



DR Saturation Analysis

Planning Committee

October 6, 2010

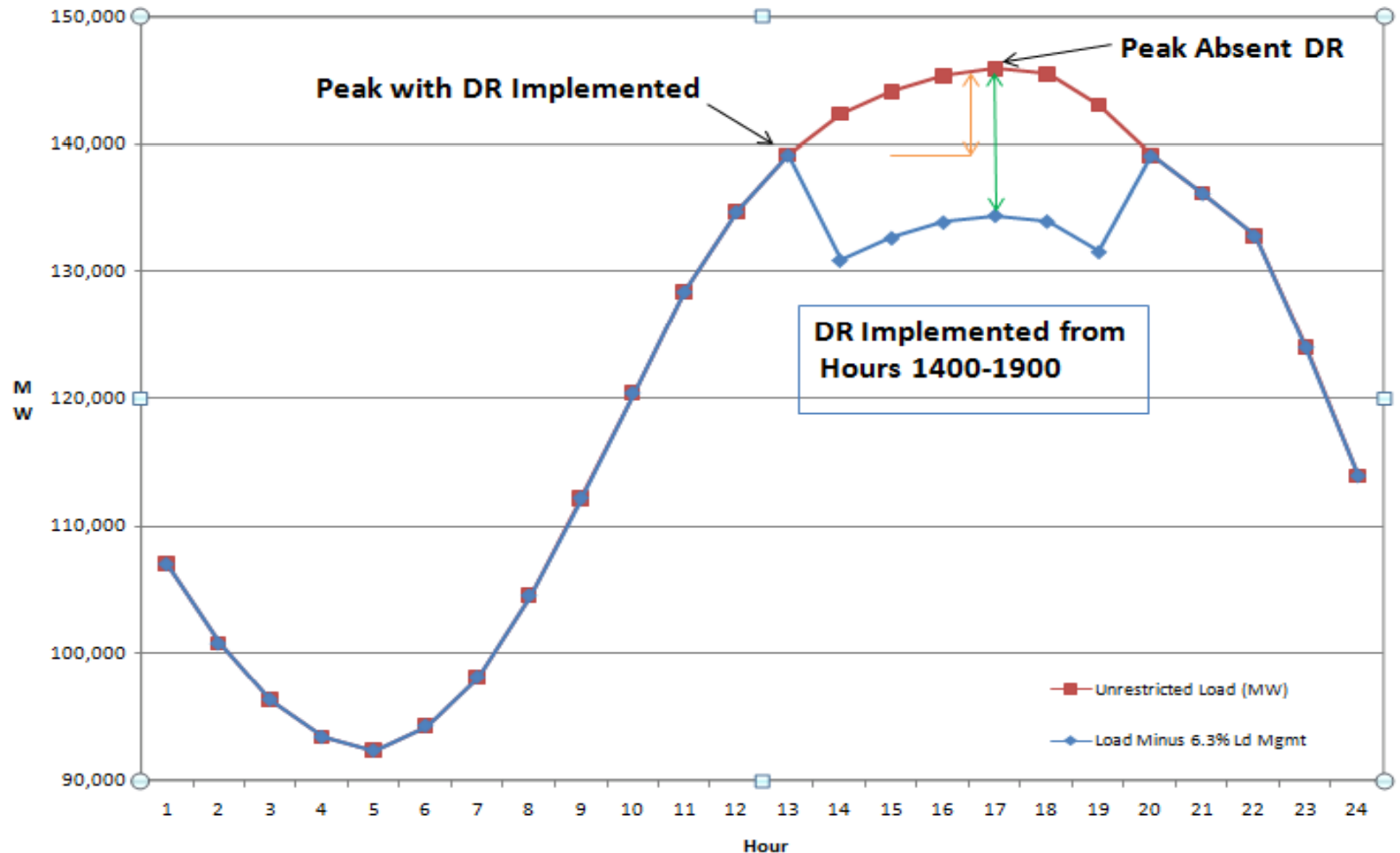
Ten Interruption Analysis

- Dispatchability of DR
- Probability threshold of 90%
- LDA vs. RTO-wide interruptions
- Customer fatigue

Six Hour Duration Analysis

- Dispatchability of DR
- Prebound
- Rebound

PJM RTO - August 2, 2006



DR CAP FOR SELECTED LOAD DAYS 2005-2009

<u>Date</u>		<u>Load Percentile</u>	<u>Cap for 6 Hour Duration</u>
7/26/2005	Annual Peak	55/45	4.8%
8/3/2005		55/45	3.5%
7/17/2006		70/30	4.3%
7/31/2006		65/35	4.3%
8/1/2006		95/5	4.6%
8/2/2006	Annual Peak	95/5	4.6%
8/3/2006		60/40	3.5%
8/8/2007	Annual Peak	70/30	4.9%
6/9/2008	Annual Peak	20/80	4.0%
8/10/2009	Annual Peak	20/80	5.9%
Average			4.4%



MAAC - Saturation for 6 Hour Duration DR

DR CAP FOR SELECTED LOAD DAYS 2005-2009				
<u>Date</u>	<u>Annual Peak</u>	<u>Load Management</u>	<u>Above 50/50</u>	<u>Cap for 6 Hour Duration</u>
7/27/2005	X	X	X	6.9%
8/4/2005		X		4.0%
7/17/2006			X	4.6%
7/18/2006			X	5.3%
8/1/2006			X	5.8%
8/2/2006	X	X	X	4.2%
8/3/2006		X	X	4.5%
8/8/2007	X	X	X	7.0%
6/10/2008	X			6.2%
8/10/2009	X			6.0%
<u>Values below exclude 2008 and 2009</u>				
Min				4.0%
Max				7.0%
Average				5.3%



EMAAC - Saturation for 6 Hour Duration DR

DR CAP FOR SELECTED LOAD DAYS				
2005 - 2009				
<u>Date</u>	<u>Annual Peak</u>	<u>Load Management</u>	<u>Above 50/50</u>	<u>Cap for 6 Hour Duration</u>
7/27/2005	X	X	X	9.0%
8/4/2005		X		5.3%
7/17/2006			X	4.9%
7/18/2006			X	6.2%
8/1/2006			X	6.0%
8/2/2006		X	X	4.4%
8/3/2006	X	X	X	5.3%
8/8/2007	X	X	X	7.3%
6/10/2008	X		X	6.6%
8/10/2009	X			6.1%
<u>Values below exclude 2009</u>				
Min				4.4%
Max				9.0%
Average				6.1%



SWMAAC - Saturation for 6 Hour Duration DR

DR CAP FOR SELECTED LOAD DAYS				
2005 - 2009				
<u>Date</u>	<u>Annual Peak</u>	<u>Load Management</u>	<u>Above 50/50</u>	<u>Cap for 6 Hour Duration</u>
7/26/2005			X	5.2%
7/27/2005	X	X	X	7.5%
8/4/2005		X		5.8%
8/12/2005			X	6.1%
8/1/2006			X	6.2%
8/2/2006		X	X	5.1%
8/3/2006	X	X	X	5.8%
8/8/2007	X	X	X	5.9%
6/10/2008	X			9.9%
8/10/2009	X			5.9%
<u>Values below exclude 2008 and 2009</u>				
Min				5.1%
Max				7.5%
Average				6.0%

Study Procedure

- IRM base case solved at "1 in 10" reserve level
 - Reduce to a single-area case in which only PJM is modeled. This results in LOLE of 0.19 days/year since benefit of ties is not recognized
- De-rate $x\%$ of the resources to zero in the non-summer months and solve for new LOLE
- Increase value of x until LOLE increases above 0.19 days/year

Saturation for Summer-Only Unlimited DR

