_3_non-hybrid	storage						
sample_3_non-hybrid	storage						
sample_4_hybrid	wind						
sample_4_hybrid	storage						
sample_4_non-hybrid	storage						
sample_4_non-hybrid	storage						

For hybrid/paired resources, do not do separate rows for the storage and generation components of paired or hybrid resources

3. Select each contract's Tranche

lse_unique_contract_id	resource_type	LSE_Selected_MTR_Tranche	%_nameplate/tranche_non_hybrid	%_nameplate/tranche_hybrid_d_gen	%_nameplate/tranche_hybrid_storage	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal	geothermal	tranche_6						
sample_1_hybrid	solar storage	tranche_2						
sample_1_hybrid	solar storage	tranche_3						
sample_1_hybrid	solar storage	tranche_4						
sample_1_LDES	storage	tranche_6						
sample_1_non-hybrid	storage	tranche_1						
sample_1_non-hybrid	storage	tranche_2						
sample_2_hybrid	solar storage	tranche_3						
sample_2_hybrid	solar storage	tranche_2						
sample_2_non-hybrid	solar	tranche_3						
sample_3_hybrid	solar storage	tranche_2						
sample_3_non-hybrid	storage	tranche_4						
sample_3_non-hybrid	storage	tranche_5						
sample_4_hybrid	wind storage	tranche_2						
sample_4_hybrid	wind storage	tranche_3						
sample_4_non-hybrid	storage	tranche_4						
sample_4_non-hybrid	storage	tranche_5						

Select the tranche(s) applicable to the contract. Each contract should have a distinct entry for each tranche.

4. Choose % of the contract/MTR Tranche

lse_unique_contract_id	resource_type	LSE_Selected_MTR_Tranche	%_nameplate/tranche_non_hybrid	%_nameplate/tranche_hybrid_gen	%_nameplate/tranche_hybrid_storage	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal	geothermal	tranche_6	100%					
sample_1_hybrid	solar storage	tranche_2		15%	15%			
sample_1_hybrid	solar storage	tranche_3		50%	50%			
sample_1_hybrid	solar storage	tranche_4		35%	35%			
sample_1_LDES	storage	tranche_6	100%					
sample_1_non-hybrid	storage	tranche_1	75%					
sample_1_non-hybrid	storage	tranche_2	25%					
sample_2_hybrid	solar storage	tranche_3		10%	10%			
sample_2_hybrid	solar storage	tranche_2		90%	90%			
sample_2_non-hybrid	solar	tranche_3	100%					
sample_3_hybrid	solar storage	tranche_2		100%	100%			
sample_3_non-hybrid	storage	tranche_4	20%					
sample_3_non-hybrid	storage	tranche_5	80%					
sample_4_hybrid	wind storage	tranche_2		50%	50%			
sample_4_hybrid	wind storage	tranche_3		50%	50%			
sample_4_non-hybrid	storage	tranche_4	72%					
sample_4_non-hybrid	storage	tranche_5	28%					

5. Select the appropriate ELCC

lse_unique_contract_id	resource_type	LSE_Selected_MTR_ %_nameplate/tranche_non_ %_nameplate/tranche_hybr	%_nameplate/tranche_hybrid	d_gen	storage	elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
sample_1_geothermal	geothermal	tranche_6	100%			geothermal-ra		
sample_1_hybrid	solar storage	tranche_2		15%	15%		solar_2024- mtr_1_pre_nov302022	4hr_storage_2024- mtr_2_post_nov302022
sample_1_hybrid	solar storage	tranche_3		50%	50%		solar_2025- mtr_1_pre_nov302022	4hr_storage_2025- mtr_1_pre_nov302022
sample_1_hybrid	solar storage	tranche_4		35%	35%		solar_2026- mtr_1_pre_nov302022	4hr_storage_2026- mtr_1_pre_nov302022
sample_1_LDES	storage	tranche_6	100%			8hr_storage_2028- mtr_2_post_nov302022		
sample_1_non-hybrid	storage	tranche_1	75%			4hr_storage_2023- mtr_2_post_nov302022		
sample_1_non-hybrid	storage	tranche_2	25%			4hr_storage_2024- mtr_2_post_nov302022		
sample_2_hybrid	solar storage	tranche_3		10%	10%		solar_2025- mtr_1_pre_nov302022	4hr_storage_2025- mtr_2_post_nov302022
sample_2_hybrid	solar storage	tranche_2		90%	90%		solar_2024- mtr_2_post_nov302022	4hr_storage_2024- mtr_2_post_nov302022
sample_2_non-hybrid	solar	tranche_3	100%			solar_2025- mtr_1_pre_nov302022		
sample_3_hybrid	solar storage	tranche_2		100%	100%		solar_2024- mtr_1_pre_nov302022	4hr_storage_2024- mtr_2_post_nov302022
sample_3_non-hybrid	storage	tranche_4	20%			4hr_storage_2026- mtr_2_post_nov302022		
sample_3_non-hybrid	storage	tranche_5	80%			4hr_storage_2027- mtr_2_post_nov302022		
sample_4_hybrid	wind storage	tranche_2		50%	50%		wind_ca_2024- mtr_2_post_nov302022	5hr_storage_2024- mtr_2_post_nov302022
sample_4_hybrid	wind storage	tranche_3		50%	50%		wind_ca_2025- mtr_2_post_nov302022	5hr_storage_2025- mtr_2_post_nov302022
sample_4_non-hybrid	storage	tranche_4	72%			4hr_storage_2026- mtr_2_post_nov302022		
sample_4_non-hybrid	storage	tranche_5	28%			4hr_storage_2027- mtr_2 post nov302022		

Sample Hybrid entry

lse_unique_cont_ract_id	resource_type	d_MTR_Tranche	ranche_non_hybrid	ranche_hybrid_nche_hybrid_storage	elcc_non_hybrid	elcc_hybrid_generation	elcc_hybrid_storage
sample_1_hybrid	solar storage	tranche_2		15%	15%	solar_2024-mtr_1_pre_nov302022	4hr_storage_2024-mtr_2_post_nov302022
sample_1_hybrid	solar storage	tranche_3		50%	50%	solar_2025-mtr_1_pre_nov302022	4hr_storage_2025-mtr_1_pre_nov302022
sample_1_hybrid	solar storage	tranche_4		35%	35%	solar_2026-mtr_1_pre_nov302022	4hr_storage_2026-mtr_1_pre_nov302022

sample_1_hybrid:

- 200 MW solar
- 100 MW storage
- Contract execution date: 5/15/2022
- Contract start date: 1/14/2024
- COD: 1/1/2024
- LSE using resource for Tranches 2, 3, and 4

Completed MTR NQC Validation Tool

lse_unique_contract_id	resource_type	LSE_Selected_MTR_T%_nameplate/tranche_non_h%_nameplate/tranche_hybrid%_nameplate/tranche_hybrid_st			elcc_non_hybrid	elcc_hybrid_gen	elcc_hybrid_storage
		ranche	ybrid	_gen			
sample_1_geothermal	geothermal	tranche_6	100%		geothermal-ra		
sample_1_hybrid	solar storage	tranche_2		15%	15%	solar_2024-mtr_1_pre_nov302022 4hr_storage_2024-mtr_2_post_nov302022	
sample_1_hybrid	solar storage	tranche_3		50%	50%	solar_2025-mtr_1_pre_nov302022 4hr_storage_2025-mtr_1_pre_nov302022	
sample_1_hybrid	solar storage	tranche_4		35%	35%	solar_2026-mtr_1_pre_nov302022 4hr_storage_2026-mtr_1_pre_nov302022	
sample_1_LDES	storage	tranche_6	100%			8hr_storage_2028-mtr_2_post_nov302022	
sample_1_non-hybrid	storage	tranche_1	75%			4hr_storage_2023-mtr_2_post_nov302022	
sample_1_non-hybrid	storage	tranche_2	25%			4hr_storage_2024-mtr_2_post_nov302022	
sample_2_hybrid	solar storage	tranche_3		10%	10%	solar_2025-mtr_1_pre_nov302022 4hr_storage_2025-mtr_2_post_nov302022	
sample_2_hybrid	solar storage	tranche_2		90%	90%	solar_2024-mtr_2_post_nov302022 4hr_storage_2024-mtr_2_post_nov302022	
sample_2_non-hybrid	solar	tranche_3	100%			solar_2025-mtr_1_pre_nov302022	
sample_3_hybrid	solar storage	tranche_2		100%	100%	solar_2024-mtr_1_pre_nov302022 4hr_storage_2024-mtr_2_post_nov302022	
sample_3_non-hybrid	storage	tranche_4	20%			4hr_storage_2026-mtr_2_post_nov302022	
sample_3_non-hybrid	storage	tranche_5	80%			4hr_storage_2027-mtr_2_post_nov302022	
sample_4_hybrid	wind storage	tranche_2		50%	50%	wind_ca_2024-mtr_2_post_nov302022 5hr_storage_2024-mtr_2_post_nov302022	
sample_4_hybrid	wind storage	tranche_3		50%	50%	wind_ca_2025-mtr_2_post_nov302022 5hr_storage_2025-mtr_2_post_nov302022	
sample_4_non-hybrid	storage	tranche_4	72%			4hr_storage_2026-mtr_2_post_nov302022	
sample_4_non-hybrid	storage	tranche_5	28%			4hr_storage_2027-mtr_2_post_nov302022	

MTR NQC Summary – IOUs + CCAs

		tranche_1	tranche_2	tranche_3	tranche_4	tranche_5	tranche_6	MTR Total
		2023	2024	2025	2026	2027	2028	All
LSE: CPSF	Obligation	31	93	23	31	31	31	241
	CCA							-
Summary of unique_contracts	Total NQC reported (non-LLT)	-	-	-	-	-	-	-
	Total NQC reported (LLT)	-	-	-	-	-	-	-
	Total NQC Entered	-	-	-	-	-	-	-
	Total NQC vs Obligation	(31)	(93)	(23)	(31)	(31)	(31)	(241)
Summary of mtr_NQC_validation_Tool	Calculated NQC	-	-	-	-	-	-	-
	Calculated vs Total Reported NQC	-	-	-	-	-	-	-
	Calculated NQC vs Obligation	(31)	(93)	(23)	(31)	(31)	(31)	(241)

MTR NQC Summary – ESPs

		tranche_1	tranche_2	tranche_3	tranche_4	tranche_5	tranche_6	MTR Total
		2023	2024	2025	2026	2027	2028	All
LSE:TNG*								
ESP	Obligation (Enter data in this row)	72	366	124	248	176	67	1,053
Summary of unique_contracts	Total NQC reported (non-LLT)	-	-	-	-	-	-	-
	Total NQC reported (LLT)	-	-	-	-	-	-	-
	Total NQC Entered	-	-	-	-	-	-	-
	Total NQC vs Obligation	(72)	(366)	(124)	(248)	(176)	(67)	(1,053)
Summary of mtr_NQC_validation_Tool	Calculated NQC	-	-	-	-	-	-	-
	Calculated vs Total Reported NQC	-	-	-	-	-	-	-
	Calculated NQC vs Obligation	(72)	(366)	(124)	(248)	(176)	(67)	(1,053)

*LSE is no longer serving load in California; data included here are indicative, regardless, and all ESP procurement obligations are confidential.

MTR NQC Summary - complete

		tranche_1	tranche_2	tranche_3	tranche_4	tranche_5	tranche_6	MTR Total
		2023	2024	2025	2026	2027	2028	All
LSE:TNG*		72	366	124	248	176	67	1,053
ESP	Obligation (Enter data in this row)							-
Summary of unique_contracts	Total NQC reported (non-LLT)	72	366	124	248	176	-	986
	Total NQC reported (LLT)	-	-	-	-	-	67	67
	Total NQC Entered	72	366	124	248	176	67	1,052
	Total NQC vs Obligation	72	366	124	248	176	67	1,052
Summary of mtr_NQC_validation_Tool	Calculated NQC	72	366	124	248	176	67	1,052
	Calculated vs Total Reported NQC	0	0	0	0	0	0	0
	Calculated NQC vs Obligation	72	366	124	248	176	67	1,052

*LSE is no longer serving load in California; data included here are indicative, regardless, and all ESP procurement obligations are confidential.

LLT Example – Tranche 6

lse_unique_contract_id	resource_type	LSE_Selected_MTR_Tranche	%_nameplate/tranche_non_hybrid	elcc_non_hybrid
sample_1_geothermal	geothermal	tranche_6	100%	geothermal-ra
sample_1_LDES	storage	tranche_6	100%	8hr_storage_2028-mtr_2_post_nov302022

		tranche						MTR Total
		tranche_1 2023	tranche_2 2024	_3 2025	tranche_4 2026	tranche_5 2027	tranche_6 2028	All
LSE:TNG*		72	366	124	248	176	67	1,053
ESP	Obligation (Enter data in this row)							-
Summary of unique_contracts	Total NQC reported (non-LLT)	72	366	124	248	176	-	986
	Total NQC reported (LLT)	-	-	-	-	-	67	67
	Total NQC Entered	72	366	124	248	176	67	1,052
	Total NQC vs Obligation	72	366	124	248	176	67	1,052
Summary of mtr_NQC_validation_Tool	Calculated NQC	72	366	124	248	176	67	1,052
	Calculated vs Total Reported NQC	0	0	0	0	0	0	0
	Calculated NQC vs Obligation	72	366	124	248	176	67	1,052

LLT Example – Requirement met across tranches

lse_unique_contract_id	resource_type	LSE_Selected_MTR_Tranche	%_nameplate/tranche_non_hybrid	elcc_non_hybrid
sample_1_geothermal	geothermal	tranche_5	100%	geothermal-ra
sample_1_LDES	storage	tranche_6	100%	8hr_storage_2028-mtr_2_post_nov302022

		tranche						MTR Total
		tranche_1 2023	tranche_2 2024	_3 2025	tranche_4 2026	tranche_5 2027	tranche_6 2028	All
LSE:TNG*		72	366	124	248	176	67	1,053
ESP	Obligation (Enter data in this row)							-
Summary of unique_contracts	Total NQC reported (non-LLT)	72	366	124	248	142	35	986
	Total NQC reported (LLT)	-	-	-	-	34	32	67
	Total NQC Entered	72	366	124	248	176	67	1,052
	Total NQC vs Obligation	72	366	124	248	176	67	1,052
Summary of mtr_NQC_validation_Tool	Calculated NQC	72	366	124	248	176	67	1,052
	Calculated vs Total Reported NQC	0	0	0	0	0	0	0
	Calculated NQC vs Obligation	72	366	124	248	176	67	1,052

4.2 Common Errors

General Notes on Data

- Errors entered in the “unique_contracts” tab will carry through to the MTR NQC validation Tool.
- Outputs from the Tool are dependent on information that LSEs provide.
 - IRP staff can only evaluate MTR compliance based on information that LSEs provide.
- Tool includes flags for IRP staff based on LSE-entered contracts. IRP staff will contact LSEs if there are multiple entries that do not match expected logic or large deviations.
 - Some deviation from Tool logic is expected as LSEs may validly use a resource toward a different tranche than expected in some cases.

Error #1: NQC allocations across tranches in RDT

- Contracts that are being used to satisfy more than one tranche should only enter the incremental additional MWs for the next tranche

lse_unique_contract_id	contracted_generator_mw	contracted_storage_mw	mtr_tranche1_NQC	mtr_tranche2_NQ	mtr_tranche3_NQ	mtr_tranche4_NQ	mtr_tranche5_NQ	mtr_tranche6_NQC	mtr_NQC_ZE_gen_paired_dr
sample_1_hybrid	200	100		15.6	43.8	28.2			

- Please do not enter cumulative procurement across MTR tranches. IRP staff account for this in data aggregation.

lse_unique_contract_id	contracted_generator_mw	contracted_storage_mw	mtr_tranche1_NQC	mtr_tranche2_NQ	mtr_tranche3_NQ	mtr_tranche4_NQ	mtr_tranche5_NQ	mtr_tranche6_NQC	mtr_NQC_ZE_gen_paired_dr
sample_1_hybrid	200	100		15.6	59.4	162.6			

Error #2: Splitting paired contract in Tool

- Hybrid/paired contracts, where LSEs are signing for storage + generation, should be entered as a single contract in the MTR NQC Validation Tool.

lse_unique_contract_id	resource_type	LSE_Selected_MTR_Tranche	%_nameplate/tranche_non_hybrid	%_nameplate/tranche_hybrid_gen	%_nameplate/tranche_hybrid_storage
sample_4_hybrid	wind storage	tranche_2			
sample_4_hybrid	wind storage	tranche_3			

- Splitting these contracts into separate components will throw off downstream data checks.

lse_unique_contract_id	resource_type	LSE_Selected_MTR_Tranche	%_nameplate/tranche_non_hybrid	%_nameplate/tranche_hybrid_gen	%_nameplate/tranche_hybrid_storage
sample_4_hybrid	wind	tranche_2			
sample_4_hybrid	storage	tranche_2			
sample_4_hybrid	wind	tranche_3			
sample_4_hybrid	storage	tranche_3			

Error #3: Incorrectly Placing Capacity in RDT

- Hybrids must fill in:
 - is_hybrid_paired (Column M)
 - contracted_generator_mw (Column P)
 - contracted_storage_mw (Column R)

lse_unique_contract_id	contracted_nameplate_capacity	sep_contracted_mw_nqc	is_hybrid_paired	can_charge_from_grid	contracted_generator_mw	contracted_storage_mw
sample_2_hybrid			NewWindNewStorage	NO	500	200

- Non-hybrids must fill in:
 - contracted_nameplate_capacity (Column J)

lse_unique_contract_id	contracted_nameplate_capacity	sep_contracted_mw_nqc	is_hybrid_paired	can_charge_from_grid	contracted_generator_mw	contracted_storage_mw
sample_2_non-hybrid	350	24	NotHybrid	NO		

Error #4: Over-allocating resources

- Tool's requirement to enter in % of contract used for identified Tranche is used to calculate MTR NQC.
- If an LSE uses more than 100% of a contract, IRP staff will contact the LSE.
- More likely, the % allocation of the contract/Tranche will cause discrepancies between RDT reported NQC and Tool calculated NQC.
 - IRP Staff expect that there will be some discrepancies between the RDT and the calculated NQCs.

Other Data Entry Notes

- LSEs should continue to only use the same unique contract ID for one contract.
 - If the contract is terminated or comes online, the LSE should not re-use this contract ID in future IRP compliance filings.
 - Duplicative unique contract ids (i.e., using N/A) will cause problems for IRP staff.
- IRP Staff originally instructed LSEs to include the CAISO provided project name when listing projects with CAISO queue numbers. Staff is revising this guidance:
 - LSEs should provide the queue number exactly as it appears in the queue report, inclusive of formatting, and LSEs do not need to include the name in the RDT it submits on August 1, 2023.
- All online projects should include CAISO resource IDs.

LSE Q&A

Appendix

MTR ELCCs – contracts signed before 11/30/2022

	Tranche 1	Tranche 2	Tranche 3	Tranche 4
	2,000 MW	6,000 MW	1,500 MW	2,000 MW
	2023	2024	2025	2026
4-Hour Battery	96.3%	90.7%	74.2%	69.0%
6-Hour Battery	98.0%	93.4%	79.6%	75.1%
8-Hour Battery	98.2%	94.3%	82.2%	78.2%
8-Hour Pumped Storage Hydro	N/A	N/A	N/A	76.8%
12-Hour Pumped Storage Hydro	N/A	N/A	N/A	80.8%
Solar - Utility Scale and BTM PV	7.8%	6.6%	6.7%	5.7%
Wind CA	13.9%	16.5%	22.6%	21.6%
Wind WY	28.9%	28.1%	26.7%	31.6%
Wind NM	31.1%	31.0%	34.5%	34.2%
Wind Offshore	N/A	N/A	N/A	36.4%

MTR ELCCs – contracts signed after 11/30/2022

	From prior study, for reference only		Updated values from this study		Additional Supplemental MTR Tranches	
	Tranche 1	Tranche 2	Tranche 3	Tranche 4	Tranche 5	Tranche 6
	2,000	6,000	1,500	2,000	2,000	2,000
	MW	MW	MW	MW	MW	MW
	2023	2024	2025	2026	2027	2028
4-Hour Battery	96.3%	90.7%	75.1%	76.6%	74.0%	76.5%
6-Hour Battery	98.0%	93.4%	79.6%	80.3%	80.5%	83.3%
8-Hour Battery	98.2%	94.3%	84.0%	84.0%	87.1%	90.1%
8-Hour Pumped Storage Hydro	N/A	N/A	82.6%	82.6%	85.7%	88.7%
12-Hour Pumped Storage Hydro	N/A	N/A	86.6%	86.6%	89.7%	92.7%
Solar - Utility Scale and BTM PV	7.8%	6.6%	6.6%	7.0%	7.5%	8.8%
Wind CA	13.9%	16.5%	12.0%	13.2%	14.0%	14.7%
Wind WY	28.9%	28.1%	31.0%	33.0%	31.7%	30.9%
Wind NM	31.1%	31.0%	30.0%	35.0%	33.7%	31.9%
Wind Offshore	N/A	N/A	48.0%	46.0%	44.0%	44.7%

Questions:

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