

**Participant Readiness Checklist**

Activity	Sub-activity	Action(s)
<b><u>Transmission Owners (TOs)</u></b>		
<b>Administrative</b>	<b>Membership and Agreements (Level 1)</b>	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Complete Membership Application Form</li> <li><input type="checkbox"/> Complete Billing Contact Form</li> <li><input type="checkbox"/> Sign a Service Agreement for Non-Firm Point-to-Point Transmission Service</li> <li><input type="checkbox"/> Complete Eligible Customer Qualification Form</li> <li><input type="checkbox"/> Sign a Standard Form of Agreement</li> <li><input type="checkbox"/> Complete Reliability Committee Designation Form</li> <li><input type="checkbox"/> Sign Service Agreement for Network Transmission Service</li> <li><input type="checkbox"/> Complete Credit Application</li> <li><input type="checkbox"/> Complete Authorization Form for PJM Business Tools CAM form A&amp;B</li> <li><input type="checkbox"/> Sign a Transmission Service Enabling Agreement</li> <li><input type="checkbox"/> Sign Reliability Assurance Agreement Signatory Page</li> <li><input type="checkbox"/> Complete a Affiliate Disclosure Form</li> <li><input type="checkbox"/> Complete a Wire Transfer Request Form</li> <li><input type="checkbox"/> Complete Members Committee Designation Form</li> <li><input type="checkbox"/> Sign PJM West RAA Signatory Page</li> <li><input type="checkbox"/> Complete Section Selection Form</li> <li><input type="checkbox"/> Pay \$1500 Application Fee Check Made Payable to PJM Interconnection</li> <li><input type="checkbox"/> Sign a Transmission Service Agreement for Retail Load Serving Entities</li> </ul> <p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reviewed OATT</li> <li><input type="checkbox"/> Filed Rates and Rate Reciprocity (if applicable)</li> <li><input type="checkbox"/> Established commercial service contracts with load servers as necessary</li> </ul> <p>Applications:</p> <p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> Users have learned how to use e tools</li> </ul>

## Participant Readiness Checklist

Activity	Sub-activity	Action(s)
<b><u>Transmission Owners (TOs)</u></b>		
<b>PJM Education and Comprehension</b>	<b>Markets (Level 2)</b>	<p><b>Business Procedures:</b> The appropriate resources within your organization have:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for generation and load</li> <li><input type="checkbox"/> Obtained an understanding of the PJM Network Model</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> <li><input type="checkbox"/> Obtained an understanding of FTRs, their uses and how to obtain them</li> <li><input type="checkbox"/> Obtained an understanding of PJM External energy schedules and Ramp Rates</li> <li><input type="checkbox"/> Obtained an understanding of PJM Internal energy transaction and their effect on interchange</li> <li><input type="checkbox"/> Obtained an understanding of Transmission Reservations, OASIS and available Transfer Capacity (ATC)</li> <li><input type="checkbox"/> Obtained an understanding of Synchronized Reserve Market</li> <li><input type="checkbox"/> Obtained an understanding of Regulation and the Regulation Market</li> <li><input type="checkbox"/> Obtained an understanding of Reactive services</li> <li><input type="checkbox"/> Obtained an understanding of Black Start Services</li> <li><input type="checkbox"/> Obtained understanding of PJM Capacity market</li> </ul>
	<b>Markets (Level 1)</b>	<p><b>Applications:</b> The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead and real-time bids and offers.</li> <li><input type="checkbox"/> Use the eMKT application for participation in ancillary services markets</li> <li><input type="checkbox"/> Use the eFTR application to participate in the FTR allocation processes</li> <li><input type="checkbox"/> Use of OASIS for scheduling transmission reservations across tie lines</li> <li><input type="checkbox"/> Use of EES for scheduling of external energy transactions</li> <li><input type="checkbox"/> Use e-schedules application for entering energy contracts internal to PJM.</li> <li><input type="checkbox"/> Use MSRS for retrieving settlement reports.</li> <li><input type="checkbox"/> Use the e-RPM application for capacity market purposes</li> <li><input type="checkbox"/> Use of eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. XML, CSV uploads and downloads)</li> </ul>
	The following training courses will assist in understanding the Market Operations requirements:	
	<b>Topic:</b> LMP and FTR OASIS, Tagging and Scheduling Training Two Settlement and MBR Blackstart Service Training Synchronized Reserve Market	<b>Comprehensive:</b> PJM 101 eSuite and eTool Training MOC Training

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Transmission Owners (TOs)</b>		
<b>PJM Education and Comprehension</b>	<b>System Operations</b> (Level 2)	<b>Business Procedures:</b> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Dispatch and system operations</li> <li><input type="checkbox"/> Generation outage and reporting</li> <li><input type="checkbox"/> Transmission outage reporting</li> <li><input type="checkbox"/> Installed Capacity requirements</li> <li><input type="checkbox"/> Emergency Procedures, Instantaneous Reserve Check, Supplemental Status Report, Automatic Reserve Sharing and Drills</li> <li><input type="checkbox"/> All Call and System Restoration</li> <li><input type="checkbox"/> Generation Control procedures and/or requirements related to UDS, GMS and ACE</li> <li><input type="checkbox"/> LCC procedures</li> <li><input type="checkbox"/> Regulation Zone Requirements</li> <li><input type="checkbox"/> Annual ARR allocation by transmission zone</li> </ul>
	<b>System Operations</b> (Level 1)	<b>Applications:</b> The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Use eDART, eGADs, eFuel for generation and transmission outage and submission</li> <li><input type="checkbox"/> Use eMTR for submission of interchange meter data</li> <li><input type="checkbox"/> Use eRPM for submission of capacity obligations</li> </ul> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> EMS system signals</li> </ul>
	The following training courses will assist in understanding the System Operations requirements:	
	<b>Topic:</b> Individual Unit Dispatch Training Fundamentals of Unforced Capacity Training PJM Reactive eDart TERM IT Technical Training	<b>Comprehensive:</b> PJM 101 Training eSuite/eTool Training LCC Training
	<b>Market Settlements</b> (Level 2)	The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from MSRS</li> </ul>
	The following training courses will assist in understanding the Market Settlements requirements:	
	<b>Topic:</b> Market Settlement 301	<b>Comprehensive:</b> N/A

**Participant Readiness Checklists**

Activity	Sub-activity	Action(s)
<b><u>Transmission Owners (TOs)</u></b>		
<b>PJM Education and Comprehension</b>	<b>Manuals</b> (Level 3)	The appropriate resources within your organization have reviewed the following manuals: <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 1 – Control Center Requirements</li> <li><input type="checkbox"/> Manual 3 – Transmission Operations</li> <li><input type="checkbox"/> Manual 10 – Pre-Scheduling Operations</li> <li><input type="checkbox"/> Manual 11 – Scheduling Operations</li> <li><input type="checkbox"/> Manual 12 – Dispatching Operations</li> <li><input type="checkbox"/> Manual 13 – Emergency Operations</li> <li><input type="checkbox"/> Manual 27 – Open Access Transmission Tariff Accounting</li> <li><input type="checkbox"/> Manual 28 – Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 – Billing</li> </ul>
	<b>PJM Certification</b> (Level 3)	The appropriate resources within your organization have obtained the following: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM certification</li> <li><input type="checkbox"/> NERC certification as required</li> </ul>
	The following manual will assist in understanding the PJM Certification requirements:	
	<b>Topic:</b> Manual 40	<b>Comprehensive:</b> N/A
	<b>Sandbox Environments</b> (Level 3)	The appropriate resources within your organization have obtained access to the following applications: <ul style="list-style-type: none"> <li><input type="checkbox"/> OASIS</li> <li><input type="checkbox"/> EES</li> <li><input type="checkbox"/> eMTR</li> <li><input type="checkbox"/> eDART</li> <li><input type="checkbox"/> eMKT</li> <li><input type="checkbox"/> eFTR</li> <li><input type="checkbox"/> eRPM</li> <li><input type="checkbox"/> MSRS</li> </ul>
<b>Data Submission to PJM</b>	<b>Markets and FTRs</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> FTR bids and offers for monthly auction</li> <li><input type="checkbox"/> Generation/demand bids</li> <li><input type="checkbox"/> Units qualified for regulation, spinning reserve and Black Start</li> <li><input type="checkbox"/> Regulation offers, spinning reserve and load response</li> </ul>
	<b>Energy Transactions</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> NERC tags</li> <li><input type="checkbox"/> Internal and external energy schedules to PJM</li> </ul>
	<b>Transmission Reservations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> Transmission reservations via the PJM single node OASIS (as well as received)</li> <li><input type="checkbox"/> TO line items for interim transmission billing</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b><u>Transmission Owners (TOs)</u></b>		
<b>Data Submission to PJM</b>	<b>Operations</b> (Level 1)	<p>The following data have been submitted in advance of integration dates as required:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Peak load/network service</li> <li><input type="checkbox"/> Meter data to PJM</li> <li><input type="checkbox"/> Study data to long term planning</li> <li><input type="checkbox"/> Transmission outage data</li> <li><input type="checkbox"/> Capacity transactions and load contributions to PJM</li> <li><input type="checkbox"/> Generator outages ratings and shutdowns to PJM</li> <li><input type="checkbox"/> EMS Contingency Definitions</li> </ul>
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Updated Scheduling system as required to integrate with PJM applications and business rules</li> <li><input type="checkbox"/> Developed XML/Browserless interface capabilities for scheduling systems</li> <li><input type="checkbox"/> Developed interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data</li> </ul>
	<b>Market Settlements Systems</b> (Level 3)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reconciled settlements systems with PJM business rules to enable shadow settlements.</li> </ul>
	<b>Market Settlements Systems</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Updated settlements systems to accept and submit data file interfaces from/to PJM</li> <li><input type="checkbox"/> Updated settlements systems to accept and submit data file interfaces to eMTR</li> </ul>
	<b>UDS</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Configured system to accept UDS signal from PJM</li> </ul>
	<b>GMS</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Configured system to interface with GMS signal</li> </ul>

Participant Readiness Checklist		
Activity	Sub-activity	Actions
<b>Transmission Owners (TOs)</b>		
<b>Testing</b>	<b>Transmission Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <ul style="list-style-type: none"> <li><input type="checkbox"/> Connectivity test</li> <li><input type="checkbox"/> First run of tagging and scheduling</li> <li><input type="checkbox"/> EIB messaging test</li> <li><input type="checkbox"/> Checkout process</li> </ul>
	<b>Market Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <ul style="list-style-type: none"> <li><input type="checkbox"/> Day Ahead Market Trials</li> <li><input type="checkbox"/> Review RT LMP Postings</li> <li><input type="checkbox"/> Regulation Market Trials</li> <li><input type="checkbox"/> Synchronized reserve Market Trials</li> </ul>
<b>Technical Changes</b>	<b>LCC Infrastructure</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Established facilities</li> <li><input type="checkbox"/> Established communication connections (PJM Net/ICCP)</li> <li><input type="checkbox"/> Established connection to All Call/DCC capability</li> <li><input type="checkbox"/> Developed Call Out Lists</li> <li><input type="checkbox"/> Installed necessary hardware/software</li> </ul>
	<b>Generation Control</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Modify AGC systems to incorporate PJM business rules including modifications to ACE calculations</li> </ul>
	<b>Model Data (EMS)</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Integrate PJM's network model into appropriate systems</li> </ul>
	<b>Technical Security</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure all systems meet PJM security requirements</li> </ul>

**Participant Readiness Checklists**

Activity	Sub-activity	Action(s)
<b><u>Load Serving Entities (LSEs)</u></b>		
<p><b>Administrative</b></p>	<p><b>Membership and Agreements</b> (Level 1)</p>	<p>The following is a list of PJM membership requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Sign the PJM Reliability Assurance Agreement (RAA)</li> <li><input type="checkbox"/> Submit Network Transmission Service Agreement</li> <li><input type="checkbox"/> Reviewed OATT</li> <li><input type="checkbox"/> Meet your daily unforced capacity obligation</li> <li><input type="checkbox"/> Sign a Transmission Service Enabling Agreement</li> <li><input type="checkbox"/> Sign s Service agreement for Firm and/or Non-Firm Point-to-Point Transmission Service</li> <li><input type="checkbox"/> Complete the credit application</li> </ul> <p>Applications: The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> E-tool users have learned how to use CAM and e toll functions</li> </ul>
<p><b>PJM</b> <b>Education and</b> <b>Comprehension</b></p>	<p><b>Markets</b> (Level 2)</p>	<p><b>Business Procedures:</b> The appropriate resources within your organization have:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for generation and load</li> <li><input type="checkbox"/> Obtained an understanding of the PJM Network Model</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> <li><input type="checkbox"/> Obtained an understanding of FTRs, their uses and how to obtain them</li> <li><input type="checkbox"/> Obtained an understanding of PJM External energy schedules and Ramp Rates</li> <li><input type="checkbox"/> Obtained an understanding of PJM Internal energy transaction and their effect on interchange</li> <li><input type="checkbox"/> Obtained an understanding of Transmission Reservations, OASIS and available Transfer Capacity (ATC)</li> <li><input type="checkbox"/> Obtained an understanding of Synchronized Reserve Market</li> <li><input type="checkbox"/> Obtain understanding of Day ahead scheduling reserve market</li> <li><input type="checkbox"/> Obtained an understanding of Regulation and the Regulation Market</li> <li><input type="checkbox"/> Obtained an understanding of Reactive services</li> <li><input type="checkbox"/> Obtained understanding of PJM Capacity market RPM</li> </ul>
	<p><b>Markets</b> (Level 1)</p>	<p><b>Applications:</b> The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead and real-time bids and offers.</li> <li><input type="checkbox"/> Use the eFTR application to participate in the FTR allocation processes</li> <li><input type="checkbox"/> Use of OASIS for scheduling transmission reservations across tie lines</li> <li><input type="checkbox"/> Use of EES for scheduling of external energy transactions</li> <li><input type="checkbox"/> Use the eSchedules application for entering internal bilateral contracts.</li> <li><input type="checkbox"/> Use MSRS to retrieve settlement reports.</li> <li><input type="checkbox"/> Use the eRPM application for capacity market purposes</li> <li><input type="checkbox"/> Use of eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. xml, CSU uploads and downloads)</li> </ul>
<p>The following training courses will assist in understanding the Market Operations requirements</p>		

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Load Serving Entities (LSEs)</b>		
	<b>Topic:</b> LMP and FTR OASIS, Tagging and Scheduling Training Two Settlement and MBR	<b>Comprehensive:</b> PJM 101 eSuite and eTool Training LSE Training
<b>PJM Education and Comprehension</b>	<b>System Operations</b> (Level 2)	<b>Business Procedures:</b> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Dispatch and system operations</li> <li><input type="checkbox"/> Unit Capacity requirements</li> <li><input type="checkbox"/> Annual ARR allocation by transmission zone</li> </ul>
	<b>System Operations</b> (Level 1)	<b>Applications:</b> The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Use eMTR for submission of interchange meter data</li> <li><input type="checkbox"/> Use eRPM for submission of capacity obligations</li> </ul> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> EMS system signals</li> </ul>
	The following training courses will assist in understanding the System Operations requirements	
	<b>Topic:</b> Fundamentals of Unforced Capacity Training IT Technical Training	<b>Comprehensive:</b> PJM 101 Training eSuite/eTool Training LSE Training
	<b>Market Settlements</b> (Level 2)	The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from MSRS</li> </ul>
	The following training courses will assist in understanding the Market Settlements requirements	
	<b>Topic:</b> Market Settlement 301 Training	<b>Comprehensive:</b> N/A
	<b>Manuals</b> (Level 3)	The appropriate resources within you organization have reviewed the following manuals: <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 5 - Data Management</li> <li><input type="checkbox"/> Manual 6 - Fixed Transmission Rights</li> <li><input type="checkbox"/> Manual 9 - PJM eSchedules</li> <li><input type="checkbox"/> Manual 10 - Pre – Scheduling Operations</li> <li><input type="checkbox"/> Manual 11 - Scheduling Operations</li> <li><input type="checkbox"/> Manual 13 - Emergency Operations</li> <li><input type="checkbox"/> Manual 18 - PJM Capacity Market</li> <li><input type="checkbox"/> Manual 27 -Open Access Transmission Tariff Accounting</li> <li><input type="checkbox"/> Manual 28 - Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 - Billing</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Load Serving Entities (LSEs)</b>		
	<b>Sandbox Environments</b> (Level 3)	The appropriate resources within your organization have obtained access to the following applications: <input type="checkbox"/> OASIS <input type="checkbox"/> EES <input type="checkbox"/> eMTR <input type="checkbox"/> eMKT <input type="checkbox"/> eFTR <input type="checkbox"/> eRPM <input type="checkbox"/> MSRS
<b>Data Submission</b>	<b>Markets and FTRs</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> FTR bids and offers for monthly auction <input type="checkbox"/> Generation/demand bids
	<b>Energy Transactions</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> NERC tags <input type="checkbox"/> Internal and external energy schedules to PJM
<b>Data Submission</b>	<b>Transmission Reservations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> Transmission reservations via the PJM single node OASIS (as well as received)
	<b>Operations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> Peak load/network service <input type="checkbox"/> Meter data to PJM <input type="checkbox"/> Study data to long term planning <input type="checkbox"/> Capacity transactions and load contributions to PJM
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Update Scheduling system as required to integrate with PJM applications and business rules <input type="checkbox"/> Develop XML/Browserless interface capabilities for scheduling systems <input type="checkbox"/> Develop interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data
	<b>Market Settlements Systems</b> (Level 3)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Reconcile settlements systems with PJM business rules to enable shadow settlements
	<b>Market Settlements Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Update settlements systems to accept and submit data file interfaces from/to PJM <input type="checkbox"/> Update settlements systems to accept and submit data file interfaces to eMTR

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Load Serving Entities (LSEs)</b>		
	<b>Market Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <input type="checkbox"/> Day Ahead Market Trials <input type="checkbox"/> Review LMP postings
<b>Technical Changes</b>	<b>Technical Security</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Ensure all systems meet PJM security requirements

**Participant Readiness Checklists**

Activity	Sub-activity	Action(s)
<b>Generators</b>		
Administrative	Membership and Agreements (Level 1)	<p>The following is a list of PJM membership requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If you want to export energy from PJM, you need to become a Transmission Service Customer with Point-to-Point Service</li> <li><input type="checkbox"/> Review OATT</li> <li><input type="checkbox"/> Become a signatory to the PJM Operating Agreement-Member</li> <li><input type="checkbox"/> Establish commercial service contracts with load servers as necessary</li> </ul> <p>Applications:</p> <p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> Users have learned how to use CAM</li> </ul>
PJM Education and Comprehension	Markets (Level 2)	<p><b>Business Procedures:</b></p> <p>The appropriate resources within your organization have:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for generation and load</li> <li><input type="checkbox"/> Obtained an understanding of the PJM Network Model</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> <li><input type="checkbox"/> Obtained an understanding of PJM External energy schedules and Ramp Rates</li> <li><input type="checkbox"/> Obtained an understanding of PJM Internal energy transaction and their effect on interchange</li> <li><input type="checkbox"/> Obtained an understanding of Transmission Reservations, OASIS and available Transfer Capacity (ATC)</li> <li><input type="checkbox"/> Obtained an understanding of Synchronize Reserve Market</li> <li><input type="checkbox"/> Obtained understanding of day ahead scheduling reserve market.</li> <li><input type="checkbox"/> Obtained an understanding of Regulation and the Regulation Market</li> <li><input type="checkbox"/> Obtained an understanding of Reactive services</li> <li><input type="checkbox"/> Obtained an understanding of Black Start Services</li> <li><input type="checkbox"/> Obtained understanding of PJM Capacity market</li> </ul>
	Markets (Level 1)	<p><b>Applications:</b></p> <p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead and real-time bids and offers.</li> <li><input type="checkbox"/> Use the eMKT application for participation in ancillary services markets</li> <li><input type="checkbox"/> Use of OASIS for scheduling transmission reservations across tie lines</li> <li><input type="checkbox"/> Use of EES for scheduling of external energy transactions</li> <li><input type="checkbox"/> Use the eSchedules application for internal bilateral energy contracts.</li> <li><input type="checkbox"/> Use MSRS for retrieving settlement reports.</li> <li><input type="checkbox"/> Use the eRPM application for capacity market purposes</li> <li><input type="checkbox"/> Use of eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. xml, CSU uploads and downloads)</li> </ul>
The following training courses will assist in understanding the Market Operations requirements		

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Generators</b>		
	<b>Topic:</b> LMP and FTR OASIS, Tagging and Scheduling Training Two Settlement, regulation, Black start Service Training Synchronize Reserve Market	<b>Comprehensive:</b> PJM 101 eSuite and eTool Training MOC Training
<b>PJM Education and Comprehension</b>	<b>System Operations (Level 2)</b>	<b>Business Procedures:</b> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Dispatch and system operations</li> <li><input type="checkbox"/> Generation outage and reporting</li> <li><input type="checkbox"/> Emergency Procedures, Instantaneous Reserve Check, Supplemental Status Report, Automatic Reserve Sharing and Drills</li> <li><input type="checkbox"/> All Call and System Restoration</li> <li><input type="checkbox"/> Generation Control procedures and/or requirements related to UDS/SCED, GMS and ACE</li> <li><input type="checkbox"/> Regulation Requirements and bidding</li> </ul>
	<b>System Operations (Level 1)</b>	<b>Applications:</b> The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Use eDART, eGADs, CODA for generation and transmission outage and submission</li> <li><input type="checkbox"/> Use eMTR for submission of interchange meter data</li> </ul> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> EMS system signals</li> </ul>
	The following training courses will assist in understanding the System Operations requirements	
	<b>Topic:</b> Individual Unit Dispatch Training Fundamentals of Unforced Capacity Training PJM Reactive eDart TERM IT Technical Training	<b>Comprehensive:</b> PJM 101 Training eSuite/eTool Training MOC Training
	<b>Market Settlements (Level 2)</b>	The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from MSRS</li> </ul>
The following training courses will assist in understanding the Market Settlements requirements		

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Generators</b>		
	<b>Topic:</b> Two Settlement and Market Settlement 301 Training	<b>Comprehensive:</b> N/A
	<b>Manuals</b> (Level 3)	The appropriate resources within you organization have reviewed the following manuals: <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 1 - Control Center Requirements</li> <li><input type="checkbox"/> Manual 4 - PJM OASIS Operation</li> <li><input type="checkbox"/> Manual 10 - Pre-Scheduling Operations</li> <li><input type="checkbox"/> Manual 11 - Scheduling Operations</li> <li><input type="checkbox"/> Manual 12 - Dispatching Operations</li> <li><input type="checkbox"/> Manual 13 - Emergency Operations</li> <li><input type="checkbox"/> Manual 14d - Generator Operational Requirements</li> <li><input type="checkbox"/> Manual 15 - Cost Development Guidelines</li> <li><input type="checkbox"/> Manual 17 - Capacity Obligations</li> <li><input type="checkbox"/> Manual 18 – PJM Capacity Market</li> <li><input type="checkbox"/> Manual 21 - Rules and Procedures for Determination of Generating Capability</li> <li><input type="checkbox"/> Manual 22 - Generator Resource Performance Indices</li> <li><input type="checkbox"/> Manual 23 - PJM eGADS</li> <li><input type="checkbox"/> Manual 28 - Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 – Billing</li> <li><input type="checkbox"/> Manual 33 – Administrative Services for the PJM Interconnection Agreement</li> </ul>
	<b>PJM Certification</b> (Level 3)	The appropriate resources within your organization have obtained the following: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Operator certification within 1 year</li> </ul>
	The following training courses will assist in understanding the PJM Certification requirements	
	<b>Topic:</b> PJM System Operation Training Manual 40	<b>Comprehensive:</b> N/A
<b>PJM Education and Comprehension</b>	<b>Sandbox Environments</b> (Level 3)	The appropriate resources within your organization have obtained access to the following applications: <ul style="list-style-type: none"> <li><input type="checkbox"/> OASIS</li> <li><input type="checkbox"/> EES</li> <li><input type="checkbox"/> eMTR</li> <li><input type="checkbox"/> eDART</li> <li><input type="checkbox"/> eMKT</li> <li><input type="checkbox"/> eRPM</li> </ul>
<b>Data Submission to PJM</b>	<b>Markets and FTRs</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> Generation/demand bids</li> <li><input type="checkbox"/> Units qualified for regulation and Black Start</li> <li><input type="checkbox"/> Regulation certified and able to bid market.</li> </ul>
	<b>Energy Transactions</b> (Level 1)	The following data have been submitted in advance of integration dates as required if intent to schedule transmission service: <ul style="list-style-type: none"> <li><input type="checkbox"/> NERC tags</li> <li><input type="checkbox"/> Internal and external energy schedules to PJM</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Generators</b>		
	<b>Transmission Reservations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> Transmission reservations via the PJM single node OASIS (as well as received)
	<b>Operations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> Generator outings ratings and shutdowns to PJM <input type="checkbox"/> EMS Contingency Definitions
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Update Scheduling system as required to integrate with PJM applications and business rules <input type="checkbox"/> Develop XML/Browserless interface capabilities for scheduling systems <input type="checkbox"/> Develop interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data
	<b>Market Settlements Systems</b> (Level 3)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Reconcile settlements systems with PJM business rules to enable shadow settlements.
<b>Application Changes</b>	<b>Market Settlements Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Update settlements systems to accept and submit data file interfaces from/to PJM <input type="checkbox"/> Update settlements systems to accept and submit data file interfaces to eMTR
<b>Application Changes</b>	<b>UDS/SCED</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Configured system to accept UDS/SCED signals from PJM
	<b>GMS</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Configured system to interface with GMS signal
	<b>Market Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <input type="checkbox"/> Day Ahead Market Trials <input type="checkbox"/> Review LMP postings <input type="checkbox"/> Review Regulation participation
<b>Technical Changes</b>	<b>Generation Control</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Modify AGC systems to incorporate PJM business rules including modifications to ACE calculations

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Generators</b>		
	<b>Model Data (EMS)</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Integrate PJM's network model into appropriate systems
	<b>Technical Security</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Ensure all systems meet PJM security requirements

**Participant Readiness Checklists**

Activity	Sub-activity	Action(s)
<b>Marketers</b>		
Administrative	<b>Membership and Agreements</b> (Level 1)	The following is a list of PJM membership requirements: <ul style="list-style-type: none"> <li><input type="checkbox"/> Sign a Transmission Service Enabling Agreement</li> <li><input type="checkbox"/> Sign a Service agreement for Firm and/or Non-Firm Point-to-Point Transmission Service</li> <li><input type="checkbox"/> Complete the credit application</li> <li><input type="checkbox"/> Review OATT</li> <li><input type="checkbox"/> Establish commercial service contracts with load servers as necessary</li> </ul> Applications: The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> Users have learned how to use CAM and e tools</li> </ul>
PJM Education and Comprehension	<b>Markets</b> (Level 2)	<b>Business Procedures:</b> The appropriate resources within your organization have: <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for generation and load</li> <li><input type="checkbox"/> Obtained an understanding of the PJM Network Model</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> <li><input type="checkbox"/> Obtained an understanding of FTRs, their uses and how to obtain them</li> <li><input type="checkbox"/> Obtained an understanding of PJM External energy schedules and Ramp Rates</li> <li><input type="checkbox"/> Obtained an understanding of PJM Internal energy transaction and their effect on interchange</li> <li><input type="checkbox"/> Obtained an understanding of Transmission Reservations, OASIS and</li> <li><input type="checkbox"/> Available Transfer Capacity (ATC)</li> </ul>
	<b>Markets</b> (Level 1)	<b>Applications:</b> The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead and real-time bids and offers.</li> <li><input type="checkbox"/> Use the eFTR application to participate in the FTR allocation processes</li> <li><input type="checkbox"/> Use of OASIS for scheduling transmission reservations across tie lines</li> <li><input type="checkbox"/> Use of EES for scheduling of external energy transactions</li> <li><input type="checkbox"/> Use the eSchedules application for entering energy contracts internal to PJM and retrieving settlement reports.</li> <li><input type="checkbox"/> Use of eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. XML, CSV uploads and downloads)</li> </ul>
	The following training courses will assist in understanding the Market Operations requirements	
	<b>Topic:</b> LMP and FTR OASIS, Tagging and Scheduling Training Two Settlement and MBR	<b>Comprehensive:</b> PJM 101 eSuite and eTool Training LSE Training

**Participant Readiness Checklists**

Activity	Sub-activity	Action(s)
<b>Marketers</b>		
<b>PJM Education and Comprehension</b>	<b>Market Settlements</b> (Level 2)	The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from eSchedules</li> </ul>
	The following training courses will assist in understanding the Market Settlements requirements	
	<b>Topic:</b> Two Settlement Market Settlement Training 301	<b>Comprehensive:</b> N/A
	<b>Manuals</b> (Level 3)	The appropriate resources within you organization have reviewed the following manuals: <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 2 - Transmission Service Request</li> <li><input type="checkbox"/> Manual 4 - PJM OASIS Operation</li> <li><input type="checkbox"/> Manual 6 - Fixed Transmission Rights</li> <li><input type="checkbox"/> Manual 9 - PJM eSchedules</li> <li><input type="checkbox"/> Manual 11 - Scheduling Operations</li> <li><input type="checkbox"/> Manual 17 - Capacity Obligations</li> <li><input type="checkbox"/> Manual 18 – Capacity Markets</li> <li><input type="checkbox"/> Manual 19 - Load Data Systems</li> <li><input type="checkbox"/> Manual 18 - PJM Capacity Market</li> <li><input type="checkbox"/> Manual 27 - Open Access Transmission Tariff Accounting</li> <li><input type="checkbox"/> Manual 28 - Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 - Billing</li> <li><input type="checkbox"/> Manual 33 - Administrative Services for the PJM Interconnection Agreement</li> </ul>
<b>Sandbox Environments</b> (Level 3)	The appropriate resources within your organization have obtained access to the following applications: <ul style="list-style-type: none"> <li><input type="checkbox"/> OASIS</li> <li><input type="checkbox"/> EES</li> <li><input type="checkbox"/> eMKT</li> <li><input type="checkbox"/> eFTR</li> </ul>	
<b>Data Submission to PJM</b>	<b>Markets and FTRs</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> FTR bids and offers for monthly auction</li> <li><input type="checkbox"/> Generation/demand bids</li> </ul>
	<b>Energy Transactions</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> NERC tags</li> <li><input type="checkbox"/> Internal and external energy schedules to PJM</li> </ul>
	<b>Transmission Reservations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> Transmission reservations via the PJM single node OASIS (as well as received)</li> </ul>
	<b>Operations – delete row</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <ul style="list-style-type: none"> <li><input type="checkbox"/> EMS Contingency Definitions</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Marketers</b>		
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Update Scheduling system as required to integrate with PJM applications and business rules</li> <li><input type="checkbox"/> Develop XML/Browserless interface capabilities for scheduling systems</li> <li><input type="checkbox"/> Develop interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data</li> </ul>
	<b>Market Settlements Systems</b> (Level 3)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reconcile settlements systems with PJM business rules to enable shadow settlements.</li> </ul>
	<b>Market Settlements Systems</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Update settlements systems to accept and submit data file interfaces from/to PJM</li> <li><input type="checkbox"/> Update settlements systems to accept and submit data file interfaces to eMTR</li> </ul>
<b>Technical Changes</b>	<b>Technical Security</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure all systems meet PJM security requirements</li> </ul>

**Participant Readiness Checklists**

Activity	Sub-activity	Action(s)
<b><u>Municipalities (with generation and load)</u></b>		
<b>Administrative</b>	<b>Membership and Agreements</b> (Level 1)	<p>The following is a list of PJM Membership requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Sign the PJM Reliability Assurance Agreement (RAA)</li> <li><input type="checkbox"/> Submit Network Transmission Service Agreement</li> <li><input type="checkbox"/> Review OATT</li> <li><input type="checkbox"/> Meet your daily unforced capacity obligation or be subject to deficiency charges</li> <li><input type="checkbox"/> Sign a Transmission Service Enabling Agreement</li> <li><input type="checkbox"/> Sign a Service Agreement for Firm and/or non firm point-to-point transmission service</li> <li><input type="checkbox"/> Complete the credit application</li> </ul> <p>Applications:</p> <p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> Users have learned how to use CAM and e tools</li> </ul>
<b>PJM Education and Comprehension</b>	<b>Markets</b> (Level 2)	<p><b>Business Procedures:</b></p> <p>The appropriate resources within your organization have:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for generation and load</li> <li><input type="checkbox"/> Obtained an understanding of the PJM Network Model</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> <li><input type="checkbox"/> Obtained an understanding of FTRs, their uses and how to obtain them</li> <li><input type="checkbox"/> Obtained an understanding of PJM External energy schedules and Ramp Rates</li> <li><input type="checkbox"/> Obtained an understanding of PJM Internal energy transaction and their effect on interchange</li> <li><input type="checkbox"/> Obtained an understanding of Transmission Reservations, OASIS and available Transfer Capacity (ATC)</li> <li><input type="checkbox"/> Obtained an understanding of Synchronize Reserves market</li> <li><input type="checkbox"/> Obtained understanding of day ahead reserve market</li> <li><input type="checkbox"/> Obtained an understanding of Regulation and the Regulation Market</li> <li><input type="checkbox"/> Obtained an understanding of Reactive services</li> <li><input type="checkbox"/> Obtained an understanding of Black Start Services</li> <li><input type="checkbox"/> Obtained understanding of PJM Capacity market</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Municipalities (with generation and load)</b>		
	<b>Markets</b> (Level 1)	<b>Applications:</b> The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead and real-time bids and offers.</li> <li><input type="checkbox"/> Use the eMKT application for participation in ancillary services markets</li> <li><input type="checkbox"/> Use the eFTR application to participate in the FTR allocation processes</li> <li><input type="checkbox"/> Use of OASIS for scheduling transmission reservations across tie lines</li> <li><input type="checkbox"/> Use of EES for scheduling of external energy transactions</li> <li><input type="checkbox"/> Use the eSchedules application for entering internal bilateral energy contracts.</li> <li><input type="checkbox"/> Use MSRS to retrieve settlement reports.</li> <li><input type="checkbox"/> Use the eRPM application for capacity market purposes</li> <li><input type="checkbox"/> Use of eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. xml, CSU uploads and downloads)</li> </ul>
	The following training courses will assist in understanding the Market Operations requirements	
	<b>Topic:</b> LMP and FTR OASIS, Tagging and Scheduling Training Two Settlement, Regulation, and Black start Service, synchronized Reserve Market training	<b>Comprehensive:</b> PJM 101 eSuite and eTool Training MOC Training
<b>PJM Education and Comprehension</b>	<b>System Operations</b> (Level 2)	<b>Business Procedures:</b> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Dispatch and system operations</li> <li><input type="checkbox"/> Generation outage and reporting</li> <li><input type="checkbox"/> Transmission outage reporting</li> <li><input type="checkbox"/> Installed Capacity requirements</li> <li><input type="checkbox"/> Emergency Procedures, Instantaneous Reserve Check, Supplemental Status Report, Automatic Reserve Sharing and Drills</li> <li><input type="checkbox"/> All Call and System Restoration</li> <li><input type="checkbox"/> Generation Control procedures and/or requirements related to UDS, GMS and ACE</li> <li><input type="checkbox"/> Regulation certification and bidding</li> <li><input type="checkbox"/> Annual ARR allocation by transmission zone</li> </ul>
	<b>System Operations</b> (Level 1)	<b>Applications:</b> The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Use eDART, eGADs, eFuel for generation and transmission outage and submission</li> <li><input type="checkbox"/> Use eMTR for submission of interchange meter data</li> <li><input type="checkbox"/> Use eRPM for submission of capacity obligations</li> </ul> The appropriate resources within your organization have obtained an understanding of: <ul style="list-style-type: none"> <li><input type="checkbox"/> EMS system signals</li> </ul>
	The following training courses will assist in understanding the System Operations requirements	

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Municipalities (with generation and load)</b>		
	<b>Topic:</b> Individual Unit Dispatch Training PJM Reactive eDart System Operations training course	<b>Comprehensive:</b> PJM 101 Training eSuite/eTool Training LCC Training
	<b>Market Settlements</b> (Level 2)	The appropriate resources within your organization have learned how to: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from MSRS</li> </ul>
	The following training courses will assist in understanding the Market Settlements requirements	
	<b>Topic:</b> Two Settlement and Market Based Regulation Training	<b>Comprehensive:</b> N/A
	<b>Manuals</b> (Level 3)	The appropriate resources within you organization have reviewed the following manuals: <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 3 – Transmission Operations</li> <li><input type="checkbox"/> Manual 10 – Pre-Scheduling Operations</li> <li><input type="checkbox"/> Manual 11 – Scheduling Operations</li> <li><input type="checkbox"/> Manual 12 – Dispatching Operations</li> <li><input type="checkbox"/> Manual 13 – Emergency Operations</li> <li><input type="checkbox"/> Manual 18 - Capacity Market Operations (RPM)</li> <li><input type="checkbox"/> Manual 27 – Open Access Transmission Tariff Accounting</li> <li><input type="checkbox"/> Manual 28 – Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 – Billing</li> </ul>
	<b>PJM Certification</b> (Level 1)	The appropriate resources within your organization have obtained the following: <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM certification</li> <li><input type="checkbox"/> NERC certification</li> </ul>
	The following training courses will assist in understanding the PJM Certification requirements	
<b>Topic:</b> PJM System Operation Training	<b>Comprehensive:</b> N/A	
<b>PJM Education and Comprehension</b>	<b>Sandbox Environments</b> (Level 3)	The appropriate resources within your organization have obtained access to the following applications: <ul style="list-style-type: none"> <li><input type="checkbox"/> OASIS</li> <li><input type="checkbox"/> EES</li> <li><input type="checkbox"/> eMTR</li> <li><input type="checkbox"/> eDART</li> <li><input type="checkbox"/> eMKT</li> <li><input type="checkbox"/> eFTR</li> <li><input type="checkbox"/> eRPM</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Municipalities (with generation and load)</b>		
<b>Data Submission to PJM</b>	<b>Markets and FTRs</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> FTR bids and offers for monthly auction <input type="checkbox"/> Generation/demand bids <input type="checkbox"/> Units qualified for regulation, and Black Start <input type="checkbox"/> Regulation offers, and load response
	<b>Energy Transactions</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> NERC tags <input type="checkbox"/> Internal and external energy schedules to PJM
	<b>Transmission Reservations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> Transmission reservations via the PJM single node OASIS (as well as received)
	<b>Operations</b> (Level 1)	The following data have been submitted in advance of integration dates as required: <input type="checkbox"/> Peak load/network service <input type="checkbox"/> Meter data to PJM <input type="checkbox"/> Study data to long term planning <input type="checkbox"/> Transmission outage data <input type="checkbox"/> Capacity transactions and load contributions to PJM <input type="checkbox"/> Generator outages ratings and shutdowns to PJM <input type="checkbox"/> EMS Contingency Definitions
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Updated Scheduling system as required to integrate with PJM applications and business rules <input type="checkbox"/> Developed XML/Browserless interface capabilities for scheduling systems <input type="checkbox"/> Developed interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data
	<b>Market Settlements Systems</b> (Level 3)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Reconciled settlements systems with PJM business rules to enable shadow settlements.
	<b>Market Settlements Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Updated settlements systems to accept and submit data file interfaces from/to PJM <input type="checkbox"/> Updated settlements systems to accept and submit data file interfaces to eMTR
	<b>UDS</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Configured system to accept UDS signal from PJM

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Municipalities (with generation and load)</b>		
	<b>GMS</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Configured system to interface with GMS signal
	<b>Market Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <input type="checkbox"/> Day Ahead Market Trials <input type="checkbox"/> Review LMP Postinings <input type="checkbox"/> Review Regulation bidding
<b>Technical Changes</b>	<b>LCC Infrastructure – delete row</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Established facilities <input type="checkbox"/> Established communication connections (PJM Net/ICCP) <input type="checkbox"/> Established connection to All Call/DCC capability <input type="checkbox"/> Developed Call Out Lists <input type="checkbox"/> Installed necessary hardware/software
	<b>Generation Control</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Modify AGC systems to incorporate PJM business rules including modifications to ACE calculations
	<b>Model Data (EMS)</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Integrate PJM's network model into appropriate systems
	<b>Technical Security</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Ensure all systems meet PJM security requirements

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
<b>Administrative</b>	<b>Membership and Agreements</b> (Level 1)	<p>The following is a list of PJM Membership requirements:</p> <p><b>CSP:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Review OATT</li> <li><input type="checkbox"/> Complete the credit application (for DR resources in the Capacity Market)</li> </ul> <p><b>EDC:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Become familiar with the Transmission Owners and Municipalities sections of this document</li> </ul> <p><b>LSE:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Become familiar with the LSE section fo the this document</li> </ul> <p>Applications:</p> <p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> Client Managers and users have learned how to use CAM</li> </ul>
<b>PJM Education and Comprehension</b>	<b>Markets</b> (Level 2)	<p><b>Business Procedures:</b></p> <p>The appropriate resources within your organization have:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reviewed the eLRS User Guide</li> <li><input type="checkbox"/> Reviewed the eMKT User Guide</li> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for Demand Side Response</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> </ul> <p><i>Optional:</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJM Capacity Market</li> <li><input type="checkbox"/> Obtained an understanding of Synchronized Reserves (Spinning Reserves) and the Synchronized Reserves (Spinning Reserve) Market</li> <li><input type="checkbox"/> Obtained an understanding of Day-Ahead Scheduling Reserves and the Day-Ahead Scheduling Reserves Market.</li> <li><input type="checkbox"/> Obtained an understanding of Regulation and the Regulation Market</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
	<b>Markets</b> (Level 1)	<p><b>Applications:</b> The appropriate resources within your organization have learned how to:</p> <p>CSP</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eLRS application to register sites and submit settlement information</li> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead offers, self-scheduling and real-time dispatch</li> <li><input type="checkbox"/> Use the eMKT application for participation in ancillary services markets – synchronized reserve, day-ahead scheduling and regulation</li> <li><input type="checkbox"/> Use the eRPM application for capacity market purposes</li> <li><input type="checkbox"/> Use eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. xml, CSV, .xls)</li> </ul> <p>EDC and LSE</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eLRS application to review and approve/deny registrations and settlements</li> </ul>
	The following training courses will assist in understanding the Market Operations requirements	
	<p>Topic:</p> <p>DSR in the Ancillary Services Market</p> <p>Load Management</p> <p>DSR Meter Rules</p> <p>PJM DSR Opt In/Opt Out Rules</p> <p>LM Resource Test Training</p> <p>Load Response Economic Participation through eMkt</p>	<p><b>Comprehensive:</b></p> <p>Demand Side Response Training</p> <p>PJM 101</p> <p>eSuite and eTool Training</p>
<b>PJM</b> <b>Education and</b> <b>Comprehension</b>	<b>System Operations</b> (Level 2)	<p><b>Business Procedures:</b> The appropriate resources within your organization have obtained an understanding of:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Dispatch and system operations</li> <li><input type="checkbox"/> Emergency Procedures</li> <li><input type="checkbox"/> All Call for Synchronized Reserves and Load Management Events</li> </ul>
	<b>Market Settlements</b> (Level 2)	<p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from MSRS</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
	The following training courses will assist in understanding the Market Settlements requirements	
	<b>Topic:</b> Two Settlement and Market Based Regulation Training Guide to Billing	<b>Comprehensive:</b> N/A
	<b>Manuals</b> (Level 3)	The appropriate resources within your organization have reviewed the following manuals: <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 11 – Scheduling Operations</li> <li><input type="checkbox"/> Manual 13 – Emergency Operations</li> <li><input type="checkbox"/> Manual 18 – PJM Capacity Market</li> <li><input type="checkbox"/> Manual 19 - Load Forecasting and Analysis</li> <li><input type="checkbox"/> Manual 28 – Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 – Billing</li> </ul>
<b>PJM Education and Comprehension</b>	<b>Sandbox Environments</b> (Level 3)	The appropriate resources within your organization have obtained access to the following applications: <ul style="list-style-type: none"> <li><input type="checkbox"/> eLRS</li> <li><input type="checkbox"/> eMKT</li> <li><input type="checkbox"/> eRPM (for Capacity Market Only)</li> </ul>
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Updated Scheduling system as required to integrate with PJM applications and business rules</li> <li><input type="checkbox"/> Developed XML/Browserless interface capabilities for scheduling systems</li> <li><input type="checkbox"/> Developed interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data</li> </ul>
	<b>Market Settlements Systems</b> (Level 3)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Reconciled settlements systems with PJM business rules to enable shadow settlements.</li> </ul>
	<b>Market Settlements Systems</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Updated settlements systems to accept and submit data file interfaces from/to eLRS</li> </ul>
	<b>UDS</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <ul style="list-style-type: none"> <li><input type="checkbox"/> Configured system to receive email alerts from eLRS</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
	<b>Market Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <ul style="list-style-type: none"> <li><input type="checkbox"/> Day Ahead Market Trials</li> <li><input type="checkbox"/> Self-Schedule Market Trials</li> <li><input type="checkbox"/> Real-time Dispatch Market Trials</li> <li><input type="checkbox"/> Synchronized Reserve Market Trials</li> <li><input type="checkbox"/> Day-ahead Scheduling Reserve Market Trials</li> <li><input type="checkbox"/> Regulation Market Trials</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b><u>Demand Side Response</u></b>		
<b>Administrative</b>	<b>Membership and Agreements</b> (Level 1)	<p>The following is a list of PJM Membership requirements:</p> <p><b>CSP:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Review OATT</li> <li><input type="checkbox"/> Complete the credit application (for DR resources in the Capacity Market)</li> </ul> <p><b>EDC:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Become familiar with the Transmission Owners and Municipalities sections of this document</li> </ul> <p><b>LSE:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Become a member of PJM</li> <li><input type="checkbox"/> Become familiar with the LSE section fo the this document</li> </ul> <p>Applications: The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain User IDs/Passwords for required users of each PJM application</li> <li><input type="checkbox"/> Client Managers and users have learned how to use CAM</li> </ul>
<b>PJM Education and Comprehension</b>	<b>Markets</b> (Level 2)	<p><b>Business Procedures:</b> The appropriate resources within your organization have:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reviewed the eLRS User Guide</li> <li><input type="checkbox"/> Reviewed the eMKT User Guide</li> <li><input type="checkbox"/> Obtained an understanding of PJMs scheduling process for Demand Side Response</li> <li><input type="checkbox"/> Obtained an understanding of LMP and LMP Pricing Mechanisms including pricing hubs and other aggregates</li> </ul> <p><i>Optional:</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtained an understanding of PJM Capacity Market</li> <li><input type="checkbox"/> Obtained an understanding of Synchronized Reserves (Spinning Reserves) and the Synchronized Reserves (Spinning Reserve) Market</li> <li><input type="checkbox"/> Obtained an understanding of Day-Ahead Scheduling Reserves and the Day-Ahead Scheduling Reserves Market.</li> <li><input type="checkbox"/> Obtained an understanding of Regulation and the Regulation Market</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
	<b>Markets</b> (Level 1)	<p><b>Applications:</b> The appropriate resources within your organization have learned how to:</p> <p>CSP</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eLRS application to register sites and submit settlement information</li> <li><input type="checkbox"/> Use the eMKT application to submit day-ahead offers, self-scheduling and real-time dispatch</li> <li><input type="checkbox"/> Use the eMKT application for participation in ancillary services markets – synchronized reserve, day-ahead scheduling and regulation</li> <li><input type="checkbox"/> Use the eRPM application for capacity market purposes</li> <li><input type="checkbox"/> Use eData for retrieving market data information</li> <li><input type="checkbox"/> Perform eSuite general functions</li> <li><input type="checkbox"/> Develop comprehensive data interfaces (e.g. xml, CSV, .xls)</li> </ul> <p>EDC and LSE</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use the eLRS application to review and approve/deny registrations and settlements</li> </ul>
	The following training courses will assist in understanding the Market Operations requirements	
	<p>Topic: DSR in the Ancillary Services Market Load Management DSR Meter Rules <a href="#">PJM DSR Opt In/Opt Out Rules</a> LM Resource Test Training Load Response Economic Participation through eMkt</p>	<p><b>Comprehensive:</b> Demand Side Response Training PJM 101 eSuite and eTool Training</p>
<b>PJM Education and Comprehension</b>	<b>System Operations</b> (Level 2)	<p><b>Business Procedures:</b> The appropriate resources within your organization have obtained an understanding of:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Dispatch and system operations</li> <li><input type="checkbox"/> Emergency Procedures</li> <li><input type="checkbox"/> All Call for Synchronized Reserves and Load Management Events</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
	<b>Market Settlements</b> (Level 2)	<p>The appropriate resources within your organization have learned how to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> PJM Market Settlements rules and basis for calculations of line items</li> <li><input type="checkbox"/> PJM Billing Line Items and the sample billing statement</li> <li><input type="checkbox"/> Download reports from MSRS</li> </ul>
The following training courses will assist in understanding the Market Settlements requirements		
	<b>Topic:</b> Two Settlement and Market Based Regulation Training Guide to Billing	<b>Comprehensive:</b> N/A
	<b>Manuals</b> (Level 3)	<p>The appropriate resources within you organization have reviewed the following manuals:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Manual 11 – Scheduling Operations</li> <li><input type="checkbox"/> Manual 13 – Emergency Operations</li> <li><input type="checkbox"/> Manual 18 – PJM Capacity Market</li> <li><input type="checkbox"/> Manual 19 - Load Forecasting and Analysis</li> <li><input type="checkbox"/> Manual 28 – Operating Agreement Accounting</li> <li><input type="checkbox"/> Manual 29 – Billing</li> </ul>
<b>PJM Education and Comprehension</b>	<b>Sandbox Environments</b> (Level 3)	<p>The appropriate resources within your organization have obtained access to the following applications:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> eLRS</li> <li><input type="checkbox"/> eMKT</li> <li><input type="checkbox"/> eRPM (for Capacity Market Only)</li> </ul>
<b>Application Changes</b>	<b>Scheduling Systems</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Updated Scheduling system as required to integrate with PJM applications and business rules</li> <li><input type="checkbox"/> Developed XML/Browserless interface capabilities for scheduling systems</li> <li><input type="checkbox"/> Developed interface capability with PJM eData automatic data feed to obtain PJM LMPs and other real-time data</li> </ul>
	<b>Market Settlements Systems</b> (Level 3)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reconciled settlements systems with PJM business rules to enable shadow settlements.</li> </ul>
	<b>Market Settlements Systems</b> (Level 1)	<p>The appropriate resources within your organization have performed the following tasks:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Updated settlements systems to accept and submit data file interfaces from/to eLRS</li> </ul>

Participant Readiness Checklists		
Activity	Sub-activity	Action(s)
<b>Demand Side Response</b>		
	<b>UDS</b> (Level 1)	The appropriate resources within your organization have performed the following tasks: <input type="checkbox"/> Configured system to receive email alerts from eLRS
	<b>Market Integration Testing</b> (Level 1)	The appropriate resources within your organization have performed the following testing procedures: <input type="checkbox"/> Day Ahead Market Trials <input type="checkbox"/> Self-Schedule Market Trials <input type="checkbox"/> Real-time Dispatch Market Trials <input type="checkbox"/> Synchronized Reserve Market Trials <input type="checkbox"/> Day-ahead Scheduling Reserve Market Trials <input type="checkbox"/> Regulation Market Trials