

Readiness Criterion Identifier	Readiness Category	Criteria	Measurable Elements	Threshold	Owner	Status	Evidence	Tariff Mapping
1	Prospective EIM Entity Full Network Model Integration	Generation, Interchange and Load comparison	Load, EIM Internal Intertie and EIM External Interties, and Generating Unit definition in the Full Network Model is consistent with the Load, EIM Internal Intertie and EIM External Interties, and Generating Unit definition in the exported prospective EIM Entity network model file that it delivered to the CAISO.	Data matches within 10%, measured in MW capacity to start parallel operation, and within 5% before full activation. Any Discrepancies are accounted for in terms of imbalance adjustment	CAISO	Complete	ISO EMS team provided data/email during Market Sim and Parallel Operations indicating that the averages for EIM BAA load generation and interchange values are within tolerances during measured dates.	Tariff section 29.2(b)(7)(A)(i)
2	Prospective EIM Entity Full Network Model Integration	Comparison of SCADA measurement	SCADA measurements used in prospective EIM Entity EMS model match the measurements observed by the CAISO through the CAISO EMS model	Critical and used SCADA measurements match 90% to start parallel operation and 95% before full activation, measured in MW, outside of any exception in EMS model	CAISO	Complete	ISO EMS team provided data/evidence that show the average deviation between telemetered values (SCADA) satisfied the requirements for this criterion.	Tariff section 29.2(b)(7)(A)(ii)
3	Prospective EIM Entity Full Network Model Integration	State Estimator solution	CAISO state estimator solution is equivalent or superior to the prospective EIM Entity state estimator solution for its Balancing Authority Area.	State Estimator solutions converge >90% of the time in two days before parallel operation and three days before full activation. Solution differences within 10% before parallel operation and 5% before full activation measured in MW or justified due to different external BAA modeling	CAISO	Complete	Please note this readiness criteria entails comparing the State Estimator solution between the CAISO State Estimator and the entity's (NWMT) State Estimator. NWMT has confirmed that they do not run a State and hence that data is unavailable for comparison as part of this criterion. CAISO has already demonstrated in NWMT Readiness Criterion #1 for start of parallel operations that CAISO State Estimator values align with the NWMT telemetered values.	Tariff section 29.2(b)(7)(A)(ii i)
4	Prospective EIM Entity Full Network Model Integration	Non-Conforming Load, Behind-the-Meter Generation, Pseudo Ties, and Dynamic Schedules	Physical representation of the prospective EIM Entity's network matches the Base Market Model that accounts for non-conforming load, behind-the-meter generation, pseudo-ties, and dynamic schedules, and third party transmission service provider and path operator information that supports EIM Transfers and Real-Time Dispatch in the Energy Imbalance Market, as applicable	Prospective EIM Entity major non-conforming loads > 5% of prospective EIM Entity total actual load in MW are modeled separately from conforming load in market model	CAISO	Complete	Email from CAISO stating that NWE EIM Entity has met readiness criteria 4 and that CAISO's network model has NWE representation based on NWE submitted data.	Tariff section 29.2(b)(7)(A)(i v)

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5	Agreements	Execution of Necessary Agreements	The prospective EIM Entity has executed all necessary agreements.	The prospective EIM Entity will execute all agreements, as outlined in Section 5 of the EIM BPM within the required timelines outlined in Section 5.	JOINT	Complete	Email on 10/22/20 that all Agreements have been executed	Tariff section 29.2(b)(7)(K)(i)
6	Operations Training	Completion of mandatory training courses	Prospective EIM Entity operators who will have responsibility for EIM operations, transactions and settlements, will complete CAISO training modules.	Prospective EIM Entity operators will Complete training and close-of-training assessment in the appropriate timeframes as outlined in “100 series”– an introduction to Energy Imbalance Market training “200 series”– the specific hourly and daily tasks and duties for normal operation training module; and “300 series”– the assessment of market results and response to contingencies and abnormal situations training module.	NWE	Complete	NWE sent an email confirming that all training is complete. CAISO Operations Readiness & Training lead confirmed.	Tariff section 29.2(b)(7)(B)
7	Forecasting Capability	Load forecast capability	Definition of EIM demand forecast boundaries based on the conforming and non-conforming load characteristics, as applicable. <ul style="list-style-type: none"> <li>Accuracy of the CAISO forecast of EIM demand based on historical actual load data for the defined EIM demand forecast boundaries.</li> <li>Identification of weather station(s) locations used in forecasting, if applicable.</li> </ul>	All Plant Information (PI) tags and historical data for defined load area(s), and non-conforming load, if applicable, compared with load forecasts provided from CAISO (if CAISO load forecast used).	CAISO	Complete	CAISO Short Term Forecasting provided email / screenshots of EIM BAA from Forecast Monitor showing accuracy measurements for T-60, FMM and RTD.	Tariff sections 29.2(b)(7)(C)(i)-(iii)
8	Forecasting Capability	Variable Energy Resource (VER) forecast capability	Identification of the source of VER forecasts. (If a participating wind or solar unit requires a CAISO forecast, then BPM and Tariff requirements apply.)	Forecasting entity must demonstrate delivery of Unit MW forecast at 5 min intervals for at least three hours ahead. Forecasting entity must also provide base schedule by T-75, T-55 and T-40. EIM Entity provides to CAISO real-time MW production PI tags.	CAISO	Complete	CAISO Short Term Forecasting sent an email confirming that NWE’s forecast provider demonstrated deliver of VER forecasts in Parallel Operations. CAISO STF provided screenshots for wind and solar in Parallel Operations.	Tariff section 29.2(b)(7)(C)(iv)
9	Forecasting Capability	Flexible capacity requirements	CAISO has established flexible capacity requirements for the prospective EIM Entity Balancing Authority Area and the combined EIM Area including the prospective EIM Entity	The CAISO has received and stored all historical data from the prospective EIM Entity necessary and sufficient for the CAISO to perform the flexible ramp requirement.	CAISO	Complete	CAISO Short Term Forecasting team provided evidence that the ISO is getting stable estimates of the data that feeds the calculation for the Flexible Ramp Product Uncertainty.	Tariff section 29.2(b)(7)(K)(iv)

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10	Balanced Schedules	Base schedule balancing capability	The prospective EIM Entity Scheduling Coordinator demonstrates its ability to balance EIM demand and EIM supply for the prospective EIM Entity's Balancing Authority Area	90% or greater of base schedules balance tests during monitored hours are within 10% average imbalance of load forecast over one day period before parallel operation, and 5% average over five full days before full activation. The CAISO will provide examples of MW thresholds for each prospective EIM Entity to indicate a reasonable threshold as it applies to a given EIM Entity and indicate the potential implications of a swing from 5% over to 5% under forecast in one hour to the next.	NWE	Complete	CAISO email confirming that they had reviewed the evidence provided; based on the test results, NWMT has met readiness criteria for Readiness Criteria No. 10 – Base schedule balancing capability	Tariff section 29.2(b)(7)(D)(i)
11	Balanced Schedules	Flexible ramping sufficiency test capability	The prospective EIM Entity \ Scheduling Coordinator demonstrates its ability to pass the flexible ramping sufficiency test.	Passes 90% of the time or greater over monitored hours of one day before parallel operation and five non-consecutive days before full activation.	NWE	Complete	CAISO email confirming that they had reviewed the evidence provided; based on the test results, NWMT has met readiness criteria for Readiness Criteria No. 11 – Flexible ramping sufficiency test capability	Tariff section 29.2(b)(7)(D)(ii)
12	Balanced Schedules	Capacity test capability	The prospective EIM Entity Scheduling Coordinator demonstrates its ability to pass capacity test	Passes 90% of the time or greater over monitored hours of one day before parallel operation and five non-consecutive days before full activation. The CAISO will explain the implications of any potential issues with the reliability of an EIM Entity to meet its capacity requirements.	CAISO	Complete	CAISO email confirming that they had reviewed the evidence provided; based on the test results, NWMT has met readiness criteria for Readiness Criteria No. 12 – Bid Capacity test capability	Tariff section 29.2(b)(7)(D)(ii)
13	Operating Procedures	CAISO operating procedures (relevant to EIM operations)	The prospective EIM Entity signs CAISO non-disclosure agreement and receives appropriate CAISO “public” and “restricted” operating procedures	Operating procedures NDA signed by the prospective EIM Entity. The prospective EIM Entity receives CAISO operating procedures four months prior to the parallel operations date.	JOINT	Complete	CAISO Operations Readiness & Training lead provided an email stating that an NDA is no longer required as all operating procedures are now posted on the public site and that NorthWestern Energy has successfully completed EIM Readiness Criteria #13.	Tariff section 29.2(b)(7)(K)(i)
14	Operating Procedures	Prospective EIM Entity operating procedures	The prospective EIM Entity operating procedures are defined, updated, and tested for the EIM Entity Scheduling Coordinator	The prospective EIM Entity operating procedures are updated tested and implemented prior to parallel operations date.	NWE	Complete	EIM Desk Operating procedures have been uploaded to the Track 6 folder in Accellion and CAISO confirmed completion.	Tariff section 29.2(b)(7)(K)(ii)
15	System Readiness & Integration	Functional Testing	The prospective EIM Entity and the CAISO will test the functional and system elements in accordance with functional and system testing documentation posted on the CAISO website	All tasks identified in the functional and system testing documentation are complete and will not have any issues deemed significant. Any exceptions will be explained or have an interim solution that is functionally equivalent.	NWE	Complete	NWE provided email with testing timeline summary results. CAISO confirmed successful completion.	Tariff section 29.2(b)(7)(E)(i)

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16	System Readiness & Integration	System Integration	The prospective EIM Entity and CAISO will test system integration testing in accordance with the system integration testing documentation posted on the CAISO website	All tasks identified in the system integration testing documentation are complete and will not have any issues deemed significant. Any exceptions will be explained or have an interim solution that is functionally equivalent.	NWE	Complete	NWE provided email with testing timeline summary results. CAISO confirmed successful completion.	Tariff section 29.2(b)(7)(E)(ii)
17	System Readiness & Integration	The prospective EIM Entity system access complete	All prospective EIM Entity employees who require system access to perform EIM-related job functions identified and have necessary certificates.	All prospective EIM Employees performing job functions for EIM market are identified. All CAISO issued certificates are requested within the appropriate timeframes. All identified employees provided the necessary EIM system access certificates.	NWE	Complete	NWE affirmed via emails that all access is in place for Parallel Operations and a plan is in place to ensure all access is in place for production.	Tariff section 29.2(b)(7)(E)(ii)
18	System Readiness & Integration	ISO - prospective EIM Entity interfaces	Data interfaces between prospective EIM Entity's systems and CAISO systems are tested	ISO and prospective EIM Entity identify significant data interface issues. EIM Entity and CAISO executives to approve exceptions.	JOINT	Complete	NWE provided email with testing timeline summary results. CAISO confirmed successful completion.	Tariff section 29.2(b)(7)(E)(i)
19	Market Simulation	Day in the life simulation	The prospective EIM Entity operators are able to meet the market timelines	The prospective EIM Entity grid operations staff complete end-to-end daily market workflow with no critical defects.	JOINT	Complete	NWE provided email with testing timeline summary results. CAISO confirmed successful completion.	Tariff section 29.2(b)(7)(I)(ii)
20	Market Simulation	Structured scenarios simulation	The prospective EIM Entity operators execute and pass all structured scenarios provided by CAISO	All significant issues resolved or have an interim solution that is functionally equivalent.	JOINT	Complete	Email from CAISO verifying that NWE had met this criteria	Tariff section 29.2(b)(7)(I)(iii)
21	Market Simulation	Unstructured scenarios simulation	The prospective EIM Entity operators execute and pass all unstructured scenarios provided by prospective EIM Entity	All significant issues resolved or have an interim solution that is functionally equivalent.	JOINT	Complete	Email from CAISO -Based on NWE's waiver of executing any unstructured scenarios, RC#21 can be passed.	Tariff section 29.2(b)(7)(I)(iv)
22	Market Simulation	Market results reports	Market results are appropriate based on inputs	The prospective EIM Entity and CAISO executive project sponsors approve the market results reports during market simulation	NWE	Complete	Email from CAISO - The Market Validation and Analysis team has analyzed market results from market simulation savecases in Map-stage. The resource dispatch and pricing are consistent with design principles for EIM and appropriate to meet the criteria set forth for this requirement.	Tariff section 29.2(b)(7)(I)(v)

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23a	Market Simulation	Market quality review	Prices are validated based on input data	Market simulation prices and MWs schedules/dispatches are validated by CAISO market quality team for entry into parallel operations	CAISO	Complete	Email from CAISO - The Market Validation and Analysis team has analyzed market results from market simulation savecases in Map-stage. The resource dispatch and pricing are consistent with design principles for EIM and appropriate to meet the criteria set forth for this requirement.	Tariff section 29.2(b)(7)(l)(vi)
23b	Parallel Operations	Market quality review	Prices are validated based on input data	Parallel operations prices and MWs schedules/dispatches are validated by the CAISO market quality team	CAISO	Complete	ISO Market Quality team provided NWE with an analysis report on the Market Solution, prices, and quality of data.	Tariff section 29.2(b)(7)(l)(vi)
24	Market Simulation	The prospective EIM Entity Identification	Validation of SCID's and Resource ID's	The CAISO has established and the prospective EIM Entity has tested all necessary SCIDs and Resource IDs established for the prospective EIM Entity's Balancing Authority Area	JOINT	Complete	Email from CAISO confirming that the NWE EIMPRA has been completed/executed and is in place and all criteria has been met.	Tariff section 29.2(b)(7)(l)(i)
25	Settlements	ISO Settlement Statements and Invoices published to the prospective EIM Entity and EIM Participating Resources	The CAISO Settlement statements and invoices match the operational data published to stakeholders or fed into settlement system and the resulting calculations correspond to the formulas defined in ISO's tariff and BPMs	Monthly settlement statement and invoice with corresponding daily statements produced during market simulation and parallel operations are verifiably accurate against available data.	JOINT	Complete	NWE settlement lead confirmed receipt of initial and recalculation statements from agreed trade dates.  ISO settlement leads verified the accuracy of its settlement statements and invoices made available during parallel operations.	Tariff section 29.2(b)(7)(F)(i)
26	Settlements	The prospective EIM Entity settlement statements and invoices reflect accurate allocations to the prospective EIM Entity customers prior to financially binding operations.	Verification that settlement statements and invoices accurately reflects system and market data	The prospective EIM Entity settlement statements and invoices that allocate charges and credits to its customers accurately reflect system and market data during parallel operations.	JOINT	Complete	NWE settlement lead confirmed that the settlement statements and Invoices received for the agreed trade dates reflected accurate allocations.  ISO settlement lead verified the accuracy of the statements and invoices made available during parallel operations.	Tariff section 29.2(b)(7)(F)(ii)

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27	Monitoring	Data monitoring	Sufficient and adequate data is available to the CAISO and the Department of Market Monitoring	All required market monitoring data is available during testing and during post go-live for the key metrics (any exceptions will be addressed). CAISO will provide a market report that will provide publicly available information to all market participants.	CAISO	Complete	Emails confirming that the Market Validation and Analysis team has sufficient and adequate data to analyze market results. DMM - We can confirm that we have the data needed for monitoring	Tariff section 29.2(b)(7)(K)(v)
28	Parallel Operations Plan	Deployment plan	Parallel operations run consistently and in accordance with the timeframe set forth in the prospective EIM Entity specific parallel operation plan	Parallel operations runs consistently within normal production CAISO Market disruption tolerances.	CAISO	Complete	CAISO email confirming that it had reviewed the evidence provided; based on the documentation, NWMT has met readiness criteria for Readiness Criteria No. 28 - Parallel Operations Plan	Tariff section 29.2(b)(7)(J)
29	Outage Management System	Transmission and generation outage submittal and retrieval	The prospective EIM Entity will verify its ability to submit and retrieve outage information with the CAISO	The prospective EIM Entity validate their ability to submit and retrieve transmission out-of-service outages, generation Pmax derates, generation Pmin rerates, and generation out-of-service outage tickets within the required timelines.	JOINT	Complete	NWE provided evidence that internal applications were automatically processing outages and these outages match those provided by the ISO.  Email from CAISO Integration lead and OMS BSM - evidence that outages were created by EIM entity and processed by ISO OMS application.	Tariff section 29.2(b)(7)(G)
30	Communications between the CAISO and the prospective EIM Entity	Voice and/or electronic messaging	Implemented process and procedures used for voice and/or electronic messaging	The process and procedures are incorporated into the prospective EIM Entities business processes before the start of market simulation.	NWE	Complete	NWE email stating that processes have been completed and CAISO email stating that NWE has successfully completed both Track 6 requirement #30	Tariff section 29.2(b)(7)(H)(i)
31	Communications between the CAISO and the prospective EIM Entity	Communication tools	Staff are trained on communication procedures and tools	The prospective EIM Entity operations staff who will have responsibility for EIM operations, transactions and settlements are trained on the relevant operating procedures and tools used for EIM related communications before the start of parallel operations	NWE	Complete	CAISO email stating that NWE has successfully completed requirement #31	Tariff section 29.2(b)(7)(H)(ii)
32	Communications between the CAISO and the prospective EIM Entity	3 <sup>rd</sup> party transmission service provider	The third party transmission service provider information that supports EIM Transfers and Real-Time Dispatch included in the Full Network Model is available during parallel operations	The CAISO provides third party transmission service provider and path operator information to the prospective EIM Entity through parallel operations	NWE	Complete	Email from CAISO Lead - NorthWestern does not have any 3rd Party Transmission that impacts EIM transfers. Hence, please use this email as evidence that NWE has met RC#32.	Tariff section 29.2(b)(7)(H)(ii)

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33	EIM Available Balancing Capacity	Identification of EIM Available Balancing Capacity	Participating resources and non-participating resources for EIM Available Balancing Capacity.	The prospective EIM Entity has identified EIM participating resources and non-participating resources that it intends to designate in the EIM Resource Plan as EIM Available Balancing Capacity	<b>NWE</b>	Complete	Email from NWE - NWE's systems are capable of designating ABC capacity on its registered participating or non-participating EIM resources; and NWE has successfully tested the submission of Available Balancing Capacity with the CAISO systems. This functionality was successfully tested in the Market Simulation Scenario 13, on 1/7/2021.	<b>Tariff section 29.2(b)(7)(K)(ii i)</b>