



Business Integration Update

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Board of Directors Meeting

December 12-13, 2011

ERCOT Public

Summary

- **PMO Update:**
 - Data Center relocation:
 - Successfully migrated production systems to the new TCC3 Data Center
 - Two new data centers, Bastrop and TCC3, are now in **full production mode**
 - Successful failover from Bastrop to Taylor
 - Disaster recover systems built and testing is in progress
 - Blue Building data center decommissioned
 - Project Priority List
 - Now shows multi-year view of all capital projects
- **Market Rules Update:**
 - 17 new revision requests were filed during the month of November (compared to 17 new in October).
 - More revision requests have been filed thus far in 2011 than any of the previous five years. Of those filed, approximately 54% of the NPRRs have been filed by ERCOT.
- **Enterprise Information Management Update:**
 - New Contour Maps are available for LMPs, and Day-Ahead & Real-Time Settlement Point Prices.
- **Resource Adequacy:**
 - Updated the summary table of potential options to increase the MWs available for summer 2012.

PMO - Project Status Overview

- **December Release**

- NPPRR251, Synchronization of PRR845, Definition for IDR Meters and Optional Removal of IDR Meters at a Premise Where an Advanced Meter Can be Provisioned
- NPPRR290, ERCOT Publication of DAM PSS/E Files
- NPPRR310, Expand Output Schedule Acceptable Range to Include HSL and LSL
- NPPRR316, Negative Self-Arranged Ancillary Services Quantity
- NPPRR321, Allow Change to Energy Offer Curve MW Amounts in the Adjustment Period (MMS portion only; CDR portion will follow in R1 2012 release)
- NPPRR343, CRR Bid and PTP Obligation Bid Criteria Change
- SCR763, Modify COP Validation Rule for RRS
- SCR764, Public Access to Select MIS Dashboards
 - LMP Contour Map (Final release for this SCR)
- SCR765, Public Aggregated Wind Dashboard
- Stabilization and Deferred Defects

- **Other Highlights**

- NPPRR326, Adjust the Calculation of the Real-Time Settlement Point Price for a Resource Node-moved to Planning
- NPPRR347, Single Daily Settlement Invoice and Updates to Credit Calculations, including addition of a Minimum Collateral Exposure Component – moved to Initiation
- NPPRR355, Adjust the Calculation of the Real-Time Settlement Point Price for a Load Zone-moved to Planning
- NPPRR400, Unsecured Credit for CRR Auctions & for Future Credit Exposure & Eliminate Netting of FCE with CCE - moved to Initiation
- Look Ahead SCED-moved to planning
- Outage Capacity Reporting Tool– moved to Planning
- Oracle 11G Upgrade-moved to Initiation
- MarkeTrak Enhancements-moved to Execution

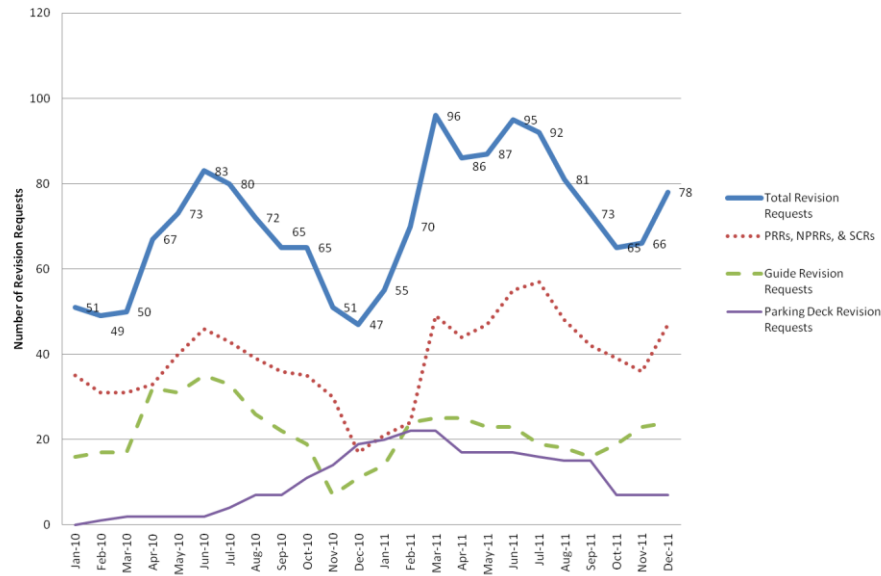
Data Center Migration Project

Monthly Highlights & Upcoming Program Activities

- **Wave 1 – Corporate and Support Systems – remains in progress**
 - Lower priority IT supporting infrastructure remain to complete.
- **Wave 1.5 – All Virtual Systems**
 - Completed.
- **Wave 2 – Development & Integrated Test systems**
 - Lower priority development systems remain to complete.
- **Wave 3 – Bastrop Control and Data Center Commissioning**
 - Completed.
- **Wave 4 – Bastrop Disaster Recovery Environment**
 - Final disaster recovery test scheduled for first week of December.
- **Wave 5 – Taylor Production Migration**
 - All market facing migrations completed.

Market Rules Update

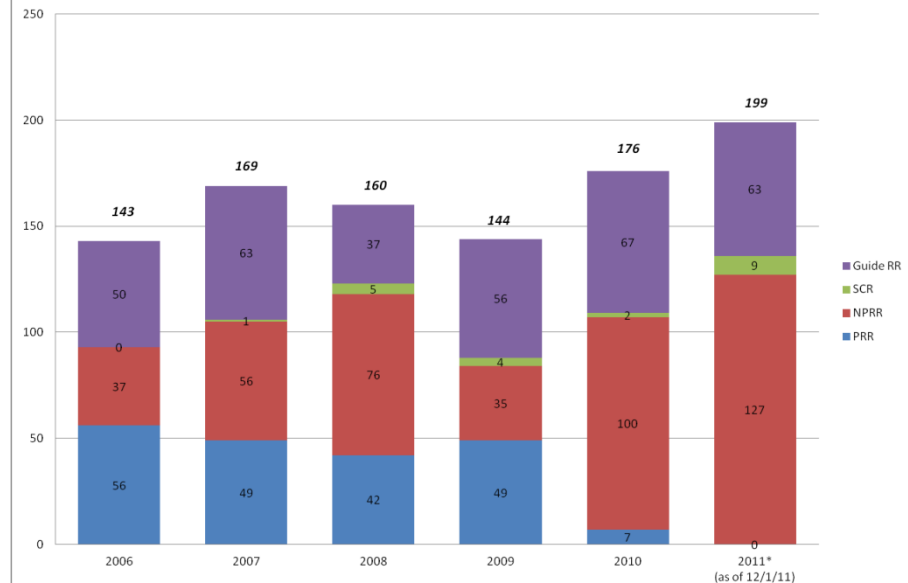
Total Revision Requests Active in Stakeholder Process
(through 12/1/11)



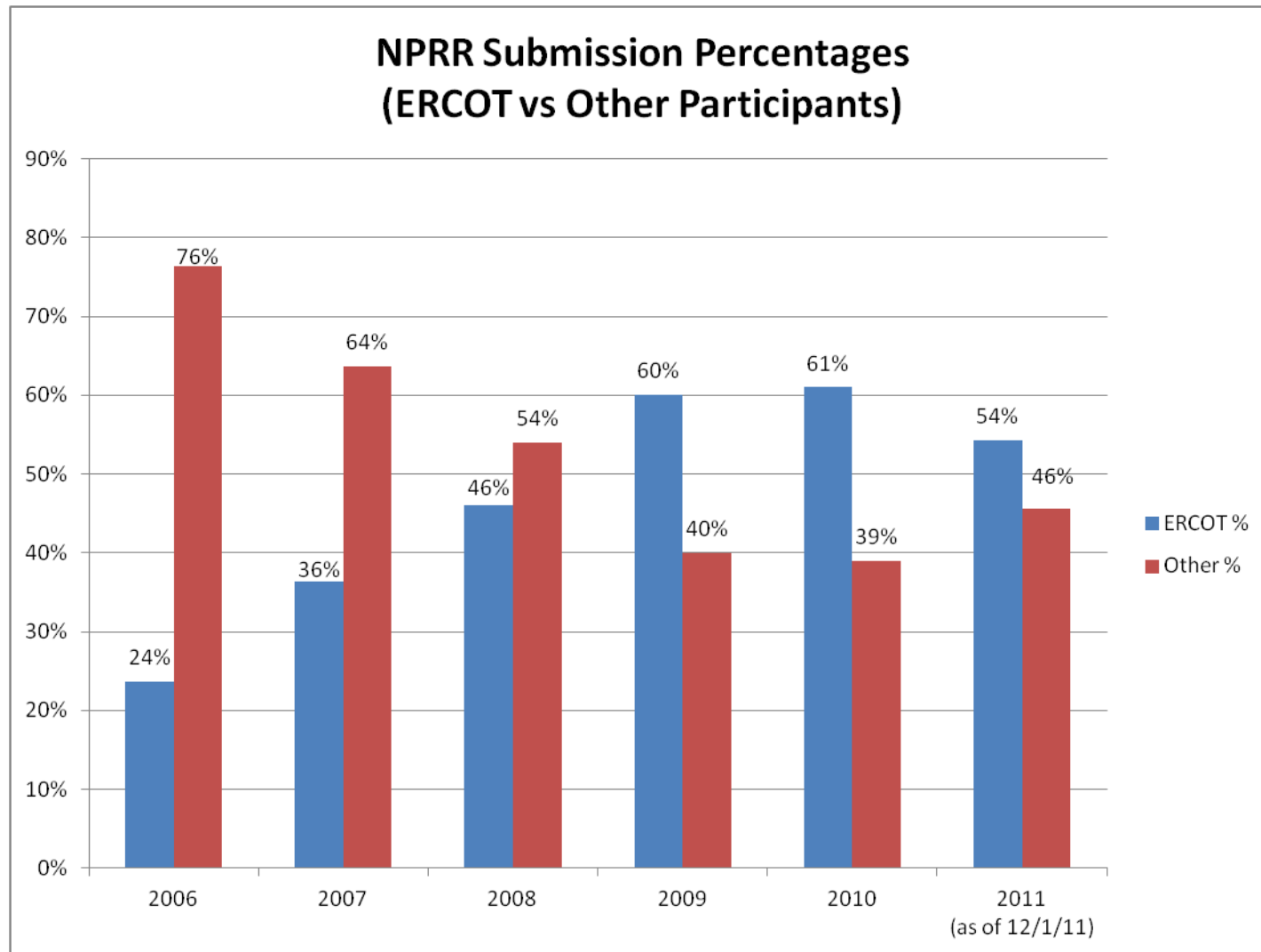
Market Rules staff has been managing an average of 80 revisions each month during 2011.

The total number of Revision Requests in process as of 12/1/11 indicates an upward turn from most recent previous months; this is likely attributed to no NPRRs being approved (and thus removed from the active list) in November as well as the number of NPRRs that have been tabled for further discussion within the stakeholder process.

Total New Revision Requests Submitted by Year



Market Rules Update



* The 2006-2007 stats are deceiving as ERCOT staff was often taking NPRRs to TPTF to get their endorsement and then TPTF would submit the NPRR. This helped to speed the process as PRS was sending all NPRRs through TPTF prior to considering the language.

ERCOT FTE Tracking

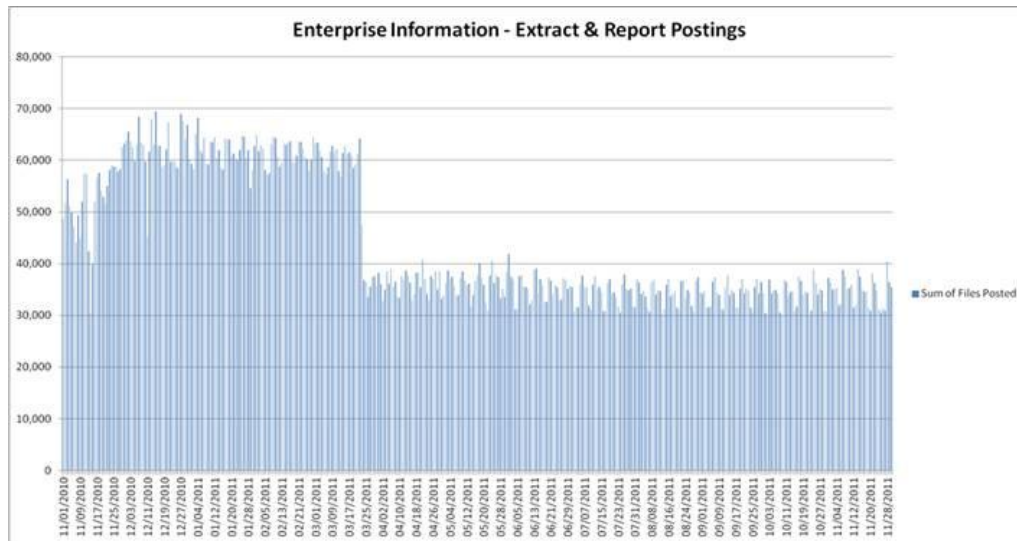
Summary of FTE Impact of Revision Requests - By Department

--- Board Approved ---			Incremental Labor Impact of Change	Net ERCOT Staffing Impact		
Revision Request	Division	Department Name	Labor Effort (in FTEs)	Additional FTEs Required	Budget Impact	Status / Comments
SCR760	Operations	Network Modeling	2.20	0		Absorbed in 2012 budget and staffing plan
NPRR286	Corporate	Credit	0.50	0		Absorbed in 2012 budget and staffing plan
NPRR365	Operations	Outage Coordination	2.00	2	\$240k-\$260k	Board approved - 9/20/2011
NOGRR054	Compliance	Compliance	1.00	0		Absorbed in 2012 budget and staffing plan
Board-Approved Items			5.70	2		

--- In-Flight at TAC ---						
NPRR327	Operations	Operations Support	1.00	1	\$120k-\$130k	
NPRR408	Operations	Resource Integration	0.10	0		
In-Flight at TAC			1.10	1		

Total of All Items	6.80	3
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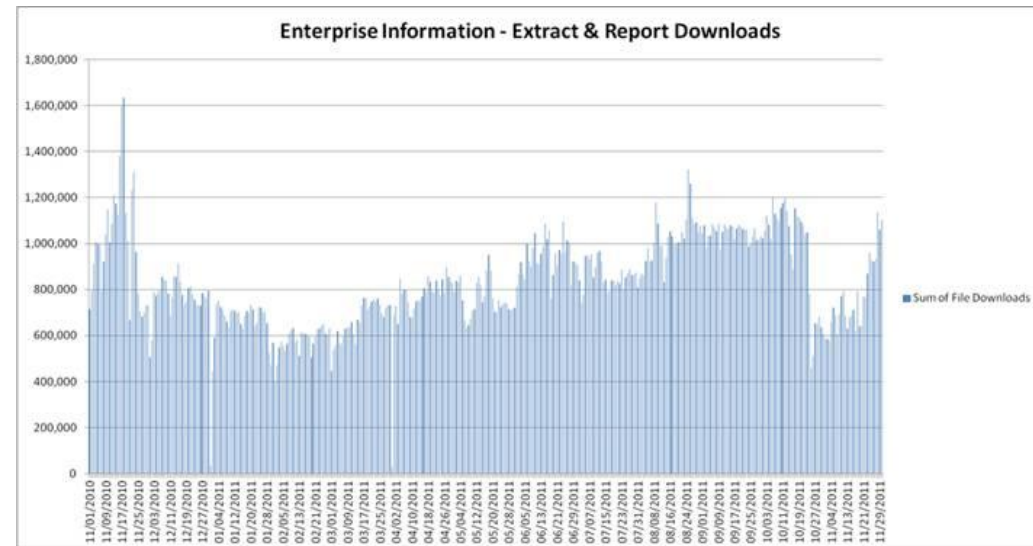
Enterprise Information – Extracts & Reports



- The number of extracts and reports posted remains fairly constant
- The number of files downloaded declined after the October release when ERCOT began providing a weekly price summary file. This allows MPs to build a price history without downloading each 5-min price file.
- Additionally, the October release impacted MPs downloading processes which contributed temporarily to the decline.

November 2011 Statistics

Postings	Downloads
Total = 1,040,604	Total = 22,211,635
86% - Certified	90% - Public
8% - Secure	8% - Secure
6% - Public	2% - Certified

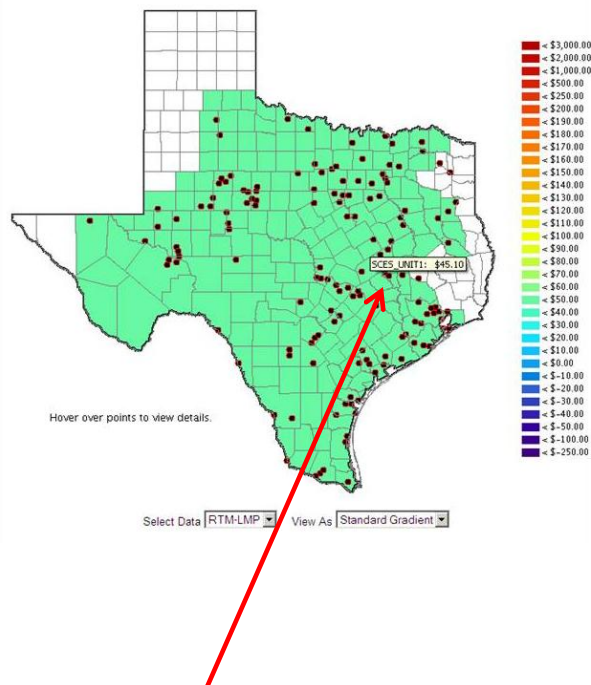


Enterprise Information – New Dashboards Available

Contour Maps are now available on www.ERCOT.com and MIS for Locational Marginal Prices, Day-Ahead Settlement Point Prices, and Real-Time Settlement Point Prices.

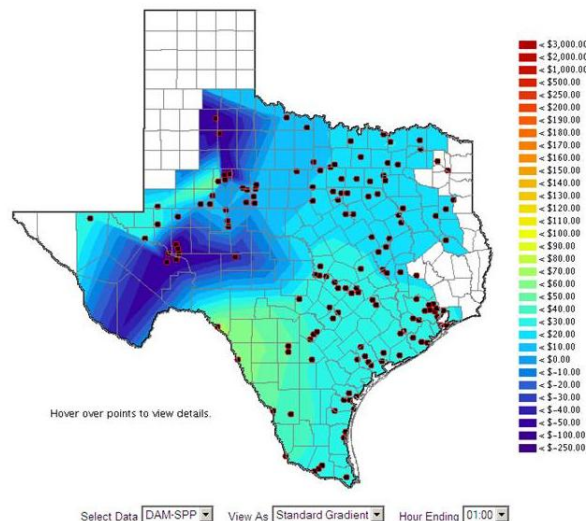
Contour Map: Real Time Market - Locational Marginal Pricing

Last Updated: Dec 01, 2011 11:45



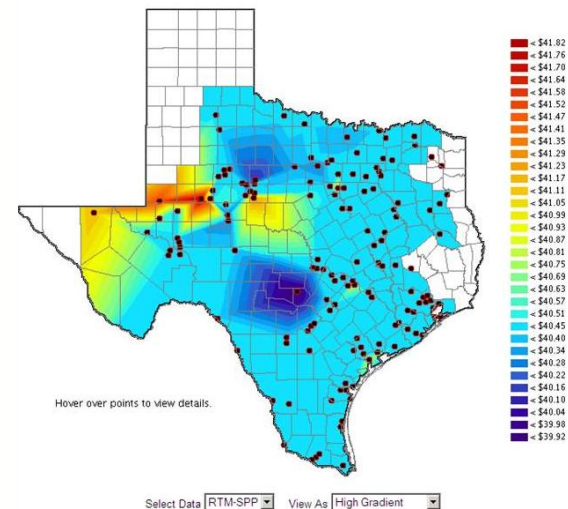
Contour Map: Day Ahead Market - Settlement Point Pricing

Last Updated: Nov 30, 2011 12:09



Contour Map: Real Time Market - Settlement Point Pricing

Last Updated: Dec 01, 2011 11:47



Each map provides additional information when you hover over specific points

Efforts to Help with Resource Adequacy

- Capacity Demand Reserve (CDR) analysis
- Mothballed to RMR
- Demand Response
- Imports across DC ties
- Block Load Transfers
- Private Use Network Capacity/Un-modeled Generation
- Reporting on impacts to Resources (fuel, water, emissions, new construction)
- Outage Coordination (NPRR 365)
- Resolution of Pricing Issues Related to Reliability Deployments (RDTF and PUCT)
- Implementation of Look-ahead pricing (phase 1 of Look-Ahead SCED)
- Storage (CAES, batteries, EVs)

Summary of Potential Options to Increase MW for Summer 2012 (1 of 2) – Updates in Red

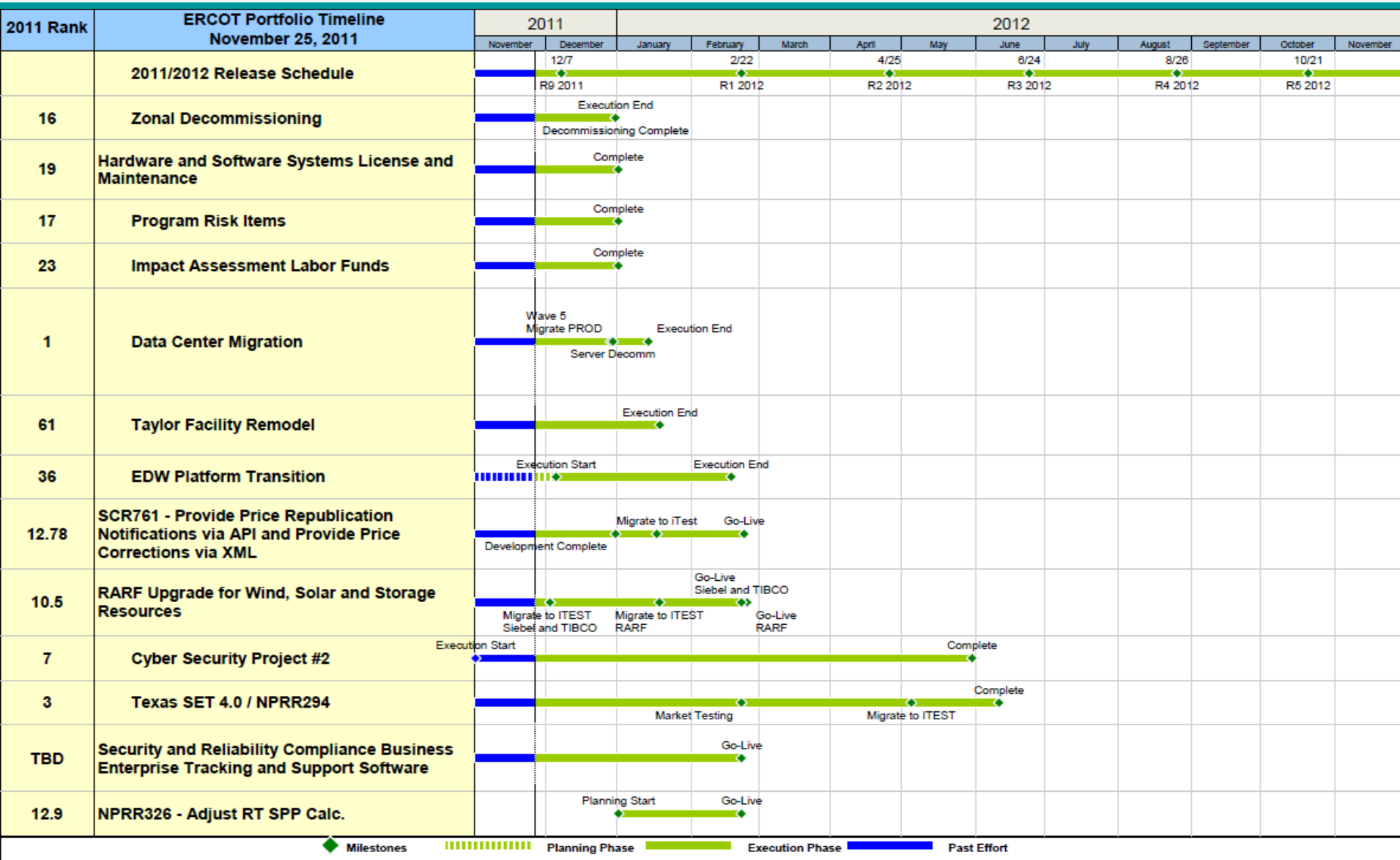
Action Item	Potential Options MW Increase	Comments (as of 12-01-11)
Mothballed to RMR	~2900	~700 needs 6 months notice ~1500 needs 3 months notice ~700 needs 1 month notice
Demand Response	~160 to ~250	Need rule changes and protocol changes. Currently seeking comments on draft amendment to PUCT rule. Tight timeline to implement changes for June to Sept 2012 contract period.
Increase DC tie Import Amounts (This represents increased imports over the DC ties than what is currently assumed in the CDR.) Market Participants would need to make purchases and reserve the tie in excess of 50% of capacity.	0 to ~400	It is unlikely the physical capacity of the DC ties will increase before summer 2012. There is capability to bring more across the ties than shown in the CDR but there are also limitations on availability of surplus and potential CFE transmission issues.

Summary of Potential Options to Increase MW for Summer 2012 (2 of 2) – Updates in Red

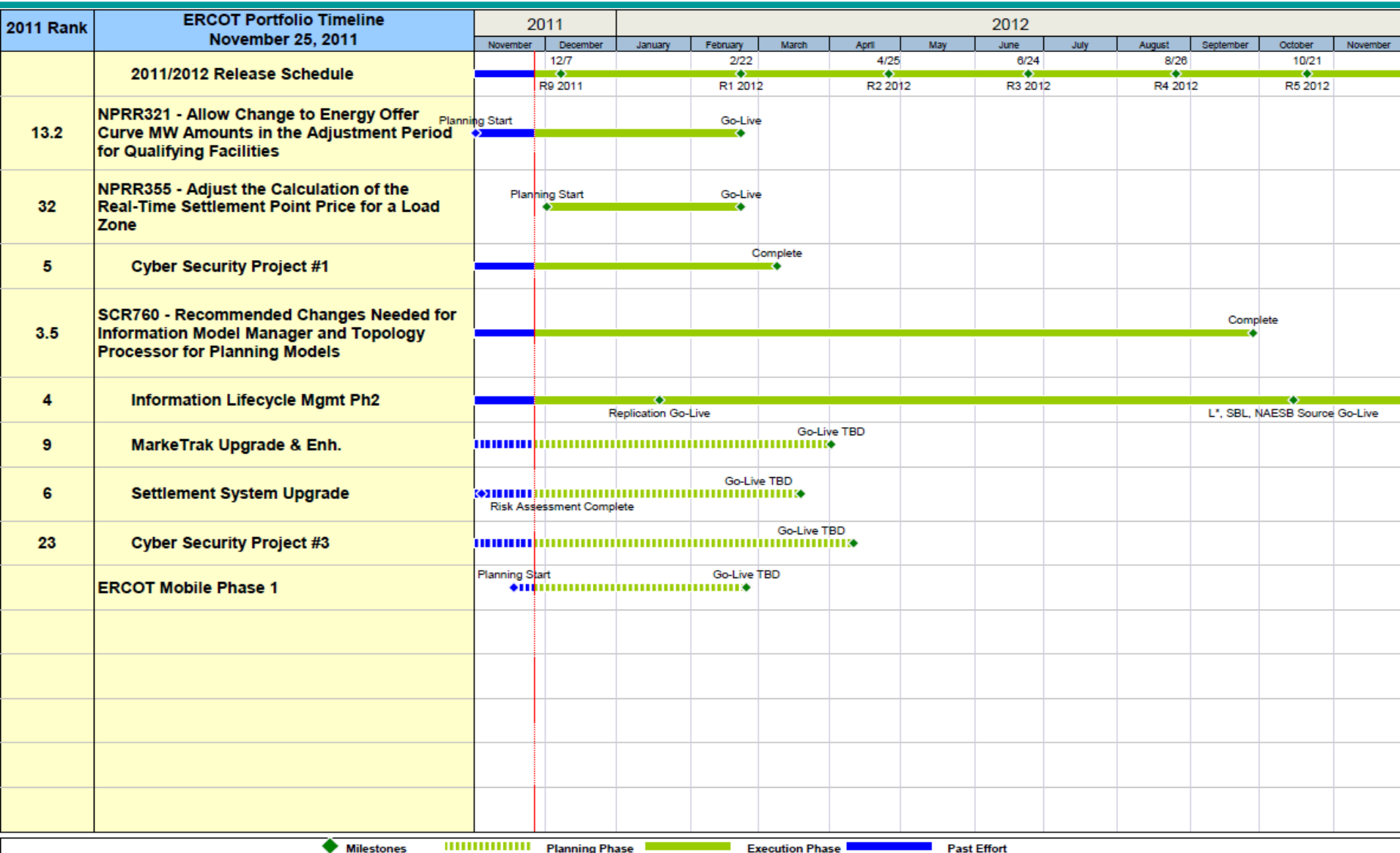
Action Item	Potential Options MW Increase	Comments (as of 12-01-11)
Block Load Transfer (BLT)	0 to ~200	May not be available across peak.
PUN Capacity / Un-modeled Generation	~(700)	This negative 700 MW represents the amount overstated in last summer's CDR. ERCOT plans to gather information on what changes are expected from the August 2011 baseline and use the updated info when preparing the summer 2012 SARA.
Total (slides 1 and 2)	~3,050	Plus or minus "x" MWs

Appendix

ERCOT Portfolio Status Report (as of 11/29/2011)



ERCOT Portfolio Status Report (as of 11/29/2011)



Projects Update

Project Name	Scope	Objectives	Current Status	Issue	Potential Risks	Risk Probability
Stabilization	Evaluate and remediate ERCOT Nodal Operational Issues including higher than normal: production outages, issue analysis, software defect remediation, stakeholder support, and request for information volumes	Maintain Nodal Operational Stability during the first months of System Operations	On track for December release.	None	Staff attrition may impact resource availability and delivery timelines.	Medium
Deferred Defects	Evaluate and remediate the defects that were deferred from the Nodal Project	Continue to improve the operational efficiency of the Nodal Applications and reduce the impact of workarounds for both ERCOT and Market Participants	On track for December release.	None	Staff attrition may impact resource availability and delivery timelines.	Medium
Data Center Migration	Replace data center hardware that is approaching end of life and migrate hardware to new Taylor and Bastrop data centers	Reduce level of risk of hardware failure and resulting impact on critical business functions	Overall Migrations 87.7% Complete Wave 1 - Corp & Supporting infrastructure 90.2% complete Wave 3 - Bastrop Control Center Migrations are in progress at 100% complete. Wave 4 - Bastrop Disaster Recovery Environment build-out in progress Wave 5 - Production migration - 82.7% complete.	None	Remaining Project scope may extend schedule	Low
SCR760 Changes Needed for Information Model Manager and Topology Processor for Planning Models	Implement and support nine (9) system changes that update the NMMS Database and/or the tools used to create the Annual Planning Model.	Support additional features required by the Transmission Service Provider Planning teams in an effort to more efficiently and accurately build the Annual Planning Models.	SCR760-3, SCR760-7 and SCR760-8 went live as scheduled effective date of 10/17/11. Development is complete for SCR760-4, and SCR760-9. Pending delivery to ERCOT for testing. Development underway for SCR760-2 with some requirements postponed for another delivery. SCR760-2, SCR760-4 and SCR760-9 targeted for Production in Q1 2012. Work for SCR760-1, SCR760-5 and SCR760-6 is on hold until SCR760-2, SCR760-4 and SCR760-9 development is complete.	None	Inability of vendor to deliver quality software in a timely manner as scheduled. Resource changes at Siemens and ERCOT may result in quality and schedule issues.	Medium
Texas SET 4.0- Acquisition and Transfer of Customers From One REP to Another; Meter Tampering Transactional Solution	TX SET Version 4.0 is the next iteration of retail market transaction enhancements and modifications to enable more efficient transaction processing and business process solidification to be supported by the Texas Electric Retail Market. The TX SET Working Group has identified a number of Change Controls that are being assembled into a project for market-wide implementation.	Implement a solution as outlined in NPRR294 to facilitate the large transition of ESI IDs as a result of an acquisition pursuant to SUBST. R 25.493, Acquisition and Transfer of Customers from one Retail Electric Provider to Another.	Internal TX SET 4.0 Business Requirements - Complete. Detail Design Documentation – Complete. Implementation Guides (DRAFT) - Complete. Test Plan - Complete. Execution Schedule - Complete. Development - Complete. User Acceptance Testing - in Progress.	None	Development life cycle may take longer than planned. Software defects discovered during testing may delay releases and affect the project timelines.	Low
Zonal Decommission	The complete decommission (hardware, software, network, data, instances) of all systems that will no longer be used after Nodal Go-Live.	Track and coordinate ERCOT assets (hardware, software) as they are being decommissioned or repurposed back into the ERCOT Asset pool.	The last wave of servers has been submitted and the decommission process has started to close out any remaining zonal hardware. A review of all the servers, licenses and process for decommissioned and remaining servers will be conducted to clean-up any ancillary products that might have been missed in December.	None	Decommission approval process could delay removal of hardware/non-hardware.	Low

Projects Update

Project Name	Scope	Objectives	Current Status	Issue	Potential Risks	Risk Probability
Information Lifecycle Mgmt Phase 2	Define and implement ERCOT's Information Lifecycle Management (ILM) to a defined group of Commercial System databases.	Free up usable storage quickly and control future growth rates by applying ERCOT ILM standards and policies.	For Execution 1: Testing group 4 in progress. Prod migration of remaining deliverables on target for Dec 2011 release.	None	Delivery timelines may be impacted by resource availability. Risk probability increased as a result of testing resource constraints.	Medium
Settlement System Upgrade	Create a custom settlement solution that can be maintained by ERCOT staff. It will include the removal of the Oracle Lodestar Billing Expert application.	Replace all Lodestar proprietary code, data structures and tools with an ERCOT supported solution that does not require a maintenance agreement with an outside vendor.	Change control approved to extend the planning phase to evaluate options for the execution phase.	None	Resource availability and delivery timelines may be impacted by stabilization, impact analysis' and other higher priority projects.	Medium
MarkeTrak PH3 Upgrade	This project will add needed functionality to the MarkeTrak tool to support changes in the Market related to PUC rulings and the implementation of TX Set 4.0.	Implement enhancements to the application to replace workarounds implemented to comply with PUC rulings. Implement enhancements to the application to make issue resolution functionality match TX SET 4.0 changes. Leverage code base for automation/efficiencies to user experience and issue resolution.	Project currently in Execution. User Acceptance Testing is expected to begin in Mid-December.	None	Resource availability and delivery timelines may be impacted by other higher priority projects.	Medium
SCR 764 Public Access to Select MIS Dashboards	Implement system changes to allow public access to a graphical view of non-confidential system conditions and pricing information for the following MIS Dashboards: • Load Forecast vs. Actual • LMP Contour Map • SCED Up/Down	<ul style="list-style-type: none"> • Better understanding of market to optimize position in market. Understand interactions of different aspects of market. • Restoring transparency from zonal to Nodal for market data. This does not apply to the LMP Contour Map or SCED Up/Down dashboards. • Public visibility into the ERCOT System conditions. • Mobile availability. 	Execution underway with production implementation of the last dashboard, LMP Contour Map, scheduled for December 7. The other dashboards were implemented as follows: - Real Time System Conditions dashboard in August - Load Forecast vs. Actual dashboard in September. - Capacity Available to SCED dashboard (formerly known as SCED Up Down Availability) in October. - LMP Ticker was descope from the SCR by PRS. Pending approval at TAC.	None	Software defects discovered during testing may delay the December release and affect the project timeline.	Low
NPRR290 Publication of DAM PSS/E Files	This Nodal Protocol Revision Request (NPRR) enhances transparency of the transmission topology (including all scheduled Outages) used in the Day-Ahead Market (DAM) by requiring ERCOT to publish certain data files (in Power System Simulator for Engineering (PSS/E) format for easy review by all Market Participants with standard power flow tools such as PTI PSS/E, Power World Simulator	To provide Market Participants the transparency and ability to review the implied power flows of the DAM solution, this NPRR adds a requirement for ERCOT to post daily on the Market Information System (MIS) Public Area a package of transmission data files in PSS/E format that describe each hour's associated transmission system topology (including contingencies) and mapping of generators, Loads, transmission lines, transformers, and Hubs.	Testing underway and production migration is scheduled for early December.	File transfer mechanism was missing but a solution has been developed and is being tested.	File transfer process may fail and manual workaround may need to be implemented.	Low

Projects Update

Project Name	Scope	Objectives	Current Status	Issue	Potential Risks	Risk Probability
MMS Submissions Rel. 1.1 Phase I - SCR762 Phase II - NPRR310/316 and SCR763	NPRR310 - Expand Output Schedule Acceptable Range to Include HSL & LSL NPRR316 - Negative Self-Arranged Ancillary Services SCR762 - Enable a Single Step Cancel/resubmit of Trades SCR763 - Modify COP Validation rule for responsive Reserve Services	Phase I SCR762 - modifies the Market Management System (MMS) such that submission of a trade that has already been confirmed causes the confirmed trade to be overwritten by the new submission and marked as unconfirmed. Phase II NPRR310 - updates the criteria by which Output Schedules are deemed valid to include Output Schedules that are equal in value to the Resource High Sustained Limit (HSL) and Low Sustained Limit (LSL). NPRR316 - allows Qualified Scheduling Entities (QSEs) to enter a negative value for a Self-Arranged Ancillary Service Quantity. SCR763 - modifies the existing Current Operating Plan (COP) validation to use the highest Emergency Ramp Rate value from the registered Emergency Ramp Rate curve as an input to the COP validation check of Responsive Reserve (RRS) responsibility.	SCR762 was migrated into production in October and testing is underway for NPRRs 310 and 316. SCR763 is also being tested. The 3 items are scheduled for production migration in early December.	Coordination of testing for all systems impacted by the changes.	Software defects discovered during testing may delay releases and affect the project timelines.	Low
NPRR251 Synchronization of PRR845	This NPRR provides definition for IDR Meters and optional Removal of IDR Meters at a Premise Where and Advanced Meter Can be Provisioned.	This project will create reporting for Advanced Meters under certain conditions where an Advanced Meters has been provisioned by the Transmission and/or Distribution Service Provider. The Advance Meter ESILDs will be included in the Interval Data Recorder (IDR) required reports.	Requirements - Complete. Detail Design - Complete. Code - Complete. User Acceptance Testing - Complete. Migration to Production - December 6th.	None	Development life cycle may take longer than planned. Software defects discovered during testing may delay releases and affect the project timelines.	None
SCR765 Public Aggregated Wind Dashboard	Implementation of a new wind aggregated dashboard available to the public that displays the following on both the system-wide and regional level in graphical form: - Aggregate Wind-powered Generation Resource (WGR) Power Output - Aggregate Short-term Wind Power Forecast (STWPF), from both the current and Day-Ahead - Aggregate Wind-powered Generation Resource Production Potential (WGRPP), from both the current and Day-Ahead - Aggregate Current Operating Plan (COP) High Sustained Limits (HSLs) for On-line WGRs, from both the current and Day-Ahead	* Greater market data transparency in operations of Intermittent Renewable Resources (IRRs) (WGRs). * Transmission planning – better understanding of how wind generation operates (looking at how much to model).	Requirements - Complete. Detail Design - Complete Currently in iTest.	None	Development life cycle may take longer than planned. Software defects discovered during testing may delay releases and affect the project timelines.	Low

Projects Update

Project Name	Scope	Objectives	Current Status	Issue	Potential Risks	Risk Probability
SCR761 Provide Price Republication Notifications via API and Provide Price Corrections via XML	Implement a system change that will: • Provide Application Programmatic Interface (API) notification of all republished corrected prices; and • Always publish all price corrections in Extensible Markup Language (XML) format using the same XML Schema Definition (XSD) that it is using for the regular price publication.	<ul style="list-style-type: none"> Increased market transparency. Reduced time and cost to all Market Participants to enable easy retrieval of changed prices automatically and quickly. Streamlined processing possible for all Market Participants. Follow industry-standard data access methods. 	Requirements - Complete. Detail Design - In Progress	None	Development life cycle may take longer than planned. Software defects discovered during testing may delay releases and affect the project timelines.	Low
Market Management Systems (MMS) 2012 Release 1 (NPRR321/326/355)	<p>NPRR321 - Provide the ability for Resources to change the amounts of power in their Energy Offer Curves in the Adjustment Period.</p> <p>NPRR326 - Adjusts the calculation of the Real-Time Settlement Point Price for a Resource Node. The adjustment is to remove the Base Point weighting of the Real-Time Locational Marginal Prices (LMPs).</p> <p>NPRR355 - Removes the energy-weighting in the current calculation for the Real-Time Settlement Point Price (RTSPP) for a Load Zone</p>	<p>* NPRR321 - allow a Resource with an Energy Offer Curve to change the MW amounts for all the price-quantity pairs to adjust for changes in physical facility capabilities and market conditions which occur in Real-Time.</p> <p>* NPRR326 - payments and charges for PTP Obligations and PTP Options settled in Real-Time will be more accurate and should only occur when there is Real-Time congestion</p> <p>* NPRR355 - removes the energy-weighting in the current calculation for the Real-Time Settlement Point Price (RTSPP) for a Load Zone. It also adds a new RTSPP for a Load Zone that is energy-weighted (Real-Time Settlement Point Price Energy-Weighted (RTSPPEW)) and adjusts the appropriate formulas that use these prices. This NPRR also corrects the Real-Time Price for the Energy Metered for each Resource meter at bus (RTRMPR b) in the event that the Energy at bus near Real-Time (EBNRT) is less than or equal to zero.</p>	A portion of NPRR321 changes have already been developed and tested and will be migrated into production in early December. The report associated with NPRR321 will be developed, tested and migrated along with the first release of 2012. NPRR326 planning underway. NPRR355 planning underway.	None	Low	Low
Implementation of NPRR347/NPRR400	<p>NPRR347: Combines the DAM and the Real-Time Market Invoices into a single daily Settlement Invoice for these activities for each QSE and CRR Account Holder.</p> <p>NPRR400: Ensures that the Future Credit Exposure (FCE) component of the collateral calculation and the CRR Auction credit limit is secured with cash, letters of credit or surety bonds and satisfies expected Commodities Exchange Act exemption requirements.</p>	<p>* NPRR347 has the potential to reduce the timeframe for cash clearing for an Operating Day and correspondingly reduces required collateral.</p> <p>* Approximately 35% reduction in RTM cash clearing time. Approximately 50 % reduction in volume of Invoices per month market-wide.</p> <p>* Reduction in working capital needed for Settlements due to netting of activity on Invoices.</p> <p>* Reduction in credit exposure for historical activity from more timely clearing which translates to a reduction in collateral requirements.</p> <p>* Possible reduction in wire costs for both ERCOT and Market Participants due to fewer Invoices.</p>	Project Currently in Initiation. Plan to gate into Planning on December 7th.	None	Resource availability and delivery timelines may be impacted by other higher priority projects.	Medium

Summary of Defects by Target Delivery (Stabilization & Deferred) (as of 11/28/2011)

Summary of Defects by Target Delivery							
System	Open Stabilization Priority 2 Target December 2011	Deferred Defects Priority 3			Priority 4 & 5 Defects (Potential Future Work)		Total Defects
		Group 9 12/2011	Unassigned	Total	Deferred Defects	Stabilization	
<i>MMS</i>	20			0	12	58	90
<i>EMS</i>	39	3		3	292	68	402
<i>COMS</i>	1	1		1	17	22	41
<i>CMM</i>	1	1		1	9	2	13
<i>NMMS</i>				0	37	6	43
<i>OS</i>				0	9	5	14
<i>CRR</i>	8			0	3	7	18
<i>MIS</i>				0	2	9	11
<i>CDR</i>	3			0		23	26
<i>EIS(EDW)</i>				0	2	3	5
<i>EIP</i>	3			0	4	7	14
<i>MPIM</i>				0			0
<i>Planning Model</i>				0	3	3	6
Total	75	5	0	5	390	213	683

Summary Stabilization & Deferred Defect Changes (as of 11/28/2011)

	Dec 03 to Jan 07	Jan 08 to Feb 03	Feb 04 to Feb 28	Mar 01 to Mar 31	Apr 01 to May 06	May 06 to Jun 08	Jun 09 to Jul 07	Jul 08 to Aug 04	Aug 05 to Sept 07	Sept 08 to Oct 04	Oct 05 to Oct 27	Oct 28 to Nov 28
Stabilization defects (changes since last report)												
New Priority 1, 2 Defects	111	56	86	26	46	40	20	10	14	6	10	10
New Deferred Defects	92	95	38	105	97	84	37	59	53	47	85	67
Defects Resolved	90	51	60	133	82	109	67	59	41	50	75	66
Deferred defects (changes since last report)												
Defects Resolved	83	41	9	45	47	31	17	6	11	5	13	2

Forecast for December Release (as of 11/28/2011)

Breakout of December Release			
Project	Internal	Market Facing	Total
Stabilization defects	69	6	75
Deferred defects	5		5
Total	74	6	80