

2015 Summer Capacity Survey

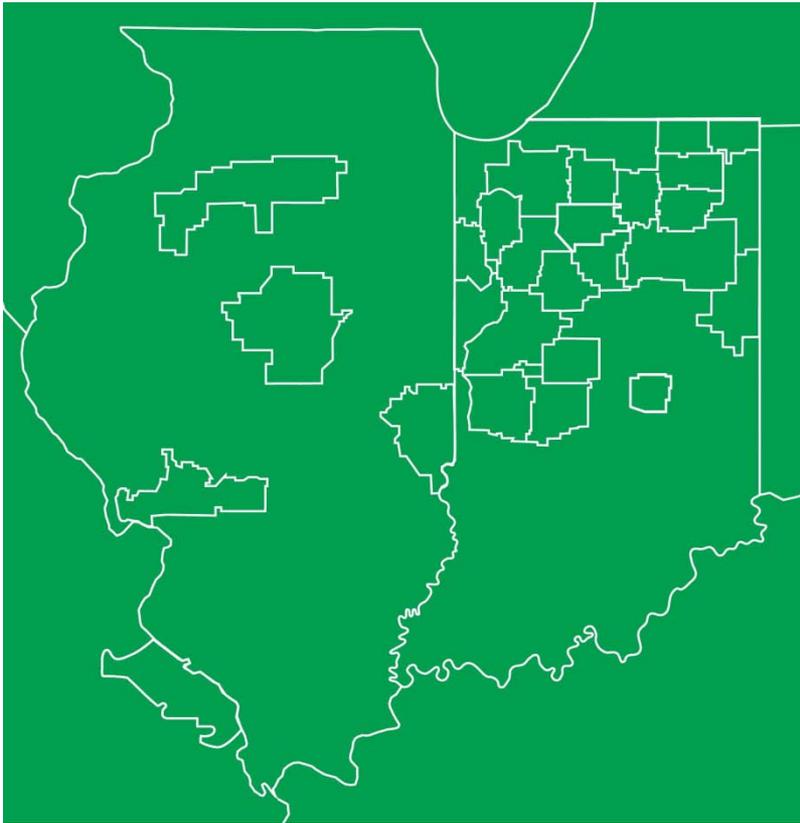
Lee Wilmes - Vice President, Power Supply
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Operations & Development

May 1, 2015

Summer Actions

- Historic/Forecasted Peaks
- Capacity Supply Assessment
- Generation Resources
- Demand Side Programs
- Transmission Reliability Issues
- Operational Issues
- Emergency Preparedness

WVPA Membership



- 24 Distribution Cooperatives and 1 non-member in 3 states
- Operates in both MISO & PJM
- Load in seven Local Balancing Authorities
- Not segregated into separate state operating companies
- Reliability First and SERC Regional Entities

2014 Historic Peak Demand

Summer Peak 2014

Date: 8/25/2014

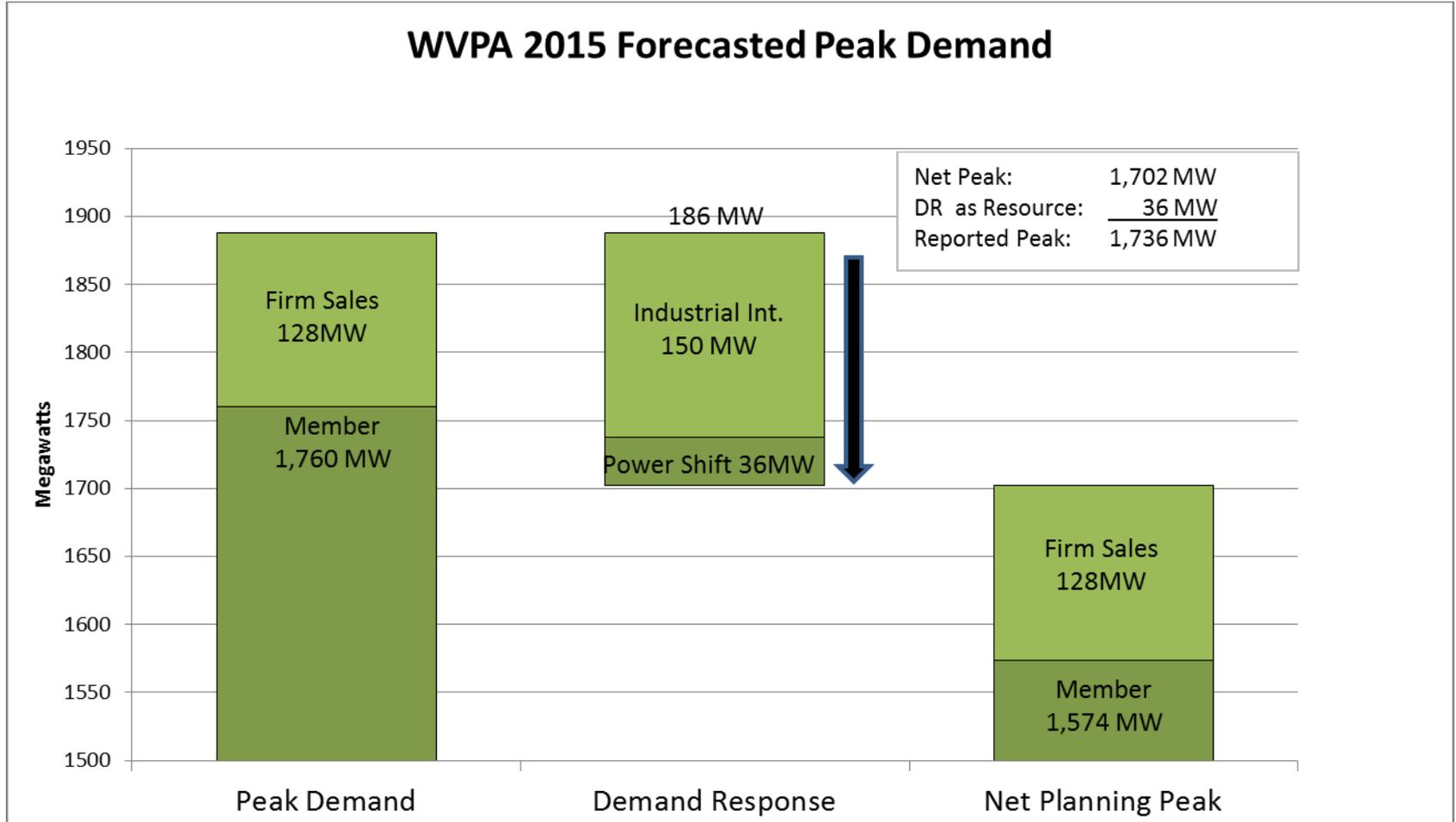
Time: HE 17:00 EDT

Peak Metered Member Demand System: 1,684 MW

Peak Metered Demand Indiana: 1,238 MW

Down 5.3% from 2013 Peak of 1,774 MW

WVPA 2015 Forecasted Peak Demand



2015 Capacity Reserve Margin

Historic Reserve Margins

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
ICAP	15.4%	16.9%	14.7%	14.5%	16.2%
UCAP	8.4%	9.3%	7.5%	7.2%	9.5%

2015 Reserve Margins

PJM - Secured and Supplied Capacity Requirements in RPM Market
MISO – Met Module E Requirement

Weighted Ave. of PJM & MISO Requirements:

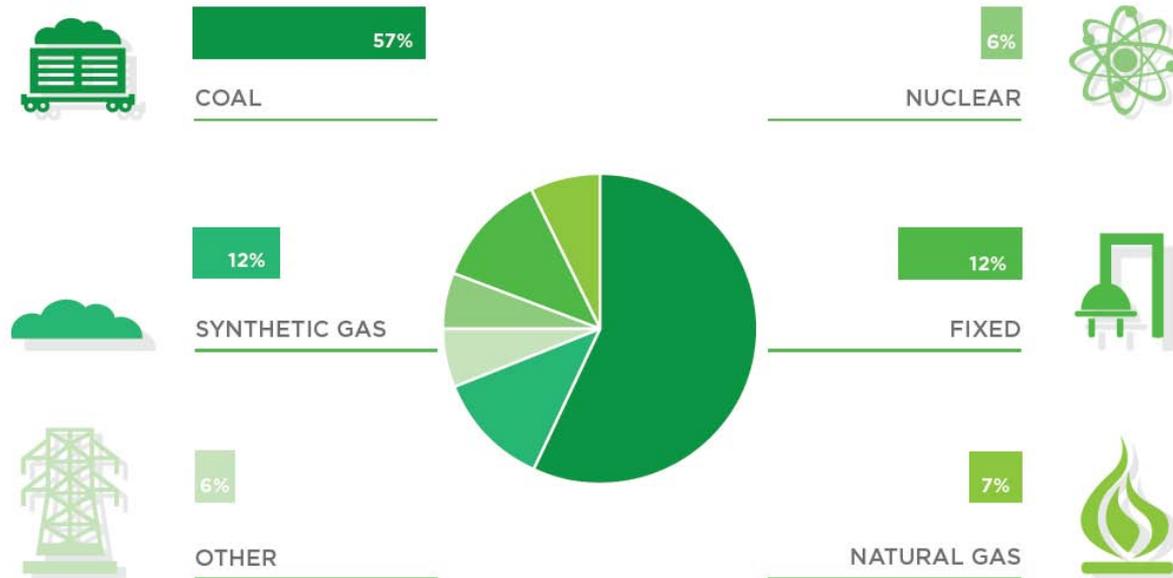
2015 ICAP Reserve Margin: **14.5%**
2015 UCAP Reserve Margin: **7.4%**

2015 Power Supply Resources (MW)

	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>
Owned	997	997	997	997
Purchase Unit Contingent	404	404	404	404
Demand Response	36	36	36	36
Purchase Shaped/Sched.	448	448	448	448
Purchase 7x24	124	124	124	124
Purchase 5x16	50	50	50	50
Purchase Wind Turbine ⁽¹⁾	<u>39</u>	<u>39</u>	<u>39</u>	<u>39</u>
Total Energy Resources	2,098	2,098	2,098	2,098

(1)WVPA supports renewable energy by owning landfill gas generation and purchasing the output from wind farms and biogas generators. Wabash Valley sells, separately, the environmental attributes associated with this generation to its members and third parties, therefore does not claim the generation as renewable.

2015 WVPA FUEL MIX



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Demand Response

- PowerShift®
 - Two-way communication
 - Interval load information gathered with MDM
 - Water Heaters, HVAC, Pool Pumps, Irrigation, Entire Home
- Large Industrial Load
 - participates in PJM program as a Demand Resource
 - Reduces capacity requirements
 - WVPA registers this on their behalf

PowerShift®

Device	2014		Forecast 2018	
	Count	Deemed KW	Count	Deemed KW
Water Heater Switches	13,446	8,068	29,400	17,640
Air Conditioning Switches	4,694	4,694	14,300	14,300
Pool Pump Switches	16	16	20	20
Field Irrigation Switches	546	21,225	580	21,600
Entire House	2,202	6,606	2,300	6,900
Total	20,904	40,609	46,600	60,460

POWER MOVES Residential Programs 2014

	MWh Saved	Peak kW Saved	Incentives Paid	Units
Fridge/Freezer Recycling	1,864	267	\$64,540	1844
Geothermal Heat Pumps	1,068	44	\$106,500	70
Air Source Heat Pumps	1,198	88	\$212,750	177
Heat Pump Water Heaters	87	12	\$22,800	54
New Construction	57	1	\$3,900	6
CFLs	<u>31</u>	<u>4</u>	<u>\$1,077</u>	<u>718</u>
TOTALS	4,305	416	\$411,567	2,869
Geothermal Heat Pumps (new construction and fossil fuel conversion) (new load)	(765)	(470)	\$384,000	242

Portfolio Lifetime Cost per MWh = \$10

POWER MOVES Commercial & Industrial Programs 2014

	MWh Saved	Peak kW Saved	Incentives Paid
Lighting & HVAC	5,775	1,296	\$251,433.20
Custom	4,777	833	\$265,793.96
Schools	119	27	\$11,780.00
Ag	101	14	\$11,636.60
New Construction	<u>4,033</u>	<u>743</u>	<u>\$726,746.38</u>
TOTALS	14,805	2,913	\$1,267,389.54

Portfolio Lifetime Cost per MWh = \$10
 Total MWh's saved since 2010 = 143,929

New for 2015

- Third Party evaluation of the entire 2014 Portfolio
- Incentives for:
 - Residential LEDs
 - Renewed emphasis on residential new construction
 - C&I Interior LEDs
 - C&I process VFDs
- Designing a joint DR/EE WiFi Thermostat Pilot for a fall launch

Transmission Reliability Activity

- Continues to be High Priority for Wabash & it's Member's
- Over past 5 yrs 35% to 40% of outage duration for member's have been transmission related
- Working closely in Indiana with DEI, NIPSCO & AEP
 - Sharing detail work plans
 - Wabash Valley member's providing solution's
- Wabash Valley Goal:
“Manage Increasing T&D costs to achieve higher reliability and less outage duration to member owners”

Operational Issues

- Natural Gas Deliveries
 - Improvement over last Winter, but still needs improvement
 - Pipelines issue Operational Flow Orders
 - Mismatched Gas and Electric Market Days
 - Lost optionality value of gas generating plants

Emergency Preparedness

- WVPA operates in seven balance authorities:
 - AEP, Duke, IPL, NIPSCO, Ameren-IL, Ameren-MO, and Consumers
- WVPA operates in two RTO's, MISO and PJM
- WVPA does not directly operate transmission
- Coordinate with balance authorities to provide appropriate WVPA emergency response

Conclusion

WVPA believes it has adequate resources to meet our member's needs during the summer of 2015