

# Network Customer Meeting

Paddock - Rockdale Update

August 24, 2006

# Introduction

- Two “access” efforts
  - Paddock-Rockdale project
  - Access/congestion metric
- “Access and congestion” refers to ATC customers’ ability to move power into and around the system.

# Paddock-Rockdale Project

- Introduction
  - Access Docket
  - BOD decision to accelerate
  - Economic justification
    - Need analysis complete this summer
  - CPCN in 2007 if appropriate

# Paddock-Rockdale Economic Value

- Analyzing two model years: 2011 and 2016
- Running six plausible scenarios and two extreme sensitivities
  - Each one run with and without Paddock-Rockdale
- Using PROMOD for energy cost savings
- Estimating “other benefits” with help of The Brattle Group
- Comparing to a cost estimates for building in different time frames

# Paddock-Rockdale Scenarios

- **Robust Economy** – high economic and energy growth, high amount of low-cost generation in Wisconsin, medium environmental, mid-high fuel prices, LaCrosse to Columbia line is built, 4,000-6,000 MW mine-mouth coal campus built in central Illinois
- **High Retirements** – mid-level economy and energy growth, large number of retirements, mid-level environmental, fuel prices vary, mid-level generation built outside Wisconsin
- **High Environmental** – medium economic growth, low-mid energy growth, coal retirements replaced by Nelson Dewey plant, Kyoto environmental, varying fuel prices, generation scenario reflecting \$44/ton CO<sub>2</sub> tax and medium economic growth

# Paddock-Rockdale

## Scenarios

- **Slow Growth** – low economic and energy growth, some coal retirements, low environmental, low-mid fuel prices, low level generation built outside Wisconsin
- **Fuel Supply Disruption** – natural gas supply disrupted, mid economic and energy growth, high level of new coal generation, additional use of coal generation creates coal availability problems, high fuel prices, mid-high environmental, 3,000-4,000MW mine-mouth coal campus built in central Illinois
- **High Growth Wisconsin** – economic development creates high economic and energy growth in Wisconsin while surrounding areas are mid-low economic and energy growth, some coal retirements and Nelson Dewey is built, mid-level environmental, mid fuel prices, mid-low level generation built outside Wisconsin

# Paddock-Rockdale

## Economic Value Variables

- Energy cost savings
  - Total cost to customers:
    - Cost of supply at load LMP
    - Minus: LMP revenues to utility
    - Plus: cost of utility generation
    - Minus: FTR revenues to utilities
  - For go/no go decision, energy cost savings
    - Production Cost (PC)
    - Load weighted LMP
    - Generator weighted LMP (Gen LMP)
    - RECB II calculation: 70% PC/30% Gen LMP

# Paddock-Rockdale

## Economic Value Other Benefits

- Price Risk Mitigation (Insurance Value)
  - Calculating energy savings (production costs, load LMPs, generator LMPs) using two extreme scenarios based on prior experiences
    - 1500 MWs nuclear generation out for year
    - Pleasant Prairie switchyard out for six months
- Reliability
  - Value of lost load
    - Expected unserved energy by customer class \*  
value of lost load by customer class



# Paddock-Rockdale

## Economic Value Other Benefits

- Long Term Value of Imports
  - Differential in energy margins between mine mouth plant and Wisconsin plant \* increase in simultaneous import capability
  - Long-term cost advantage is equal to the fixed costs not covered by energy margins
- Additional FTR value
  - Hourly Illinois-WUMS LMP differential \* increase in simultaneous import capability

# Paddock-Rockdale

## Economic Value Other Benefits

- Competitiveness

- Value of having a reduced number of hours in which there is a pivotal supplier

- Estimate hours in which there is a pivotal supplier
- Value the reduction in pivotal supplier hours
- Only the Independent Market Monitor has information needed

- Calculate Herfindahl-Hirschman Index (HHI) and Residual Supplier Index (RSI) differentials

- \* Value of reducing the HHI and RSI

- Key is to estimate the increased markup in prices associated with higher pivotal hours, HHIs and RSIs

# Paddock-Rockdale

## Economic Value Other Benefits

- Emissions
  - Differential in emissions across MISO-PJM footprint \* Emissions allowances value
- Losses
  - Differential energy losses \* differential energy prices at high/medium/low loads
- Liquidity
  - Develop a qualitative discussion of the benefits of PR2 on liquidity within WUMS and in gaining access to liquid trading hubs outside WI

# Paddock-Rockdale Next Steps (2006)

- Complete need analysis (almost done!)
- Make go-no go recommendation to executives
- If go,
  - Develop legal case
  - Public outreach
  - Prepare to file CPCN

# Access/Congestion Metric

- One of ATC's 2006 Goals is to "Define a metric to assess the value of access and congestion costs in ATC's transmission system" by 4/30/06.
- Metric we chose is LMP differentials, looking at both into-ATC values and within-ATC values
  - Will be used as an indicator to help identify and screen projects, set goals, and track and communicate progress.
  - Not intended to substitute for benefit-cost analysis of transmission projects.
- We will use the Paddock-Rockdale scenario results to recommend a 2010 target level for metric
  - Asking customers to help us set the weightings for "into-ATC" versus "within-ATC"

# Access/Congestion Metric

## Next Steps

- Review Paddock-Rockdale results
- Recommend 2010 target values for metric to executives by 9/1/2006
- Recommend 2010 target values to BOD in late September
- By 12/1/2006, propose changes to our construction plans to meet that target