

## WALL NOTES FROM MAY 7, 2003 RPS MEETING

**Note:** Thanks to Linda Saalman for her outstanding contribution to the working group's efforts, including the taking of these notes.

### Variety of Models

- ◆ New York Model
  - Bilateral
  - Conversion Transactions
- ◆ New England Model (GIS)
  - Certificate-based
  - All attributes
- ◆ Texas Model
  - Certificate-based
  - Only renewable attributes
- ◆ Ontario Model
  - Certificate-based
  - Similar to NE
- ◆ New Jersey
  - Under development

### New York Model (Paul Agresta to confirm)

- ◆ Rooted in environmental disclosure program
  - Customer education
  - Facilitate sale of “green electricity”  
(Differentiated products)
  - Verify claims of ESCOs
  - Requires tracking of all power sold
- ◆ Tracks power sold and 3 air emissions
- ◆ Transactions tracked via
  - ISO database
  - Local delivery company
- ◆ Administrator assigns to each power plant emissions factor and assigns profile to consuming LSE
- ◆ Uses air emission data per plant from EIA and DEC
- ◆ In spot market, no ability to charge premium, therefore conversion transaction (CT) allows short period for LSEs to make deal with generators to “convert” a transaction from a spot to a bilateral for environmental disclosure purposes, allowing a private “purchase” to take place and an opportunity for a premium payment and removal of that power from the spot total for disclosure purposes.
- ◆ System imports excluded from CTs because generation sources not confirmable
- ◆ External resource must specifically schedule delivery into NYS (physical schedule w/NERC tag)

- ◆ Parties to CT free to devise any method to determine premium price
  - No cap
  - No disclosure of price
  - Original vision assumed market might emerge; so far, very few CTs and this has not occurred
- ◆ Same entities do CTs for nuclear and natural gas to improve environmental disclosure label (reduce air emissions)
- ◆ PSC can provide MWh of CTs , but cannot break down by fuel type because this would reveal commercial data
  - May be able to break down solely into renewable/non-renewable (2 buckets)
- ◆ LSE purchaser acquires all generation attributes, including air emissions
- ◆ Air emissions
  - Sulfur
  - Nitric oxides
  - Carbon dioxides
  - Not mercury
- ◆ Trades
  - In advance
  - Real time
  - During reporting period
- ◆ Wait until after ISO settles transactions, PSC works on data roughly one week, then 3 weeks for LSEs to report CTs
- ◆ More info; link on PSC website, PPT presentation by Agresta in this proceeding

#### New England Model (Pat Stanton to confirm)

- ◆ Multi-jurisdictional
  - 6 states
- ◆ Everyone in accounting system
  - 3<sup>rd</sup> party verification for compliance purposes
  - Individual states set policy
  - Enough certificates to match load and always verification and true-up
  - based on financial transactions but comprehensive, including all such transactions
- ◆ Emissions
  - Mercury
  - VOCs
  - Particulates
  - SO<sub>2</sub>
  - Nox
  - PM10
  - CO<sub>2</sub>
  - CO
- ◆ (TRC) Transaction Certificates after sales to allow transactions to be settled

- ◆ Eligibility
  - Each generation unit can disclose if eligible in particular state or Green-e
- ◆ Data confidential
- ◆ System operated by independent entity so government personnel do not have access
- ◆ Behind-the-meter and off-grid facilities participate
- ◆ Large generators
  - Continuous monitoring of environmental data reported to EPA
  - Reported to GIS system
- ◆ Small generators
  - Debugging environmental reporting now
- ◆ Originally, default air emissions on fuel type basis, fine-tuning default mechanism now
- ◆ Use EPA guidance to calculate emissions that are not physically monitored
- ◆ Market
  - Not provided by account system
  - Bulletin board available
  - Private brokering services are assisting transactions
  - No government-sanctioned price reporting for credits government-sanctioned market
  - When purchasing credits, purchasing “greenness” and air emission characteristics bundled; cannot be split
- ◆ Can buy and retire credits instead of using them
  - Rare (<1%)
  - If common, would be of concern
  - No control over what happens to credits after retirements
  - Called “reserve” certificates
- ◆ If power generated in NY or Canada and imported w/NERC tag into NE, must report air emissions, etc.
  - Rule change required in NE to recognize NY credits
  - GIS operating rule (NEPOOL) change
- ◆ GIS website includes rules and other info.
  - Accounting system, background info.
  - APX=administrator
- ◆ 42 attributes tracked
- ◆ “Transacting Generation Attributes Across Market Boundaries” on PSC case website LBNL-51703
- ◆ Removal NY/NE barriers
  - NE system = strictly accounting system, not RPS structure
  - NEPOOL subcommittee responsible
  - To reduce “barriers” implicit in RPS designs, would not need to work with individual states
  - There exists legal way to achieve compliance in MA without going through NE GIS, albeit burdensome
  - CT may be moving in direction of accepting out-of-state credits
- ◆ GIS tracking system has been operational since 2002; MA RPS operational 2003

- Insufficient experience to determine impact of hourly matching constraint on imports
- ◆ Product-level data (vs. wholesale)
  - Verification under development
  - Annual
  - May be above or below quarterly GIS reporting basis
- ◆ Massachusetts disclosure
  - Company-wide
  - Product-level
  - How much of each product sold is confidential
- ◆ One example MA utility: 18 months to fully reconcile, with Green-e certification

#### Ontario Model (Angela Wong to confirm)

- ◆ Administered by Ontario Independent Market Operator, audited by Ontario Energy Board (regulator) (OEB)
- ◆ Proposal
  - Requested comments ~~last Monday on May 12.~~
- ◆ January- ~~to March 1~~ ~~mid-march~~ generators verify data for prior calendar year or LDC enters data for behind-the-meter generators
- ◆ On or before March 15, the IMO assigns emissions rates for sulfur dioxide, oxides of nitrogen and carbon dioxide for each generation facility.
- ◆ On or before March 15, the IMO create a certificate for each Megawatt-hour of electricity either produced or imported in Ontario
- ◆ EndMid March-end ~~June~~ May trading period (the IMO will record certificate transfers)
- ◆ During June ~~July 1~~ ~~end Sept.~~ = verification IMO calculates residual system mix
- ◆ On or before end of December, Early October = disclosure labels issued for consumers
- ◆ Certificates salable
  - Wholesale level
  - Retail - C&I, end-use customers
- ◆ Certificates
  - MWh based
  - No double-counting
  - Identify product versus residual system mix
- ◆ Disclosure labels
  - Product brought by customer
  - Residual system mix
- ◆ Differentiated products, not renewables, in program (e.g., nuclear, wind)
- ◆ System to be as flexible as possible to minimize seams
- ◆ No RPS yet in Ontario
- ◆ Ecologo regulations define “environmentally friendly” generation
- ◆ For NY plant to get credit, there is no requirement to have ~~must schedule~~ physical delivery to Ontario since the Ontario system is based on attributes ~~(no NERC tag)~~

- ◆ certificate sellers in Ontario must have a license (issued by the OEB) in order to sell certificates

### Texas Model (Ashley Houston to confirm)

Only renewable MWh to support RPS

Does not include emission info, only

- Fuel source
- # MWh
- ◆ Built by APX (who later expanded into NEGIS)
- ◆ Allows banking, borrowing
- ◆ Essentially no imports
- ◆ Banking, borrowing
  - Allows REC banking for two years after the year of issuance~~Hold onto certificates 2? 3? years~~
  - Can be short in one year and make up in the next
  - Derived from role model definition and state policy
- ◆ Texasrenewables.com

### New Jersey Model

- ◆ PJM working group
  - Considering certificates per-system to track all MWh
  - Question as to whether all energy will be unbundled or only renewables. Unbundled from energy?  
~~Only renewable resources vs. all resources~~
  - To support environmental as well as all renewable needs
  - PJM website/working groups
  - GATS (Generation Attributes Tracking System)
- ◆ If another state has comparable system, supportive of reciprocity

### Other States

- ◆ Pennsylvania considered certificates program

### Relaxed Delivery Model

- ◆ Monthly matching contract flow with delivered energy/attribute with energy of cross-border trades
  - Average over month
  - How do you define “delivered”
  - Reduce costs of imports (and potentially total cost of renewables) vs. encouraging renewables within states; Massachusetts discussion

### Attribute Tracking and Accounting System

- ◆ NYSERDA-sponsored studies
- ◆ Attribute trading program analyses
- ◆ Regional environmental attribute
- ◆ Certificate Accounting and Tracking System (REACTS) studies
  - Independent studies/business plans
  - Center for Resource Solutions
  - APX
  - Public versions of papers on PSC website

### Criteria for Regional Trading Credits Model

- ◆ Work in RPS environment, environmental disclosure environment, retail access environment
- ◆ Administratively efficient (manageable without hiring 100 people to make work)
- ◆ Efficient in terms of cost to administer
  - To be determined: who should pay cost of administration
- ◆ Maximize environmental benefits on regional and local basis
- ◆ Provide predictable long-term price signals sufficient to satisfy project lending community
- ◆ Selection of period should be shortest needed to allow credits to be used in multiple jurisdictions
- ◆ Quantity of generation used as the basis of tradable credits should be verified by 3<sup>rd</sup> party
- ◆ Should be reconciliation mechanism to ensure no double-counting
- ◆ Regional system = adjacent control areas
- ◆ Source of credits must be verified by generation station
- ◆ Source of credits should be refined to individual units to allow for different fuels and generation types at the same station
- ◆ Designed to encourage the construction of new renewable facilities that benefit NY either environmentally, economically or otherwise
- ◆ Promote the development of infrastructure in NY
- ◆ Mechanism developed in credit system to level playing field for areas that don't have access to wind, especially inner cities, that could benefit from solar and fuel cells, by providing a locational premium
- ◆ Issue: whether accounting system should be neutral or meet other purposes
- ◆ Minimize regional market seams
- ◆ Accommodate creation and sale of credits from behind-the-meter sources
- ◆ Minimize transaction costs and risks for credit trades
- ◆ Maximize likelihood that credit prices will be uninfluenced by market power
- ◆ Periodic review of improvements and changes
- ◆ Include all generation sources in market

- ◆ Ensure market transparency in the sense that people trust it because its workings are not hidden, practices are clear (New England best so far)
- ◆ Approach perfect information for all players
- ◆ Achieve a liquid market
- ◆ Attributes tracked should be more inclusive than exclusive (eg, 42 attributes like NE better than leaving attributes out)
- ◆ Clear-cut process for resolving conflict (dispute resolution)
- ◆ Attention should be paid to level of detail; compatible with neighboring systems for coordination (eg, unit=MWh; timeframe=month)
- ◆ Transfer of title mechanisms should be clear
- ◆ Allow for banking, borrowing, and true-up period
- ◆ Credible to consumers and general public
- ◆ Credible to regulators of consumer transactions (AG, CPB, etc.)
- ◆ Conservation of attributes (100% load, 100% generation/imports/exports, net of losses)
- ◆ Meet needs of LSEs to reconcile portfolios and meet targets
- ◆ Meet needs of very small ESCOs to participate

<b>Interests in RPS</b>	<b>Importance of Immediate Resolution of Credits Trading System Details</b>
AG: Achieve benefits to NYS; verifiable, transparent; avoid double-counting, account for all attributes	Leave to later phase
Ridgewood:	Leave to later phase (re California precedent)
Unions:	Leave to future as long as criteria are captured now (esp. link between air emission and renewable trading credits)
RETEC: environmental and environmental benefits, fuel diversity, energy security, imports ok if benefit NY, see initial filed comments for more	Need initial structure, basic structural decisions with details to be worked out later

<b>Interests in RPS</b>	<b>Level of Detailed Trading System Design Needed Now</b>
NMPC: Final impact on rates – stay out of long term contracts; costs vs long-term benefits	Very high, especially flexibility/liquidity to minimize rates, trade vs. long-term contracts; key if individual compliance is selected
AWEA: Regional market – prefers no deliverability requirement, with free trading of credits without seams or energy	Important to move whole process forward; need good enough understanding of details to be comfortable with compatibility with

bundling; Must have similar RPS reciprocity in other states	NEPOOL, PJM
Ontario: Liquidity, flexibility, deliverability – compatibility with Ontario, other systems. <u>Should not require matching of energy with attributes, i.e. prefer no deliverability requirements. Regional definition should not be based on distance arbitrarily, e.g. 200 mile radius. Should allow all of Ontario and Quebec.</u>	Much to date has not been resolved; eligibility especially is crucial; move ahead on trading
HQ: Regional trading system – Committed to buy 1000 MW wind, 400 MW biomass in next 10 years probably built in Quebec; All exports system power; US tracking systems should be flexible enough to accept compatible systems based on verified transactions reconciled to actual generation after the fact	Could wait until last
Excelergy: Trading/tracking system now running, eg, in Italy; Understand interchange of certificates among regions	No rush; need requirements and business objectives defined first
PULP: ensure accomplishes RPS goals in as smart a way as possible – trading system is “smart” and can find least cost path to implementation	Need concept and expectation of what trading system is expected to do; details can be marked out after
IPPNY: larger regional competitive markets (no seams); Regional trading system essential. Members own/plan to own generation NY, NE, PJM, Canada, MISO- want planning certainty	Need firm commitment to policy of regional trading; start sooner, not later, with collaborative process w/other regions
NYP&A: maximize renewables w/parameters of order	Rigid guidelines of what would be discussed later to avoid reopening decisions and issues resolved earlier in proceeding
Sterling Planet: avoid interference with green power market; national green power/certificate traders; for example: won't sign long-term contract for attributes unless know if can resell NY credits outside NY	“Devil in details”; need to have some idea of what it is going to look like so we can all buy into it-“no surprises”; today have outlined issues but haven't ordered first appetizers
Kayspan: flexible, inclusive, centralized purchasing (rather than individual compliance); de-link commodities from attributes; renewable fuels should be de-	Not enough info to fully resolve now; complete later when enough data is available to conduct as fully integrated activity

linked (eg, digester gas, landfill gas) so OK if it goes into gas distribution system and used to generate electricity (may or may not be subsidized generation); displacing traditional gas	
EMI: Project development. Ensure stable price signal supporting project finance in NY; requires generation in NY or physical delivery in NY	Determine eligibility now is key, but trading program should be value-neutral and can be delayed
Green Mt. Energy: Ensure RPS compatible w/green market; disclosure and RPS compatible; remove spot market purchase requirement (eg, Texas hedge significantly in energy and cannot in NY to enter as ESCO rather than in NMPC program)	Come to agreement that system is needed with major guidelines (eg, NY only or regional)
CSG: Represent generators and retail electricity suppliers; robust RPS that will drive new construction; accounting system with maximum liquidity and products customers want	Focus on trading system to support NY RPS; participants have right to specificity at least to NY details
Clearwater: Sustainable; truly green renewables plus certain transitional renewables; especially solar in urban areas, where it can meet peak demand. Want simple system to explain to public. Public wants to buy electrons, but growing to understand need for flexibility; don't want speculation, buying and selling to make money without taking possession	Define model and get as close as possible to consensus and then build details to match
LIPA: Seamless wholesale market in NE region	Identify how it will work; rules of the road to feel comfortable now
RG&E: Living w/until 2013 and beyond effectively and smoothly. Lay grounds carefully from beginning –can't fix design mistakes later. Managing costs (they'll have to pay)	"No surprises". Need clarity of guidance, guidelines early in process-known now. Trading system is critical piece of whole, especially if individual compliance
APX: framework for NY system decided in this proceeding. Later, decide how to fit into regional market.	

