

## US Electric Utilities & IPPs

### Adding Gas, or Moving it the Right Way? (Incl. Conf Call Transcript)

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Americas  
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#### Improved gas trading needed to reconcile more nimble needs of gas generators

We hosted Don Sipe, Partner at Preti Flaherty and former two-term Chair of the New England Power Pool, on a conference call to elaborate on his ideas for improving the integration of natural gas deliverability with the electric markets. He envisions real time trading of natural-gas based on better information processing and resultant visibility into gas availability (as opposed to the current independent bilateral confirmation process). This would enable more efficient dispatch and allow for pipelines operators to assess feasibility of transactions in the short-term and also reallocate gas or capacity based on fluctuating electricity demand. Overall, Don's proposal aims to use gas more efficiently, rather than the ratable service provided today, largely on a day ahead basis.

#### ...But there are real physical limitations on pipes too

While his ideas received substantial attention at the recent FERC technical conference on improved coordination (Docket AD14-8) following this last winter's gas availability issues, we see physical integration issues as commitments are 'transferred' between gas generators (or utilities). Gas is unlike electricity in its ability to instantly shift between resources (rather, it travels at ~30 mph according to Sipe). We reiterate the main bottleneck on the system is deficient gas pipeline capacity. The ability to move gas from one generator to another (very often present on different pipeline laterals from the main trunk) given a sudden shift in dispatch needs can only be addressed so much by increased information.

#### And greater grid intermittency from renewables will only exacerbate gas needs

We emphasize integration issues are likely to become only more salient as gas is used to backstop renewables, with a corresponding need to both commit variable quantities of gas, and shift them between generators as needed to backstop renewables in rather quick turn. While it would seem the issue is specific to New England for now, we expect the issue to spread westwards to CAISO, which continues to pro-actively evaluate its own gas procurement tariffs to prepare itself for greater cycling and fast ramps of its underlying portfolio.

#### Lack of regulatory structure in restructured power is the big problem

On the call, Don discussed his complementary support for a new construct for pipeline procurement in restructured markets (effectively endorsing NESCOE's ongoing efforts). We appreciate that should gas prices prove high enough, it could entice a producer-sponsored reaction; we emphasize New England's ongoing effort to contract for a gas pipeline on a regional basis is indicative of the significant premiums already born on consumers (effectively doubling the regional cost of gas- and a material uplift on power). While Don suggested there was ample legal precedent for FERC to allow the states to perform such contracting on behalf of generators, we remain less optimistic on the outlook.

#### But gas contracting efforts appear to be on last legs... we see a long road

With states like Massachusetts having recently failed to pass enabling legislation for such a procurement, the timeline remains protracted if feasible at all (NESCOE has indefinitely suspended its efforts). Exacerbating this dynamic, we suspect political turnover across the six states could yet reduce initiative. We also see real further issues around how state-procured gas costs and benefits would be allocated.

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## Not too optimistic on timelines, looking towards FERC for next moves

For any real time trading/information platform to actually materialize from these proposals, Federal Energy Regulatory Commission (FERC) approval is key, and we look towards the Commission for next data points on whether this proposal moves forward. In New England specifically, the six states need to approve the New England States Committee on Electricity (NESCO) proposals for funding. Thereafter, a formal ISO-NE tariff filing would need to be made before FERC, which is where we suspect the real backlash would foment, seeing it as establishing national precedent on gas contracting issues. We see any new policies on gas procurement in restructured gas markets as having a timeline late into the decade, with judicial intervention seemingly inevitable. Regardless, with the proliferation of gas as the fuel of choice- and growing renewable flexibility needs, this issue will continue to move forwards.

Initial clues on attitudes could yet prove forthcoming as ISO-NE seeks yet another winter 'emergency' inventory of oil and potentially LNG cargoes to address inadequacy issues.

## Who does this help? It's about Enabling Gas Infrastructure

**Incumbents will continue to benefit while this is resolved.** Lastly, we see the protracted process around contracting for new pipelines in New England, as benefitting generation incumbents through the medium-term, as capacity prices are likely poised to continue to climb, alongside continued robust gas/power prices. This is primarily NRG, but also the other IPPs [DYN, CPN] and some integrated utilities [D, NEE].

Without NESCOE to push forward, gas prices to remain higher for longer

**What's our view on gas basis in New England?** To put a finer estimate, we estimate some easing of Algonquin basis in future years as even delayed construction of Constitution in 2016/17 should provide some relief to Algonquin prices. Ultimately, we suspect even the LDC-driven expansions of the New England pipelines (Northeast Expansion of Tennessee Gas Pipeline, with 500k Dthd/d committed with LDCs, off its target project of 800Dth/d – 1.2 bcf/d project design, with a target in-service of November 2018). We flag nascent 'NIMBY' issues around project development as it aims the cross the length of Massachusetts. Additionally, we look towards the contemplated expansion of the Algonquin pipe by 342Dth/d with LDC commitments, with in-service projected for Winter 2016.

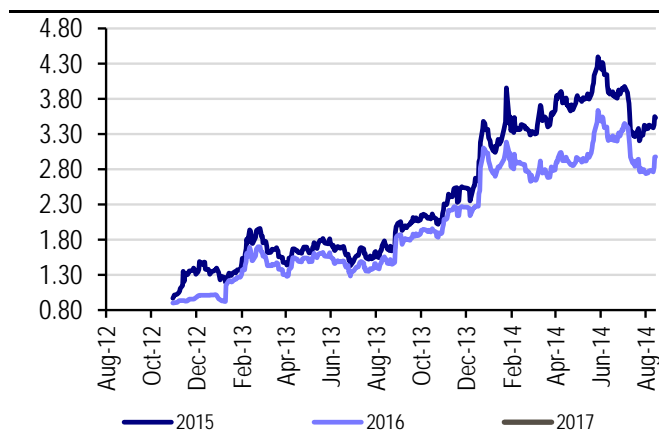
Gas basis should prove elevated for quite some time.

LDC commitments don't resolve the winter issues for gas generators though!

Notably with all these commitments to the LDCs, peak day availability will remain unchanged for gas generators, but likely putting pressure on 'off-peak day' gas prices. We pin the winter of 2014/15 as the peak of uncertainty, given the pending retirement of Entergy's Vermont Yankee and the recent retirement of Mt Tom.

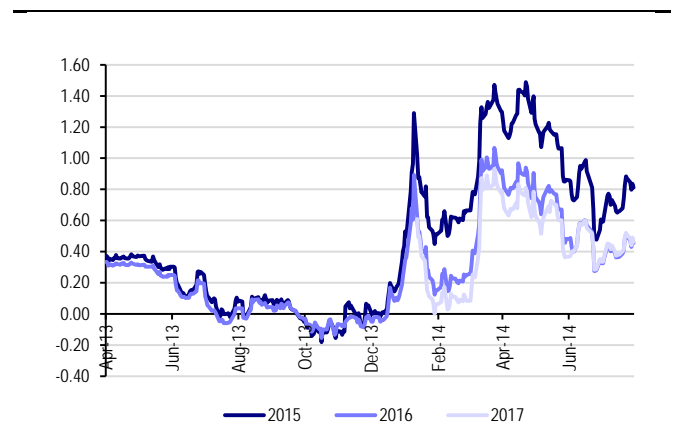
Below we show the basis charts for Algonquin and Transco Zn 6.

**Figure 1: Algonquin Gas Basis Swap (\$/MMBtu)**



Source: Platts and UBS estimates

**Figure 2: TranscoZn 6 Gas Basis Swap (\$/MMBtu)**



Source: Platts and UBS estimates

**Providing a new market for gas midstream developers.** We believe the elevated focus on enabling greater gas coordination ultimately supports continued investment in gas infrastructure across not just New England (which would see pending procurement efforts moved forward if proposed reforms adopted), as well as California, where gas limitations could yet pose a pricey issue for gas generators- and the grid operator. We see the argument for greater integration as benefiting both long-haul pipeline developers, as well as distribution spend for LDCs potentially as well (read: SRE's SoCal Gas system for example).

**Gas generators need gas to run: more gas would be helpful.** Who else? Gas generators, who have limited gas flow today. We see risks as running high for gas generators unable to procure sufficient gas to meet their needs in recent periods of limited supply. Notably, this would appear to impact several private portfolios in New England, as well as specific individual assets of public companies (although with a much more minimal net effect).

**Electric transmission is fungible with gas.** Given the ability to import gas 'by wire' (or hydro 'by wire' for that matter), we suspect continued uncertainty over gas procurement will lead to expanded electric transmission development across New England. We reiterate our Buy rating on Northeast Utilities [NU].

**Underlying physical constraints on delivering adequate gas means more spend, irrespective of who pays**

**Gas limited generators need help securing gas**

**Electric transmission has a known ratebase approach to socialize cost**

## Providing a Real Time Gas Platform For Electricity

We hosted Don Sipe - Partner at Preti Flaherty and former two-term Chair of the New England Power Pool - on a conference call on Friday, to elaborate on his ideas for improving integration of natural gas deliverability to advance alignment with the electric markets. Earlier this year, Don had spoken in this subject at the FERC technical conference to address looming concerns over gas-electric reliability with grid operators (RTOs and ISOs), gas suppliers, pipeline operators, end-users, and state commissioners in an attempt to address concerns over the impacts of the cold winter on operations, pricing, and long range planning.

Don's proposals are based on real-time trading of natural gas based on better information processing and resultant improved visibility into the liquidity in the commodity markets and demand in the capacity markets. This will theoretically enable more efficient dispatch and allow for pipelines operators to assess feasibility

of transactions in the short-term and also reallocate gas or capacity based on fluctuating electricity demand. Potentially, this can reduce price distortions and lower system costs.

The FERC technical conference highlighted that traditional gas demand from residential, commercial, and industrial customers has always been fairly inelastic versus demand from the power generation stack, which can fuel-switch in response to high prices. With power gen demand becoming increasingly dominant on the system, a more real time scheduling of gas transportation is needed, and moving the ability to both purchase gas molecules as well as the ability to schedule pipeline shipping to a real time online platform with increased information transparency seems to make sense to us. (*FERC Docket AD14-8*)

## Conference Call Transcript

*The following are highlights from our call. The comments below have been edited to improve grammatical clarity and provide enhanced context.*

There are no corresponding slides.

Replay: **(available until 8/22)**

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**Operator:** Ladies and gentlemen, thank you for standing by and welcome to the Gas Electric Market Coordination Conference Call with UBS.

**Julien Dumoulin-Smith:** Good morning everyone and thank you for joining us. We're joined by Don Sipe, Partner of Preti Flaherty to discuss his proposal around effectively addressing gas/electric coordination issues. This comes off of a fairly contested FERC technical conference a few months ago. He gave a much discussed presentation there, and I thought it would be a good opportunity to get in front of everyone else and elaborate on the thoughts he had highlighted there. And with that, I'll turn it over to Don to layout his thoughts on the subject. Good morning.

**Don Sipe:** Good morning. Thanks Julien. Welcome everyone. I want to cover two general topics today. They're somewhat distinct, but they're fairly closely related. The first is the general practice of trading in the gas industry. And, particularly some similarities it has to some of the trading practices in the electric industry before it was reformed with better information processing and other factors.

And the second is a more general discussion about the current funding mechanisms that are used for gas pipelines and whether or not they're suited economically in terms of economic efficiency for the disaggregated electric markets that we have in the

northeast, where we don't have vertically integrated utilities.

The technical conference focused mostly upon our proposal that there be established a trading platform and an information platform for natural gas. Currently, the market trades basically on a roll-over basis. That's how it's described by the people that are in the market.

There isn't a clearing mechanism. There's a heavy reliance upon imbalance penalties rather than economic clearing. Things are scheduled on the contract pact flow, much like they used to be in the electric market. We've got a lot of the administrative flow orders, rather than economic rationing that's used to allocate supplies when they're tight.

And, we don't have good coordinated planning between pipelines or coordinated information clearing. You basically make the reservation on each pipeline and each pipeline has an independent confirmation process and other things.

And, planning is done the same way, you get a sort of a bilateral commitment from a single entity and that is the way the gas pipelines have traditionally been expanded. It has worked in terms of gas and electric coordination in the past, because of the prevalence of vertically integrated utilities with balance sheets that could do that sort of planning and the lack of risk of duplication of facilities that goes along with that.

That may not be a model going forward that makes economic sense in terms of societal resources, given the threat of duplication of facilities or the inability of merchant generators to have a balance sheet sufficient to make those types of long-term bilateral deals.

The information platform idea that we put out there would have basically multiple pipelines and offers to buy and sell gas at locations and to release capacity at various locations consolidated onto a single platform with a clearing mechanism where bids could be accepted and offers could be placed.

I'm not sure it needs much more elaboration than that, since that's very familiar to those of you who are in the electric market and understand how the real time electric market works.

The challenge on the gas side, has consistently been - and the RTOs were eloquent about this in the conference - that the confirmation protocol of the gas pipeline are not sufficiently rapid that you can clear quantities as fast as the pipelines might be physically capable of delivering them.

We have multiple concerns expressed by RTOs of calling gas generators when they were needed in the next hour and being told that I can tell you in four hours whether I can get gas in the next hour. On those types of situations, the RTOs inefficiently wind up scheduling several units on because they're not sure which one will have gas.

So, we end up with each of those units going out and trying to secure gas because they've all been dispatched. And, that drives up the short term price of gas inefficiently and then later sometimes all of them get gas and the ISO cancels half of them and then they suffer imbalance penalties, because they really only needed the one generator.

Those types of inefficiencies are not physical infrastructure problems. Those are information and trading problems, which could be resolved and are resolved efficiently in the forward market with unified trading platforms like ICE or NYMEX or other places where there are multiple transactions and pre-cleared credit scores and everything else that is required to make those types of transactions possible.

The real challenge is moving the gas market to a more real time trading platform, rather than sort of the day ahead ratable take. Even sometimes the hour-ahead ratable takes don't do the job because you have to predict them far enough in advance and real time changes on the electric system are usually, the ones you really want to respond to are not the ones that are predictable.

One area where they're running into this, substantially and currently, is in California, where they have a very high inner penetration of renewable resources. I am not intimately familiar with the various challenges they face out there. But, I know that they are working to modify gas delivery protocols and information processes out there. Because, they're finding that the ratable take approach when you have what they call their duck curve on the electric chart where the ramp time for consumption does not match the ramp times for renewables and other resources that they have on the system, it requires them to start major generation sources several times a day and ramp them back several times a day.

That is generally not something that's conducive to making ratable take schedules efficient. So I believe they're facing it there. We're certainly facing it in New England. It appeared from the technical conference they were facing those problems in PJM as well.

Switching to the larger term issue of looking forward, what the heavy reliance on gas and electric industry may implicate for how gas pipelines are funded. As I said earlier, one of the things that has allowed the current system to work rather well, in terms of the bilateral contracting mode for long term supplies is that it has traditionally been done, at least in the gas and electric side, between vertically integrated utilities and monopoly pipelines.

Both of these parties are well healed in terms of finances. They have - on the electric side, they have captive customer bases and they have very low risk and good balance sheets. You know, there are a lot of efficiencies that were gained by going to a non-vertically integrated energy market.

I mean, it's spurred innovation. It's really induced cutthroat competition. We've got people making decisions based on the marginal costs and we routinely see inter-marginal rent shrinking, sometimes almost to the point where people with less efficient units are driven off the system.

But, it's also come with challenges and those challenges arose directly from the efficiencies that were induced. And, one of them is that merchant generators don't have the balance sheets that are required to sign up for, say, the 20 years term service. Attempts to put those costs - to force those costs into some clearing mechanism on the electric side threatens to undo some of the efficiencies that the energy markets have brought and they have been considerable.

Without franchised service territories there is real risk of duplication of facilities of requiring too much pipeline capacity to be subscribed by too many generators, each presuming that they would be around for 20 years. Obviously, all of them won't.

And forcing that sort of funding, has the potential to take valuable resources from other aspects of the economy or have people misallocate resources within the electric realm, such as consumers who really should be producing and buying electricity or gas, avoiding those products because of the inefficient duplication costs. I think that gas pipelines in terms of electric generation are becoming more like the transmission lines that are recovered on a more socialized basis to avoid that type of duplication.

We have seen that the actual physical construct of an electric generator and the innovation that's spurred by having people compete on that part of the capacity cost aspect does have benefits, but it's not clear that gas

pipeline infrastructure isn't far more fungible, much like transmission line infrastructure is.

And, that a funding mechanism that doesn't rely on strict bilateral contracting might be more economically efficient for both industries and actually get more pipe build more efficiently. Now, I've said quite a bit. At that, I think I'll pause and see if that's spurred any questions.

**Julien Dumoulin-Smith:** Yes, well thank you very much Don. I appreciate it. Let me just go back on your last comment there, because it's a pretty controversial statement. So, when you talk about moving away from a bilateral approach to looking at this more a socialized sense. How do you think this will happen, and ultimately, do you think there's a legal construct within which it can take place? Specially, say, looking at New England - but could you elaborate in general?

**Don Sipe:** Sure. I do not think there is a legal problem in allocating infrastructure costs - FERC has jurisdiction over both sets of costs. The choice to have gas costs recovered and not to allow speculative building and other things really was a policy choice by FERC – which also has jurisdiction to regulate that. If you look at it from an electric market put of view, gas pipeline costs are already recovered in electric rates.

Gas generators, if you force them to sign up for a pipeline, will end up either rolling that into the clearing price or rolling that into their costs - and electric customers will pay for it. Not directly as an investment, but they will pay for it, so they're already recoverable in costs.

The question is whether that is indeed the efficient way to recover those costs better needed for reliable service. Gas pipeline, at least as generators use it, can be fairly fungible in a region if the system is planned properly. And, very often, if they are fungible in a region, one generator may trip and there will be a path that can deliver that same gas to another generator, if the transaction could be completed in a timely fashion.

I'm not sure there are legal conundrums. There are certainly questions as to whether on the electric side, having a more direct funding mechanism for pipelines that are planned to serve aggregates expected electric generator needs, will in anyway cause inefficiencies on the vibrant bilateral contracts that still exist.

I mean, I wouldn't want to make the world unsafe for vertically integrated utilities and other parts of the nation that have the balance sheet, and don't risk duplication of facilities because of their status of

franchise utilities. But, I don't see particular legal impediments to it.

I mean, there's always the risk that there may be policies put into place, if somebody says, well it's unjust and unreasonable for other reasons or it's not well thought out. But, I think legally we're already at the point where we recover those costs in electric rates. And, it's just a question of can you do that directly rather than through assignment to a particular generator.

But that's really the only step in the legal ladder - can you assign it directly, rather than for lack of a better word, wash the transaction through a generator that buys pipeline at perhaps inflated rates because they don't have the balance sheet that would allow them to get more reasonable financing.

**Julien Dumoulin-Smith:** Thank you. What do you think happens in New England, in terms of your expectations and how you get from A to Z; and, what are the key issues that need to be solved. So essentially - how do you get there and what are the key barriers?

**Don Sipe:** Well, the key barriers are getting enough New England states to agree on a particular pipeline expansion plan, number one. You know, ISO New England is not in the business of planning pipelines. But, they are in business of being responsive and Order 1000 on the transmission side is evidence of this trend, to public policy mandates that are put out by states.

So, that's the first step, politically get there. I think the construction of a tariff is a fairly easy matter. We have experience in taking what you might call extra market costs and putting them through recovery mechanism.

I think really those are the two steps that need to be done, getting in a tariff and of course, we've got to get it approved by FERC, which raises the policy questions we were just discussing.

**Julien Dumoulin-Smith:** But, you think FERC can approve a tariff that ISO New England brings to it that would involve electric utilities recovering for gas contracting, just to be very clear.

**Don Sipe:** They already have such a tariff.

**Julien Dumoulin-Smith:** Got it. And you think therefore they have the latitude to bring this forward?

**Don Sipe:** Right. It's a question of if we were in a position where these types of costs were not already included in electric rates, even though they're in the rates of individual generators who take service under them or of individual vertically integrated utilities. I think the only question is

can these be treated much like other infrastructure costs that are funded more generally because of the risk of duplication of facilities.

But, that is a long-standing reason why we regulate these industries in the first place. I don't see it as a revolutionary concept. It is unique in that the interplay between the two markets has always been done sort of one vertically integrated utility to another.

And that departure from that will raise policy issues. I'm sure people on the phone will have questions or challenges with these and be interested to hear them.

**Julien Dumoulin-Smith:** Yes, well I'm curious. What kind of rule changes do you see as being necessary to affect this at NAESB or the commission [FERC], just to be clear?

**Don Sipe:** At the commission, I don't see rule changes that are needed. I see that they need to approve a particular tariff and not all regions may feel they need such a tariff and many of them may not, where they're vertically integrated. They would need to make the leap that I've made if you want to call it a leap or the transition to say that we approve recovery of these costs.

The New England Commission and the ISO have already gone and paid for backup oil service for generators in the winter plan. They've filed a tariff and they've got it approved that basically pays people to keep fuel on site and pays them for their costs of that, directly - not because they burned it as electricity - but actually paid for the backup fuel.

Now, that was put directly on to consumers and you could say well, that's the oil industry, how can you do that. So, you pay for gas pipeline, for generators and basically for the same reasons, the need for reliability, and to make sure that it's there, and the supposed lack of financing ability just as on the oil side for some of these units that are seldom run to keep that stockpile on hand.

It's the same economic logic. It is unique in that we have a long tradition of bilateral contracting and strictly bilateral contracting on the gas side. I'm not sure even that changes so much as the person who will be - the person in the legal sense - who will be doing the bilateral contracting. The pipeline will still have a bilateral contract with an entity for that pipeline.

It will be pipeline intended for use of electric generators and recovered in an electric tariff. But it's a policy call more than a legal call, I think.

**Julien Dumoulin-Smith:** Interesting. So cutting back a little bit to what your proposal is – it is a gas platform for procurement ultimately, if I have this right. In what way does this differ from the status quo? I might react to say this looks and smells like ICE. How is what you're proposing different from what is available today [off intra-day quotes from ICE' gas market].

**Don Sipe:** It is to bring it from the forwards market down to a more real time physical trading opportunity, similar to what we have in the electric market. And to be somewhat more fungible between capacity release and assignment in commodities so that you can mix and match better than you do now.

Currently, some of that will require looking at some of the shipper must have title rules. No buy/sell contracts, which in the AMA context we have managed to ameliorate and one of the more promising signs is that FERC reformed to require pipelines to allow an asset manager, for instance, to sort of mix and match capacity and other things among supplies within their portfolio.

That basic paradigm needs to be expanded so that multiple pipelines as a whole have that ability to mix and match, not necessarily through some independent asset manager, but on a wider spread basis. That would be a good step in that direction. And, it would be different, just as the requirement that pipelines allow asset managers to do that is currently different than what many pipelines do now.

So, these are incremental steps that can be taken, but the basic direction would be towards more real time availability. I'm not sure we'll ever get it down to the five-minute intervals that are common in electric generation. I think you're still going to have to use electric balancing to do that sort of thing.

But, there is certainly much more fungibility there than I think than is currently being availed in that market.

**Julien Dumoulin-Smith:** Excellent. And, could you just elaborate a little bit so in looking at the real time physical market today for those who are perhaps less familiar. I want you to state precisely, what is the problem? How does it work today? Why is it that if I need gas, in a very real time sense? This may help frame the issue a bit as well. What is impeding? Why can't I simply contact my provider, right?

**Don Sipe:** There are some circumstances where very short-term trades can be accommodated. And they are sort of on a best efforts basis with the pipelines. But, very often and

this is - just the evidence that was put forward at the technical conference by the various RTOs - the confirmation deadlines that are necessary to confirm whether gaps can flow, sometimes exceed the actual timeframe in which gaps really could flow.

And those are information problems that platforms like ICE and NYMEX have solved by having protocols in place that have pre-cleared credit requirements and have other information that are already there.

They're the same things that were solved in the electric market with more frequent trading by having a unified sort of dispatch platform, where simultaneously feasible transactions are all visible at one time and you can make a quick determination.

Whatever the physical capabilities of the pipes and we may find that they are not able to do five minute trading, simply because it's not physically possible to get a pressure wave that moves at the speed of sound and gas that moves in, I don't know, what is it, 30 miles an hour or something. But, it's not the speed of light.

Those are going to be different structures. But at least you should be able to know in a very short time - much shorter than you do now - whether or not one of those transactions are feasible. The knowledge of whether they're feasible will allow more efficient trading, just in and of itself.

The ISO won't call three, four, five generators, because they don't know who will get gas. So, that's why we call it an *information and trading* platform. Markets run on information and more timely information in and of itself will increase efficiency.

**Julien Dumoulin-Smith:** Excellent. I'm getting a question: going back to the fundamental issue of the ISO in New England tariff. In such a proposal, who is the backstop in credit support?

Obviously, I see New England as an entity, as a tariff - is it a sufficiently credit worthy counterparty for pipeline development. Do you think there are issues? How do you see that as being resolved?

**Don Sipe:** All right. I'm not sure what the question is. A tariff is certainly a reliable - especially a FERC approved tariff is certainly a reliable collection mechanism. No, so I'm not sure I quite followed the question when you say, "how is it resolved?"

**Julien Dumoulin-Smith:** Or rather, you are implicitly suggesting that the utilities are going to be the backstop for the credit support and collection, ultimately of any corresponding revenue requirement.

**Don Sipe:** I understand the question a little better. Under the NEPOOL agreement, participants collectively are responsible for the debt of the defaulting parties, if they can't be collected on. Generally, that's a pretty broad pool and it's been fairly successful.

These projects themselves actually may be held by a state entity, for instance that has bonding authority or something else. This is all yet to be resolved and they would actually be the owners of the capacity, and the collection mechanism would be through the ISO tariff. I'm not sure I'm answering the question, because I'm not sure exactly which problem I'm trying to address with the questioner.

**Julien Dumoulin-Smith:** Yes, sorry, perhaps it's a leading question. Do you think that the tariff can be structured appropriately, such that someone else outside of ISO New England is taking the credit risk here: as in if I'm a pipeline developer, who is ultimately going to be responsible for paying me down the line, right? Who is going to be that credit worthy counterparty?

**Don Sipe:** The State of Maine passed a law that allowed the state to back and use its funding to back I think \$75 million annually of pipeline investment. Now, that could be collected through and the funding mechanism for that could be collected through electric rates or something else. And yet, the state would still back it.

Now, if that was the desired counterparty to make it work, we've had the municipal utilities say that they would bond this. They have independent bonding authority. I'm not a financial advisor in that respect. So I may not be the person to answer specifically the concern that you're raising.

There's been a variety of models that have been proposed. I'm not sure where the financial buck stops, but a tariff with a reconciliation mechanism, with the entire ISO New England backed by its members generally, who all have pretty stringent financial requirements themselves. That seems a lot more solid than individual merchant generators, at least.

**Julien Dumoulin-Smith:** Right. Now, I'm trying to connect the conversations a little bit. I'd be curious, we're talking about pipeline development here, but simultaneously I just wanted to clarify, your proposal fundamentally is more of an informational issue that if you used the pipes more effectively, you would have sufficient gas. I just want to make sure I'm hearing you right.

**Don Sipe:** No, we absolutely recognize and it's one of the caveats in our presentation that we are going to need more infrastructure. **And in fact, that's why we are pushing these various funding mechanisms as well, because we don't believe that there is enough infrastructure being built.**

But, you know, the use of that infrastructure is separate from the need for greater infrastructure, because of the way gas has gotten more peaky because with the 'peakiness' of generation use, you actually need greater capacity because you don't have the diversity that you would want to have.

Everybody's not running at base load. Peak day usage has got to be met. But, within that, you've also got to be able to move gas more efficiently on shorter timeframes, because of the large disruption that a generator makes when it comes on and off.

Going back to the California example, they're finding that to run that system effectively, they need to have the capacity and the pipeline and in the commodity delivery to be able to start very large generators up, ramp them down, ramp them back up, ramp them back down.

That is difficult to do on a day ahead basis or, if at 9:00 in the morning we schedule each hour of the day. It's just got to be more real time physical delivery of fuel. So, the two issues are separate. You may find that in order to provide basically no notice service to generators, you really have to rethink how you designed these pipeline systems.

The other alternative is that pipelines will not be able to meet this need and we may fall back on what I'm afraid may be more expensive solutions, such as storage or other things. I think having the pipelines work as efficiently as possible in real time is going to make the economic choice between either using gas or using other storage techniques or LNG or something else.

That's going to allow that answer to be efficiently resolved, as opposed to just looking and saying, well we can't schedule it that way. So, now we're going to build a bunch of storage. That could be very expensive if there's a way to get better information and better trading on the gas pipeline side to answer those needs of variability due to renewables and other things.

**Julien Dumoulin-Smith:** Do you anticipate you would forbid anyone besides a generator from using natural gas, moved through the ISO funded pipe, you suggest. What about LDCs - just the contrast between the two?

**Don Sipe:** I'm not certain that that's actually needed. Now, it may be that in order for an agency to deal - this is just my opinion. In order for an agency to feel comfortable on a policy side, they would want something like that. I don't think that that's necessary.

I think that the problems of constraints on those pipelines don't really have anything to do with particularly who uses the gas when. You know, an efficient trading platform I think would solve much of that, what's the best use for that gas, when and that's another reason to want that.

But basically, it doesn't matter who holds the pipeline capacity, it basically gets used whether it's a secondary firm or whether it's interruptible, when those peak days hit. What's more important in terms of expansion is to fund the expansion necessary to meet the aggregate reliability needs.

And, because of the risk of duplication doing it one generator at a time may end up being that it doesn't get done and that something more expensive than a pipeline and less economically efficient would get built, as we just discussed. But, I don't really think it matters who uses the gas. I think we see more efficient trading, but that infrastructure has to be available to meet the aggregate needs that would be pasted on the pipeline by any party.

And, that's about as close to an answer as I can get. I'm not sure it's economically necessary to tag it to a particular generator, to have the effect you want on electrical liability and to justify having electric customers pay for it.

**Julien Dumoulin-Smith:** Excellent. Perhaps going back to understand a little bit more about what you're saying about the platform here. Whose platform is this? Who's going to run in theory this platform that you talk about being a compliment to what is available already on the, you know, the daily ICE markets. Is this run by an RTO or how do you envision this being structured?

**Don Sipe:** I could envision it as being essentially a pipeline RTO, where several pipeline companies in a region get together and basically pool information and confirmation processes and basically have bulletin board that allows for trading.

I'm not sure what the pipelines get out of that. Anybody that runs a platform would have to be compensated. You could try to expand just the information services offered by ICE or NYMEX. If the nomination and

confirmation process could somehow dovetail neatly with the credit clearing and other functions of an existing ICE platform or a NYMEX platform, that could be a pretty slick solution.

It's really getting those platforms to where they can rely upon sort of closer to real time physical information and know that the products they clear are physically simultaneously feasible on the pipes and that if they clear them they know that the pipelines can effectuate them. That's the disconnect.

Right now, we're on the physical side, I think, between, this kind of forward trading that we see at ICE where it's mostly financial transactions, even though it's based on eventual physical delivery at some point and hence derivative.

But, it's really that connection. So, I think there'd be a variety of ways that you could do it. I'm not sure which would be the most efficient. It's just a manner of getting the information together in some way that the people who do the clearing can rely on the physical information of availability and feasibility.

**Questioner #1:** Well thank you. Good morning, Don. I wanted to walk back a bit to my own experience creating in the gas industry about a dozen years ago. And, when you described your platform, I was thinking of a merger between two sort of existing functionalities in the gas industry. I shouldn't say existing. One of them, of course is the ordinary day-to-day use of the natural gas bulletin boards that you made reference to, I think, in your presentation that are now tapped into by people that are credentialed on each pipeline to partake of primary, secondary or tertiary capacity offerings.

That obviously gives you the capacity to move product, but you have to go elsewhere for price. Years ago, bringing up what may be a sorrowful memory for some of us. I traded quite a bit on Enron online. Enron online posted prices at various receipt points in the northeast, well for that matter, the entire country, but that's where I traded was the northeast.

So, I went to Enron online (EOL) to see my pricing and then I went over to the bulletin board to see if I could get space and then it was up to me to merge the two functionalities so that I could buy the product and then move it. What you seem to be talking about perhaps is a convergence of the two of those functions.

Obviously, EOL online doesn't exist anymore. But, it would be a kind of a revival of that performance, very slick liquid functionally - as long as there was someone

at the other end and then posting prices, there was a posting on EOL. So, it didn't run 24/7 certainly. But certainly, 10/12 hours a day on some occasions, especially during the more intense periods of the heating and cooling seasons around the country.

So, I'm just wondering out loud, since that was taken up, obviously, by a private sector participant who's no longer with us, maybe what's needed now is I think in your most recent reference was the idea that there might be a band of pipelines in a very liquid hub. I mean, you could think of things like the Houston hub or the Pittsburgh hub for the northeast.

But, someplace like that where you would start it off, initiate it and then we sort of grow from there. But, am I on the right track in terms of how I see this functionality merging the capacity function with the pricing function?

**Don Sipe:**

Yes. That's the short answer. You would need both price and capacity and you'd have to have some fungibility between commodity and the ability to mix and match. You could disaggregate an offer - I have this and that segments and somebody else has the commodity somewhere and you'd mix and match it.

I think in fairness, you would also need to move this closer to real time than I think existing platforms currently work. In order to answer sort of the California needs or some of the needs that were expressed by the RTOs in terms of timing.

We need the functionality of getting confirmation that a transaction is feasible and it's simultaneously feasible with the other transactions that people may be entering into.

By disaggregating buyers and sellers that way and having a more liquid market, you may complicate the nomination and conformation process. And, in order to get the most valuable trades, I think you would need to layer on something similar to the sort of the mechanism that ICE from New England has for dispatch and other things.

But, I do think that the nomination processes are going to need to be not nominations particularly, but the confirmation processes will need to be automated in some way and unified across pipelines so that multiple pipelines can transact in the way you are talking about.

**Questioner #1:** You see what would turn this into a mechanism that would be funded or supported by sort of moving into the private sector chambers, as opposed to the quasi-public sector, would be if you had a transactions cost

that you imposed. A very light one, obviously, but - that would enable buyers and sellers to sort of self-fund this mechanism. But, they would both benefit from it.

**Don Sipe:** Certainly sellers rather than having, as you put it, to work the phones incessantly during times when they would rather not be, they would post it and have it instantaneously available to all those observers that were viewing it.

And, that would take them into the realm of what we're all used to now, which is going right online, to find something out, as opposed to this old fashion, 20-year-old mechanism of doing OTC stuff, which is I call you. You call me back. I find out if you've got the product, in the volumes that I need, when I need it. All of that stuff can be blitzed through if we're looking at each other online anonymously as opposed to having that conversation.

So, I don't know what germinates it, but obviously, you have to have it working in a very liquid market. I think New England is a little thin right now, as we both know, because of the absence of as much gas as we need. But, I think it's a great idea and we just have to find someone to trial it out there or to at least put all the pieces together.

**Questioner #2:** Hi Don. It seems to me that you really are talking about two different things. One is informational and one is infrastructure. And, I'm not sure you can get the infrastructure done through the platform you're proposing.

And, so I know you've already been asked the question once, but maybe you can clarify whether you do see these as two different efforts and also, it seems that no matter what we do, this is not going to solve the problem of generators that are located behind the city gate, which most of them are. They are not FERC jurisdictional. And, they have tariffs that require them to serve human needs and that are why sometimes generators get curtailed. So, when you start to look at this and realize you're not going to solve over 50% of the problem through this proposal, I'm curious how you think it will play out.

**Don Sipe:** You've asked a couple of questions. First, it is absolutely distinct. I think the platform would be useful in any contents, whether we have the needed expansion or not. And we are working separately on getting pipelines, hopefully, financed and built that we feel are needed.

So, I don't think we intend to accomplish expansion through the platform. They are separate issues. So that's your first answer. As opposed to the trading regimes that exist with generators that are behind LDC City Gates, that is why I said I'm not sure that it is necessary to tag the pipeline expansion that maybe facilitated through other means of funding two particular generators.

Certainly an LDC would not be cutting off a gas generator behind it's fence, if it had available to it, capacity out of the market on a secondary or other basis, even interruptible that that generator could use.

Once, you've solved the constraint problem, I think that the constraint problem has to be solved with an eye to looking at the aggregate needs of the electric industry and that would involve looking at the needs of generators that might be behind LDC City Gates that are not currently served on a firm basis by those LDCs. And, that's why I think that the aggregate look is more important.

Now, I don't know if I've been completely responsive to your question. But, I think the platform is definitely separate than the pipeline expansion issue about whether this may provide a better way of doing it without the risk of duplication to fund that.

And, I think the LDC question is actually one of the prompts from my argument. I'm not sure we need to be assigning this to particular generators, in order to have it function as anticipated and do it effectively.

**Questioner #2:** Don, if I could follow up. I guess the concern is that these generators are located on very different lateral pipelines, whether it laterals off of the interstate or laterals off of the LDCs. So, I guess the concern is in creating such a platform, if deliverability can go there.

And, the bottom line is you can't actually move the gas where it has to go, as you contemplated, at the feed it has to go, without significantly adding more laterals to connect the generators. Because, that is in fact what this proposal, I assume, is the platform to moving the gas from one generator that doesn't need it to another.

**Don Sipe:** The trading platform proposal has always been subject upon whatever the physical capabilities of the pipelines are. Now, I don't think that this is a static process. I think part of the reason why many of the physical features of the gas infrastructure we have exist as they exist maybe because there isn't a way to financially make other investment worthwhile.

I don't think we need to resolve in advance what infrastructure would be most economic if there were regime which would allow nominations and confirmations to proceed in a more physical real-time fashion. I think I would trust the market to look at those - that more liquid trading possibility and make the decision whether there was a financial opportunity there that didn't exist in a less liquid market.

So, I would agree with you is the concern is that we do not want to mandate particular expansions based on some idea that now we're suddenly going to be able to move gas. I would differ with you, however, in thinking that it's not better to have more information, more liquidity and the opportunity to consider whether expansions that would allow things that are now physically capable of being done if the infrastructure is there to occur.

I think the market will be pretty good at sorting out whether or not, because there is the - are these new trading opportunities, whether it makes sense to expand the lateral or to do something else. At least I hope it would and that we don't have some further impediments such as the inability of generation to finance infrastructure, which may still be with us in smaller scales, as you know. And, that may be a real concern.

**Julien Dumoulin-Smith:** Excellent. And let me just follow up. I'm curious if you can elaborate. How do you think about LDCs wanting to give up and trade away their capacity? They tend to be fairly risk averse. Are they going to want to give up or kind of monetize their excess needs on the system? I mean, obviously they do it already from kind of a day ahead perspective, but kind of in a real time sense. Do you think there's appetite for them to do so?

**Don Sipe:** I don't know. I haven't talked with them. I think for instance, large generators behind the city gate are currently not served by firm service. That, in some sense, they've already abandoned planning for that.

And, that there may be reason for the type of expansion funded by other means, because for the same reasons, the generators are risk averse to investing in seldom use resources. But a necessary resource, they themselves are probably reticent. I don't think we're ever going to get to a point where there are no basis differentials and other things during times of scarcity. And, I'm not sure that LDCs will want to give up the price advantage of having firm service for their load, particularly with a

customer base that's franchised that they can rely on to fund it.

They've got the funding to do it and I'm not sure it's inordinately expensive. It certainly saved LDC customers a lot of money, as opposed to people that didn't have firm service in New England this year. I'm not expecting that we're ever going to have those basis differentials disappear or not have scarcity pricing in some zones.

So, I think there'd be a mix of motives. I don't know which way they'd come down on it. If you want me to address some horrible hypothetical about what if, I could try that. If you think there's an outcome that's more likely than not.

**Julien Dumoulin-Smith:** Can you perhaps provide a little bit more of the timeline that you see for getting things done. And, this may not necessarily be specific to your platform. But, what do you think next steps are. Where do you think the process is going from here? I'd just kind of like a holistic sense of the data points to follow and who to track here.

**Don Sipe:** Well as we said at the technical conference, I don't think that this conversation at least on the platform really gets off the ground unless FERC takes an interest in it. The information that you would need to determine what the possibilities were for a platform is broadly scattered across a bunch of really smart people in the market that aren't going to show up in a meeting, simply because I say I want to talk about a gas platform. So, I think on that it's really FERC's court whether or not this moves forward.

In New England, I think the six states have to decide whether or not they're going to push the NESCO Proposal for funding. And then, we'll have to take that to FERC and answer the questions and see what happens. I'm not sure the timeline on that simply because the NESCO process has, for now, been suspended for the time I thought we were going to have a tariff filed and sort of engage the issue this fall. But it doesn't look like that's going to happen.

So, I would assume the timeline, if it goes at all, will probably be within the next year, year and a half, or will go back to square one. And, I'm in touch with Commissioner Moeller at the FERC and I know he is interested in the platform idea.

But I don't know if the other commissioners at FERC are, given their other priorities. But, I really think that's what it's going to take to make it happen. I mean, I think calls like this are informative and then every time

I'm on it, I learn something more. Like I just did from Marjorie, about other considerations we ought to take into account. But, I really think, getting parties together that want to explore it and make it happen is probably going to rely on something like FERC's scheduling a conference and saying they want ideas and they're thinking about trying to get something done.

**Julien Dumoulin-Smith:** So, it sounds you're looking to FERC for next data points to push the subject. NESCO, you sound a little less optimistic about the process and the timeline there moving forward in a timely manner.

**Don Sipe:** **Yes, not optimistic, it's just that we don't have a set schedule at this point. We had one a few weeks ago and then some energy legislation in Massachusetts failed to pass. That was sort of integral to one state's participation. And, you know, we're still waiting to see what shakes out from that.**

**Julien Dumoulin-Smith:** Don, thanks you very much, appreciate the time and you sharing your thoughts with us. Thank you all for participating today. And with that, enjoy a nice weekend this summer.

**Don Sipe:** Thanks very much.

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<b>Northeast Utilities</b> <sup>6, 13, 16</sup>	NU.N	Buy	N/A	US\$44.18	18 Aug 2014

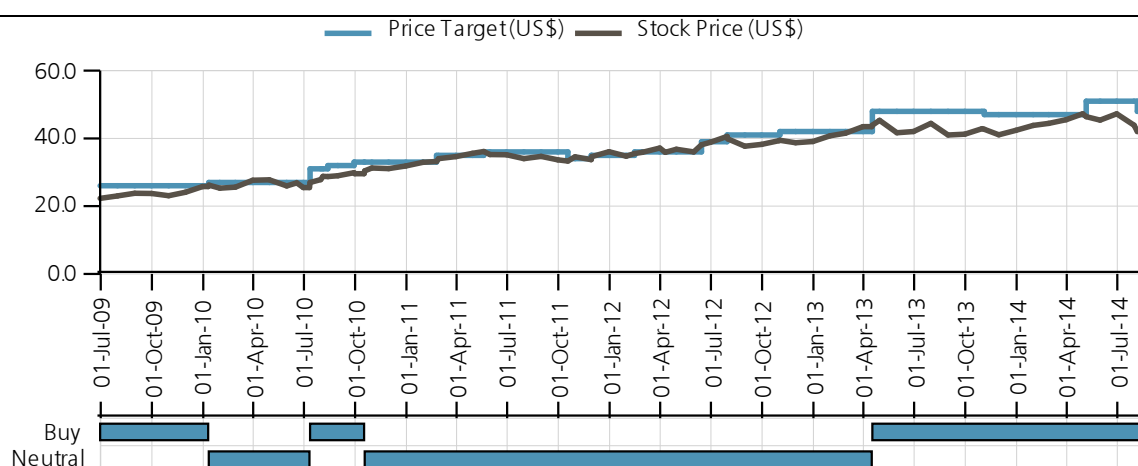
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