

Indiana Michigan Power Summer 2009 Preparedness

Presentation to the
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I&M Presenters

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Peak Demand – 2008

	Date	Hour Ending EST	Peak Demand MW
I&M	July 31	1400	4,264
AEP System- East Zone	June 9	1400	21,608

Annual Growth in Demand (2004-2008)

Year	I&M Peak ¹ Demand	Growth Rate	AEP Peak ¹ Demand	Growth Rate
2004	4,016	----	19,615	----
2005	4,193	4.4	20,774	5.9
2006	4,650	10.9	21,898	5.4
2007	4,528	-2.6	22,413	2.4
2008	4,264	-5.8	21,977	-1.9

¹ Megawatts

Annual Growth in Energy Consumption

(2004-2008)

Year	I & M Energy ¹ Consumption	Growth Rate	AEP Energy ¹ Consumption	Growth Rate
2004	22,939	----	116,645	----
2005	23,382	1.9	120,694	3.5
2006	24,371	4.2	121,832	0.9
2007	26,004	6.7	130,527	7.1
2008	25,446	-2.1	131,439	0.7

¹ Gigawatts

Major operating challenges

- Generation
 - Cook Plant
 - Tanners Creek
 - Rockport
- Transmission
- Distribution

Major operating challenges

- Cook Plant operating challenges
 - Unit 1 manual trip in February
 - Unit 2 planned outage
 - Unit 1 manual trip in September
- Cook Plant major investments
 - Completed
 - In progress

Major operating challenges

- Tanners Creek Unit 4 operating challenge
 - Transformer failure in March 2008—requires rewind
 - Operating on one transformer
 - Plant capability reduced 35 Mw
 - Rewind to be completed—November 2009
- Rockport
 - No extraordinary operating challenges

Major operating challenges

- Transmission

- Forced outage at Cook Plant
- Challenges met
- System performed as expected
- Engineering, plans protect reliability

- Distribution

- Two significant wind storms--June
- Ice storm--December

Five-Year Reserve Margins

Reserve margin as a percentage of demand (a)

Summer Season	I & M	AEP System-East Zone
2004	25.8	22.2
2005	20.2	11.0
2006	9.8	11.4
2007	13.2	9.8
2008	20.5	22.7
Projected (b)–2009	15.7	17.2

(a) After Curtailment of Interruptible Customers

(b) Based on Net System Capacity as of 3/24/2009

Five-year forced outage rate

Year	Unit Type	June	July	August	Sept	Remaining Months' Average
2004	Base Hydro	0.25 #N/A	2.70 #N/A	1.00 #N/A	2.72 #N/A	8.81 #N/A
2005	Base Hydro	2.98 0.10	4.48 3.24	5.83 6.16	5.03 8.70	3.99 2.67
2006	Base Hydro	2.26 18.06	1.93 4.70	2.54 5.23	5.91 0.46	3.66 4.56
2007	Base Hydro	1.43 4.85	0.76 6.91	10.74 4.02	5.49 0.34	4.74 3.29
2008	Base Hydro	7.89 2.33	2.01 3.73	2.17 0.12	9.93 3.67	16.13 3.82

Note: Includes Cook 1&2, Rockport 1&2 (at 1105 & 885 MW respectively), and Tanners Creek 1-4

Note: Hydro EFOR Data are not readily available prior to 2005

I&M Projected Summer 2009 Peak

Summer 2009 – Projected MW

	June	July	August	Sept
Peak Internal Demand	4,290	4,565	4,443	4,160
Committed Off-System Sales	40	40	40	40
Total Demand	4,330	4,605	4,483	4,200
Interruptible Demand	281	281	281	281
Net Demand	4,049	4,324	4,202	3,919

I&M Resources to Meet 2009 Peak

	June	July	August	Sept
Installed Capability	5,461	5,461	5,461	5,461
Committed Net Sales	459	459	459	459
Total Capability	5,002	5,002	5,002	5,002

I&M Resources – 2009 Reserve Margins

Interruptible Demand = 281 MW

	June	July	August	Sept
Total Capability	5,002	5,002	5,002	5,002
Total System Demand	4,049	4,324	4,202	3,919
Reserve Margins Before Interruptibles (%)	672 15.5	397 8.6	519 11.6	802 19.1
Reserve Margins After Interruptibles (%)	953 23.6	678 15.7	800 19.0	1,083 27.6

All numbers are MW except where indicated.

Summer 2009 Peak AEP System-East Zone

Summer 2009 – Projected MW				
	June	July	Aug	Sept
Total Demand	20,995	22,408	21,204	19,958
Interruptible Demand	615	615	615	615
Net Demand	20,380	21,793	20,589	19,343

Resources and Reserve Margins AEP System-East Zone

Interruptible Demand = 614 MW

	June	July	August	Sept
Total Capability	27,025	27,025	27,025	27,025
Total System Demand	21,653	23,066	21,862	20,616
Reserve Margins Before Interruptibles (%)	4,758 21.4	3,345 14.1	4,549 20.2	5,795 27.3
Reserve Margins After Interruptibles (%)	5,373 24.8	3,960 17.2	5,164 23.6	6,410 31.1

All numbers are MW except where indicated.

Availability of generation

- Planned outages
 - Cook Plant Unit 1
- Unplanned outages
- Generation resources are adequate

Purchase Power Agreements AEP System-East Zone

	June	July	August
OVEC	941	941	941
Constellation	315	315	315
Monongahela	267	267	267
Mone	55	55	55
Fowler Ridge	26	26	26
Summersville	7	7	7
SEPA	4	4	4
Total	1,615	1,615	1,615

Fuel supplies and costs

- Sufficient supplies at forecasted costs
- Delivery difficulties improved
- Good planning, oversight

Managing, reducing peak demand

- Interruptible load
- Emergency curtailable/Price curtailable tariffs
- Time-of-Day/Load management tariffs
 - 2,600 customers on TOD tariffs
 - 16,500 customers installed off-peak water heaters
- Off-peak provisions
- Working with collaborative to develop DSM/EE programs
- South Bend SMART meter program

Tree trimming issues

- Are there provisions in your tariff that address tree trimming?
- How often do you trim trees?
- What standards do you use when trimming trees?

Tree trimming issues

- Have your tree trimming practices changed in the last five years?
- How do you communicate with individual property owners prior to tree trimming?
- How do you communicate with community organizations, neighborhood groups
- Is your tree trimming performed by utility employees or by subcontractors?
- What instructions do tree-trimming crews receive regarding how to deal with property owners?

Effect of MISO/PJM on operations

- Extensive experience beneficial
- “Day ahead” generation into PJM
- Security constrained, economic dispatch solution
- Transmission construction & maintenance – 13-month plan
- Customer impact under constant review
- Constant interaction with PJM
- Review and monitor trends, results
- No substantive changes in operations, planning required for Summer 2009

FERC/NERC mandated time and expenses

- Additional expenditures required
- Tracking time
- Reliability costs increasing
 - Time, facilities, equipment

FERC/NERC mandated time and expenses

- Cyber security
 - People, systems, equipment
- Support mandatory reliability standards
- IURC would be helpful in standards development process

Questions?