Energy Market Information Exchange Technical Committee

Minutes for Thursday, 29 October 2009, 11:00am EDT

Agenda:

1. Call to Order (Ed Cazalet, Alex Levinson)
2. Roll Call (Anne Hendry)
3. Approve minutes of previous meetings:
   - 2009-10-15 meeting http://www.oasis-open.org/committees/download.php/34791/EMIX%2020091015%20Minutes.doc
   - 2009-10-22 meeting http://www.oasis-open.org/committees/download.php/34890/EMIX_20091022_Minutes.pdf
4. Action Item Review (on web site, numerical order, open only) (Bill Cox)
5. Motion on Blue Member Section -- changes requested to permit the TC to affiliate. Links are in the document. http://www.oasis-open.org/committees/download.php/34913/20091029%20revised%20EMIX%20Draft%20Motion%20Blue%20Member%20Section.doc
6. Strawman presentation on product characteristics (David Sun and Ali Ipakchi) http://www.oasis-open.org/committees/download.php/34877/OASIS%20eMIX%20Product%20Strawman%20v0.1%202009-10-26%20.ppt
7. Discussion on characteristics (Bill Cox moderating)
8. Adjourn

Attendees: Member / Company (* = voting)

Timothy Bennett	Drummond Group
Edward Cazalet *	The Cazalet Group
Toby Considine *	University of North Carolina
William Cox *	Cox Software Architects LLC
Girish Ghatikar *	Lawrence Berkeley National Laboratory
Anne Hendry *	Individual
David Holmberg *	NIST
Ali Ipakchi *	Open Access Technology International Inc.
Michel Kohanim *	Universal Devices, Inc.
Perry Krol *	TIBCO Software Inc.
Alex Levinson *	Lockheed Martin
Robert Old	Siemens AG
John Petze	Individual
Pornsak Songkakul *	Siemens AG
David Sun	Alstom Power Inc.

Acton Items:

#0000: Provide information on Emergency Management TC location schema work. (Carl Reed)
#0001: Schedule a discussion of modeling tools for EMIX work. (Bill Cox)

Minutes:

1. **Call to Order**
   Bill C: Call to order.

2. **Roll Call**
   Bill C.: Roll Call
   Meeting achieved quorum.
   Members: 15 of 38 (39%)
   Voting members: 11 of 18 (61%).

3. **Approve Minutes of 2009-10-15 and 2009-10-22 meetings**
   Bill C: 2009-10-15 and 2009-10-22 minutes approval: no dissenters. Minutes approved.

4. **Action Item Review (on web site, numerical order, open only) (Bill Cox)**
   #0000: Provide information on Emergency Management TC location schema work. (Carl Reed)
   Not present.
   #0001: Schedule a discussion of modeling tools for EMIX work. (Bill Cox)
   In progress.

5. **Motion on Blue Member Section -- changes requested to permit the TC to affiliate.**

   Girish G.: Blue is a set of people and activities mostly related to energy issues; not just electricity but water, natural gas, others. A way to create awareness, how to innovate generally in the markets. Steering committee is from diverse areas. The value of affiliation is to be able to harness the expertise of the people in EMIX and pass that on to a wider audience.

   Bill C.: It is an alignment of environmental efficiency and business interests for business results. The motion is for the EMIX TC to affiliate. See document link. Some obligations but this is mostly what we would do anyway. There is some cost. Rules for member section have some issues. Example is the rule(s) for super majority votes – would require starting the TC all over again.

   Bill C: The motion is to approve the proposal as was in the agenda. [Proposal was read.]
   Toby C.: Second. We should join Blue but can't until these issues are resolved.

   Bill C.: This eliminates the text that requires super majority and having things inserted into the charter which we cannot do. There is significant discussion on the following two pages of the document. Member sections in OASIS are ways of associating groups of technical committees -- can be used to accelerate our work. Any objections? None. Will forward to appropriate people.

6. **Strawman presentation on product characteristics (David Sun and Ali Ipakchi)**

   Slide 2: Context: Smart Grid Covers Retail and Wholesale Sectors

   David S.: Dominance of the meter, but there are other things to be aware of -- covers retail and some extension to the wholesale sector. Retail energy has certain characteristics. Not focusing on retail tariff design. Find product and price relevant to customers. From retail want to integrate – to design protocol so businesses can transact. Typical players are aggregators and service providers linking retail and wholesale.

Bill C.: Note on actionable price: it is the OUTPUT of tariff or contract computation, not the computation; not the mechanism used to create it, or even inputs, just the result.

David S.: Aggregators translate/map between wholesale and retail. General understanding on the wholesale side. Retail newer. Need to allow aggregators to do the calculation as well as serve the retail customers. This is a broad context.

Ed C.: In addition to aggregators, include Utility Load Serving entities and independent LSEntities? General term is 'retail service provider', 'curtailment service provider', etc.

David S.: Yes – bundle from wholesale to retail -- what is being called 'aggregators'. Provide services (not meant to be capitalized letters): curtailment service providers, load s providers, middleman connecting wholesale and retail. That middle entity -- want to make sure their needs are taken care of

Slide 3: Context: Smart Grid Covers Retail and Wholesale Sectors

David S.: Who are users? Producers, consumers, packagers, decomposers, these are the first two categories -- people who do market transactions and others who are regulators, oversight, etc. Either centralized markets, or market making functions. Use the word "product" instead of "energy".

There are two activities: commercial and physical. When we describe price and product are talking about a commercial activity. I have 10 appliances to communicate to my Service Provider. They gather what they want from thousands like me. Allow these kinds of business links to be created.

Bill C.: But we don't want to deal with the deviation between phys and commercial schedules. The fundamental assumption allows flexibility for business to transact. Simple bid/offer. Key attributes to think about.

David S.: Yes, if we see there's a market price of $5 may turn on my refrigerator at that point. As producer, may decide to produce 2 units instead of 10. This allows more flexibility for business to transact. Example: cherry tomatoes @ $3 a pound in one location. Simple but allows key attributes we need to think about. Didn't say organic or not -- always can be extensions.

Slide 4: Product-Pricing Definition: Product

David S.: Baseline product here is electrical energy -- quantity over time interval. For example selling 3 kilowatt-hours over a 5 minute interval.

Bob O.: On slide 2, about the price transformation, is the adjective "rational" really even necessary to describe the transformation of prices? One provider trying to buy business with coupons might call their low, low, price this week only, a "rational" price, but the incumbent provider that wants to avoid reducing margins might call it an "irrational" price.

David S.: Good discussion topic: rational transformation, business transaction. If retail says watt, wholesale says megawatt, then transformation takes place.

Bill C.: Trying to communicate the result of the transaction.

Ali I.: Need to keep in context that right now across the US retail markets are generally heavily regulated. Curtailment is a different story. Price is determined by PUC and tariffs. For the near future, competitive retail supply may be a process that requires adjustments -- matching retail tariffs and wholesale market prices, etc.; how to translate different retail programs and prices defined by the regulatory framework. Not talking about open market.

Bob: This addresses my question.

David S.: (Back to Slide 4)
There are other products in addition to energy -- ancillary services, needed to run a physical system. In existing market, for retail to participate there needs to be aggregation. So from a retail perspective can choose to say if you need me to I'll unplug my lights and give you an extra watt. Define as quantity of power, not energy. 100w avail in x minutes if I'm asked. Energy storage devices – available and very responsive, can help regulate. Adjust my car charging 5kW every few seconds. There may be a market. Key is being able to extend as the market evolves. We are not looking at a single product --- there are multiple products we need to consider.

Toby C. : To support your point, storage can be a way to do frequency regulation. Project of collective building owners in Chicago could use buildings to do regulation. Wide range of possibilities.

DS: Yes, want to define product in a way that anyone can use. Don't care how, it's the product I want to sell or buy. Used battery storage only as an example.

Slide 5: Product-Pricing Definition: Location

David S: Location is important. Point of delivery -- FOB someplace. Tomato has different price in Seattle or NY. Could be my meter location or the substation for my house. Has to convey several things. Which substation, HV transformer feeds me, but I need to know my meter... Translate into commercial location. If each meter has one, no ambiguity. But if bundled for my neighborhood aggregation may be one or many. Need to be able to remove the ambiguity, so each p-node has a price mapped to a particular e-node. Important that each p-node can be aggregated (from Albany to Manhattan) then can get average price. The ability to have flexibility in the aggregation is important. Know location of the meter on the feeder, tie into customer info (GIS, other info). Each p-node has a price, each mapped to a particular e-node, important that the p-node can be aggregated.

Slide 6: Product-Pricing Definition: Time Interval

David S.: Time is very basic element -- time when sale is made, when that generation will be produced. Selling for 3:00 power - generated and consumed. Interval needs to have a resolution at minute level. -- no less than minute level. Time is simple to think about, but in addition, has possible implications. Need to not misinterpret. In the marketplace, Bloomberg gives price in real time -- energy price -- at five minute intervals. RTP every five minutes. This interval is different than the selling interval we talked about earlier -- price for next day; be aware of that because there will also be settlement intervals. This is real time use of granularity. Back on retail side, if we only see time of peak, need to know what this means. When I see a price-product, what does that mean? Just because there's a price every 5 minutes doesn't mean that price has the same granularity.

Slide 7: Product-Pricing Definition: Price

David S.: Unit price has to have a denomination (dollars, euros, etc.). In cents, mils? How many decimal places? When we say sell at $3, suggest that's a floor. If people want to buy at $4 -- OK. Ceiling price and floor price, implied balance. Not a point price. This price may change over time intervals. Will have context -- price for a particular transaction. Might bleed into information model.

Bill C.: Is this analogous to bond prices and bid/ask?
David S.: Yes, but in b/a price in bond market, we are not saying we are buying for $3 tomorrow.
Bill C.: Unless it's a forward price ...
David S.: That is forward price as opposed to an options price.
Bill C.: How does this fit into the information model we need to convey... perhaps need examples.
David S.: Forward versus option price. For future discussion.

Ed C.: Amplify that a bit. In most markets where there are energy forward markets (e.g. bilateral) generally make an offer at a point in time for a future interval. May be available for a particular time or may expire. So information model can capture this if there's b/a and a time interval associated. Other thing that characterizes most markets -- price associated with a quantity or offering to sell at a price. This is true in traded markets, also in the ISO markets. Offer to sell 100mW at $26, another at $28, another at$100.

David S.: Yes, good point -- price is associated with quantity as well.

Ali I.: You made reference to information models looking at price as a curve -- multiple values as a n option of quantity vs single value. Commonly used in the energy business -- most of the transactions at least in wholesale are function of price curves, depending on amount used. Limits expressed by a price curve. Defining a price as multiple values with upper/lower limits of quantities, typically used in both demand and supply side of wholesale transactions.

David S. Price signal sometimes generated by market operator. Various users of this price. Today have a notion on wholesale price published at a location. What's needed for retail? Location -- price at "my meter"? "I" as an electronic price gateway. We don't have that much experience as an industry. Price for every state, every household/meter? May not work.

Bill C.: Need actionable price. If I'm a manged system and i get a price, does it matter what my neighbor's price is?

David S.: Not as a consumer, but as an aggregator probably since they are the ones transforming the product -- how do I compose my price into a thousand different/little prices?

Bill C.: But how you calculate is not as interesting for our charter as what is communicated for action. If the focus is on what is communicated, then how it is computed, determined, market background, etc, is not as relevant to our scope as to how we communicate an actionable price.

David S.: yes, that is the #1 priority.

Ed C: Potential distinction: if I get a price from PJM real time is that a price index or an offer to buy or sell at that time? The two are different.

Ed C.: Different instances for communication. Think of this as 'the thing you communicated' . It is a price, but what it means depends on how much of the market context you put in. Some judgement here. We'll be getting to this later on ... do you ad info like 'this is a bid', or 'closing price', or 'index'. Lot's of interesting possibilities, but should focus on what is basic to communicating price.

David: Yes, basic element of $6, but different stakeholders may choose to package and present differently. Should allow this. But we should be able to provide dis-ambiguity in the pricing association.

Bill C.: We're skating on the edge of Toby's "tomatoes are 3" discussion -- communicate price, but how much market context should or could come in? We're going intro to harder issues we may not have broached before. Good food for thought.

7. **Discussion on Characteristics (Bill Cox moderating)**
   See above.

8. **Adjourn**
   Ed C.: Motion to adjourn. Adjourn 12:10 EDT