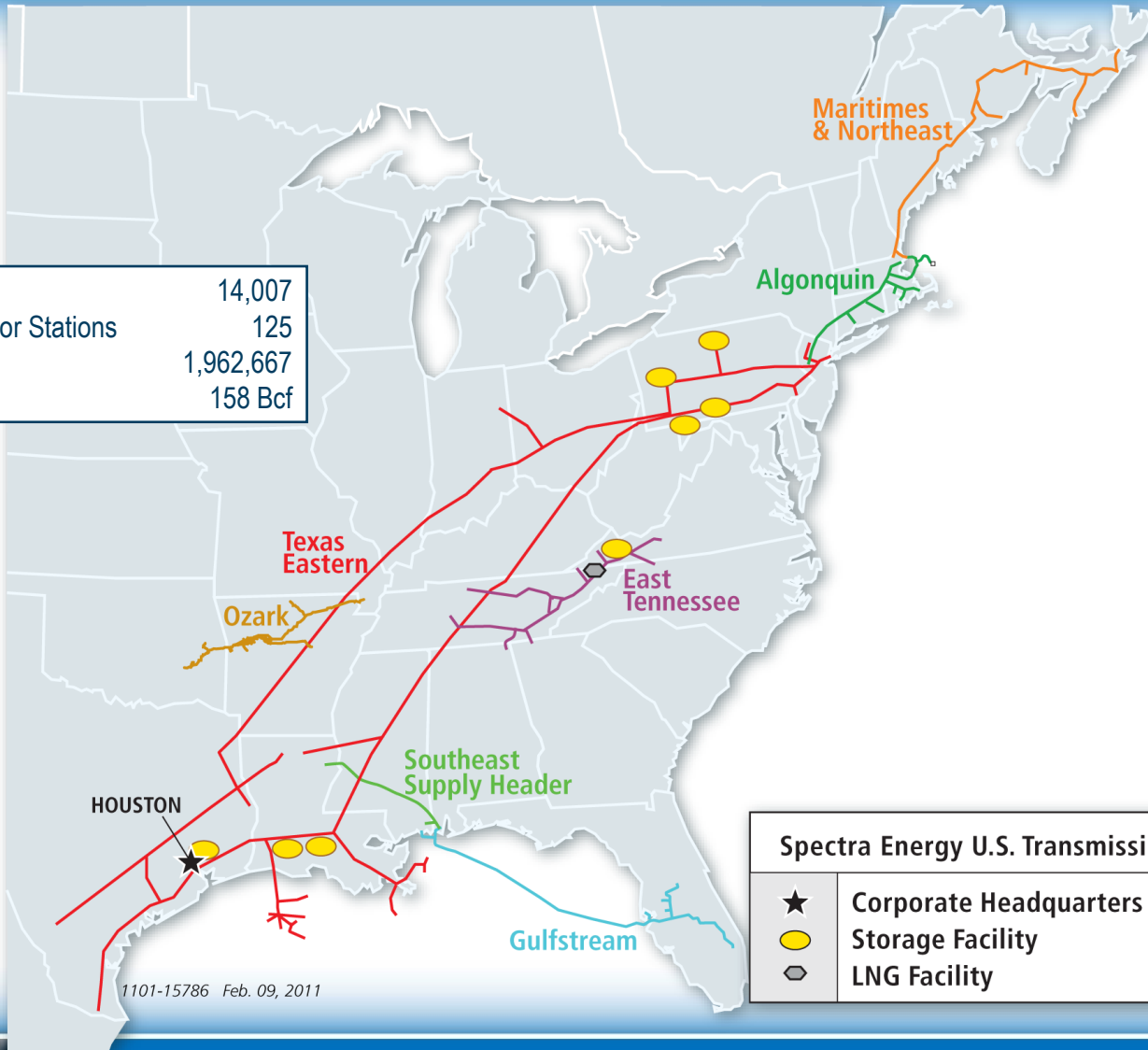


# Spectra Energy's Perspective on Natural Gas Service to Electric Generation during the Winter

Rich Paglia  
*Vice President*  
*Northeast Marketing*

- Spectra Energy Transmission and Power Plant Attachments
- System Conditions January 23-24, 2011
- Growing Power Generation Demand/Decreasing Firm Transport Contracts for Power Generation
- Value of Pipeline Infrastructure to the Electric Grid
- Access to Growing and Diverse Gas Supply
- Summary
- Appendix

# Spectra Energy U.S. Transmission Map

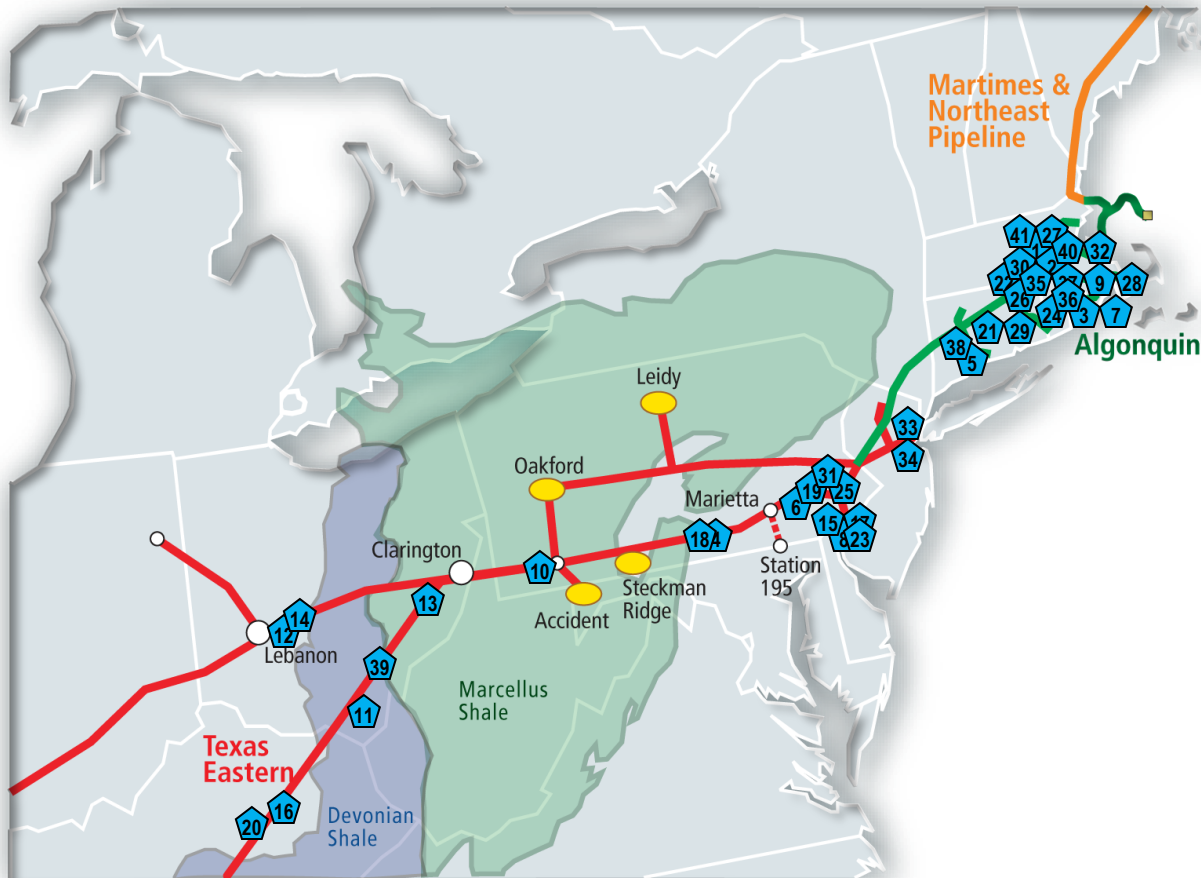


Miles of Pipe	14,007
Number of Compressor Stations	125
Total Horsepower	1,962,667
Storage Capacity	158 Bcf

Spectra Energy U.S. Transmission	
★	Corporate Headquarters
●	Storage Facility
⬡	LNG Facility

1101-15786 Feb. 09, 2011

# Serving Power Plants in the Northeast



AGT & Northeast TETLP Power Plants

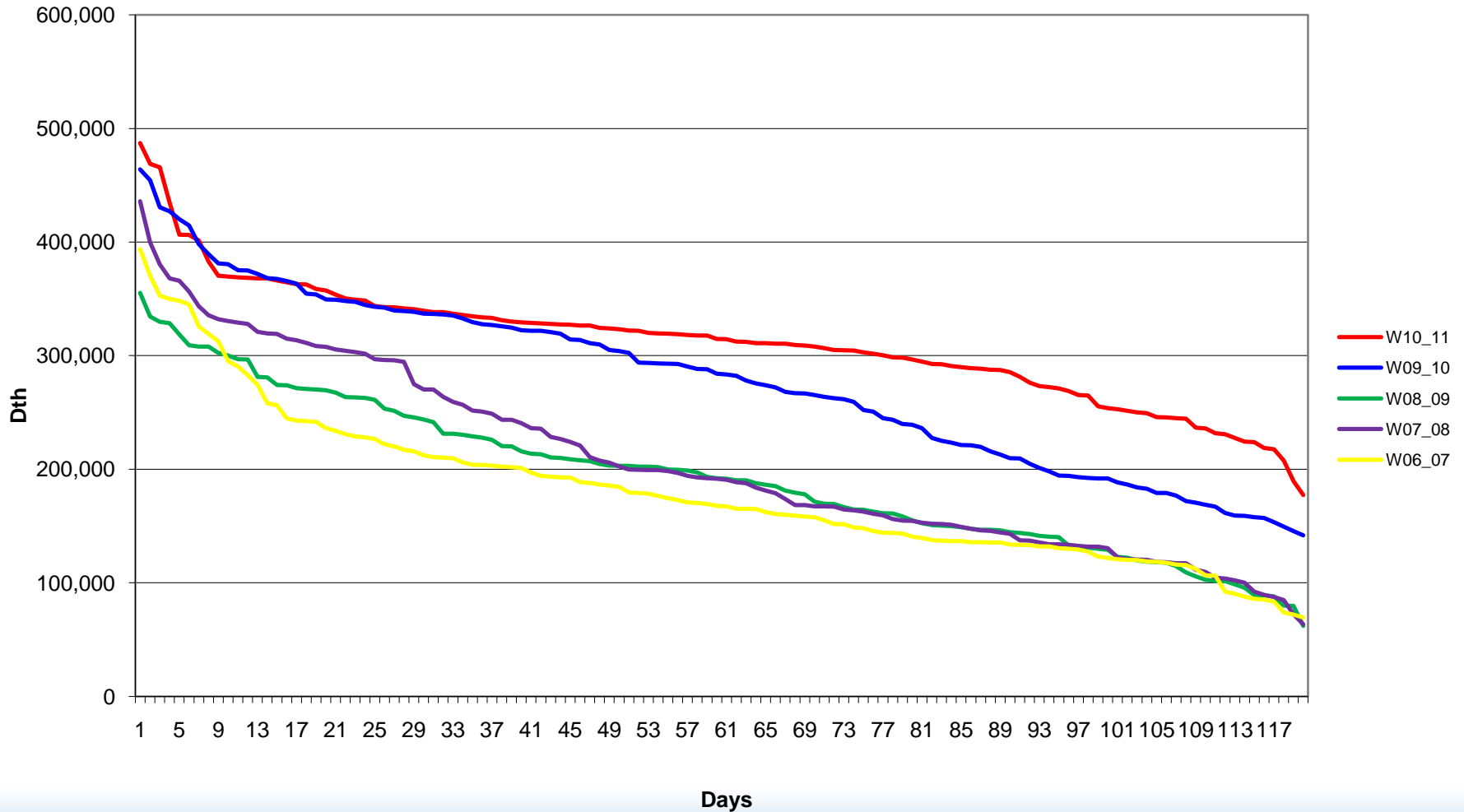
#	Plant Name	Capacity (MW)
1	ANP Bellingham	576
2	Bellingham	300
3	Brayton Point	432
4	Chambersburg	88
5	CMEEC - Pierce Power	85
6	Cromby	201
7	Dartmouth Power	68
8	Delmarva New Castle	311
9	Dighton Power	168
10	Duke Energy Fayette	700
11	Duke Energy Hanging Rock	600
12	Duke Energy Madison	1,200
13	Duke Energy Washington	600
14	Duke Energy Woodsdale	500
15	Eddystone	760
16	EW Brown Generating Station	800
17	Gray's Ferry	150
18	Hunterstown	903
19	Ironwood	765
20	JK Smith Power Plant	800
21	Kleen Energy	620
22	Lake Road	750
23	Liberty Electric	610
24	Manchester Street	489
25	Martins Creek	1,664
26	Middletown	367
27	Milford Power	140
28	Mirant Canal	295
29	Montville	78
30	Ocean State Power	500
31	Ontelaunee	728
32	Potter Street (BELD I)	77
33	PSEG Linden	1566
34	PSEG Sewaren	558
35	Tenaska Rolling Hills	815
36	Tiverton	267
37	TMLP	118
38	Wallingford Energy	244
39	Waterford	800
40	Watson Generating (BELD II)	116
41	West Medway Edison	173

**21 GW of power generation load attached to Texas Eastern and Algonquin in the Northeast and New England markets**

# AGT and TETLP System Conditions 1/23 -1/24

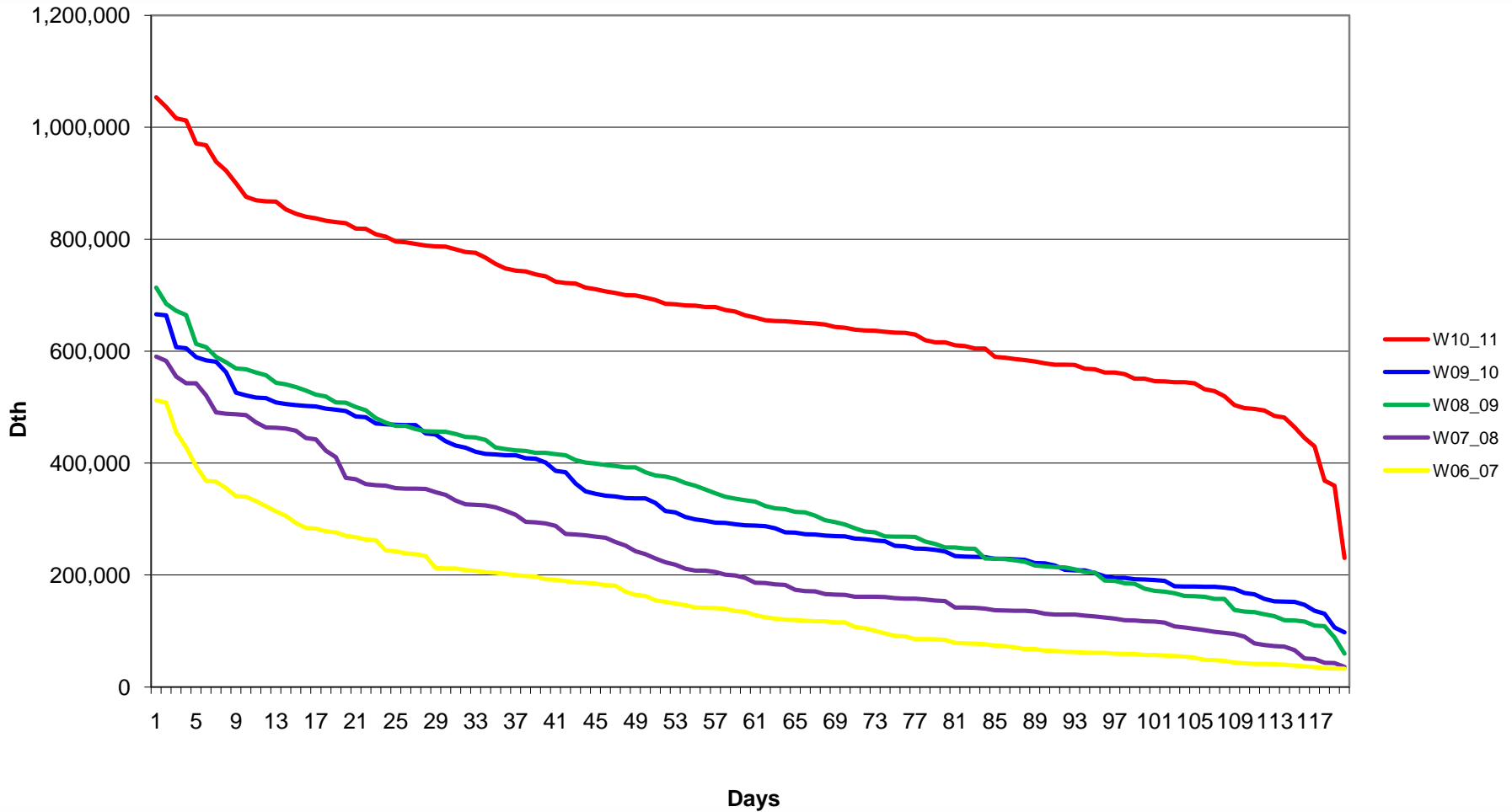
- January 23-24 very cold but no operational issues on AGT or TETLP:
  - January 23, 2011:
    - No. 12 of top 25 delivery days on AGT
    - No. 5 of top 25 delivery days on TETLP
  - January 24, 2011:
    - No. 5 of top 25 delivery days on AGT
    - No. 7 of top 25 delivery days on TETLP
- Both AGT and TETLP systems were in good health:
  - Pipelines operated under peak operating conditions, as designed
  - Services rendered as subscribed — customers holding firm capacity received service
- Limited interruptible (IT) capacity was available on AGT:
  - 25% of IT flowed through Stony Point compressor station on 1/23; 15% flowed 1/24
- Total deliveries to plants on AGT:
  - 1/23: ~297 MDth
  - 1/24: ~311 MDth

# AGT Power Plant Load Duration – Winter 2010-11



# TETLP Market Zones M2 & M3

## Power Plant Load Duration – Winter 2010-11



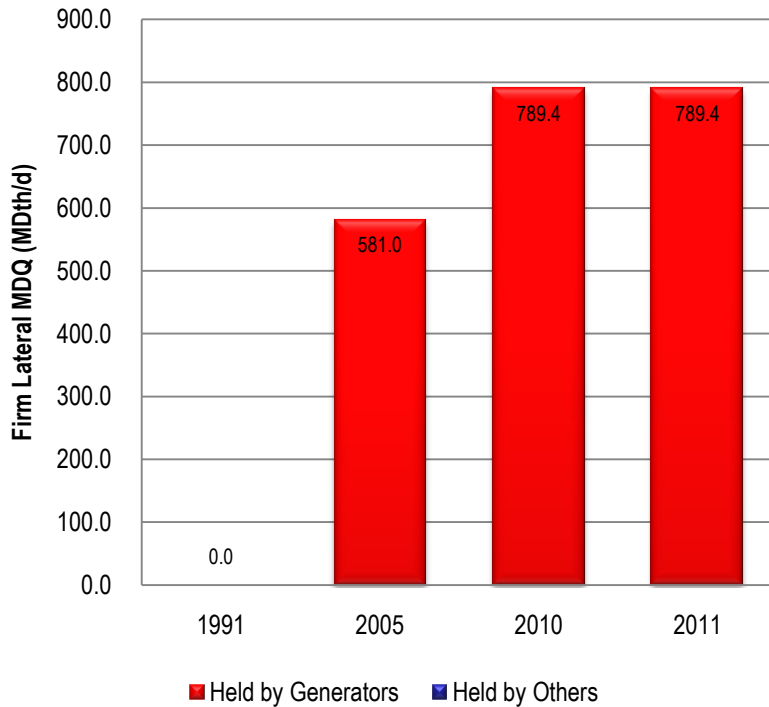
# Power Generation Load Relative to Firm Capacity Held by Power Generators



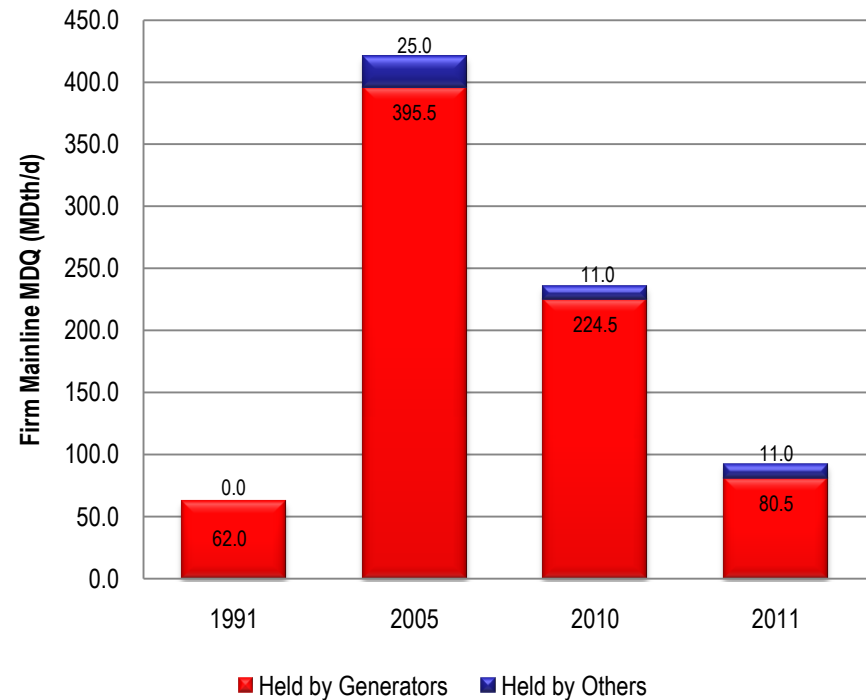
	<u>Texas Eastern</u>	<u>Algonquin</u>
<b>Non-Coincidental Burn Potential</b>	<b>1,630 MDth / D</b>	<b>856 MDth / D</b>
<b>Coincidental Peak Day (Summer)</b>	<b>1,391 MDth / D</b>	<b>740 MDth / D</b>
<b>Coincidental Peak Day (Winter)</b>	<b>1,053 MDth / D</b>	<b>487 MDth / D</b>
<b>Contracted Mainline Capacity</b>	<b>281 MDth / D</b>	<b>91 MDth / D</b>
<hr/>		
<b>Contracted vs. Summer Peak</b>	<b>20.2%</b>	<b>12.3%</b>
<b>Contracted vs. Winter Peak</b>	<b>26.7%</b>	<b>18.7%</b>

# Declining Firm Mainline Capacity Held by Power Generators on AGT

## The "Last Mile" of Firm Capacity to Generators on AGT



## Declining Firm Mainline Capacity to Generators on AGT

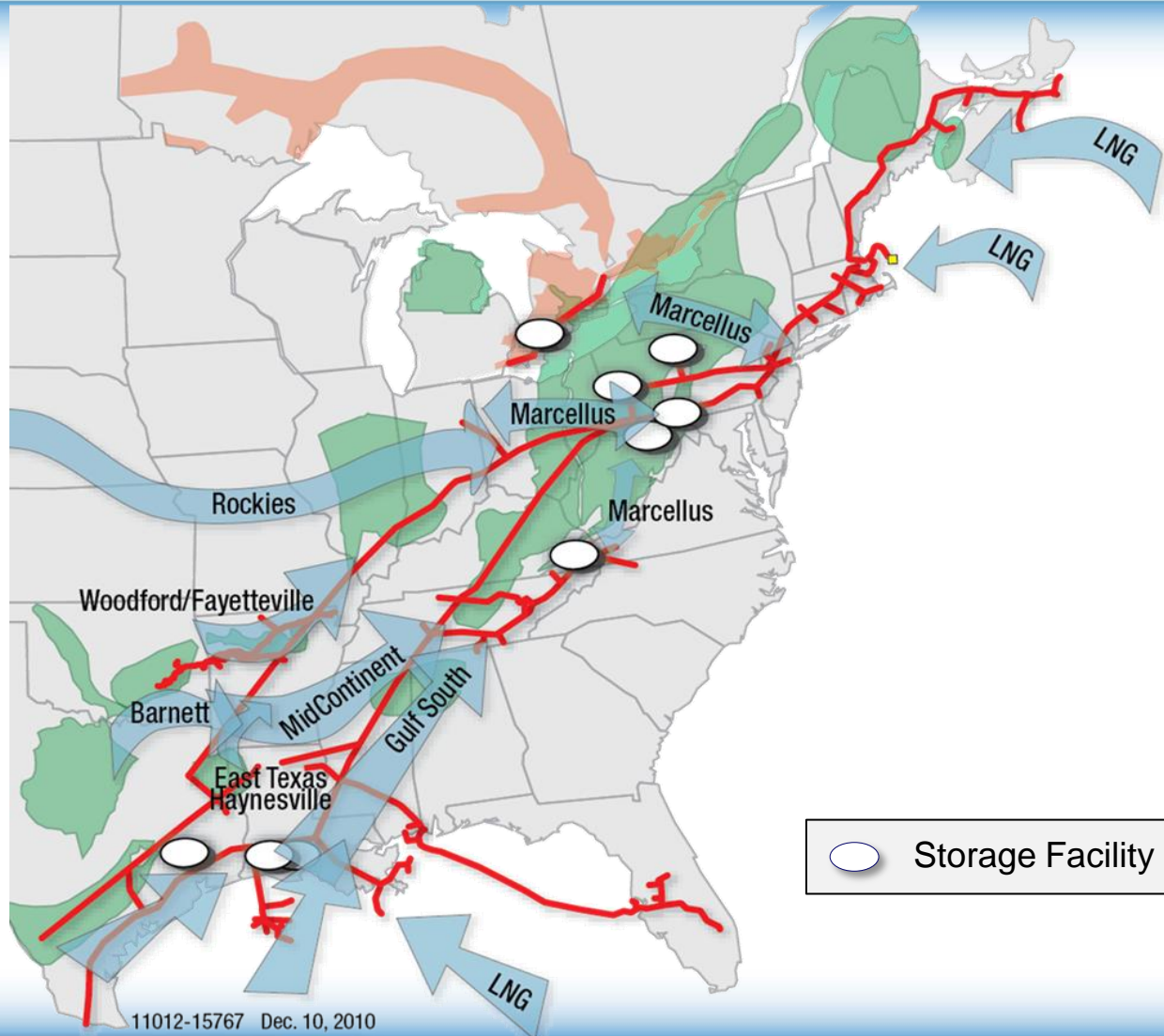


# Value of Pipeline Infrastructure to the Electric Grid

- Generators cannot run if they cannot get scheduled quantities to their delivery point
- In the event generators continue to utilize interruptible or secondary firm transportation, there is a higher probability their nominations will be restricted when the system is at capacity. The pipeline system schedules quantities to shippers who pay for primary firm service before scheduling other services.
- If power plants are incented to secure firm service, they will have the surety of firm delivery to the plants
- Firm service back to a liquid supply point will also provide generators with the ability to secure lower cost natural gas in addition to reliability – thus bringing down the power cost to the grid and offsetting demand charges for firm supply and transport
- Arguably, additional infrastructure will also bring down natural gas prices to the region – a benefit to the broader energy users (i.e., gas consumers) in the region as well
- AGT is currently in an open season process for new transmission facilities to provide this level of additional firm service

# Spectra Energy

## Markets Value Diverse Sources of Supply



- **Access Area Supplies**
  - Strong performance from shale plays in the access area
- **Rockies**
  - ~700 MDth/d of new take-away capacity on Texas Eastern
  - Significant flows at Lebanon and Clarington
- **Marcellus Shale**
  - 3 Bcf/d of new interconnect capacity under agreement
  - 180 MDth/d of current flow
- **LNG**
  - 3 new LNG terminals directly connected to Spectra Energy
  - Significant impact on AGT throughput for winter '09-'10

# Summary

- The pipelines operate as they are designed on peak days
  - Facilities are designed to support primary firm obligations even though actual operation may differ from these obligations
- Most generators do not have firm contracts back to a liquid supply point
  - On peak days, only firm services will be assured flow
  - Absent firm commitments, generators will not have gas supplies to meet electric generation needs
- If generation is not able to access reliable natural gas supplies on peak days, it is because they have not been given the right incentives to sign up for firm gas supply or firm transportation
  - Number of opportunities exist for generators to procure firm service:
    - Subscribe to firm capacity from the pipelines
    - Enter into capacity release agreements with existing shippers
    - Sign up with a merchant supplier
- Firm capacity will provide generators with reliability of supply, including peak days, and can deliver an energy price break for the electric grid by providing access to growing, diverse and attractive supply points

# APPENDIX

- Facilities designed to support primary firm obligations even though actual operation may differ from these obligations
- Assume all primary firm contracts are coincidental and at 100% contract quantity representing a peak day scenario
- No extra capacity exists above the coincidental peak day firm capacity
- Contractual Obligations – we build capacity for firm contract customers

# General Pipeline Services Offered



Transportation – primary firm, secondary firm, interruptible

Storage – inventory quantity, injection/withdrawal rights

Imbalance Service – daily/monthly supply vs demand  
balancing

Hourly (non-ratable) flow flexibility

Park and Loan – short term ability to be short or long supply  
into the system

- General hierarchy of firm transport services

Priority 1: Primary Receipt to Primary Delivery

Priority 2: Secondary within contracted path

Priority 3A: Secondary outside of path if restriction is in contract path

Priority 3B: Secondary outside of path if restriction is outside the contract path

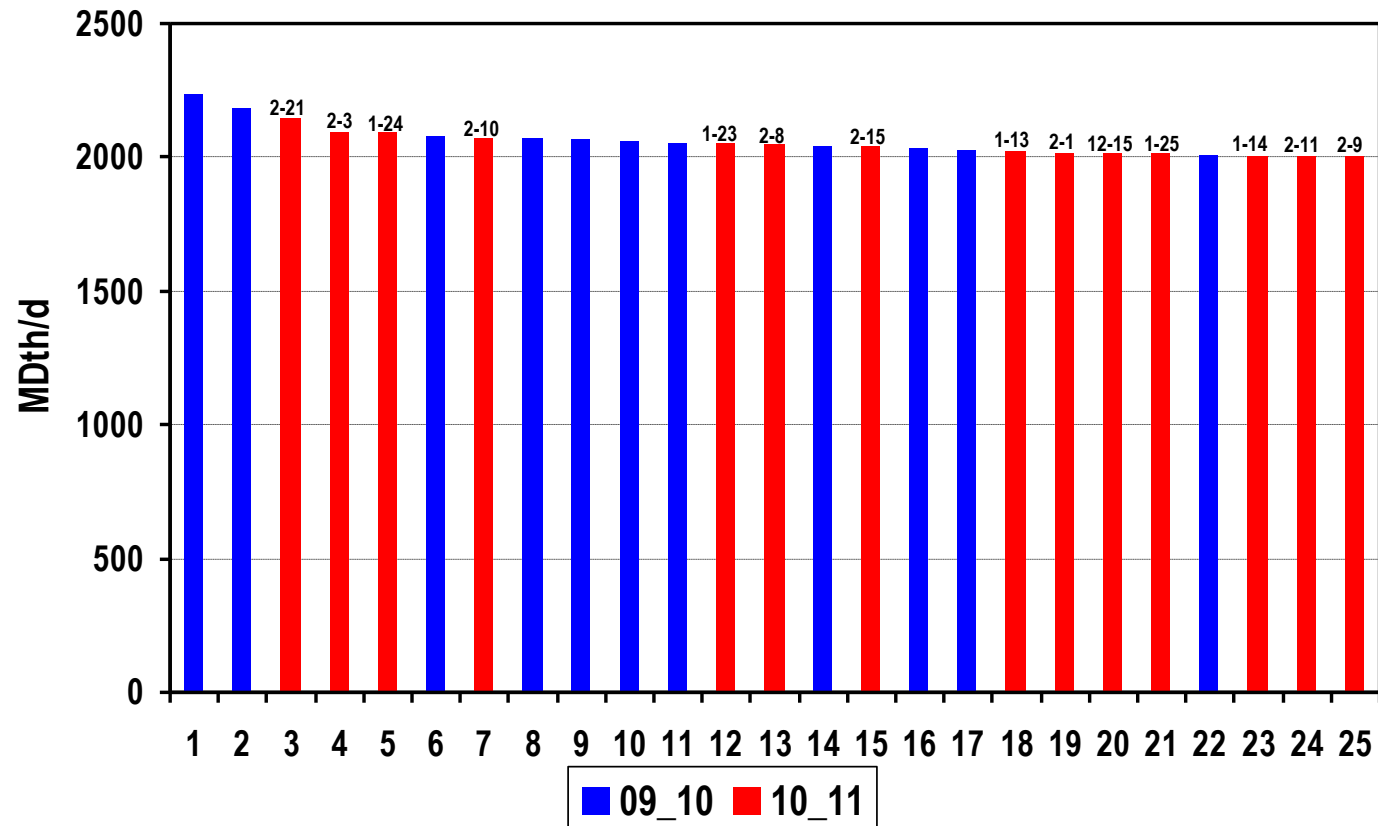
- Interruptible transport
- Imbalance Service
- Park and Loan

Actual flow flexibility is limited to scheduled services on peak days. Likely, no services other than firm transport.

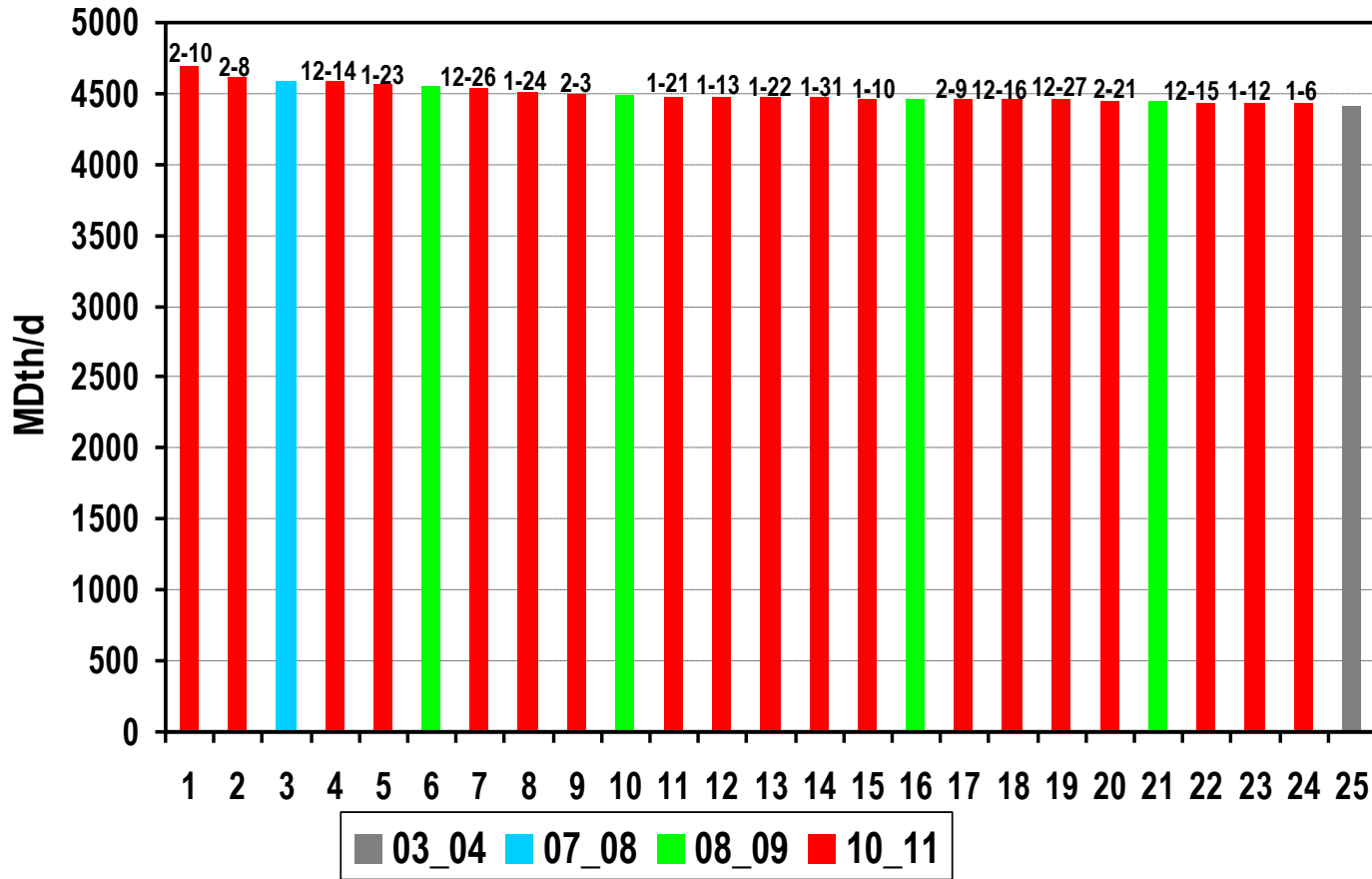
Delivery Points without nominations will likely not be allowed to flow

Supply/demand imbalances are monitored very closely to ensure that all customers receive their scheduled volumes

# Algonquin Gas Transmission Top 25 Days



# Texas Eastern Transmission, L.P. Perulack/Chambersburg East Top 25 Days



# Algonquin Gas Transmission Supply Diversity Winter Season Comparison – MDth



<u>Receipt Operator</u>	<u>08/09</u>	<u>09/10</u>	<u>10/11</u>
Texas Eastern	84,531	76,516	90,259
Tennessee	11,446	8,713	14,867
Transco	8,965	7,559	7,435
Columbia/Hanover	13,837	15,721	12,511
Maritimes & Northeast/Salem	1,982	9,991	24,584
Everett	17,522	13,576	13,035
Millennium	14,160	23,008	33,936
East End LNG	542	18,009	0

# Texas Eastern Supply Diversity Winter Season Comparison - Mdth



<u>Receipt Operator</u>	<u>08/09</u>	<u>09/10</u>	<u>10/11</u>
ANR- Glen Karn, Ohio	48,265	32,359	23,225
PEPL- Gas City, Indiana	30,804	17,013	21,597
TX GAS-Lebanon, Ohio	31,667	23,325	23,172
REX-Lebanon, Ohio	0	27,665	14,296
Texas Eastern 24" ML	20,311	11,028	15,817
REX-Clarington	0	3,687	40,748
Texas Eastern 30" ML	223,476	207,158	220,495