"Unusual Days" Congestion Analysis

NYISO ESPWG
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Draft – for discussion purposes only

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What Makes a Day "Unusual" ?

Purpose of the Analysis ?

Analysis Performed of 2003 Congestion

Other Approaches

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What Makes a Day "Unusual" ?

- **Transmission Outages**
  - **Which Ones?**
  - **What Duration?**
  - **Planned or Unplanned?**

- **Generation Outages?**
  - **Which Ones?**
  - **How Identified?**

- **Market Conditions**

- **Load Level**

Purpose of the Analysis ?

- **Not Overstate the "Base" or Future Congestion Impact?**

- **Adjust and Restate Posted Congestion Impact Numbers?**

- **Help Concentrate on Recurring Congestion Causes?**

- **Avoid Unusual Days in Congestion Impact Sensitivity Analysis?**

Unusual Days Analysis of 2003 (Reported 4/15/04)

- **Day Was "Unusual" if:**
  - Statistical Test Indicates $/Average MWHr is Unusual for Load Level, Season OR Day-of-the-Week

  AND

  - There was a 345 kV Transmission Outage of 15 to 60 Days

- **All Congestion Termed Unusual if Test Is Passed**

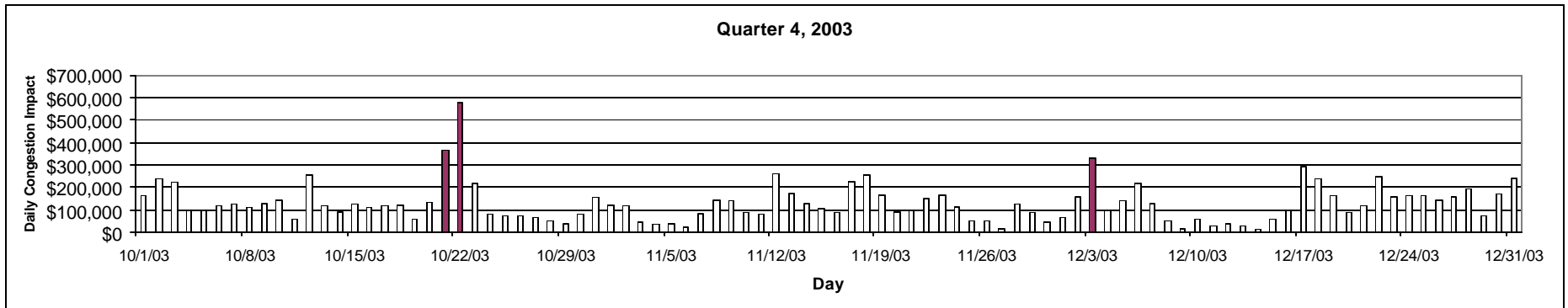# 2003 Unusual Day Identification

Daily Congestion Impact is Measured by
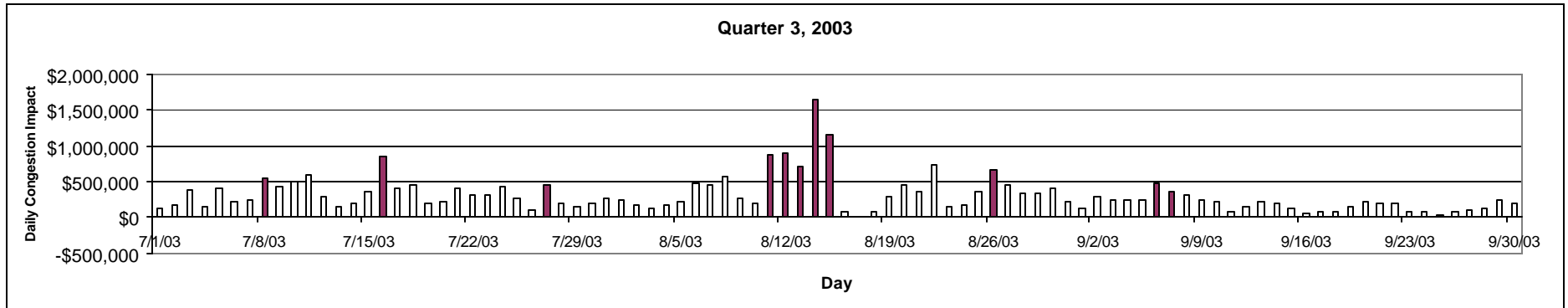## Change in Mitigated Bid Production Cost

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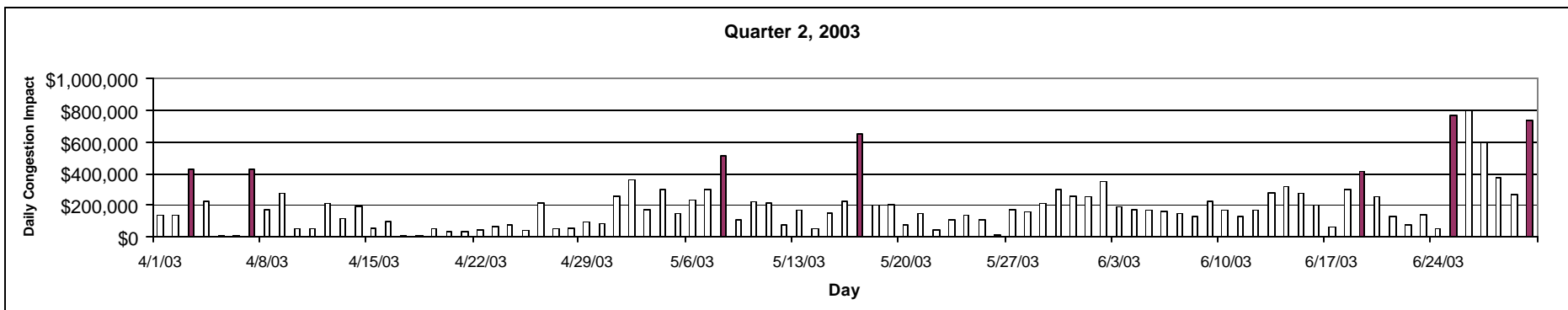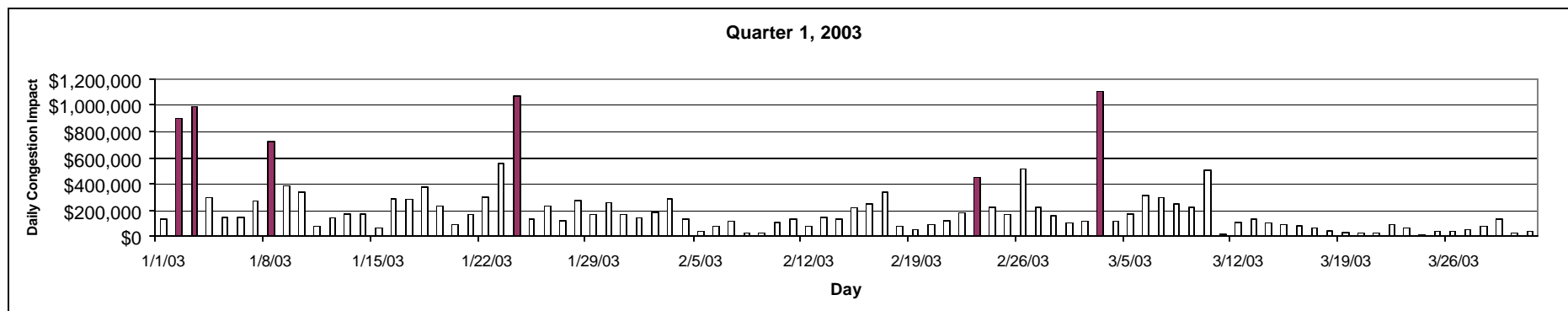
2003 Unusual Day Identification

Daily Congestion Impact is Measured by Change in Mitigated Bid Production Cost

Unusual Days Part of the Preliminary 2003 Congestion Metrics

New York 2003
Unusual Day Portion of Congestion Metrics

Bid Production Cost Change	Impact	% of all 2003
99 % Confident Unusual	$9,703,053	13%
99% to 95 % Confident Unusual	$9,342,245	12%
Not Unusual days	$58,206,184	75%

Load Payments	Impact	% of all 2003
99 % Confident Unusual	$45,490,007	11%
99% to 95 % Confident Unusual	$28,056,635	7%
Not Unusual days	$342,263,081	82%

Congestion Payments	Impact	% of all 2003
99 % Confident Unusual	$97,206,520	10%
99% to 95 % Confident Unusual	$71,247,322	7%
Not Unusual days	$783,277,256	82%

Generation Payments	Impact	% of all 2003
99 % Confident Unusual	$3,060,104	-4%
99% to 95 % Confident Unusual	-$8,817,920	10%
Not Unusual days	-$81,522,957	93%

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Concerns with 4/15/04 Approach

- **Work and Data Intensive**

- **Several Important Judgment Call Points**

- **Only Considers Transmission Outages**

- **Data Now Exists for PROBE Restoration of the "Unusual" Outage and Calculate Incremental Impact, But is Very Time Consuming**

Possible Alternative Approaches

1. **Try to Develop a Correlation Approach**
    - Load Level, Time of Day, Hour of the Week, Day of the Year, etc.
    - Easiest and Most Versatile if Correlation Factors Can Be Found
    - 2+ Years of Detailed Data Helps

2. **Use the TCC Auction Notification Process to Identify "Unusual" Times**

3. **Perform an "All Facilities in Service" Assessment for 2004 To Use as a Baseline for Identifying Statistically Unusual Congestion**
    - All Transmission Facilities in Service
    - All Bids are NYISO Reference Bids

    <u>Feasibility, Amount of Work, and Software Development to Do This is Unknown</u>

Recommended Approach Depends on the Purpose of the Analysis

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