



April 7, 2016

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, D.C. 20426

Re: PennEast Pipeline Company, LLC, Docket No. CP15-558-000  
Responses to March 29, 2016 Engineering Data Request  
OEP/DPC/CB-1

Dear Ms. Bose:

PennEast Pipeline Company, LLC (PennEast) hereby submits responses to the Engineering Data Request issued by the Office of Energy Projects division of the Federal Energy Regulatory Commission (FERC or Commission) on March 29, 2016, in the above-referenced proceeding (Engineering Data Request).

The hydraulic models provided in the attachments contain privileged information and are marked **“Contains Privileged Information—Do Not Release.”**<sup>1</sup> Privileged information should be treated as confidential and is for use by the Commission Staff only and not to be released to the public. PennEast is also requesting privileged treatment as Critical Energy Infrastructure Information (CEII) for the hydraulic models, which have been marked **“Contains Critical Energy Infrastructure Information—Do Not Release.”**<sup>2</sup> Information that is CEII should be treated as confidential pursuant to Order No. 630, *et seq.* and is for use by the Commission Staff only and not to be released to the public.<sup>3</sup> Questions pertaining to confidential information may be submitted to:

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<sup>1</sup> 18 C.F.R. § 388.112 (2015).

<sup>2</sup> 18 C.F.R. §§ 388.112(b), 388.113 (2015).

<sup>3</sup> *Critical Energy Infrastructure Information*, Order No. 630, FERC Stats. & Regs. Regulations Preambles ¶ 31,140 (2003), 68 Fed. Reg. 9857 (Mar. 3, 2003), *order on reh’g*, Order No. 630-A, 104 FERC ¶ 61,106 (2003), 68 Fed. Reg. 46456 (Aug. 6, 2003).

Ms. Kimberly D. Bose, Secretary

April 7, 2016

Page 2

Pursuant to Section 385.2010 of the Commission's regulations, 18 C.F.R. § 385.2010 (2015), PennEast is contemporaneously serving copies of this transmittal letter and its narrative responses to persons whose names appear on the Official Service List in this proceeding.

Should you have any questions concerning this filing, please contact me at (610) 406-4322.

Sincerely,

/s/ Anthony C. Cox

Anthony C. Cox

PennEast Pipeline Company, LLC,

By its Project Manager

UGI Energy Services, LLC

cc: Medha Kochhar (FERC)  
Darya Khanin (FERC)  
All Parties of Record (without attachments)



### **Data Request 1**

In the application, PennEast states that the proposed compressor station will provide a total of 47,700 ISO horsepower (HP) of compression from three gas turbine-driven Solar Mars 100 compressor units. Explain why the power installed specified in the hydraulic model exceeds the ISO rating for the compressor station.

### **Response 1**

When the compression was added into the Synergie model, the selection for the elevation de-rating method in the driver configuration was “Standard”. The maximum power was then set at 16,378.50 HP per unit so that the program would calculate a maximum available power of 15,361 HP per unit, which was equivalent to the minimum performance at 0° F provided by Solar at the time of the analysis for the actual location elevation of the Kidder Compressor Station. The hydraulic models provided herein as Attachment 1 to this response and filed as Privileged and Critical Energy Infrastructure Information (CEII) serve to correct the configuration, in that the elevation de-rating method is set to “None”, and the maximum power is set at the ISO rating of 15,900 HP per unit or a total of 47,700 ISO HP.

The maximum utilization factor was then adjusted for each hydraulic model to establish the available horsepower guaranteed by Solar based on the ambient temperature conditions. As explained in Exhibit G-II included with PennEast’s September 24, 2015 certificate application in this proceeding, Exhibit G reflects the daily design capacity of the system based on a Solar-guaranteed compressor HP of 13,770 HP per unit at 60° F ambient air temperature. Similarly, as explained in Exhibit G-II, the Exhibit G-I reflects the maximum capacity of the system based on a Solar-guaranteed compressor HP of 14,436 HP per unit at 40° F ambient air temperature.

**Data Request 2**

PennEast provided a single hydraulic model. In this hydraulic model the flow and horsepower required matched the amount in Exhibit G-I. However the site conditions match Exhibit G.

- a. State whether the model provided is for Exhibit G or G-I. Provide the other model as required per §157.208(c)(5) of the regulations.
- b. Reconcile the difference between the hydraulic model and the corresponding flow diagram. Otherwise provide updated hydraulic model and/or flow diagram.

**Response 2**

Updated hydraulic models are provided herein as Attachment 2, which is being filed as Privileged and CEII. The hydraulic model names reflect to which exhibit (Exhibit G or G-I) each model can be attributed.

**Data Request 3**

How was the compressor pressure ratio that is specified in the Exhibit G-I flow diagram calculated?

**Response 3**

The compressor ratio in the Exhibit G-I flow diagram was calculated using the following:

$$\text{Pressure ratio} = (\text{Unit Discharge Pressure [psia]}) / \text{Unit Suction Pressure [psia]}$$

$$\text{Atmospheric Pressure} = 14.4 \text{ psia}$$

$$\text{Exhibit G-I Pressure ratio} = (1,346 + 14.4) / (685 + 14.4) = 1.9648$$

**Data Request 4**

Confirm the value of the pipe roughness.

**Response 4**

The pipe roughness used in the model is 0.00006 inches, which is the value PennEast uses for internally coated pipe. PennEast has elected to use internally coated pipe to maximize efficiency.

**Data Request 5**

Explain why the flow diagrams and hydraulic model show no gas being delivered through the proposed laterals.

**Response 5**

The flow diagrams and hydraulic model reflect a design scenario in which all of the flow travels the entire length of the pipeline, while still maintaining sufficient pressure to initiate flow at any of the delivery points.

**Data Request 6**

In the Exhibit Gs it is specified that a certain pressure is required for delivery at the Transco Delivery Station. However, the pressure at the delivery station is significantly higher in both the Exhibit G and G-I. Under what circumstances would PennEast deliver gas to Transco at the pressure required for delivery as specified in the Exhibit Gs?

**Response 6**

The Exhibit Gs reflect scenarios in which there is sufficient pressure to initiate flow at any of the delivery points. The controlling delivery point is Columbia Gas Transmission at Hellertown, which requires a delivery pressure of up to 1,200 psig. As the Exhibit Gs show, with the pressure at Hellertown maintained at 1,200 psig and with the entire flow travelling the length of the pipeline to Transco, there is sufficient pressure at all of the other delivery points to initiate flow. In other words, the pipeline operating pressure is developed based on the Columbia requirement only (assumes all volumes are delivered there as a worst-case scenario), and the delivery pressure that results at Transco merely results from this pre-set constraint at Columbia.