

Readiness Criterion Identifier	Readiness Category	Criteria	Measurable Elements <sup>1</sup>	Threshold	Owner	Status	Evidence	Tariff Mapping
1	Prospective EIM Entity Full Network Model Integration	Generation, Interchange and Load comparison	Load, EIM Internal Inertia and EIM External Inertias, and Generating Unit definition in the Full Network Model is consistent with the Load, EIM Internal Inertia and EIM External Inertias, 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. Discrepancies, if any, are accounted for in terms of imbalance adjustment.	CAISO	Complete	The CAISO provided reports indicating that the Generating Unit, Inertia and Load definition in the CAISO's Full Network Model is consistent with the network modeling information in the Powerex/BC Hydro network model.	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	The CAISO provided reports indicating Critical and used SCADA measurements that Powerex/BC Hydro is publishing match 99.7% to the values seen by the CAISO when excluding telemetry error measurement points that the CAISO receives from PEAK RC.	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	The CAISO provided reports indicating that the CAISO state estimator is solving on 30-second continuous basis on the IS EMS system and the solution is converging 100% of the time.	Tariff section 29.2(b)(7)(A)(iii)
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	Powerex provided an email stating that they have no non-conforming loads that meet the criteria. The CAISO confirmed.	Tariff section 29.2(b)(7)(A)(iv)
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	The CAISO provided the Agreement Checklist as evidence that all agreements are complete. Several documents listed in the Agreement Checklist were executed outside the timeframe outlined in Section 5 of the EIM BPM, but were executed in sufficient time to meet readiness.	Tariff section 29.2(b)(7)(K)(i)

<sup>1</sup> Powerex's participation in the EIM is governed by the terms and conditions of the Powerex Canadian EIM Entity Agreement. Under Section 4.2.2 of the Powerex Canadian EIM Entity Agreement, Powerex will satisfy all applicable readiness criteria, including, where appropriate, by coordination with BC Hydro and CAISO to ensure the satisfactory communication of relevant data and information to the CAISO pursuant to the CAISO-BC Hydro Data Sharing Agreement.

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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 <ul style="list-style-type: none"> <li>· “100 series”– an introduction to Energy Imbalance Market training</li> <li>· “200 series”– the specific hourly and daily tasks and duties for normal operation training module; and</li> <li>· “300 series”– the assessment of market results and response to contingencies and abnormal situations training module.</li> </ul>	PWX	Complete	Powerex provided an email confirming that all necessary staff completed the mandatory training.	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	The CAISO provided an email and reports as evidence indicating that all PI tags and historical data has been delivered to the CAISO, and forecast models have been developed.	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	The CAISO provided an email and reports as evidence indicating VER forecasts have been submitted and the data flow has been demonstrated.	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	The CAISO provided an email stating that the CAISO established the flexible capacity requirements based on recent load/VER forecasts.	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.	PWX	Complete	Powerex elected the option under the CAISO Tariff not to rely on the CAISO Demand Forecast and will instead use BC Hydro's load forecast. As a result, the balancing test is not applicable for Powerex implementation.	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.	PWX	Complete	The CAISO provided reports indicating that Powerex has met the flexible ramping sufficiency test (both Up and Down) for at least 22 hours per day for at least 5 days.	Tariff section 29.2(b)(7)(D)(iii)
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	Powerex elected the option under the CAISO Tariff not to rely on the CAISO Demand Forecast and will instead use BC Hydro's load forecast. As a result, the capacity test is not applicable for Powerex implementation.	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	Powerex sent email evidence that this is complete. While Powerex notes it received CAISO operating procedures less than four months prior to the parallel operations date, the materials were received in sufficient time to meet readiness.	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.	PWX	Complete	Powerex reported that operating procedures are in place.	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.	PWX	Complete	Powerex provided the testing timeline summary document reflecting that all functional testing completed.	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.	PWX	Complete	Powerex provided the testing timeline summary document reflecting that all system integration testing completed.	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.	PWX	Complete	Powerex provided an email stating that access is in place for Parallel Ops and a plan is in place for production.	Tariff section 29.2(b)(7)(E)(iii)
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	Powerex provided the testing timeline summary document reflecting that all interface testing completed.	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	Powerex provided the testing timeline summary document reflecting that day in the life testing completed.	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	While the market functionality was successfully verified for all Structured Scenarios during Market Simulation, there were three Scenarios in which Powerex and the CAISO were unable to verify the accuracy of the associated settlements statements.  Powerex and the CAISO evaluated the settlement outcomes associated with similar scenarios during Parallel Operations. Powerex provided email evidence that the settlements verification associated with the outstanding scenarios is complete. The CAISO confirmed and provided the structured scenario progress chart and execution documents as supporting evidence.	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	Powerex provided an email stating the unstructured scenarios were executed and passed validation.	Tariff section 29.2(b)(7)(I)(iv)

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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	PWX	Complete	The CAISO Market Quality provided market reports indicating that the market results are appropriate based on the inputs. Due to delayed timing, the market results were not approved during market simulation but this did not impact readiness.	Tariff section 29.2(b)(7)(I)(v)
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	The CAISO Market Quality team provided reports showing that the market simulation prices and MW schedules/dispatches that were validated by the CAISO in preparation for Parallel Operations.	Tariff section 29.2(b)(7)(I)(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	The CAISO Market Quality team provided a detailed market quality report and an email summarizing that the CAISO validated both prices and schedules and the market solution is consistent with market rules as designed.	Tariff section 29.2(b)(7)(I)(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	Powerex provided an email stating they received Stage environment access for all the resource IDs required to support EIM participation.	Tariff section 29.2(b)(7)(I)(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	Powerex provided an email stating that it has reviewed the Settlements Statements and is generally satisfied with the results, with the exception of the Real-Time Congestion Offset (RTCO) and Real-Time Imbalance Energy Offset (RTIEO) charge codes.  The CAISO has identified a software issue associated with the settlement treatment of the new BASE ETSR functionality that materially impacts both charge codes. The CAISO has provided email confirmation that it is satisfied with the settlements results pending a software fix to correct these particular charge codes. The CAISO has confirmed that delivery of the software fix will fully meet this threshold prior to April 4, 2018.	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	Powerex provided an email stating that this is not applicable for Powerex. The CAISO responded with agreement.	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	The CAISO Market Quality produced reports and verified that the market monitoring data is available. DMM send an email confirming they also have access to the data for validation.	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	The CAISO provided an email with supporting reports stating that the CAISO has verified that the Parallel Operations ran consistently within normal CAISO disruption tolerances.	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	Powerex submitted outages in the Map Stage environment. The CAISO confirmed that these were received and processed in the CAISO systems.	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.	PWX	Complete	Powerex sent email evidence that these processes are in place.	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	PWX	Complete	Powerex sent email evidence that their staff has been trained on the communication procedures and tools.	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	PWX	Complete	The CAISO has provided email confirmation that Bonneville Power Administration (BPA) and the CAISO have agreed to update the Coordinated Transmission Agreement (CTA) as required to include Powerex's EIM Participation. The CAISO has confirmed it will implement the additional modeling changes which will fully meet this threshold prior to April 4, 2018.	Tariff section 29.2(b)(7)(H)(iii)
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	PWX	Complete	Powerex provided an email listing the resources they intend to designate with ABC and that the feature has been tested.	Tariff section 29.2(b)(7)(K)(iii)