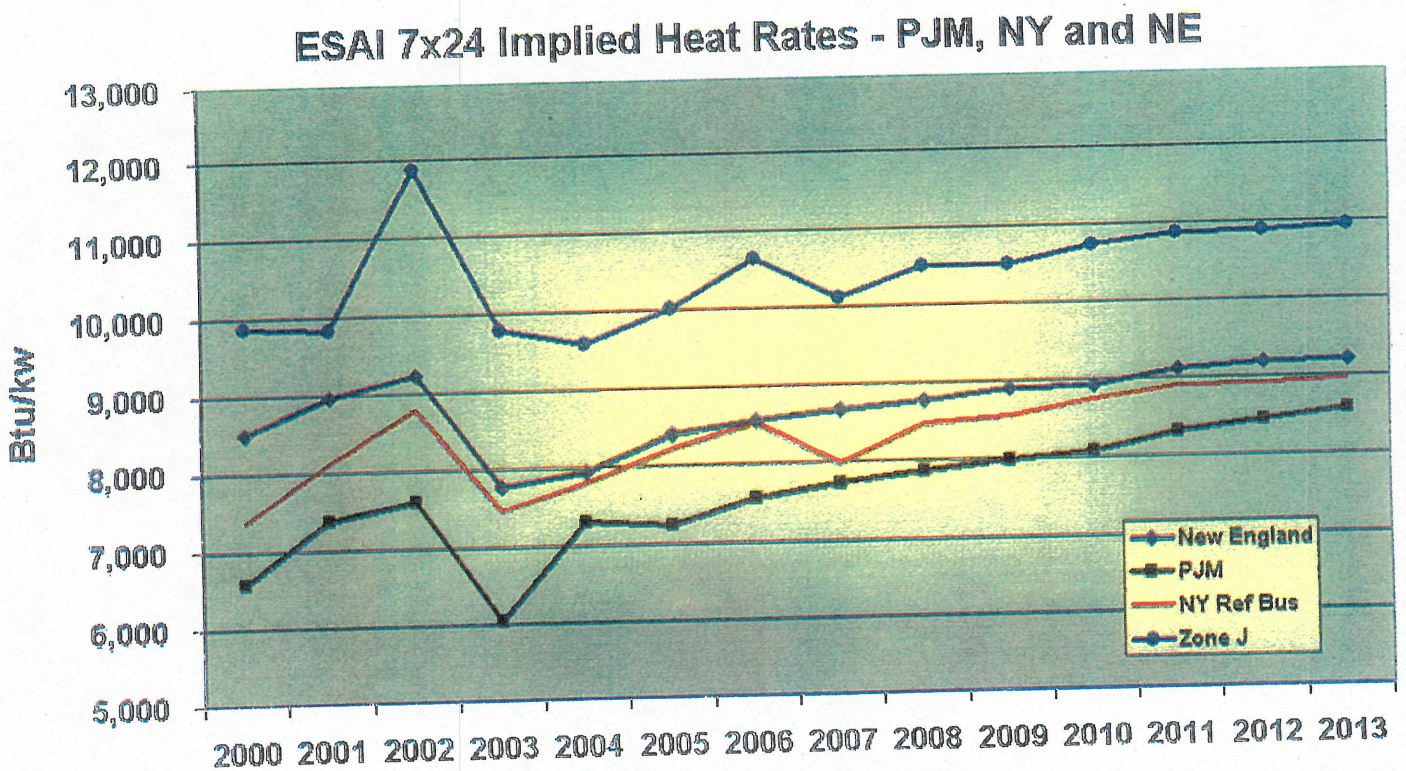
OUTLOOK

LOSING EFFICIENCY

Because new power plants are not being built, load growth and plant closures will produce a rising "implied heat rate"



Areas of Concern: SW Ct – Long Island

- Both SW Ct and LI are tight. Major assets
  - Cross Sound Cable
    - Should it be energized? Yes.
  - NU/UI's AC transmission project
    - Can it get built? Yes. 2007…
  - LIPA potential cable connection to PJM
    - Provides fuel diversity for overall LI-CT market
- Ultimately, transmission is the main solution to problems of this (and other?) load pockets

Areas of Concern: New York City

- Area of concern on account of its size
  - ConEd RFP -- award to 500MW CCGT
    - Main concern is "Mystic style" development delays
  - NYPA RFP – another 500MW in NYC
    - If another CCGT award, too much gas dependence?
  - Pressure to close Indian Point
  - Potential further links to PJM via dedicated AC cables to NJ generators or DC cables to PJM system
- Generation, transmission or both? Solutions are "on the table" and can be developed within 2-3 years

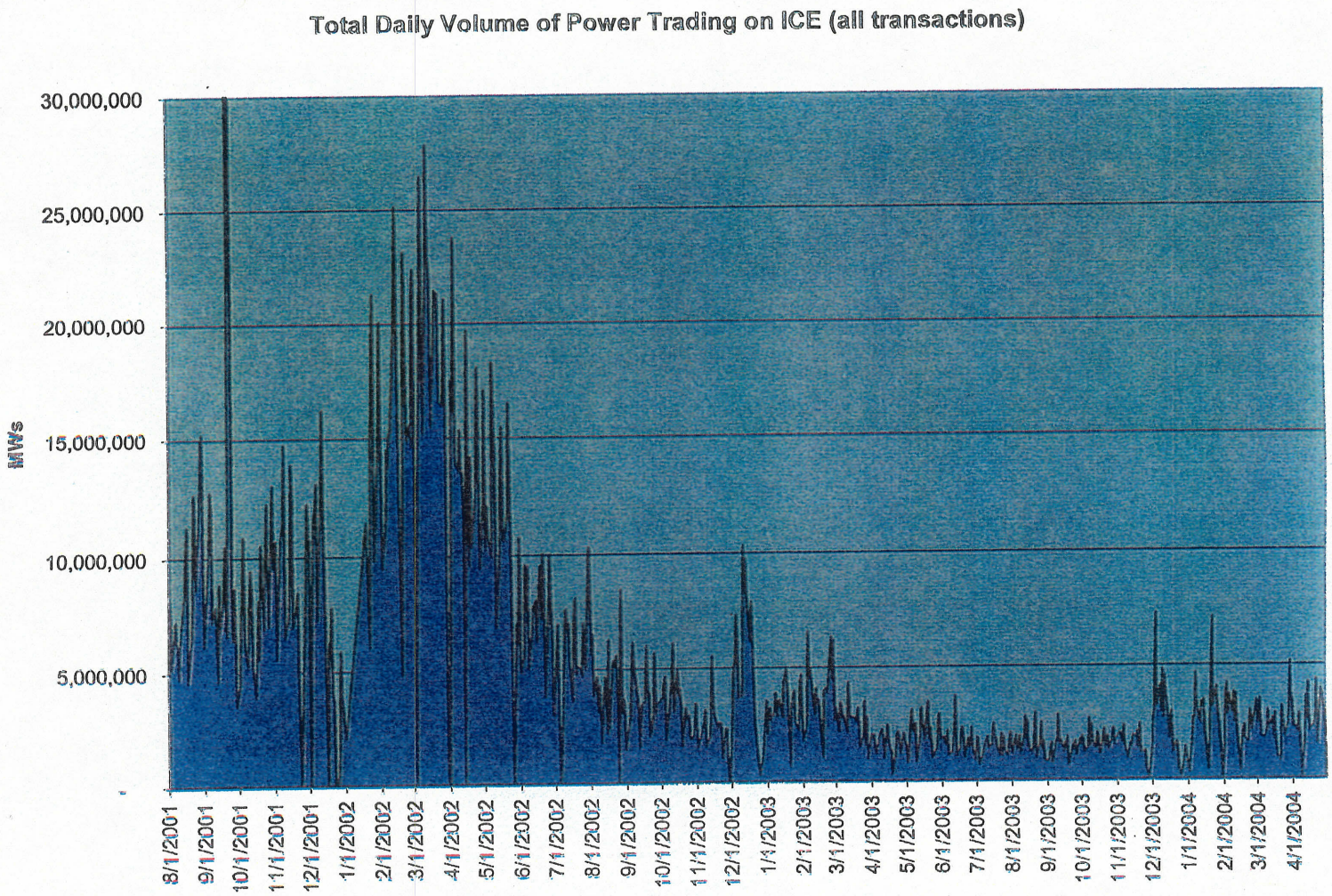
Areas of Concern: NEMA

- NEMA (Northeast Mass) is well-supplied for now, but has issues
  - Desire to close Salem coal plant and other old oil facilities
  - NStar's South Boston AC expansion increases transfer capacity by 1000MW… but will it come in on time?
  - Mystic facility is bankrupt and on the market
    - Maintenance a concern
    - LNG deliverability a concern
  - May need another 500 – 1000MW by 2010?
    - Who will issue PPA to get this done?

Areas of Concern: Liquidity

- All US Power forward markets are illiquid compared to a few years ago… but
- Northeast forward markets are by far the most robust
- Traders operating under multiple severe constraints that will take years to ease
- Long-term positions are very difficult to hedge/exit, creating a sclerotic forward market
  - Action is almost entirely in the physical markets…

Areas of Concern: Liquidity



Strategic Question

- Aligning objectives with capabilities
  - Objectives: Is next ten years *era of more gasification* or era of *existing resource optimization?*
    - If gas, where will it come from?
    - If not gas, what does it take to optimize existing resources?
  - Capabilities: capital markets saying "no" to merchant investments in either generation or transmission
    - All investment for next few years will therefore be in response to policy-driven signals
    - What will federal and state regulators promote?

Objectives and Incentives

- **Objective:**
  - $3/MMBTU gas, $30/MWh energy, reasonable capacity
- **Expected incentives, in addition to high prices:**
  - PPAs to generation and transmission developers in areas of concern
  - Broad FERC interpretation of what RTOs and LSEs can ratebase in terms of transmission
    - But watch out for unintended consequences in load pockets
  - More structure (aka, regulation) to electric capacity payments
    - With that, continued mitigation on extreme energy market prices

Constraints

- **Continuing constraints**
  - State and local permitting will remain difficult, costly, and complex
  - Some coal, oil, and nuclear (?) plants in parts of North East will be closed
  - Capacity will become and remain "tight" compared with reserve requirements
- **Crisis management**
  - RMR and other mechanisms to keep capacity in place in the absence of an overall, effective capacity market
  - Refine/improve natgas winter outage drills

Obstacles to Investment

- Absence of market entities willing/able to make long-term contractual commitments
  - Williams, Dynegy, et al were willing to be long capacity; no one has stepped in to take their place
  - Private equity investors buying either PPA/QF assets or merchant capacity at 40 cents on dollar
    - They are not building anything
- Surviving utilities frozen by ratings agencies
  - "Action spread:" publicly traded companies "cannot buy" distressed assets… private equity firms can

Potential Strategies

- Natural Gas/LNG
- Generation
- Transmission

Natural Gas

- Don't expect much long-haul capacity to be built in this environment
- Promote locational looping projects that link Dominion, Iroquois, TETCO, Transco, Tennessee, Maritimes, etc.
  - Most recent looping project to connect the Boston city-gate to Dracut at MN&E failed... Loss of major marketers leaves fewer entities willing/able to make long-term PL capacity commitments
- *Strategy:*
  - *allow utilities more flexibility to make long-term contracts*
  - *Develop more storage capacity*

LNG Implications

- US E&P migration overseas accelerates
  - LNG pricing seriously complicates domestic natgas pricing
  - Large percentage of gas flowing through HH will be LNG with attendant market power issues
- Promote/accelerate development of a northeastern LNG terminal of at least 1BCF/d
  - Mass and Maine proposals are likely to be Nimbied to death…Can we encourage NB or NS development?
- *Strategies:*
  - *State regulators need to become accustomed to thinking about LNG as a baseload resource.*
  - *gas utility resource planning process mandated by states needs to be revisited…. An RTO and RTEP of natural gas?*

Gas – Generation Strategy

- Strategy: until gas supply availability is resolved, defer encouraging development of additional CCGTs in favor of optimization of existing assets?
  - Should ICAP and RTEPs be "strategic" in nature?
  - What good is an ICAP payment to a plant without fuel?

Generation Strategy

- Admit there is a generation adequacy problem
  - Takes 2-3 years to build major power generation facility
  - "Capacity markets" have yet to prove themselves as constructs people will invest in/lend on…
    - PJM model: Capacity market signals motivate developers/investors
    - NY Model: Capacity demand curve motivates developers/investors
    - **NE Model**: LICAP motivates developers/investors in spite of socialized transmission undermining of locational capacity value
  - All 3 models (except possibly NY's) are unproven in the "post-exuberance" era
- *Strategy:*
  - *empower utilities, RTOs or authorities to start/continue to issue long-term commitments to developers until market confidence is restored*

Transmission Strategy

- Develop Transmission "Beyond reliability"…
  - "Backyard" • "Neighborhood" • "Long Distance"
  - We need "elective" projects *if the goal of next ten years is to optimize existing resources*
    - "Backyard" transmission investment is proceeding: Development of major PTFs optimizes generation resources in southern NE
    - "Neighborhood projects" have been developed but have not been selected or sufficiently encouraged; NY LSE's choice of transmission links to PJM…
    - "Long distance" projects: only one left in NE?
  - Strategy:
    - *empower utilities/authorities/ISOs to make commitments to develop neighborhood projects*

Conclusions

We live in a hybrid of regulation and market

A "well-regulated" market is not an oxymoron:

RH Coase

"Commodity exchanges are often cited as examples of a perfect market and perfect competition, These are markets in which transactions are highly regulated

...

It suggests, I think correctly, that for anything approaching perfect competition to exist, an intricate system of rules and regulations would *normally* be needed."

R.H. Coase, ***The Market, The Firm and the Law***