

# MPSC – Capacity Need Forum LOLP Analysis Update April 22 , 2005



Capacity Need Forum (CNF)

***MISO***

# 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>					

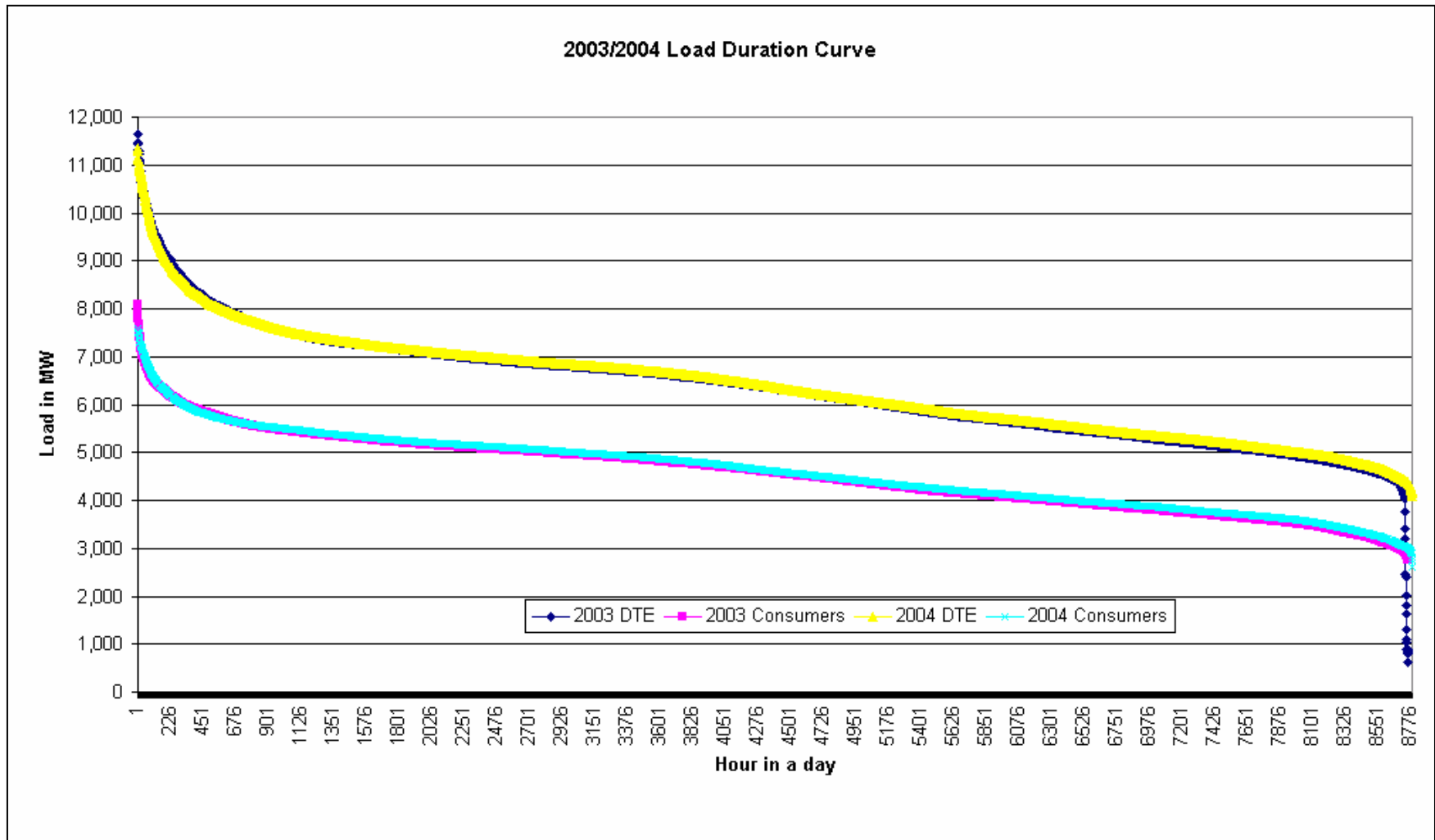
# Notes

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

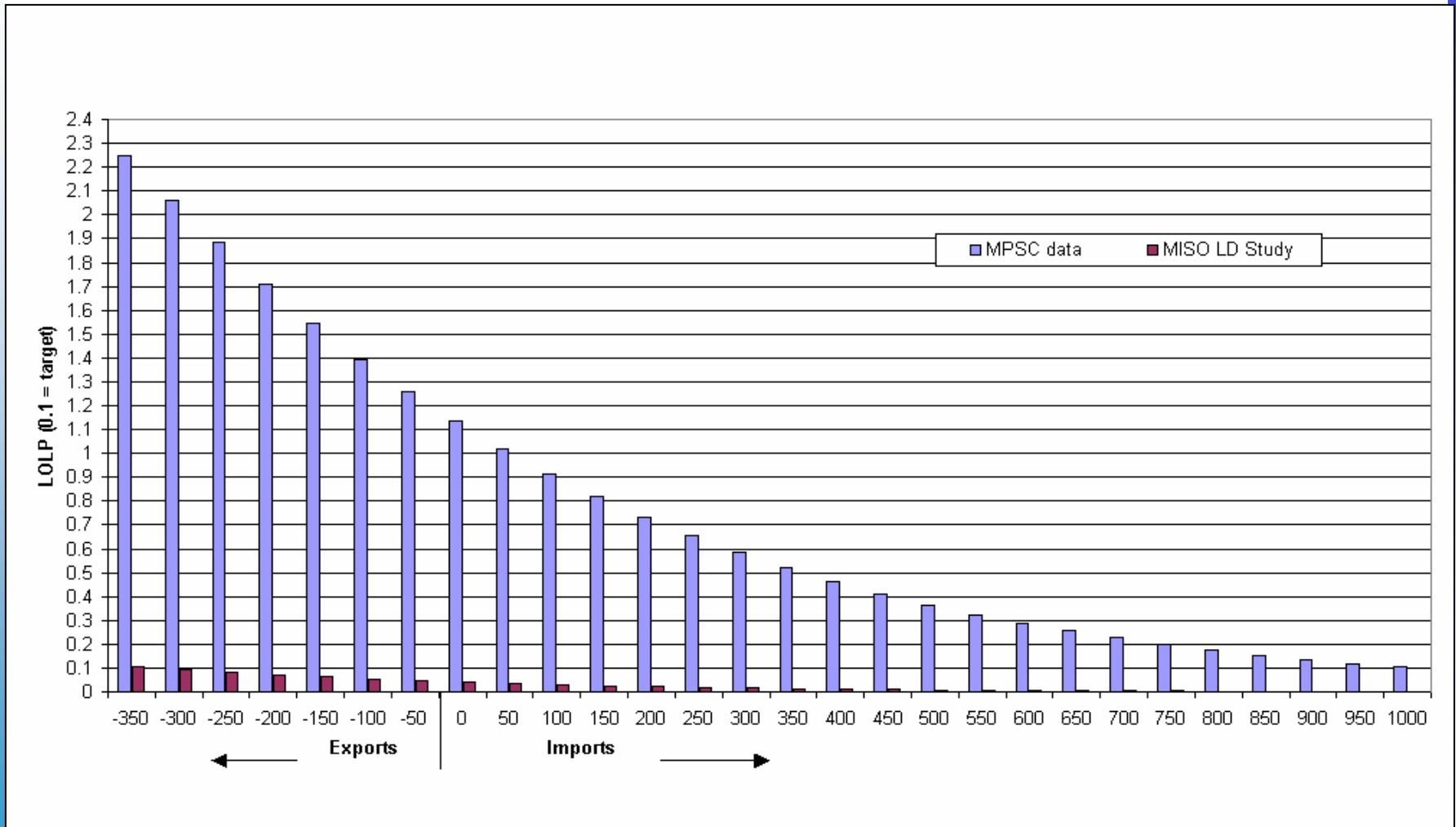
# Load Duration Curve for DTE, Consumers



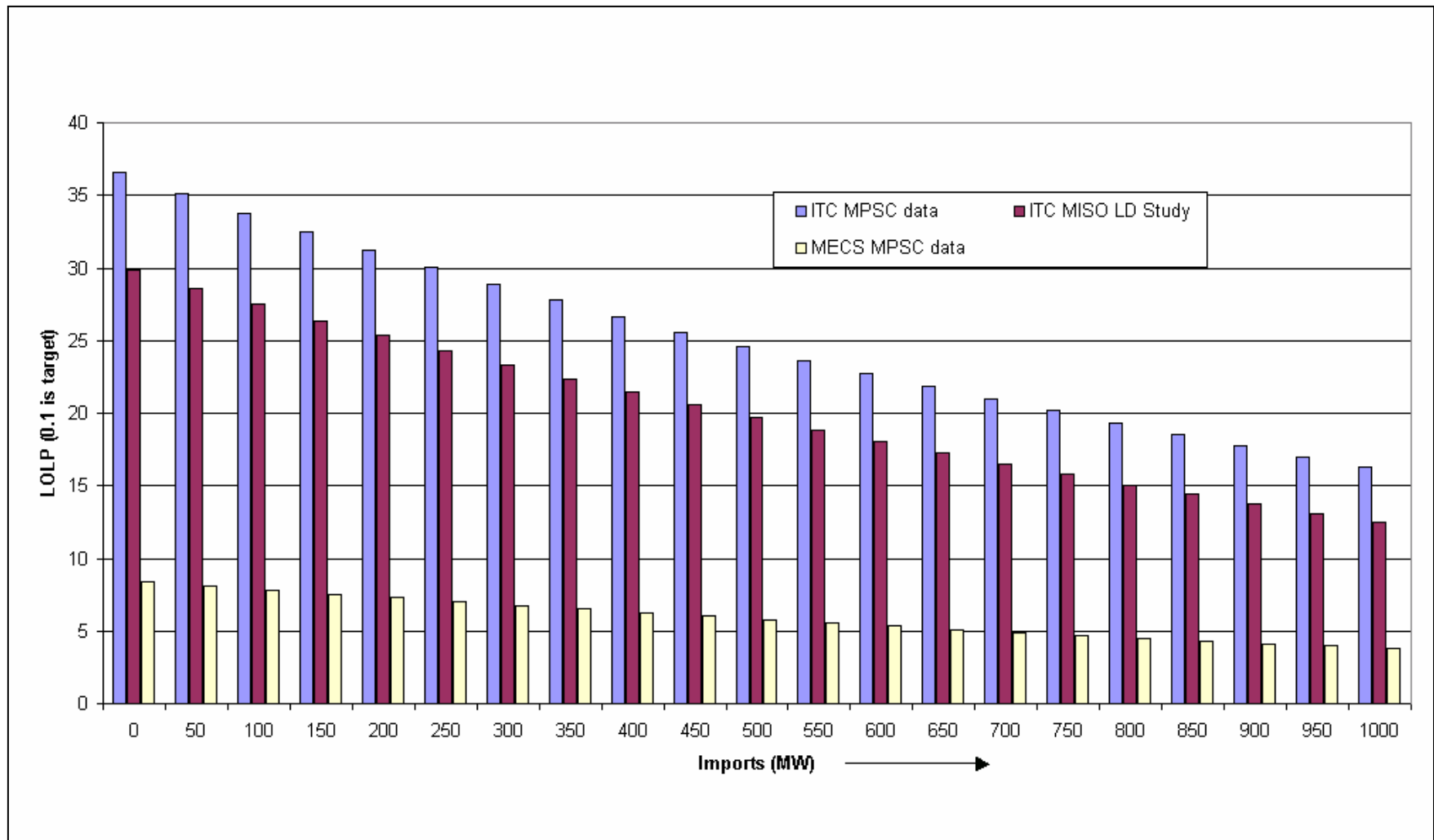
## Preliminary stand-alone LOLP

- **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



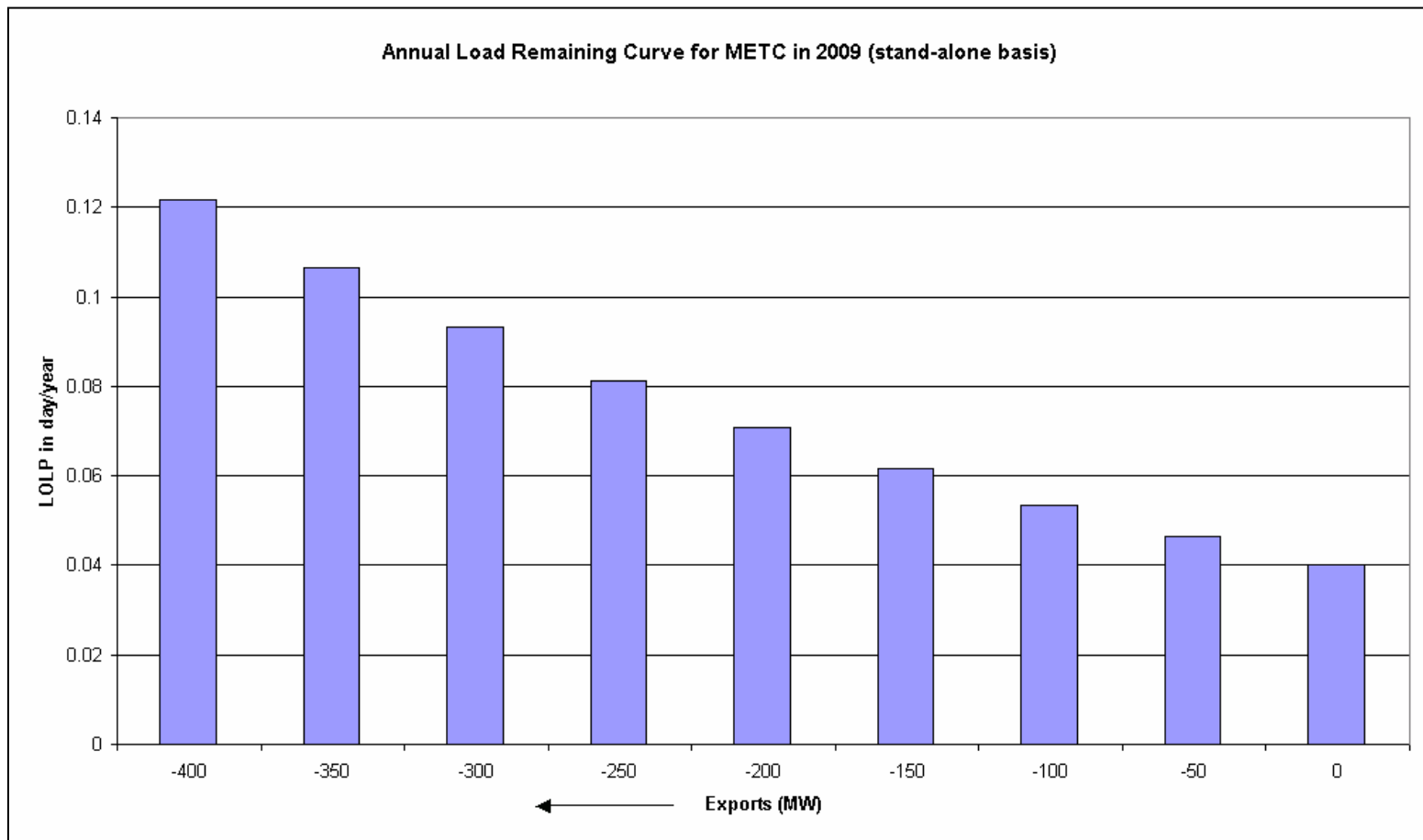
## Next Steps

- **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 MARELI. 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)

