

# MPSC CNF – Integration Group LOLP Analysis Update April 14th , 2005



Capacity Need Forum (CNF)

# Updates On

- **Data Received**
- **Input Data Comparison**
- **Preliminary stand-alone LOLP for METC, ITC, MECS**
- **Annual Load Remaining Curves for METC, ITC, MECS**
- **Next Steps**
- **MISO LD Study revised tables**

# Data Received

Utility/Region	Gen data	Hourly Load Profiles		Peak Demand	Annual Energy
		2003	2004		
Wisconsin Public Service Corporation	Y	Y	Y	Y	Y
Xcel	Y			Y	Y
UPPCO	Y	Y	Y	Y	Y
City of Escanaba	Y	Y	Y	Y	Y
WE Energies	Y	Y		Y	Y
City of Marquette	Y	Y	Y	Y	Y
<b>Total Upper Peninsula</b>					
Consumers Energy	Y	Y	Y	Y	Y
Midwest Energy Cooperative	Y	Y	Y	Y	Y
Lower Peninsula Municipals	Y	Y	Y	Y	Y
Lansing Board	Y	Y	Y	Y	Y
Wolverine Power Cooperative	Y	Y	Y	Y	Y
Alpena Power Company	Y	Y	Y	Y	Y
<b>Total Lower Peninsula</b>					
Detroit Edison	Y	Y	Y	Y	Y
Wyandotte	Y	Y	Y	Y	Y
<b>Total Southeast Michigan</b>					

# Notes

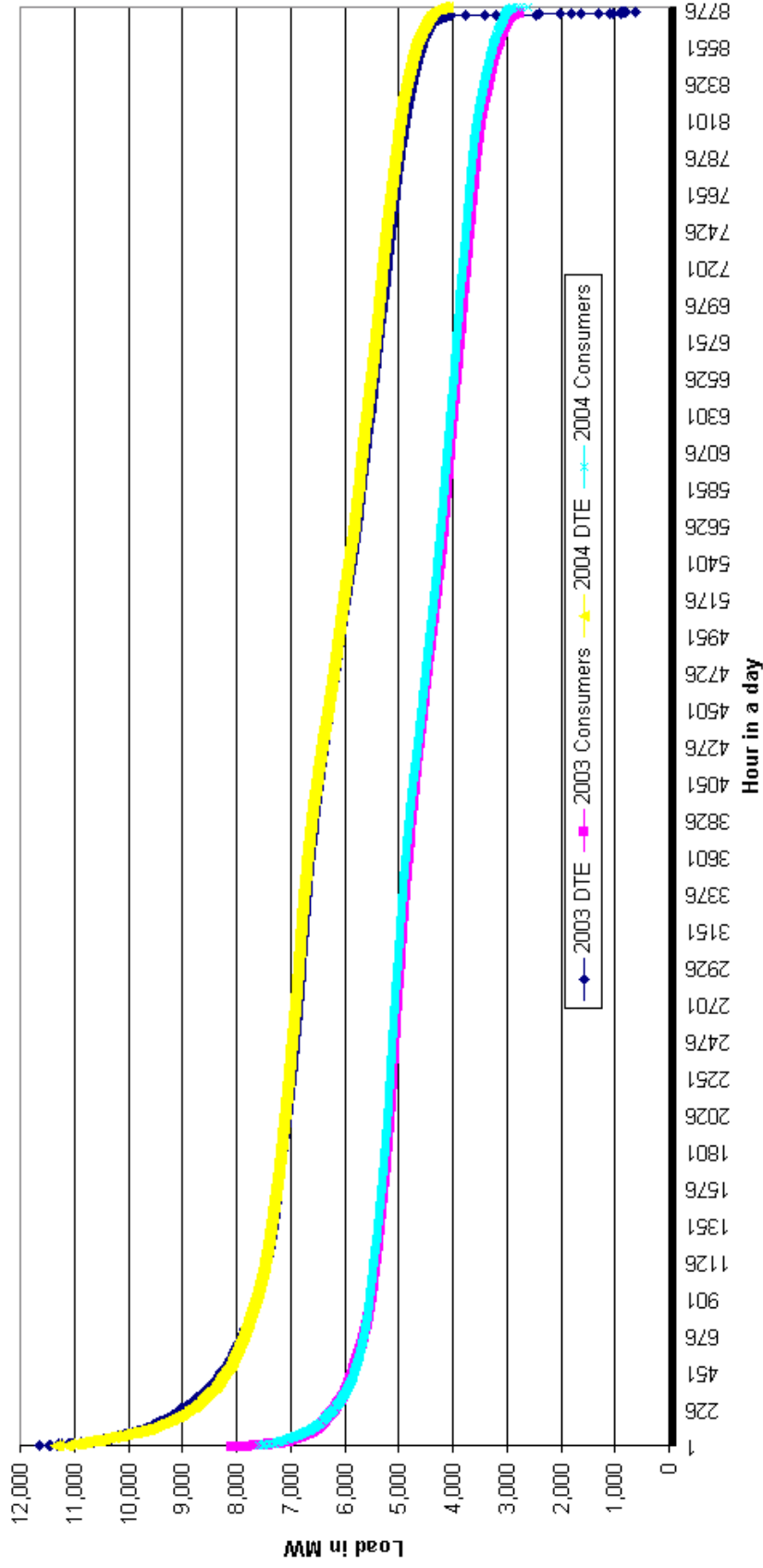
- These values are without giving DTE credit for Ludington PS
- With 2003 Hourly Load profiles
- Maintenance Schedules “optimized”
- No Loss Sharing option
  - An area can only support when it has surplus
- In the model
  - $ITC = DTE + Wyandotte$
  - $METC = Consumers Energy (includes Midwest Energy, Lower Peninsula Municipals, Alpena Power) + Wolverine Power + Lansing Board$
  - $ATC\ zone2 = WPS + We\ Energies + Escanaba + Marquette + Xcel + UPPCO$

# Input Data Comparison

	Load & Capability for 2009	
	MISO LD Study (MW)	MPSC CNF Study (MW)
<b>Consumers Energy</b>		
Loads	10,171	11,212
Capability	14,674	13,450
<b>Reserves (MW)</b>	4,503	2,238
<b>Reserves (%)</b>	44%	20%
<b>Wolverine Power</b>		
Loads	739	494
Capability	364	386
<b>Reserves (MW)</b>	-375	-108
<b>Reserves (%)</b>	-51%	-22%
<b>Lansing Board</b>		
Loads	581	526
Capability	369	532
<b>Reserves (MW)</b>	-212	6
<b>Reserves (%)</b>	-37%	1%
<b>METC</b>		
Loads	11,491	12,232
Capability	15,407	14,368
<b>Reserves (MW)</b>	3,916	2,136
<b>Reserves (%)</b>	34%	17%
<b>ITC</b>		
Loads	13,595	13,648
Capability	12,527	12,110
<b>Reserves (MW)</b>	-1,068	-1,538
<b>Reserves (%)</b>	-8%	-11%
<b>MECS</b>		
Total - Load	25,086	25,880
Total - Capability	27,934	26,478
<b>Reserves (MW)</b>	2,848	598
<b>Reserves (%)</b>	11%	2%

# Load Duration Curve for DTE, Consumers

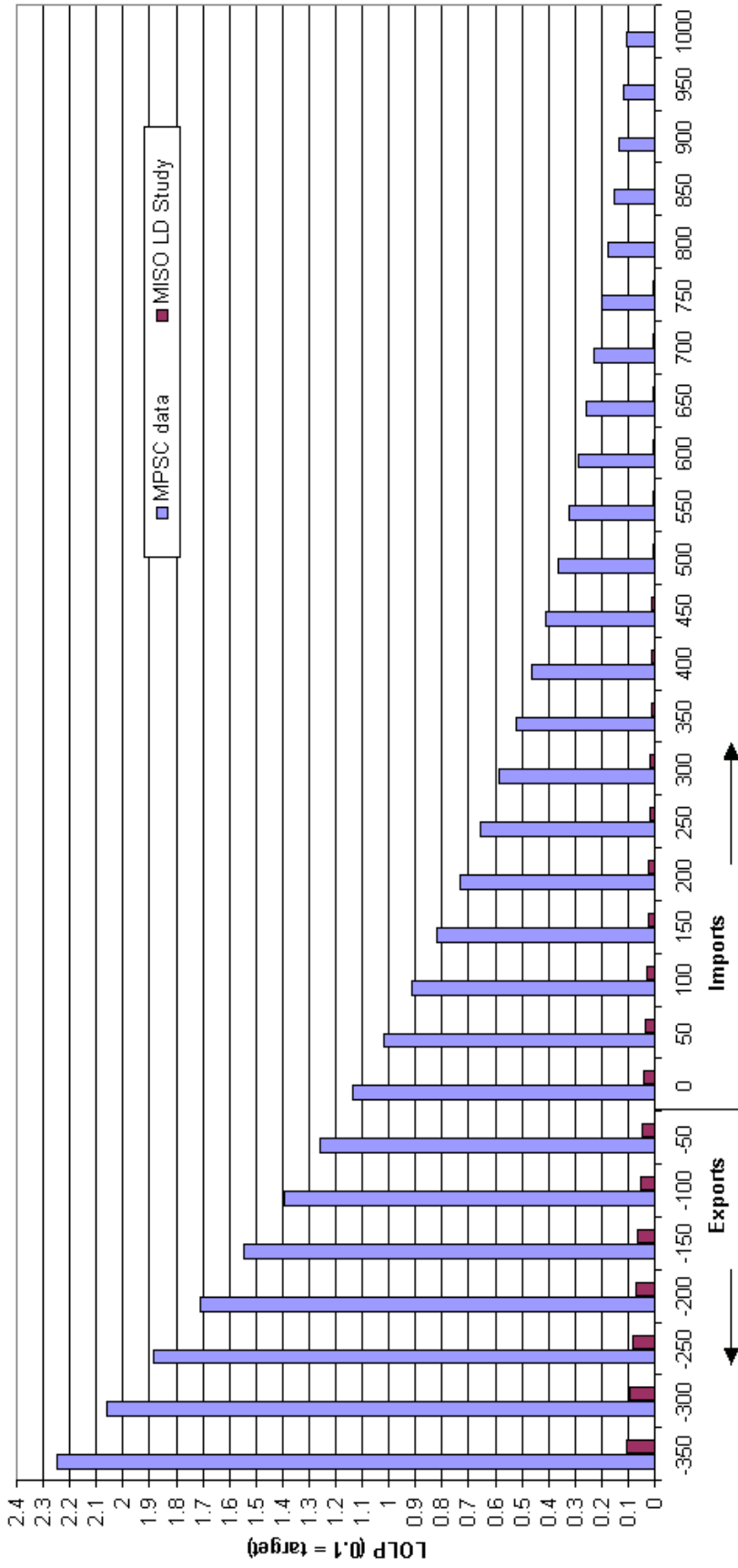
2003/2004 Load Duration Curve



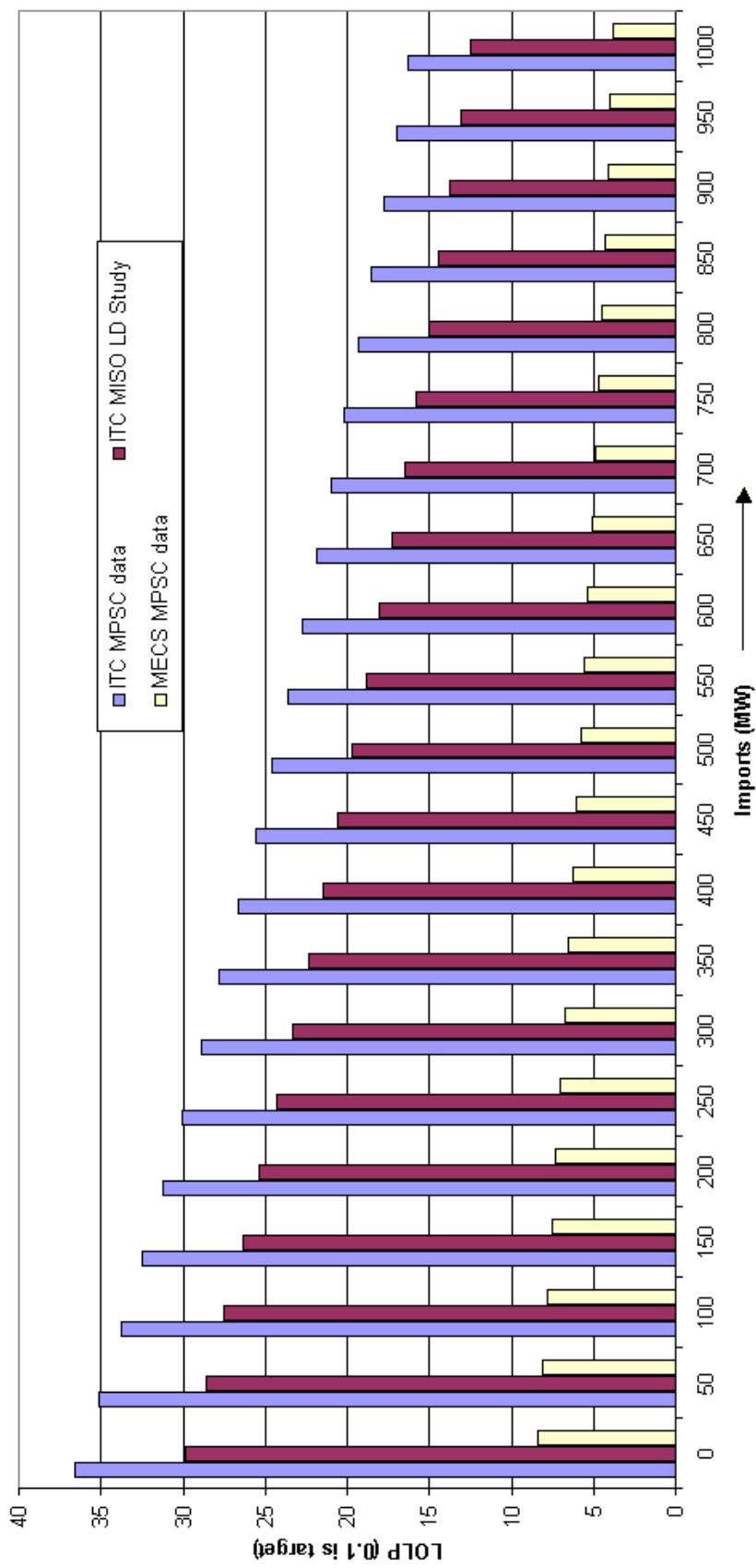
# Preliminary stand-alone LOLP

- **METC – 1.13 days/year**
- **ITC – 36.61 days/year**
- **MECS - 8.4 days/year**

# Annual Load Remaining Curve - METC



# Annual Load Remaining Curve – ITC, MECS



## Next Steps

- **Stand-alone LOLP for ATC zone2**
- **With support LOLP for METC, ITC, MECS, ATC zone2**
- **Sensitivities?**

# MISO LD Study revised tables

- **2 changes in Load Deliverability Study report**
  - Previously, an area's LOLP was dependent on system peak, now it is dependent on that area's peak
  - Previously, “imports needed” was found by incrementing the imports and running MARELL. Now, we get those values from “Annual Load Remaining Curves” table
- **ITC needs 390 MW of additional capacity (on top of 4520 MW FCTTC) in 2009 to meet reliability criteria**

# Annual Load Remaining Curve – METC (MISO LD Study)



# Annual Load Remaining Curve – ITC (MISO LD Study)

