Joint Stakeholder Meeting

ISO-NE and NYISO Inter-Regional Interchange Scheduling (IRIS)

April 28, 2011 / Rensselaer, NY

Agenda

Today:

- Review of Latency Impacts
- Congestion Revenue and Uplift Charges
- Real-Time Transaction Functionality
- Capacity Interactions with IRIS
- Summary Comparison of Tie Optimization and Coordinated Transaction Scheduling
- DBD Discussion and Q&A

Joint Stakeholder Meetings

Purpose:

- **Discuss** white paper's options, pros/cons, how they work, rationale, & likely impact on the markets
- **Gather stakeholder input** on merits, concerns, questions
- **Forge consensus** on a design option the ISOs can implement

Joint ISO white paper:

- **Presents** in-depth analysis of problems, solution options, rationales, and joint ISO recommendations for reforms.

Presentation Plan for Element Details

Day 1 (1/21, AM): Current system and IRIS benefit analysis

(1/21, PM): RT scheduling system (Tie Opt & CTS)

Day 2 (2/14): RT Scheduling (CTS), DA & RT market linkages; DA external transactions; interface settlements & pricing

Day 3 (3/7): FTRs and congestion, NCPC & fee recommendations, conforming capacity rule changes

Day 4 & Day 5 (3/28, 4/28): Q&A, discussion of DBD elements, and follow-ups on additional detail as requested.

Day 6 (5/20): Q&A, follow-up on additional details, finalize DBD elements and alternative proposals.

Solution Options: Main Elements

Solution Options: Six Key Elements

1. **New RT Inter-Regional Interchange System** (IRIS)
   - *Two IRIS options for stakeholder consideration (next).*
2. **Higher-frequency** schedule changes (15 min)
3. **Eliminate NCPC** credits/debits & fees on ext. txns
4. **DA market:** External txn remain similar to today, *plus:*
5. **Congestion pricing** (DA & RT) at external nodes
6. **FTRs** at external interfaces (NY/NE)

Real-Time Interface Scheduling (IRIS)

- **Design Objectives:**
  1. **Equalize LMPs** at interface at time schedule is set;
  2. **Update** real-time schedule as frequently as feasible.
- **Two design options** for real-time interface scheduling with greatest potential for efficiency improvement:
  - **Tie Optimization** (TO)
  - **Coordinated Transaction Scheduling** (CTS)
- **Both are market-based solutions, but differ** in the market information they require of market participants.

Review of Latency Impacts

Objective

- Recap of previous discussions on latency risk
  - What is latency risk
  - How does it impact uplift
  - Comparison of latency impact under different scheduling protocols

What is Latency Risk?

- Latency is the delay between when the interface is scheduled and when the power flows.
  - Under existing rules for scheduling interchange the time delay is almost two hours.
- The delay can produce differences between expected LBMPs (when the interface is scheduled) and actual Real-Time LBMPs.
- How latency risk is captured and who bears that risk has been a topic of discussion in evaluating alternative Inter-Regional Interchange Scheduling options.

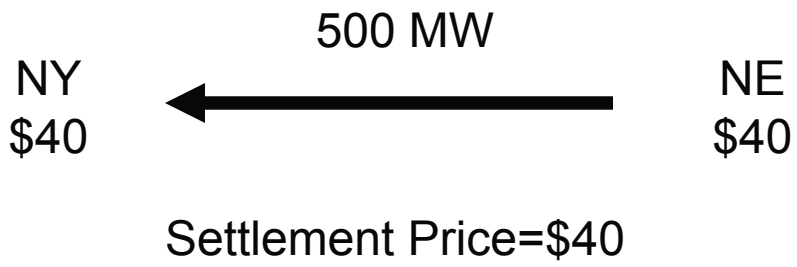
Today's Situation

- Does Latency Risk exist today?
  - Yes, timing differences exist today between when the real-time schedules are set and real-time LBMPs are determined.
  - IRIS reduces latency risk relative to today's system due to more frequent setting and shorter duration of the interchange schedules

Examples of Latency Risk Under Tie Optimization

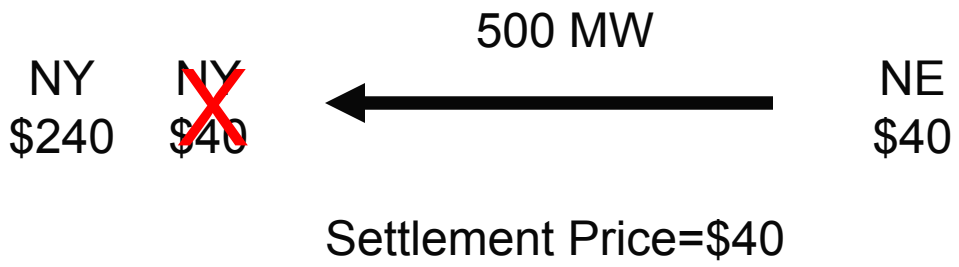
- Baseline – System as Scheduled
- Example 1:
  - Contingency event on Importing Side
- Example 2:
  - Contingency event on Exporting Side

Baseline – System as Scheduled



- Assumptions
  - Scenarios based upon using Tie Optimization to converge prices
  - Settlement price is established at the time the interface is scheduled.
    - Latency risk is maintained within the ISO that experiences the price difference from expected conditions.
  - Prices represent LBMPs at the border and may include losses and internal congestion.

Example 1: Importing Side Event

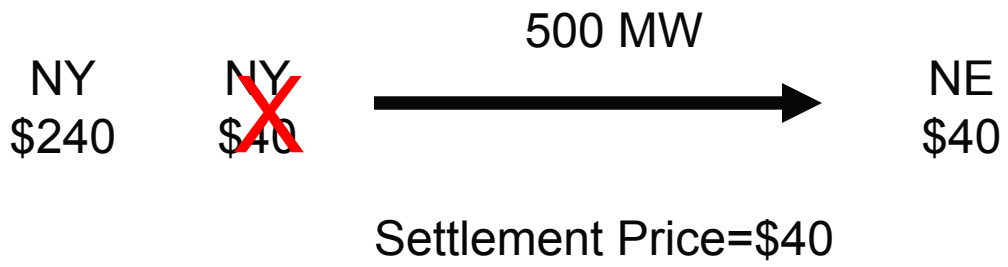


- NY experiences real-time contingency after the scheduling horizon, internal prices go up to $240.
- NE LBMP remains at expected level $40
- Settlement Price remains $40

Example 1: Importing Side Event

- Settlement Results:
  - NYISO Settlement Outcomes:
    - Resources paid @ $240, consumers charged @ $240, buying from NE @ $40
    - Uplift impact from latency is produced proportional to the difference in scheduling price and Real-time price
      - Uplift = ($40 - $240) = -$200 * (MW of adjustment)
        - If RT MW > DA MW, uplift is rebate
        - If RT MW < DA MW, uplift is a charge
  - ISO-NE Settlement Outcomes:
    - Resources paid @ $40, consumers charged @ $40, selling to NY @ $40.
    - Uplift Impact from Latency = $0

Example 2: Exporting Side Event



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- Settlement Results
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    - Resources paid @ $240, consumers charged @ $240, selling to NE @ $40
    - Uplift impact from latency is produced proportional to the difference in scheduling price and real-time price
      - Uplift = ($240 - $40) = +$200 * (MW of adjustment)
      - If RT MW > DA MW, uplift is charge
      - If RT MW < DA MW, uplift is a rebate
  - ISO-NE Settlement Outcomes:
    - Resources paid @ $40, consumers charged @ $40, buying from NY @ $40.
    - Uplift Impacts from Latency = $0

Latency impacts today

- NYISO:
  - Imports receive BPCG when real-time price are insufficient to cover their bids.
    - Imports/Exports keep additional revenue/discounts when price change is favorable relative to their bid
  - Additionally, due to proxy bus pricing rules, settlement prices at the external proxy buses can be based upon the scheduling prices, rather than the real-time system prices when the interface is constrained. The difference will result in real-time balancing market residuals (positive or negative)
- ISO-NE:
  - Imports and exports receive NCPC when real-time prices are insufficient to cover their bids
    - Imports/Exports keep additional revenue/discounts when price change is favorable relative to their bid

Comparison – Latency Impacts

	Current System	CTS	TO
Importing	BPCG(NY) / NCPC(NE) Pos/Neg Residuals	0	Pos/Neg Uplift
Exporting	NCPC (NE)	0	Pos/Neg Uplift

- Observations
  - Current System:
    - NYISO pay approximately $4M/year in import BPCGs at the NE interface.
    - ISO-NE pays approx $450k/year in import/export NCPCs
  - Under CTS, latency risk is borne by the market participants trading energy across the border in exchange for the potential to receive a portion of the difference in price between the regions.
    - Consumers pay cost of risk management through higher average LBMPs. If the interface bids are close to zero there is no significant increase in LBMP.
  - Potomac Economics has performed an analysis of the expected uplift impacts associated with the Tie Optimization scheduling protocol.

Estimated Congestion Revenue and Uplift Charges Under Tie Optimization

- Potomac Economics

RT External Interface Transaction Functionality – Under Tie Optimization

Context

- **Stakeholders asked:** Under Tie Optimization could the ISOs enable participant-submitted RT external transaction (RT ET) functionality?
- **ISOs answer:** Yes, as an option to complement TO.
- RT ETs under Tie Optimization do not alter the core design or its efficiency benefits
- What is it and how would it work?

The Major Concept (3 Steps)

1. Recall that participants with paired DA ETs are "deemed to flow in RT" under TO (see Feb 14th slides for examples)

   - The "deemed to flow in RT" transactions do not create any RT deviations (no balancing market charges)

2. If this new RT ET feature were enabled, participants could submit a RT ET for settlement purposes, that creates financial positions in both ISOs and is considered "deemed to flow in RT only"

The Major Concept (3 Steps)….continued

3. IRIS sets final RT schedule to optimize physical flows under Tie Optimization

   - Tie Optimization will schedule to equalize expected LMPs using the objective to minimize the total expected dispatch costs for the two regions combined

ISO-Level Settlement Examples (Extending the 2/14 presentation)

- Work through some of the previous examples to show the **how the money balances** between all participants
- Assume nothing causes RT deviations other than external schedules AND RT External Transactions between NY/NE (for simplicity)
  - DA & RT prices are same as Feb 14th settlement examples

NYISO DAM Settlements Overview (Same as Feb 14th)

	DA LMP	$50
1	Export MW (*From NY DAM Example)*	-1000
2	Charges to Exports	($50,000)
3	Internal Load MW (*Assumed)*	-20,000
4	Charges to Internal Load	($1,000,000)
5	Internal Generator MW	21,000
6	Credits to Internal Generators	$1,050,000
7	**Net Settlement (Credits – Charges)**	**$0**

NY DA market net settles to zero, as required

ISO-NE DAM Settlements Overview (Same as Feb 14th)

	DA LMP	**$54**
1	Import MW (*From NE DAM Example*)	+1000
2	Credits to Imports	$ 54,000
3	Internal Load MW (*Assumed*)	-16,000
4	Charges to Internal Load	($864,000)
5	Internal Generator MW	15,000
6	Credits to Internal Generators	$810,000
7	**Net Settlement (Credits – Charges)**	**$0**

NE DA market net settles to zero, as required

RT Example #1: Tie Optimization

Assumptions:

- Tie Optimization sets a (net) RT schedule of **1200 MW from NY → NE.**
- **1000 MW (net)** was scheduled NY → NE by day-ahead transactions that cleared both markets.
- **Implies:** Tie Optimization sends **1200 MW in RT (200 MW more than DA)**
- Tie Optimization **equalizes RT LMPs** in each ISO at **$52,** same as in Feb 14th RT examples.
- Introduce a 100 MW RT ET for Participant "Z" from NY to NE

- **How does the money flow?**

NYISO RT Settlements #1: Tie Optimization

	RT LMP	**$52**
1	Tie Optimization Incremental Export MW (RT flow – DA Flow-Thru – RT ET)	-100
2	Inter-ISO Settlement Account Charge (for Export)	($5,200)
3	RT External Transactions MW Deviations – DA position	-100
4	Charges to RT External Transaction Deviations	($5,200)
5	DA External Transactions that Flow-Thru MW Deviations	0
6	Charges to External Transactions Deviations	$0
7	Internal Load MW Deviations	0
8	Charges to Internal Load Deviations	$0
9	Internal Generator MW Deviations	+200
10	Credits to Internal Generators	$10,400
11	**Net Settlement (Credits – Charges)**	**$0**

ISO-NE RT Settlements #1: Tie Optimization

	RT LMP	$52
1	Tie Optimization Incremental Import MW (RT flow – DA Flow-Thru – RT ET)	+100
2	Inter-ISO Settlement Account Credit (for Import)	$5,200
3	RT External Transactions MW Deviations – DA position	+100
4	Credit to RT External Transaction Deviations	$5,200
5	DA External Transactions that Flow-Thru MW Deviations	0
6	Charges to External Transactions Deviations	$0
7	Internal Load MW Deviations	0
8	Charges to Internal Load Deviations	$0
9	Internal Generator MW Deviations	-200
10	Charge to Internal Generators	($10,400)
11	**Net Settlement (Credits – Charges)**	**$0**

- Inter-ISO Settle Acc't nets to zero. This paid the gen in NY.

RT Settlement Example #1 - for Participant Z

- What happens to “Z” in RT under Tie Optimization?
- Real-Time Transaction for 100 MW ‘flow thru’ to both RT market settlements (export in NY, import in NE)
  - **RT Settlement in NY market:**
    - DA Export 0 MW at Interface, RT Export 100 MW at Interface
    - -100 MW Deviation, RT $ = -100 MW x $52 = ($5200) charge
  - **RT Settlement in NE market:**
    - DA Import 0 MW at Interface, RT Import 100 MW at Interface
    - 100 MW Deviation, RT $ = 100 MW x $52 = $5200 credit

$0 Net position across the two markets

Key Points of the Examples:

- Paired DA External Transactions are still “deemed to flow” in RT, unaffected by RT ET option
  - Under TO, participants with paired DA cleared transactions do not need RT ETs
- Tie Optimization still sets RT physical energy schedule to equalize LMPs in region (up to TTC)
- RT External Transactions must “clear” in both ISOs to “flow” *(same as today).*

Capacity Imports under IRIS:

Conforming Change Recommendations

Context

- **How does IRIS affect capacity import resources?**
- **Design Approach:** Conforming changes to
  - Enable efficiency gains of IRIS for capacity imports;
  - Simplify certain capacity import rules.
  - Other elements remain same as today.
- **Recommendations apply to capacity resources** importing across IRIS-enabled interfaces (NYN & 1385).

Agenda

1. **Recommended conforming changes** to participants' obligations
   - ISO-NE participants' FCM Import Capacity Resource obligations under IRIS
   - NYISO participants' Capacity Import obligations under IRIS
2. **Delivering capacity-backed energy:**
   - How would capacity-backed energy imports flow to prevent (or alleviate) a capacity deficiency condition under IRIS?

Three Key Observations

- **CTS/TO:** Conforming change recommendations are same for both the CTS and Tie Optimization options.
- **IRIS** sets RT physical energy schedule at interface:
  - Using all resources available to both control areas
  - Whether they are internal or external capacity resources
- **Reliability agreements under IRIS.** Existing NYISO/ISO-NE agreements remain in place governing capacity import/export flows in deficiency situations.

NE Participant Obligations

Main recommended change for FCM Imports:

- FCM import resources physically in NYCA must offer and participate in the NYISO energy markets.
  - **Means:** DA/RT supply offer at resource location, mitigation, settlement, etc., under same rules as a NY-listed resource.
- **Replaces** the "competitive RT external transaction offer" requirement (into NE) on FCM import resources.
- **Why? Six rationales,** next.

Supporting Rationales

1. Offering into NY energy market means FCM capacity imports in NY (if committed) are **part of the "supply stacks"** used by IRIS to schedule interface in RT.
   - Equally important under Tie Optim. or CTS options.
2. Under IRIS: **Real-time external transaction is no longer necessary** for the capacity import resource to flow into NE whenever economically efficient.
   - And: When not efficient to flow into NE, it does not (under normal operating conditions).

Supporting Rationales, *Continued*

3. FCM import resources generating in NY have to participate in NY market for energy revenue anyway.
   - May not be a major change for FCM import resources (in NY)
4. Mkt monitoring & mitigation of supply offers in NYISO:
   - May accommodate NE FCM resources' varied costs better than current FCM import "competitive offer" cap rule.
   - Relative to current NE FCM import "competitive offer" cap, aligns internal and external resources mitigation approach

Supporting Rationales, *Still Continued*

5. Current ISO-NE RT offer requirement at interface creates inefficient risks (to participants) and costs (to ISOs)
   - "Parked" txns on NY side raise NY commitment costs, and can incur NYISO F.I.C. penalties
   - Txn de-ratings and check-out failures raise participant costs; capacity imports incur ISO-NE FTD penalties
   - **Both of these costs/risk should become rare,** or end entirely, **with IRIS.**

6. **Similar energy revenue opportunities** with new and old capacity import offer requirements (*slide 46*)

A Word on FCM Penalties

Like today: Participants with FCM import obligations are liable for FCM penalties applicable to imports.

There are three:

1. **Failure offer (FTO)** penalty: Occurs if no DA external transaction MW is offered, or price is not valid (*rare*).
    - RT external transactions not required of capacity imports under IRIS (either CTS or TO)
    - Thus FTO's no longer apply to **RT external transactions**.

FCM Penalties, *Continued*

2. **Failure to deliver (FTD)**: Energy associated with a capacity resource is not delivered to ISO-NE when requested.

   Today, FTD occurs for **two reasons**:

   - Fails to checkout in RT (e.g., txn de-rated). *IRIS ends this.*
   - NYISO unable to deliver the energy to ISO-NE (e.g. backing-gen is offline). *Rare; continues to apply like today.*

3. **Shortage-event penalty:** Energy associated with a capacity resource is not delivered into ISO-NE when requested during an FCM capacity shortage event.

   - *Same as today.*

NYISO Participant Obligations

- External Supplier obligations remain essentially unchanged under IRIS
  - Offer import transaction into DAM
  - Respond to SRE request if called upon
- Mechanics for meeting SRE request are modified
  - No longer required to submit RT transaction if called upon
  - Still required to bid unit such that it will be on-line and available to deliver in response to SRE request

NYISO Participant Obligations *Continued*

- Existing penalty structure for failure to deliver to remain in place going forward
  - Sanctions for Failing to Provide Required Information (Sec. 5.12.12.1, NYISO Services Tariff)
  - Sanctions for Failing to Comply with Scheduling, Bidding and Notification Requirements (Sec. 5.12.12.2, NYISO Services Tariff)
  - External Installed Capacity Supplier shortfall deficiency charge (Sec. 5.14.2, NYISO Services Tariff)

Note on CTS Option

Under CTS: Why isn't the capacity import resource required to submit an interface bid?

- **Operationally:** In a capacity deficiency, the ISOs require an aggregate net flow of energy, not individual imports (*see slides 49-56*)

- **Economically:** Under normal operating conditions, we expect the market to produce the same marginal interface bid price (and total interchange) either way.

Energy Settle Implications

What RT price does the Import Resource receive?

- Assume**:** Backing resource is **on** (today, "supported txn")
- **Today:** NY LMP at gen (in NY) ← *If RT ET not*
  cleared NE LMP, minus NY TUC ← *If RT ET clears*
  to external interface
- **IRIS:** NY LMP at gen bus ≈ NE LMP less NY TUC
  (equal with TO, approx. equal with CTS, when sched.)
- Seems similar, but there is a difference to note (*next* →)

Energy Settle Implications, *Continued*

- **Today:** If import resource's ET clears, it gets paid/charged the (NE – NY) interface price spread.
  - This difference can be **a gain** or **a loss** to the resource.
  - **Recall: Prices are opposite net flows** 4000+ hrs/yr today.
- **IRIS:** Import resource is not exposed to the RT price spread volatility
  - **Volatility is reduced under IRIS** (15 min sched + prices equal (TO) or approx (CTS) when interface schedule is set)
    - CTS: Interface bidders take on remaining latency risk
    - TO: Remaining risk accrues as uplift/downlift (*see Latency materials)*

Note on Capacity Wheels

Presently:

- Neither ISO accepts capacity wheel requests (thru NE into NY, or thru NY into NE)
- This is not expected to change in the foreseeable future, unless approaches to modeling wheeled capacity can be developed and agreed upon in each control area.
- Until deliverability is feasible, the ISOs do not propose to develop new functionality for capacity wheeling as part of IRIS.

IRIS: Imports in a Capacity Deficiency

Stakeholders asked: Under IRIS, how do ISOs ensure capacity-backed energy 'flows' in RT to prevent (or to alleviate) a capacity deficiency?

Short answer: Process is similar to today

- ISOs can call for capacity-backed energy imports to flow to maintain reliability (even if contrary to prices)
- Analogous to today from ISOs standpoint, with improved protocols under IRIS.
- Import resource's obligation to be available remains the same.

First: About the Economics

- **ISOs RT LMPs** are designed to **signal shortages** and reserve deficiency conditions.
- **IRIS** should send power **in correct direction** to assist deficient region, based on prices (energy + scarcity)
  - Unlike today: **IRIS can alter RT flows quickly** if an ISO's reserve constraints bind, without calling capacity imports.
- Nevertheless, like today, there exist reliability-based procedures to call on capacity imports if necessary.

Imports in "Reliability Mode"

- **Q: When** does ISO call its imports ('out of rate') to maintain reliability?
  - If it cannot maintain reserve requirement (thru re-dispatch) with available resources within its control area.
- **Today:** ISOs set the RT external txn (ET) associated with the capacity import resource 'to flow'.
- This effectively just **adjusts the RT interface** net flow, in favor of the deficient area, by capacity import MW
- **Under IRIS:** Same procedure, but no ET (*next*).

How does that work?

- **Q: How** do the ISOs flow capacity imports if necessary to maintain reliability, under IRIS?

  1. IRIS facilitates new tools for ISOs to monitor availability and status of import resources in other control area
     - This replaces the external txn. as the **source of information** about available capacity backed imports.
  2. With IRIS, existing inter-ISO protocols allow interface flow changes, based (in part) on capacity imports, to maintain an ISO's operating reserve requirement.

- **Next:** An example.

Example: Reliability Flow Limits

Assumptions:

- **DA: 600 MW** net export (out of NE) for peak hour
- **RT (today):** Another **300 MW** of RT-only E.T.
  (so total expected net export of **900 MW**)

- **90 min ahead:** Gen loss in NE
  - **NE exports must be limited to 400 MW** to maintain OR
  - **If exports > 400 MW,** no re-dispatch solution will maintain OR

- What happens at interface, **today** and **under IRIS?**

Example: What Happens Today

1. ISO-NE does not schedule the 300 MW RT-only exports (even if still economic, e.g. fixed bid offers).
   - **Reduces net export to 600 MW** (DA value) for peak hour
   - Still need net exports ≤ 400 MW to maintain OR.
2. ISO-NE requests its 200 MW of capacity imports to flow from NYISO
   - If available and deliverable, **reduces net export to 400 MW**
   - No operating reserve deficiency in NE for peak hour.

Example Continued: IRIS Setup

Assumptions:

- **DA: 600 MW** net export (out of NE) for peak hour
- **RT (IRIS):** IRIS would schedule **900 MW** exports if no gen loss occurred (like the 300 MW of RT-only in 'today' case)

- **90 min ahead:** Gen loss in NE
  - **NE exports must be limited to 400 MW** to maintain OR
  - **If exports > 400 MW,** no re-dispatch solution will maintain OR

- What happens at interface, **today** and **under IRIS?**

Example: Reliability Mode Under IRIS

1. ISO-NE issues a reliability flow limit on interface at **600 MW** (the DA-committed MW)
   - **Operationally:** becomes a (one-sided) constraint on IRIS schedule: **Net exports ≤ 600 MW** (even if 900 MW economic)
2. ISO-NE requests its 200 MW of capacity imports
   - If deliverable, **reduces flow limit from 600 MW to 400 MW**
   - Actual peak hour flow = **lower of**: 400 MW max net exports, or IRIS economic schedule in RT

- **Expect:** IRIS flips flows in response to the gen loss
  - Regardless: Reliability flow limit prevents OR deficiency.

Summary

- Main NE FCM import change: Different supply offer requirement – into NYISO energy market, not RT ET.
- IRIS does all RT energy scheduling under normal operating conditions – whether CTS or Tie Optim.
- Like today, if necessary to preserve reliability, the ISOs can limit interface flows (constrain IRIS schedule).
- This is based on capacity import MW available from supporting area, and follows same structure as today.

Summary Comparison of Tie Optimization and Coordinated Transaction Scheduling

IRIS Design Comparison – Day-Ahead Market

Category	Tie Optimization	Coordinated Transaction Scheduling
Scheduling	Same as today, independent clearing.	Same as today, independent clearing.
Congestion pricing at the interface	Yes, independent congestion pricing	Yes, independent congestion pricing
FTR products at the interface	Yes	Yes

IRIS Design Comparison – Real-Time Market

Category	Tie Optimization	Coordinated Transaction Scheduling
Bidding	•Resources – same as today •No RT transaction bids. RT ET financial option under consideration	•Resources – same as today •RT Transactions provide Interface Bids
Scheduling	•Same process. •Coordinated scheduling, integrated with economic dispatch	•Same process. •Coordinated scheduling, integrated with economic dispatch, inclusive of interface bids

IRIS Design Comparison – Real-Time Market

Category	Tie Optimization	Coordinated Transaction Scheduling
Congestion pricing at the interface	Yes, coordinated congestion pricing, equal allocation of RT congestion rents	Yes, coordinated congestion pricing, equal allocation of RT congestion rents less interface bids
Interchange schedule adjustment frequency	15 minutes	15 minutes
Schedule duration	15 minutes	15 minutes
Scheduling integrated with Economic Dispatch	Yes	Yes

IRIS Design Comparison – Settlement

Category	Tie Optimization	Coordinated Transaction Scheduling
Day ahead transactions flow into real time	Transaction clearing both ISOs' DAM automatically deemed to flow in real time	Must clear interface bid to flow in real time
Elimination of fees and uplift allocation to RT ET	Yes	Yes

IRIS Design Comparison – Latency

Category	Tie Optimization	Coordinated Transaction Scheduling
Latency delay	Same - approx 15 minutes	Same - approx 15 minutes
Latency Risk Management	Uplift/Downlift allocated to consumers	By Transactions via Interface Bids

IRIS Design Comparison – Implementation

Category	Tie Optimization	Coordinated Transaction Scheduling
Implementation cost and timeline	Similar - scheduling protocols, interchange tagging, settlement procedures	Similar - common bidding platform, scheduling protocols, settlement procedures

IRIS Design Comparison – Benefits

Category	Tie Optimization	Coordinated Transaction Scheduling
Annual Product Cost Savings ($M/yr)	$11.8	$8.9 - $11.2
Annual Consumer Savings ($M/yr)	$145.8	$128.9 - $139.2

IRIS Design Comparison – System Utilization

Category	Tie Optimization	Coordinated Transaction Scheduling
Transmission Utilization	Improved	Improved
Counter Intuitive Flows	Improved	Improved
Average Flow adjustments	~230 MWs	~95 MWs

IRIS Design Comparison – Capacity Market

Category	Tie Optimization	Coordinated Transaction Scheduling
Impact on external capacity supplier obligations	Similar	Similar

DBD Discussion and Q&A

Final Points:

Upcoming Joint Schedule and Logistics

Stakeholder Review & Discussion

Next joint stakeholder meeting:

- Finalize DBD and alternative proposals.
- ISOs need *common DBD* on IRIS due to coordination issue
- **Next Meeting Schedule:**
  - Feb 14 (ISO-NE hosting)
  - March 7 (ISO-NE hosting)
  - March 28 (NYISO hosting)
  - April 28 (NYISO hosting)
  - May 20 (ISO-NE hosting)

Remaining Presentation Plan

May 20: Q&A, follow-up on additional details, finalize DBD elements and alternative proposals.

Next Steps: 2011+ Schedule

- **Jan-May:** Joint stakeholder meetings
- **June 1:** Advisory votes on design options (DBD) *from both NEPOOL and NYISO stakeholders*
- **June-Oct:** Stakeholder tariff & market rule processes (separate but parallel timing)
- **Dec 2011:** Target FERC filings (ISO-NE & NYISO)
- **Spring 2013 (est):** Implementation complete

Questions?

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