

**Seams Issues Matrix**  
(Limited to potential business practice issues)

Orig #	Category	1ST Sub-Category	2ND Sub-Category	Description of Seam Issue	Comments	Resp Org WEQ EC	Issue Type	Resp Org JIC	Priority	Currently Being Addressed	Submitter
36	Congestion Management	Congestion Management Market Coordination	Coordinate Hedging Instruments at Market Interfaces	Coordination of market based congestion hedging instruments, such as FIRs, between adjacent RTOs with markets, especially for out and thru' transactions		NAESB	National	Undecided	2		Raj Rana - AEP
35	Congestion Management	Congestion Management Market Coordination	Standardize Prices at Market Interfaces	Locational Marginal Prices (LMP) at borders of RTOs with markets (Price cap included)		NAESB	National	Undecided	2		Raj Rana - AEP
138	Congestion Management	Congestion Management Market Coordination		Coordination of congestion	Several regional efforts are underway. Coordinate practices and methods between areas with different market approaches.	NAESB	National	NAESB	3	Yes	Karl Tammar - ISORTO Council
9	Congestion Management	Standardize and Coordinate ATC Calculations and Postings		Transmission Calculations	Transmission calculations are not consistent. Solution: Standardized ATC Calculations.	NAESB	National	Undecided	2	Yes - SSG - WI	Steven Cobb - SRP
113	Market Design	Green Power Market		Green power attributes trading	<b>Would be great to link NERC Tags with Renewable energy certificates (green tags) set to be tracked by WREGIS</b>	NAESB	National	Undecided	1	In Northeast Power Markets Seams Action Plan	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)
16	Market Design	Transmission Ancillary Service Market Design and Coordination	Reactive Power Compensation	Compensation for Reactive Power	Lack of compensation lessens incentives for operators to solve problems and for accountants to spend money on metering.	NAESB	National	Undecided	2	Yes / IIPTF	Mark Lively - Lively Utility
13	Market Design	Unscheduled/Parallel Path Flow Management	Compensation for Unscheduled/Parallel Path Flow	Compensation for Unscheduled Flows of Electricity	Lack of compensation lessens incentives for operators to solve problems and for accountants to spend money on metering.	NAESB	National	Undecided	2	Yes / IIPTF	Mark Lively - Lively Utility
15	Market Design	Unscheduled/Parallel Path Flow Management	Compensation for Unscheduled/Parallel Path Flow	Compensation for Loop Flow	Lack of compensation lessens incentives for operators to solve problems and for accountants to spend money on metering.	NAESB	National	Undecided	2	Yes / IIPTF	Mark Lively - Lively Utility
29	Market Design	Unscheduled/Parallel Path Flow Management	Compensation for Unscheduled/Parallel Path Flow	Allocation of transmission capacity on reciprocal flow gates amounts to transmission service without compensation. Legitimizes 'parallel loop flow'.		NAESB	National	Undecided	2		Dave Nick - DTE Energy
134	Market Design	Unscheduled/Parallel Path Flow Management	Compensation for Unscheduled/Parallel Path Flow	Compensation for parallel flows		NAESB	National	NAESB	2	In PJMMISO Congestion Management Proposal Whitepaper	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)

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142	Market Design	Unscheduled/Parallel Path Flow Management	Unscheduled/Parallel Path Flow	Compensation for Unscheduled/Parallel Path Flow	Pricing for native load loop flow impacts		Multiple	Regional	Multiple	2	No		Ed Davis - Energy			
11	Market Monitoring/ Compliance	Market Monitoring Entity Requirements	Market Monitoring Entity Requirements	Market Oversight	Market Oversight	New and mature markets need oversight to ensure that existing rules are compiled with and new rules are adequate in meeting the scenarios they were designed to govern. Solution: Independent Market Auditor or Monitor.	Multiple	Regional	Multiple	3	Yes - SSG - WI		Steven Cobb - SRP			
3	Market Standards	Energy Market Standard Product Definitions	Energy Market Standard Product Definitions	Definition & treatment of Firm/nonfirm Power	Definition & treatment of Firm/nonfirm Power	<b>The issue is currently being addressed by individual Regions, ie WECC</b>	NAESB	National	Undecided	3	No		Lou Oberski - Dominion Energy			
10	Market Standards	Energy/Market Standard Product Definitions	Energy/Market Standard Product Definitions	Energy Products	Energy Products	Entities have disagreements concerning the definitions of various energy products. Solution: Standardized Energy Products. <b>Regional Differences--Also a difference where there isn't an existing ISO or RTO and only an over the counter market.</b>	NAESB	National	NAESB	3	Yes -WECC		Steven Cobb - SRP			
25	Market Standards	Energy/Market Standard Product Definitions	Energy/Market Standard Product Definitions	Need for common physical market and products - regional variations permitted	Need for common physical market and products - regional variations permitted	<b>Regional Differences--Also a difference where there isn't an existing ISO or RTO and only an over the counter market.</b>	NAESB	National	NAESB	3	No		Linda Horn - WE Energies			
34	Market Standards	Energy/Market Standard Product Definitions	Energy/Market Standard Product Definitions	Clarification of Product Definitions	Clarification of Product Definitions	<b>Regional Differences--Also a difference where there isn't an existing ISO or RTO and only an over the counter market.</b>	NAESB	National	NAESB	3	No		Tony Reed - Southern			
139	Market Standards	Energy/Market Standard Product Definitions	Energy/Market Standard Product Definitions	Standard definition of energy products	Standard definition of energy products	<b>Regional Differences--Also a difference where there isn't an existing ISO or RTO and only an over the counter market.</b>	NAESB	National	NAESB	3	Yes		Karl Tammar - ISO/RTO Council			
42	Market Standards	Market Standard Communication Protocols and Transparency	Market Standard Communication Protocols and Transparency	Data Visibility	Data Visibility	Inability to view neighboring markets information through a common software such that this sometimes hinders Market Participants ability to complete business in a timely fashion.	NAESB	National	NAESB	2	Yes		Marjorie Perlman - Energy East			
52	Market Standards	Market Standard Communication Protocols and Transparency	Market Standard Communication Protocols and Transparency	Confidentiality of Data and Information Shared	Confidentiality of Data and Information Shared	Standards of Confidentiality would enhance the capability to resolve data sharing and information posting	NAESB	National	NAESB	1	Limited		Carl Monroe, Southwest Power Pool			
140	Market Standards	Market Standard Communication Protocols and Transparency	Market Standard Communication Protocols and Transparency	Standard messaging protocols for market notifications	Standard messaging protocols for market notifications	Market participants will benefit from common messaging protocols.	NAESB	National	NAESB	1	No		Karl Tammar - ISO/RTO Council			
1	Market Standards	Market Standard Operating Time	Market Standard Operating Time	Non Standard Time Zone	Non Standard Time Zone	The lack of a standard Time Zone causes Market Inefficiencies	NAESB	National	NAESB	3	No		Phil Cox - AEP			
14	Market Standards	Physical and/or Financial Interchange	Physical and/or Financial Interchange	Compensation for Inadvertent Interchange	Compensation for Inadvertent Interchange	<b>Being addressed Regionally in WECC.</b>	NAESB	National	NAESB	3	Yes / IIP/TF		Mark Lively - Lively Utility			
46	Planning	Transmission Expansion and Generator Interconnection Coordination	Generator Interconnection - Affected Systems	Generator Interconnection Studies	Generator Interconnection Studies		NAESB	National	Undecided	2	Limited		Carl Monroe, Southwest Power Pool			

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57	Planning	Transmission Expansion and Generator Interconnection Coordination	Generator Interconnection Transmission Requirements	Transmission interconnection procedures		Multiple	Regional	Multiple	2	Northeast ISO	Joe Rossignoli National Grid
114	Planning	Transmission Expansion and Generator Interconnection Coordination	Interregional Transmission Planning Procedures	Coordination of interregional planning including transmission facilities and generator interconnection procedures		Multiple	Regional	Undecided	2	In Northeast Power Markets Seams Action Plan	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)
26	Planning	Transmission Expansion and Generator Interconnection Coordination	Transmission Expansion Cost and Construction Responsibilities	Transmission expansion planning - coordination between systems and determine who is obligated to build and pay for improvements	Being reviewed by PJM/MISO.	Multiple	Regional	Multiple	2	Yes	Linda Horn - WE Energies
50	System Reliability	Generation-Load Balance	Interchange Schedule Ramping Requirements	Schedule Ramp Management	Ramping standard differences across the seams hinder business	NAESB	National	Undecided	3	Limited	Carl Monroe, Southwest Power Pool
12	Transaction Scheduling	Interchange Scheduling Standardized Protocols	Develop Electronic Scheduling	Interchange/Intrachange Scheduling Data Exchange	Current E-Tagging process is inadequate for exchanging reliability and market data within the Western Interconnection. Solution: Electronic Scheduling	NAESB	National	NAESB	3	Yes - WECC	Steven Cobb - SRP
41	Transaction Scheduling	Interchange Scheduling Standardized Protocols	Inter-Market Ramping Requirements Standardization	Scheduling Coordination (including Ramp Rates)	<b>This should be something NERC addresses not Market...</b>	NAESB	National	Undecided	3	Yes	Marjorie Perlman - Energy East
79	Transaction Scheduling	Interchange Scheduling Standardized Protocols	Standardize Inter-Market Scheduling Timelines	Market Design - Day Ahead. Other Scheduling Requirements	<b>Should be Standard Scheduling Timelines for Market Participants whether in an RTO/ISO or Over the Counter Market.</b>	NAESB	National	NAESB	1	SSG-WI, CMA Work Group	Syd Berwager - Bonneville PA
78	Transaction Scheduling	Interchange Scheduling Standardized Protocols	Tools and Procedures to Accommodate Inter-Market Interchange Scheduling Requirements	Market Design - Day Ahead. Schedule Components	Can tools be developed for scheduling submission that assist the user in meeting any differences in protocols between RTOs? (Issue I.b.1f)	NAESB	National	Undecided	2	SSG-WI, CMA Work Group	Syd Berwager - Bonneville PA
8	Transaction Scheduling	Interchange Scheduling Standardized Protocols		Scheduling	<b>Should be Standard Scheduling Timelines for Market Participants whether in an RTO/ISO or Over the Counter Market.</b>	Multiple	Regional	Multiple	1	Yes - SSG - WI	Steven Cobb - SRP
104	Transaction Scheduling	Interchange Scheduling Standardized Protocols		Transmission Checkout Failure - Operators curtail transactions due to mismatched tag data, different MW volumes, etc. The curtailment of transactions due to data incompatibility is disruptive to both the marketplace and the reliable operation of the grid.	<b>Should be Standard Scheduling Timelines for Market Participants whether in an RTO/ISO or Over the Counter Market.</b>	NAESB	National	NAESB	1	In Northeast Power Markets Seams Action Plan	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)
106	Transaction Scheduling	Interchange Scheduling Standardized Protocols		Transaction Scheduling - Inconsistent information and market timing rules lead to uncertainty and risk that discourage the scheduling of some inter-regional transactions.	<b>Should be Standard Scheduling Timelines for Market Participants whether in an RTO/ISO or Over the Counter Market.</b>	NAESB	National	NAESB	1	In Northeast Power Markets Seams Action Plan	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)
4	Transmission Service	Transmission Market Standard Product Definitions and Priorities		Definition & treatment of Firm/nonfirm Transmission	<b>Being addressed Regionally in WECC.</b>	NAESB	National	Undecided	3	No	Lou Oberski - Dominion Energy
103	Transmission Service	Transmission Market Standard Product Definitions and Priorities		Transmission Service - Market participants require consistent treatment of transmission products across multiple control areas to reduce perceived market risk, scheduling confusion and uncertainty.	<b>Should be Standard Scheduling Timelines for Market Participants whether in an RTO/ISO or Over the Counter Market.</b>	NAESB	National	NAESB	2	In Northeast Power Markets Seams Action Plan	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)

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141	Transmission Service	Transmission Market Standard Product Definitions and Priorities		Replacement of contract path with flow-based transmission service	<b>Could go with 9</b>	Multiple	Regional	Multiple	3	No	Ed Davis - Entergy
117	Transmission Service	Transmission Service Procurement	Common Reservation System for Market Interface Transmission ATC	Contract Tie Capacity - One Stop Shopping		NAESB	Regional	NAESB	1	No	Jeff Mueller (PSEG), and Andy Rodriguez (PJM)
6	Transmission Service	Transmission Service Procurement	Common Western Interconnection Wide OASIS	Transmission Access	No transmission market one stop shopping available for the Western Interconnection - entities can't find needed information to efficiently conduct business on a preschedule or real-time basis. Solution: Common OASIS Site needed. <b>Regional</b>	Multiple	Regional	Undecided	3	Yes - Various Transmission Providers	Steven Cobb - SRP
33	Transmission Service	Transmission Service Procurement	Intra-Hour Transmission Service Procurement	Standard for Purchasing of Intra-Hour Transmission	The ability to purchase transmission after the top of the hour when the transmission service is predetermined as available in prior hour.	NAESB	National	NAESB	2	No	Tony Reed - Southern
67	Transmission Service	Transmission Service Procurement	Secondary Transmission Service Market Standardization	Market Design - Prior to Day Ahead, Primary Release Mechanism	There seems to be agreement here that a secondary market would be outside the RTO. If the resulting secondary market is not westwide, will coordination be needed? (Issue I.a.8)	Multiple	Regional	Multiple	2	SSG-WI, CMA Work Group	Syd Berwanger - Bonneville PA
28	Transmission Service	Transmission Service Settlement	Consolidate Multiple Market Transmission Service Settlement Statements	Multiple transmission service charge invoicing	Being reviewed by PJMMISO.	NAESB	National	NAESB	3	Yes	Linda Horn - WE Energies