ALGONQUIN GAS TRANSMISSION, LLC

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July 31, 2015

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### Re: Responses to Discovery Questions From Meeting with NH PUC Staff on July 22, 2015

In Access Northeast's meeting on July 22, 2015 with New Hampshire PUC staff members Mssrs. George McCluskey and Michael Ladam, several follow up questions were asked. In response to those questions, the following information is provided.

1. Please provide a pdf of the proposed Rate Schedule ERS with a summary of the rate schedule.

Rate Schedule Energy Reliability Service (Rate Schedule ERS) (provided as an attachment hereto), proposes to provide shippers who contract for the service, No-notice Firm Transportation and Storage Service with flexibility for non-ratable delivery.

- 2. Please provide a more detailed description of the no-notice transportation service that Access Northeast proposes to offer gas generators including the relationship between that service and the LNG storage and vaporization facilities that the project developers propose to build. If the rules/criteria that control the operation of the LNG facilities is the responsibility of the Access Northeast buy team, please have someone from that team provide the necessary description.
  - a. As envisioned by Access Northeast, no-notice service allows a pipeline to reserve transportation capacity on the pipeline at the timely scheduling cycle for subsequent scheduling by the shipper on a 24/7 basis. No-notice service is the highest priority of service on the pipeline. This service ensures that the shipper is able to come online if dispatched by the ISO as long as the shipper has nominated the transportation, and it has been confirmed by both the upstream and downstream parties. The quick start function of the service which is premised on LNG storage, will allow a shipper to start taking delivery of gas as soon as the delivery has been nominated without the commensurate upstream supply. The quick start function will access the LNG if necessary to cover the shipper if supply from other sources cannot be confirmed within a two hour window. Without the LNG, the ERS rate schedule can still function for the No-notice reservation of capacity. The "quick start" functionality would need to have LNG available to work effectively so as not to have to rely on pipeline linepack. The character of service provides for EDCs, ISO/RTOs, and electric generators the most reliable of natural gas transportation service.

3. Please provide an updated estimate of the levelized annual cost of the Access Northeast project including the estimated cost of a new LNG facility (comprising storage, liquefaction, vaporization and other ancillary equipment) to be built in the vicinity of southeastern Massachusetts. The current estimate of approximately \$400 million was referenced in the ICF report attached to Spectra's comments in this investigation.

The project developers respectfully decline to provide this information due to commercial sensitivity.

4. Please provide a more detailed and perhaps more forceful rebuttal of the CES's contention that the current and possible future price of gas at Access Northeast receipt points will be twice the price at NED receipt points.

CES contends that shippers on the NED project will be able to purchase gas at the Wright receipt point for a price equal to the Tennessee Z4 price plus the demand charge on a future expansion NED expansion from the Marcellus Region to Wright, NY. By contrast, CES contends Access Northeast shippers will purchase gas at Mahwah and Ramapo for a price equivalent to M3. CES then takes selected historical pricing at these points and asserts that these prices will hold constant during the contract period. This approach to analyzing the future pricing relationship is fundamentally flawed. In summary, CES has reached this conclusion by focusing on only two factors: (1) the current depressed price of gas in Tennessee Z4 and (2) the demand charge of a project that to our knowledge has no announced commitments. Additionally, CES has neglected to factor in very real influences on the future price of gas at Wright such as the current and future demand on Iroquois, current premium pricing for Iroquois supplies that primarily originate from Canada, and the very reasonable likelihood that those premium Canadian supplies and markets through reverse flow on Iroquois could result in a price at Wright that may trade at a significant premium to M3. Finally, CES has ignored what we believe could be a significant flattening of M3 prices relative to Tennessee Z4 via the construction of very substantial pipeline expansion projects, into, within and around M3. Please see our response to question 9 for a detailed rebuttal of the CES assumptions.

5. Please provide an explanation of the proposed Power Plant Aggregation Areas depicted in Map 3 to Spectra's responses. Map 3 shows the general location of four proposed aggregation areas together with the maximum firm transportation capacity (Dth/day) available for gas generators within each area. It would be helpful to have for each aggregation area the maximum available transportation capacity in equivalent MW plus the total gas-fired generation capacity in MW located in that area.

A PPAA or Power Plant Aggregation Area ("PPAA") is referred to in Section 6.3(a) of Rate Schedule ERS. These are geographical areas that contain electric generating facilities within those boundaries that would be served by firm natural gas transportation on a primary basis under the design of the Access Northeast project. These four areas include Connecticut, Massachusetts, Maine, and the "G" System on the Algonquin pipeline system. The facilities for

the Access Northeast project have been designed to provide firm transportation to all power plants within these areas up to a total aggregate amount for each PPAA.

Access Northeast is not a pipeline solution for a particular EDC, rather – it's a power solution for the region. There has been much discussion about the need for pipeline capacity. But in reality New England needs natural gas-fired generation to have direct access to firm natural gas capacity on peak days when the LDCs are using all of their natural gas capacity entitlements and hence have nothing to provide to electric generators on the secondary market.

New England generation is very dependent on natural gas for fuel. Currently there is approximately 16,000 MW of generation interconnected to the gas pipeline system. However, on the coldest days last winter there was only about 3,500 MW of generation running on natural gas. Fortunately some of the 16,000 MW of generation can also run on backup fuel oil (about 6,000 MW). However there is still a significant gap in fuel available for generation. This gap has been recognized as a challenge to electric reliability by the ISO-NE. And that gap will continue to grow as the region increases reliance on natural gas as non-gas generation retires.

Because of the dynamic market nature of scheduling procedures, the electric industry cannot indicate where they need the capacity or which units are needed to be able to run on any given day, the project co-developers of Access Northeast examined natural gas consumption and burn rates at those plants on the Algonquin and Maritimes systems on a peak day and compared that against what ISO-NE required on that day from natural gas-fired and oil-fired electric generation needs to serve load. The combined total was 5,000 MW for that day. Largely using the LDC forecast model they use to determine their own contracting needs, we assumed that on that coldest day ISO-NE had a critical combined need for 5,000 MW and would therefore in the future would need that same natural gas-fired generation to confidently and reliably serve 5,000 MW to electricity customers in its footprint, which translates to a 900,000 Dth/d natural gas pipeline peak day requirement to meet that load.

We designed aggregation areas around reaching those areas where the plants were located (see Maps 1 and 2 attached hereto). As such, the service is designed to make the last mile delivery to the quantity in that aggregation area. Any plant now or in the future can access gas in that area pursuant to a capacity release from the EDCs. Access Northeast is a scalable project, and based on feedback from the participating EDCs, if there are different priorities for delivery points, the final distribution pattern will be based on those negotiations.

Map 3 attached hereto reflects the aggregate MW which can be served in each PPAA, assuming all generators are requesting gas at the same time under peak conditions. Under other scenarios, the MW amounts in each PPAA could be higher due to system delivery flexibility on non-peak days.

# 6. Please provide a direct response to Question 33, namely whether existing bottlenecks/constraints on the Algonquin system will be significantly reduced as a result of the Access Northeast, AIM and Atlantic Bridge projects.

Algonquin believes that on non-peak days, AIM and Atlantic Bridge will make additional capacity available to non-firm customers, but no project can commit to making gas available for anyone who wants it on a non-firm basis – that right is reserved for firm contract holders. The addition of significant pipeline capacity through those two projects, however, will make gas capacity available on non-peak days, and thus available to more interruptible and secondary customers than is currently available, i.e. those projects will reduce some constraints on the system with respect to non-peak days. Access Northeast, on the other hand, is designed to specifically reach those electric generators (whether they be interruptible or secondary customers) that aren't currently contracting for firm capacity and thus will further reduce constraints, even on peak days, from today's market reality. Projects such as NED do not offer the same "last mile" deliverability that a project like Access Northeast does. The proposed NED greenfield pipe will not have that same connectivity. The NED project would leave generators in the same spot as they currently are where they will not be able to acquire capacity on the secondary market or schedule interruptible transportation and will be forced to acquire supply on the spot market. This places upward pressure on spot prices for natural gas.

### 7. Please provide a more detailed timeline for the Access Northeast project than was provided in response to Question 30.

Action	Timing
Outreach Meetings	Ongoing
Route Selection and Permit Preparation	Ongoing
Agency Consultations	Ongoing
FERC Pre-Filing	Nov/Dec 2015
FERC Pre-File Process participation	4 <sup>th</sup> quarter 2015 – 4 <sup>th</sup> quarter 2016
File Certificate Application with FERC	4 <sup>th</sup> quarter 2016
Anticipated FERC Approval	1 <sup>st</sup> quarter 2018
Proposed Start of Construction Activity	3 <sup>rd</sup> quarter 2018
Proposed In-Service Date	4 <sup>th</sup> quarter 2018 (first year phase-in)

8. Please provide a copy of binding contractual agreement or MOU entered into by Access Northeast and Eversource-NH.

Terms of the MOU between Algonquin and the Public Service Company of New Hampshire contain commercially sensitive information the Project desires to remain undisclosed while precedent agreements are under negotiation.

9. Please provide a written recap of the discussion with Gregg about current and possible future pricing of natural gas at the four alternative receipt points offered by Access Northeast project. Regarding Ramapo and Mahwah, there was considerable discussion about how those receipt points are currently priced at a discount relative to M3 in order for gas to flow but there seemed to be some uncertainty about the price relationship between those points and M3 during the winter months. If the recap could clear up that uncertainty, great. The recap should also include the discussion about current and possible future pricing at Wright, which seemed to be a more complex issue than implied by the CES analysis. Finally, recap the discussion of pricing at Brookfield, which from memory received far less attention.

The NH PUC is correct to consider the pros and cons of alternative receipt points that may be offered by different projects in the course of this proceeding. In determining the appropriate receipt point(s), Access Northeast believes that the ideal receipt point(s) should (1) provide the project shipper with access to physical availability of natural gas supplies; (2) provide the project shipper with a receipt point that gives New England the best opportunity for achieving pricing parity with adjacent regions; and (3) provide the shipper with the flexibility and diversity to manage the uncertainty in future supply for the duration of the contract. The appropriate combination of these criteria should maximize the benefit/cost relationship of new pipeline infrastructure.

#### Physical Availability of Natural Gas Supplies

First, Access Northeast will detail the physical availability of supply offered by its project. The Algonquin pipeline interconnects with six major interstate pipelines that reach into multiple supply basins, including most notably the Marcellus and Utica shales. Customers on recent Algonquin expansions such as AIM and Atlantic Bridge have requested Ramapo and Mahwah as primary receipt points based on, we believe, the fundamental reason that available supply at these points currently exceeds the pipeline takeaway. More specifically, combined upstream deliverability into Algonquin from Mahwah and Ramapo is approximately 1.8 Bcf/d (not including currently planned upstream expansions by Millennium) compared to current firm takeaway of approximately 1.1 Bcf/d. Millennium previously announced an open season to further increase deliverability at Ramapo. Assuming the supply is increased by 0.27 Bcf/d through additional minor expansions, supply at Ramapo and Mahwah will be exactly balanced with pipeline takeaway sufficient to support AIM, Atlantic Bridge, and Access Northeast expansions.

Mahwah and Ramapo are not publicly traded supply points but it is common knowledge these supplies displace deliveries from Texas Eastern at Lambertville into Algonquin and therefore trade at a discount to M3. The logic behind this relationship is simple. Algonquin is the primary destination market for Marcellus shale gas from Northeast Pennsylvania via the Tennessee Gas and Millennium pipelines. In order for this gas to flow into Algonquin, the gas must be priced lower than M3. The change in physical receipts at Lambertville, Mahwah and Ramapo over time helps to illustrate this relationship. Compared to the winter of 2010/2011, receipts from Texas Eastern at Lambertville were approximately 35% lower during the winter of 2012/2013 (prior to the NJ-NY Project). However, this 35% decrease was more than offset by increased receipts from Mahwah and Ramapo during the same period.

This relationship of pricing is important to understand for Mahwah and Ramapo but it is also useful in determining the future relationship of potential supplies at points that currently have no available supply, such as the receipt point proposed by Tennessee at Wright, NY. At the outset, there is a significant amount of uncertainty related to the future physical liquidity of supply at Wright. When the Constitution project is in service, it will provide an incremental 650 mmcf/d of additional pipeline capacity into Wright. However, it is our understanding that this project was at least in part conceived to serve existing markets on Iroquois looking for supply alternatives, and potentially to reach Canadian markets through Iroquois in a reverse direction. Combined with a major new source of demand, Wright will not compare favorably to Ramapo and Mahwah. Again, as illustrated above, the supply at Ramapo and Mahwah currently exceeds existing pipeline takeaway. There is no major greenfield pipeline needed to bring additional supplies into Algonquin as is needed at Wright.

Regarding the future pricing at Wright, Tennessee and CES contend that gas will be priced at Wright for a premium to Tennessee Z4 that equals the demand charge of its proposed NED upstream project. Access Northeast believes that this assumption is oversimplified and flawed. Much like the pricing at Mahwah and Ramapo, the future price at Wright will also be influenced by the price it must beat to flow, or what the highest market is willing to pay. In either case, that indicates that the price at Wright could be more influenced by the alternative Canadian supply sourced at IGT Waddington. In Figure 1 below, the current supply on Iroquois as represented by IGT Waddington trades at a \$1.41 premium to M3 during the winter and a comparable premium even during the summer. We disagree that predicting the future price of supply at Wright is as simple as the price of Tennessee Z4 plus a pipeline demand charge. To make this point very clear, should not the same logic apply to deliveries into Algonquin at Mahwah and Ramapo? If that were the case, then the price at those points would trade at the Tennessee Z4 price plus the pipeline demand charge. That is not the reality, and it won't be the reality at Wright either.

Winter Average													
	Hen	ry Hub	Alg	Algonquin CG		IGT Waddington		IGT Wright		TET-M3		Tennessee- Z4 Marcellus	
Nov2014- Mar2015	\$	3.22	\$	9.45	\$	6.30	\$	7.25	\$	4.89	\$	1.65	

Cummon Avorage													
Summer Average													
					IGT		IGT				Т	TGP-Z4	
	Henry Hub		ub AGT CG		Waddington		Wright		TET-M3		Marcellus		
Apr2014-													
Oct2014	\$	4.16	\$	3.66	\$	4.17	\$	4.15	\$	2.95	\$	2.39	
Apr2015-													
07/14/2015	\$	2.73	\$	2.27	\$	2.77	\$	2.77	\$	1.57	\$	1.20	

Figure 1 – The winter (November 2014 – March 2015) and summer (April – October) pricing averages for the last two years are noted above.

#### Achieving Parity with Adjacent Regions

As opposed to predicting the pricing of each individual receipt point in the future, we believe that a simplifying assumption can be made. Namely, projects currently proposed and in various stages of execution in the Northeast and Mid-Atlantic will result in relative parity of prices in the region (excluding New England and Iroquois). As we outlined in our previous answers, there are significant pipeline additions in development that will significantly increase the takeaway capacity from the Marcellus supply region and increase deliverability in the market areas such as M3. A glimpse into the future impact of additional pipeline capacity on M3 pricing may be best illustrated by the most recent summer pricing; a period of time when the availability of pipeline capacity between Tennessee Z4, M3, and other market regions is more in balance with demand. Again referencing Figure 1, one can observe that M3 is more closely correlated with Tennessee Z4. In fact, M3 trades significantly below the Henry Hub during the summer. It is important to note that IGT Waddington does not currently experience the same price relief. In fact, it trades at a premium to Algonquin City Gates. This set of facts casts further doubt on the oversimplifications promoted by Tennessee and CES about future pricing at Wright.

It is less important to accurately predict the price of gas in M3 than it is to understand that under any conceivable expansion scenario in New England, Algonquin CG pricing will be heavily influenced by M3. Any analysis that ignores the relationship between Algonquin CG and M3 is fundamentally flawed. Assuming that natural gas prices outside of New England achieve relative parity as illustrated and supported above, it is our firm belief that by providing Access Northeast shippers with a firm contract path from Mahwah and Ramapo directly to the power

generators on Algonquin and Maritimes, the constraints into New England will be significantly reduced and New England will reap the economic rewards.

#### Flexibility and Diversity of Receipt Points

Access Northeast understands that flexibility and diversity of supply points is important to customers, especially in the context of the supply uncertainty described above. Therefore, we have designed Access Northeast to provide shippers with access not only to Mahwah and Ramapo but also to other pipeline receipt points in the contract path. For example, Iroquois connects with Algonquin at a point called Brookfield in Connecticut, which is currently in the project's contract path. Access Northeast has announced an alliance with Iroquois to potentially offer a firm receipt at Wright, effectuated by the expansion of Iroquois between Wright and Brookfield. Shippers may elect to allocate a portion of their receipt point capacity at Wright via this arrangement. Alternatively, to the extent that shippers would prefer to have all of their capacity at Ramapo and Mahwah, Brookfield would still be an option for accessing Marcellus supplies via Iroquois if Wright is proved to be a desirable source of supply in the future.

The final determination of the receipt points for Access Northeast is not a major impediment to advancing the project. It is simply a demonstration of the supply alternatives that Access Northeast brings to the table. In this context, there is a critical distinction to be made: the Wright receipt point option for Tennessee shippers is the main receipt point with no other real options in the New York area. To get supply diversity and flexibility, shippers must bear the added risk of participating in another greenfield project upstream of Wright in addition to Constitution Alternatively, the Wright receipt option in Access Northeast is part of a larger portfolio of liquid points.

Spectra Energy and Algonquin appreciate the opportunity to provide these responses on behalf of the Access Northeast project developers. Please direct any questions to Richard J. Kruse (713-627-5368) or Janice K. Devers (713-627-6170).

#### Sincerely,

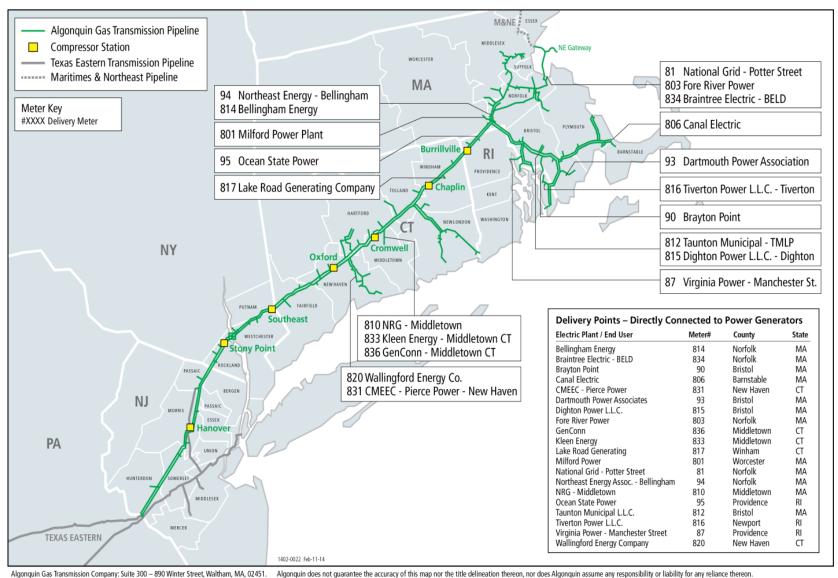
/s/ Richard J. Kruse
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(Attachments)

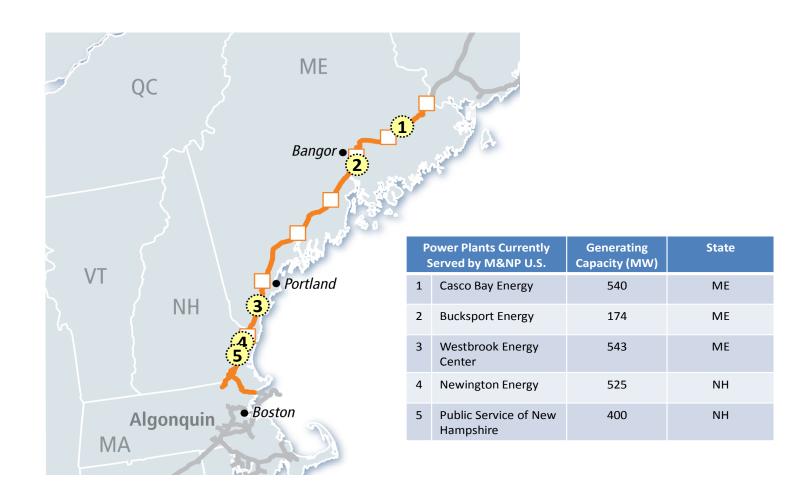
### **ATTACHMENTS**

## **Draft Proposed ERS Rate Schedule**

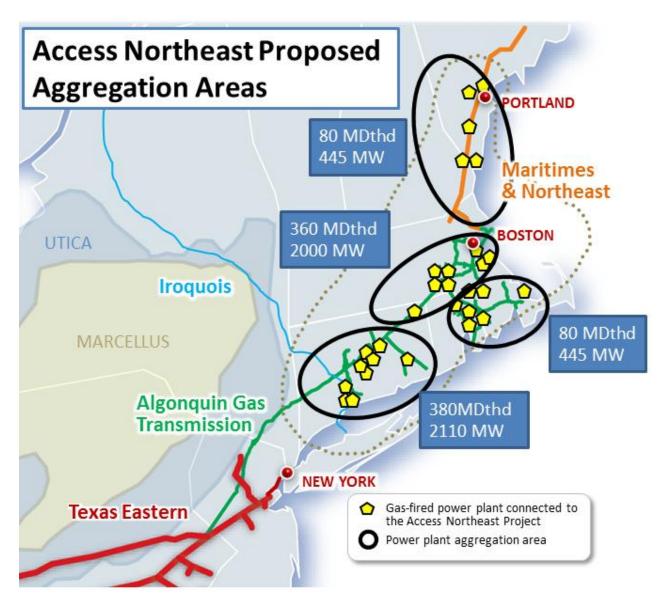


Agonquin company, suite 500 – 650 Winter Street, Wallball, Mr., 02451. Agonquin does not guarantee the accuracy of this map not the due defined to the company of the street of the control of the contro

Map 1: Names and Locations of Natural Gas-Fired Generators on Algonquin



**Map 2: Names and Locations of Natural Gas-Fired Generators on Maritimes** 



Map 3: Access Northeast Proposed Aggregation Areas.