



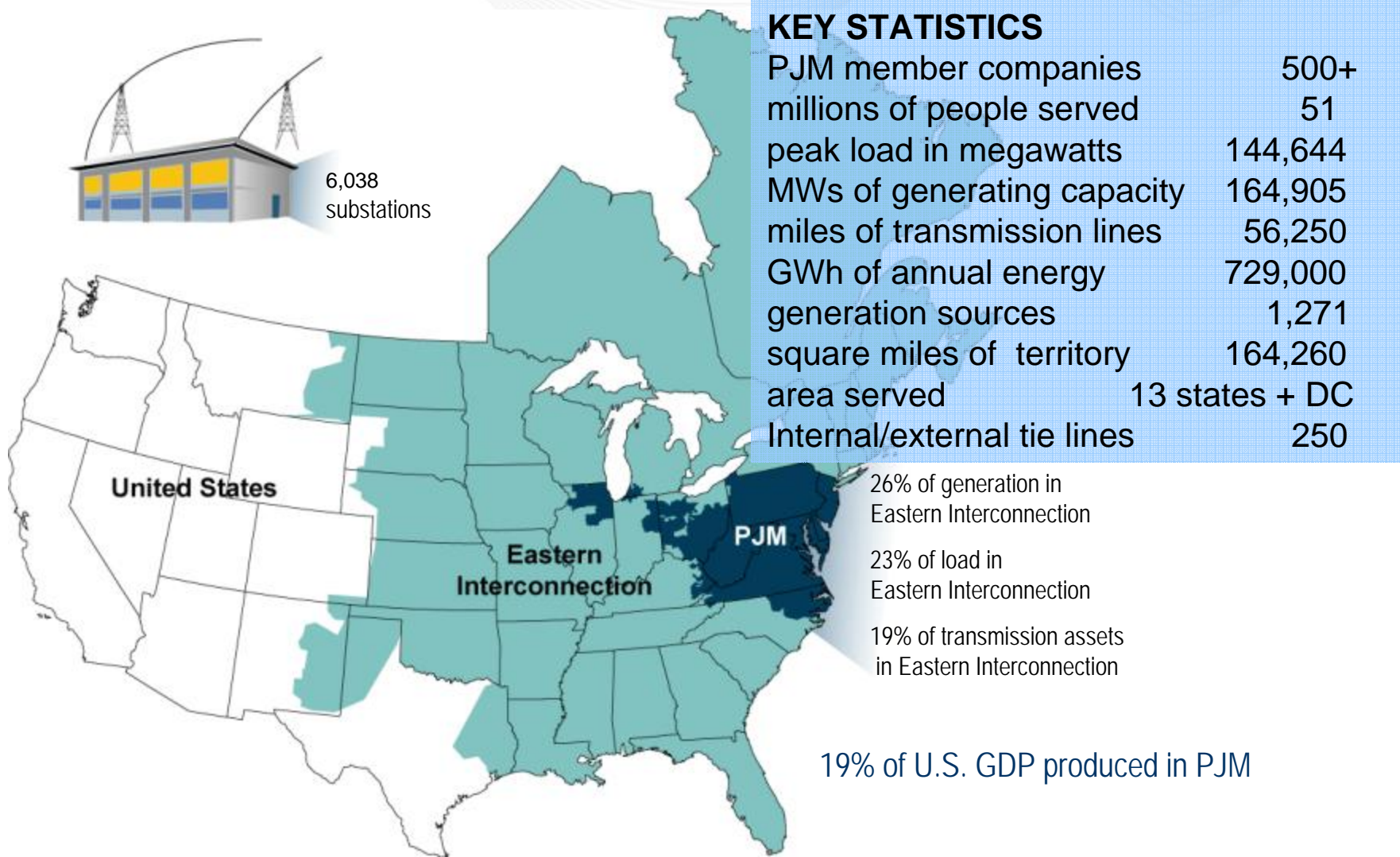
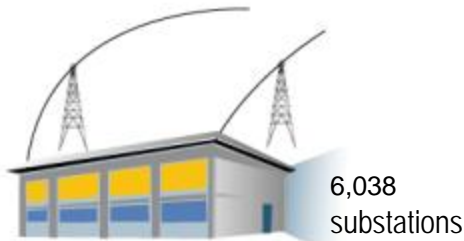
Transmission Planning and Market Developments in PJM

UWIG Spring Technical Workshop
April 1-3, 2009
Philadelphia, Pennsylvania

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PJM Interconnection



PJM as Part of the Eastern Interconnection



- Follows FERC Pro Forma Process
- Three Month Queues
 - Spreads Workload Out Over Year
- Generation, Merchant Transmission, and Long-Term Firm Transmission Service Queues are Fully Integrated
- Feasibility, System Impact, and Facilities Studies Identify Required Upgrades
 - Studies provide progressively more detail
 - Queue volume and drop-out rate require frequent re-studies

- Queue Volumes and Project Withdrawals
 - As many as 125 requests over 6-month queue
 - 88% queue drop-out rate on a per MW basis
- Substantial Wind Projects in Western PJM
 - Complexity of stability analyses
 - Frequent data changes require re-study
 - Significant west-to-east transmission required for deliverability
 - Impacts snowball through all subsequent projects
- Substantial Merchant Transmission Withdrawals to NY
 - Significant west-to-east transmission required for deliverability
 - Impacts snowball through all subsequent projects



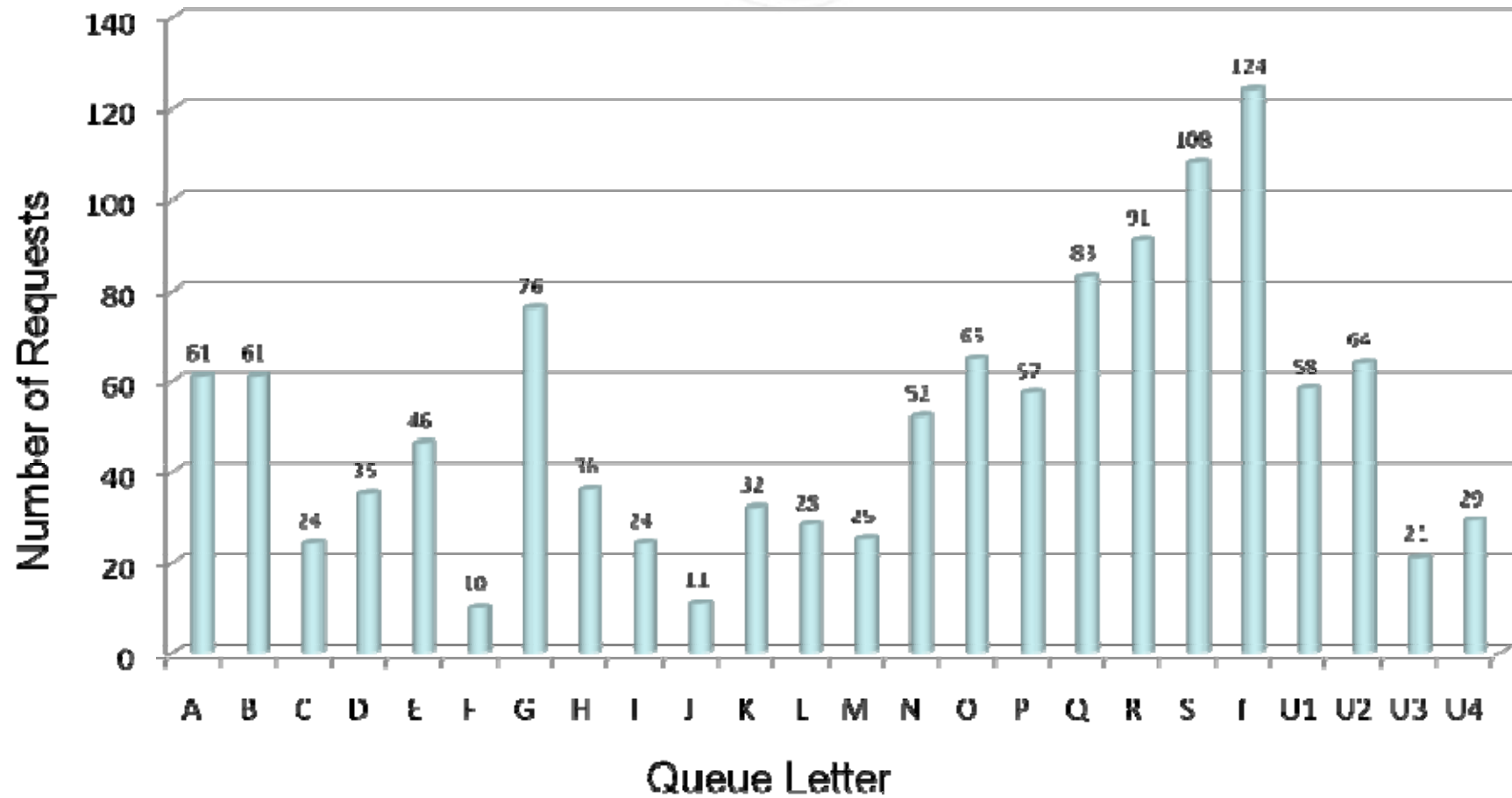
Status of Generation Interconnection Queues

Queue	Active	Under Construction	In-Service	Withdrawn	Suspended	TOTAL
A	0	0	8,121	17,252	0	25,373
B/C	0	0	5,600	19,984	0	25,583
D/E/F	0	0	1,615	27,749	0	29,364
G/H/I	0	730	1,198	32,941	1,205	36,074
J/K/L	20	165	325	4,383	833	5,726
M/N	1,512	331	2,475	10,009	532	14,859
O/P	6,910	2,108	1,455	5,760	319	16,552
Q	6,111	2,441	667	5,558	0	14,777
R	9,174	456	272	12,933	6	22,840
S	11,769	203	538	7,949	31	20,489
T	23,691	143	106	4,770	0	28,709
U1	4,864	0	0	3,366	0	8,230
U2	11,472	8	0	5,886	0	17,365
U3	3,168	0	0	1,284	0	4,452
U4	5,035	0	0	0	0	5,035
TOTAL	83,725	6,583	22,372	159,823	2,926	275,429

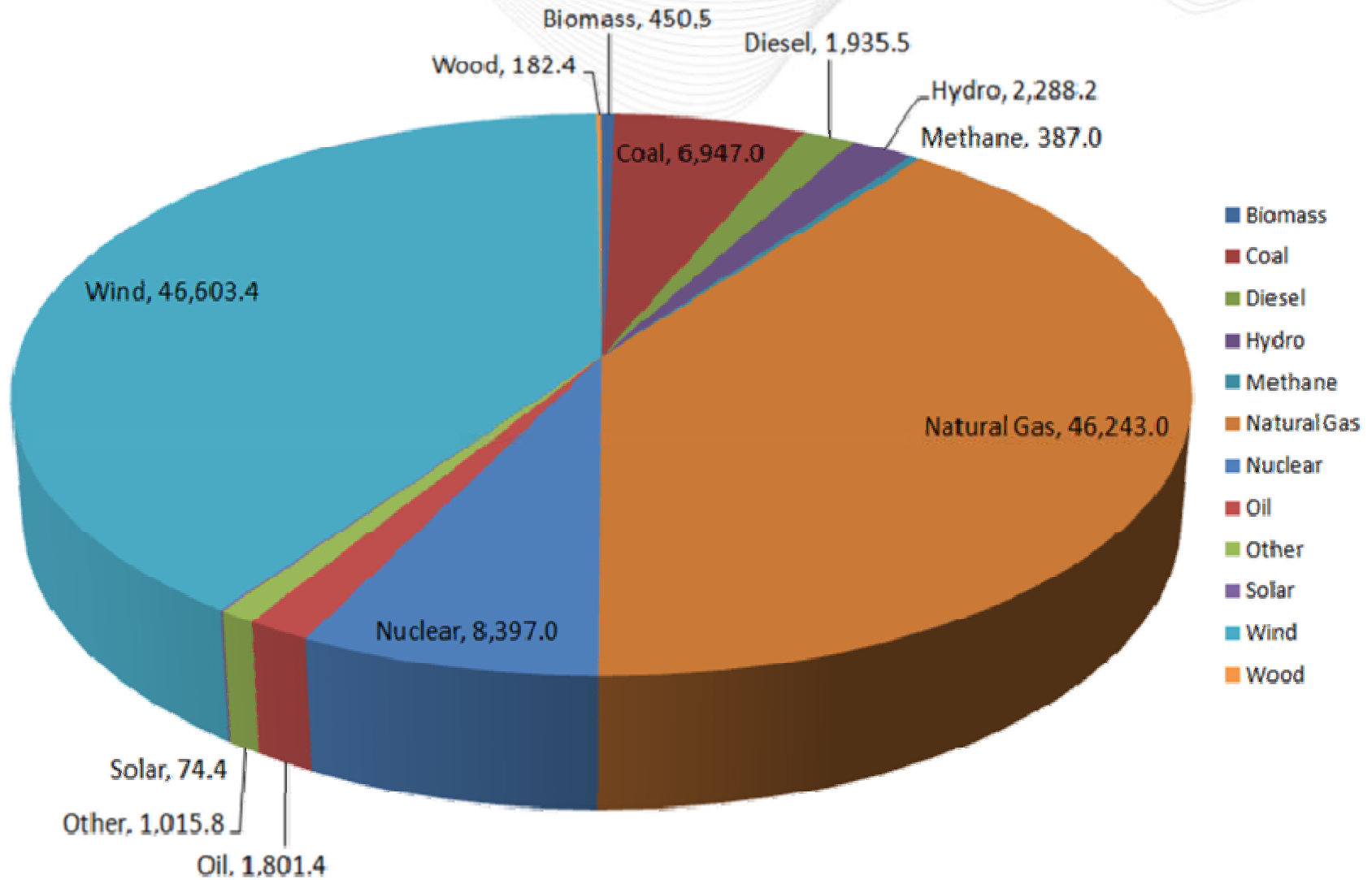
Data valid as of 1/31/2009

Generation Interconnection Request Volume

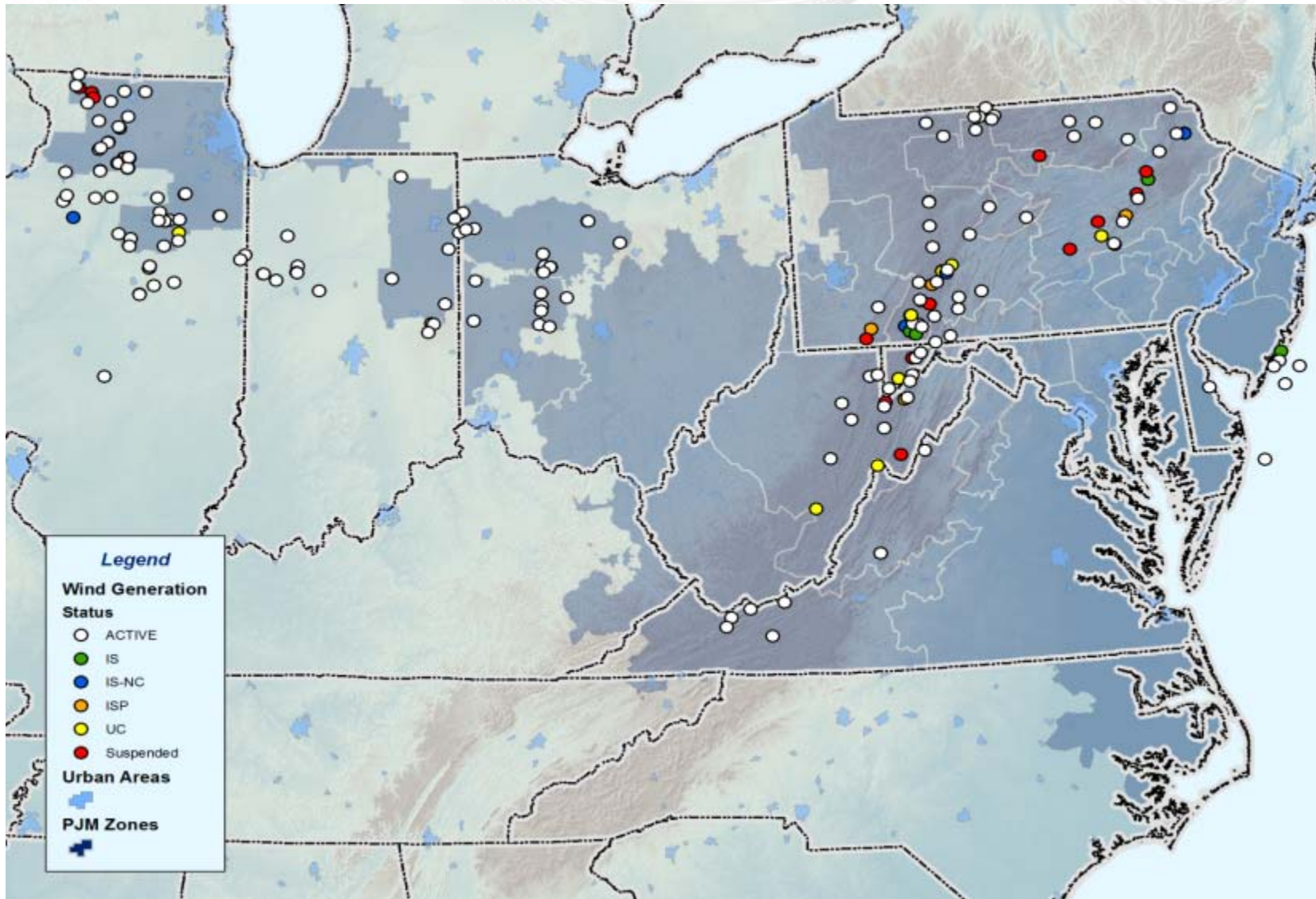
Generation Interconnection Request Volume



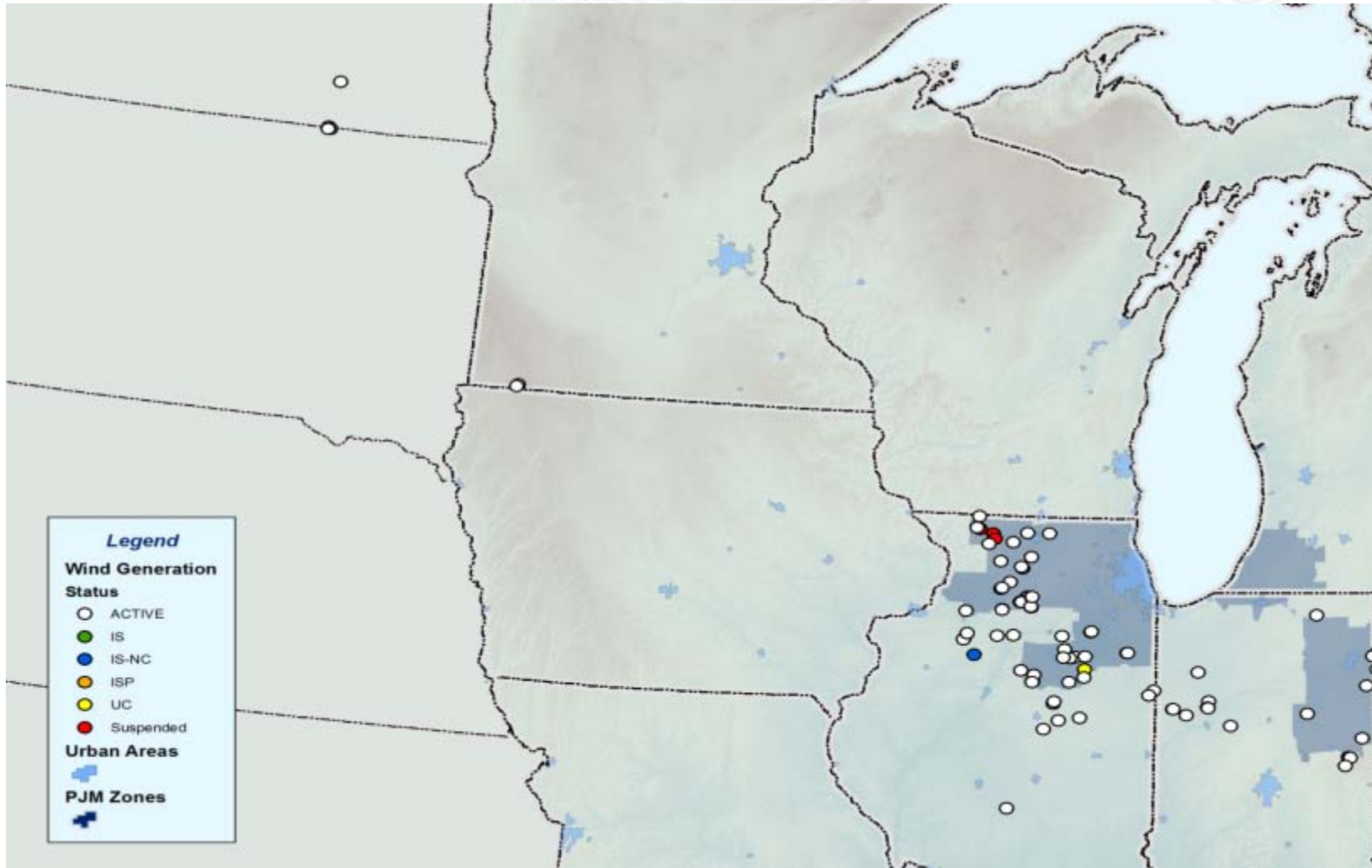
Active Generation in Queue



Wind Generation Projects in PJM (as of 12/31/08)



Wind Generation Projects in PJM (as of 12/31/08)

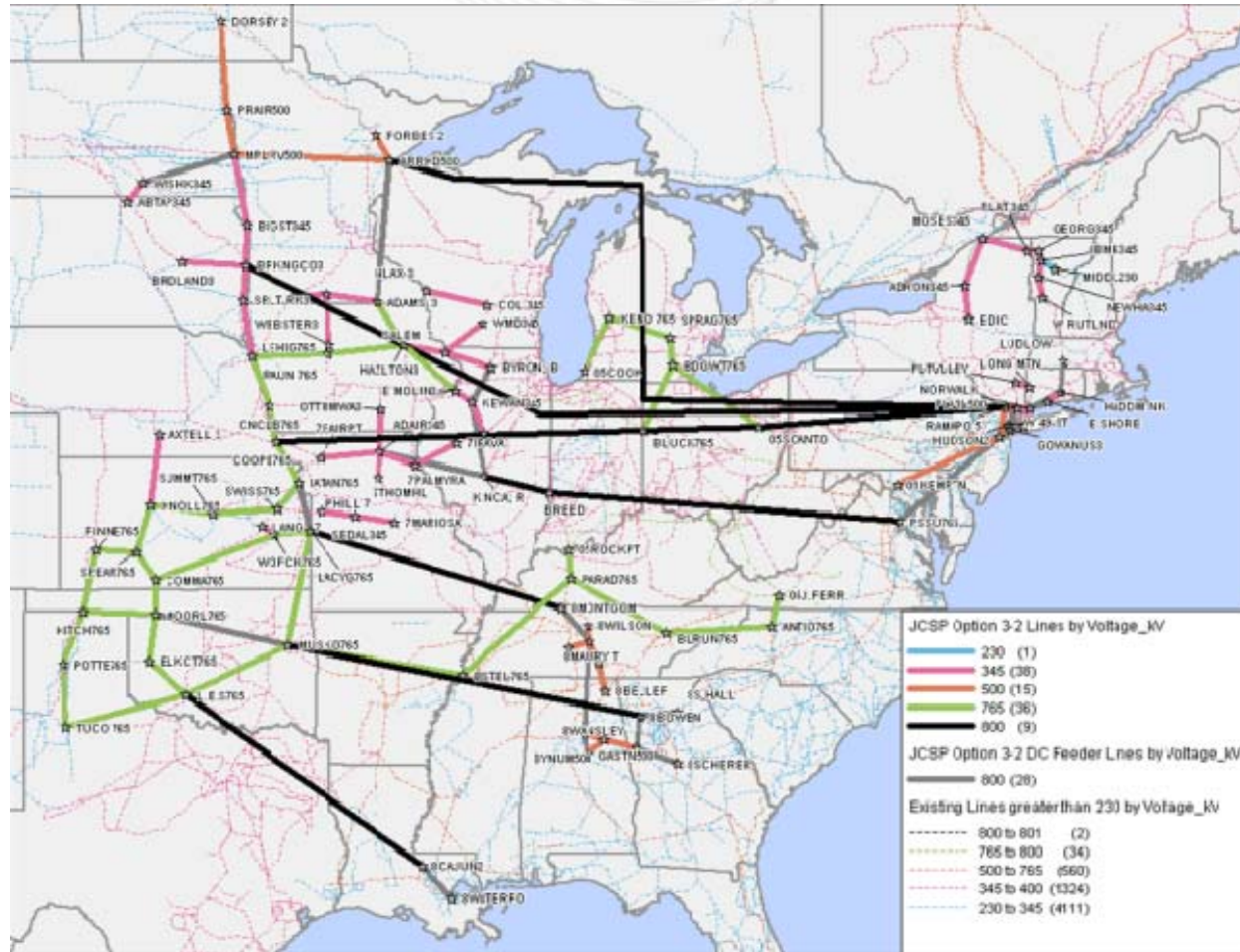


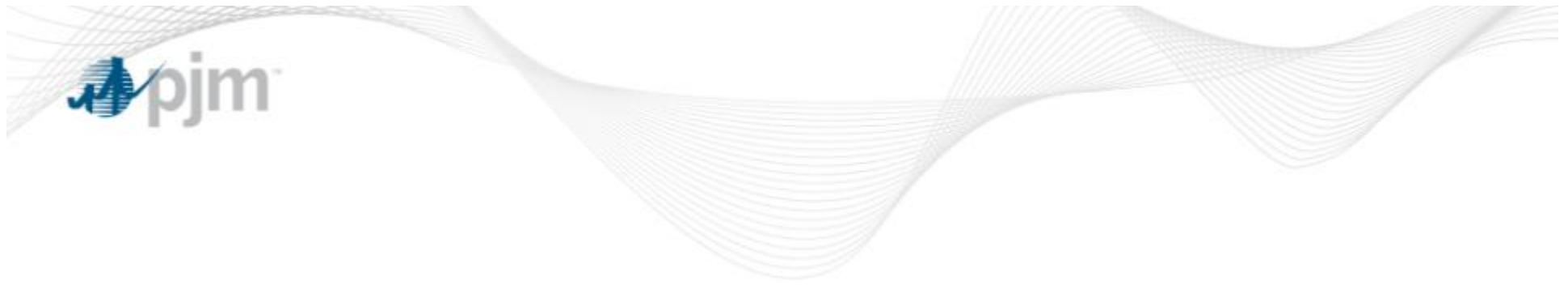
- Increased Feasibility Study Deposits
 - Discourage last minute submission of requests
 - Discourage excessive speculative requests
- Primary/Secondary Points of Interconnection
 - Allows batch study of primary points of interconnection
- Simplify Cost Allocation
 - Based on cluster studies for queues
 - Low cost upgrades socialized based on impact
 - High cost upgrades allocated, as today, based on impact and queue order

- Increase Deposits for System Impact Studies
 - Encourage only serious projects to move forward
- Reduce Scope/Time to Complete Facilities Studies
 - Move projects to ISA sooner
 - Facilitate project financing
- Analytical Process Changes
 - Modify scope of stability analysis
 - Move operational analysis to Facilities Study
 - Consider commercial probability of other queued projects
 - Reduce impact of large number of projects in early study phases
 - Produce more realistic study results, sooner, that reflect percentage of projects likely to proceed
 - Reduce impact of re-studies due to project withdrawals

- Transmission Costs and Allocation are a Circular Discussion
 - Transmission Requirements in the Tens of Billions of Dollars
 - Costs Would be Assigned to Generators in PJM Tariff
 - Generation is in the Queue Now, Transmission Will Take a Very Long Time to Build
 - PJM Market Efficiency Analysis Will Not Build for Hypothetical Generation Development
 - “Build It and They Will Come” Approach Would Commit to Huge Costs
 - Must Have Certainty as to Generation Development and Recovery of Transmission Investment
 - State and/or Federal Mandates Required to Break Log Jam

JCSP 20% Wind Future Transmission Overlay





Questions?