

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Suburban)	
Natural Gas Company for an Increase in Gas)	Case No. 18-1205-GA-AIR
Distribution Rates)	
In the Matter of the Application of Suburban)	Case No. 18-1206-GA-ATA
Natural Gas Company for Tariff Approval)	
In the Matter of the Application of Suburban)	
Natural Gas Company for Approval of Certain)	Case No. 18-1207-GA-AAM
Accounting Authority)	

**DIRECT TESTIMONY
OF
KYLE GRUPENHOF
IN SUPPORT OF THE STIPULATION**

On Behalf of
THE SUBURBAN NATURAL GAS COMPANY

Management Policies, Practices, and Organization

Operating Income

Rate Base

Allocations

Rate of Return

Rates and Tariffs

X Other

June 7, 2019

1 **Q. Please state your name and business address.**

2 **A.** Kyle D. Grupenhof, 4700 Homer Ohio Lane. Groveport, Ohio 43215.

3 **Q. By whom are you employed and in what capacity?**

4 **A.** I am employed by Utility Technologies International Corporation (UTI) as a Professional
5 Engineer. My current position is as an Engineering Manager.

6 **Q. How long have you been employed with UTI and what positions have you held?**

7 **A.** I joined UTI as a Project Engineer in June 2012 after graduating with my Master's Degree.
8 In this role, I worked under UTI's Director of Engineering to design and draft pipeline
9 alignments, pipeline facilities, and many other engineering tasks related to the design,
10 construction, and operation of natural gas pipelines. In August 2016, I was promoted to
11 Senior Engineer, where I performed many of the same roles, but began managing certain
12 clients, developing pipeline system models, managing company standards, and overseeing
13 lower level engineers. Finally, I became an Engineering Manager in June 2017. In this
14 role, I directly manage the majority of the day-to-day engineering-related tasks for UTI.

15 **Q. Can you please describe your educational background?**

16 **A.** I graduated from Ohio University with a Bachelor of Science degree in civil engineering
17 in 2010. From there, I went on to earn my Master of Science degree in structural
18 engineering from Ohio University in 2012. I received my Professional Engineering license
19 in December of 2015.

20 **Q. Please describe the operations of UTI?**

21 **A.** UTI provides a wide range of services to the natural gas industry in Ohio, West Virginia,
22 Pennsylvania, Michigan, and other surrounding states. Our services include engineering,
23 project and construction management, compliance task work, and operator qualification

1 training. UTI's client base covers the entire natural gas pipeline industry, including
2 gathering pipeline operators, transmission pipeline operators, and distribution pipeline
3 operators.

4 **Q. What is UTI's role regarding the operations of Suburban Natural Gas Company**
5 **(Suburban)?**

6 **A.** UTI provides front-end engineering design work for a majority of Suburban's construction
7 projects, system modeling and forecasting for both its northern and southern systems, and
8 assists with operations and maintenance compliance work.

9 **Q. What is the purpose of your testimony?**

10 **A.** I am supporting the need for and inclusion of the 4.9-mile extension of the 12-inch high
11 pressure steel pipeline on Suburban's system (DEL-MAR Extension) as a term of the
12 Stipulation and Recommendation (Stipulation) that was filed in this proceeding on May
13 23, 2019.

14 **Q. Which specific term of the Stipulation are you supporting?**

15 **A.** I am supporting the provisions concerning the DEL-MAR Extension and inclusion of the
16 DEL-MAR Extension in the Stipulation. The pertinent provisions are found in the
17 Stipulation in Section III.A.5.d-e. More specifically, my testimony explains the need for
18 the DEL-MAR Extension in the winter of 2018-2019. I will explain the engineering needs
19 underlying the decision to construct the 4.9-mile DEL-MAR Extension and have it
20 pressurized and placed into service for the winter of 2018-2019, the process used by UTI
21 and Suburban in reaching that decision, and UTI's role in managing the construction of the
22 pipeline. I will further explain the benefits that the DEL-MAR Extension provides to
23 Suburban's current customers.

1 **Q. What was UTI's role in determining the ultimate need for the DEL-MAR Extension?**

2 **A.** As I mentioned previously and will explain further below, UTI worked with Suburban to
3 model and resolve a concern that Suburban had about low pressures experienced on
4 Suburban's southern system during an extreme weather event. We ran modeling and
5 provided an engineering assessment regarding the need for a pipeline extension given the
6 capabilities of the then-existing system to meet demand needs and safely supply natural
7 gas to Suburban's existing customers in the most extreme of situations, as well as the
8 potential growth in customers on Suburban's southern system, which will cause an increase
9 in demand.

10 **Q. When did you begin assessing the pressure concerns raised by Suburban?**

11 **A.** We were asked by Suburban to develop a model of Suburban's southern system under cold
12 weather conditions in early 2015. Specifically, on a very cold day in February 2015,
13 Suburban's system experienced a pressure concern at the southern end of Suburban's
14 pipeline system. At that point we began our modeling process and our assessment of the
15 existing system to determine whether there was a need to take action and, if so, what the
16 resolution would be to address the pressure concerns.

17 **Q. Can you please describe what factors you look at in determining the need for a**
18 **pipeline extension?**

19 **A.** We modeled different scenarios to determine what happened in February 2015 and how
20 the system would perform in each of the three subsequent years. Specifically, we looked
21 at whether the system could safely serve Suburban's existing customers at sufficient
22 pressures under extreme operating conditions going forward. If the line pressures become
23 too low, then Suburban is at the risk of experiencing a catastrophic system crash. Given
24 that the pressure at the southern terminus of the six-inch pipeline at the Lazelle Road point

of delivery is lowest when demand is highest, it is likely that such an outage would occur during an especially cold period, thus leaving customers without gas during a time when customers and businesses need gas the most.

Q. If a system crash occurred due to low pressure on Suburban's system, how long would it take a Company like Suburban to restore service?

A. It is difficult to determine an exact amount of time, but the length of the outage would be substantial; several weeks at a minimum.

Q. Why?

A. The process for restoring service after an outage contains several steps. First, Suburban would have to individually purge every single service line on its system, which includes over 13,000 service lines. Then, depending on the nature of the specific outage, Suburban would need to immediately design and execute a service restoration plan for the affected area(s). Suburban would certainly need to call upon other gas utilities for assistance. Following that process, Suburban would need to go to every home and business it serves and conduct a leakage inspection before finally being able to restore service. Each customer would have no gas service available up and until this time. Given that a vast majority of Suburban's customers utilize natural gas for heating, I would also expect these customers to be without heat during the service restoration period. This is why it is imperative that Suburban anticipate extreme surges in demand that would likely be experienced on the extreme cold days.

Q. Why is it important to anticipate extreme surges in customer demand?

A. Every natural gas utility has an inherent responsibility to continuously serve gas to its customer base. The gas served must be of an adequate volume and pressure in a wide variety of scenarios to prevent the type of system-wide outage I discussed above.

1 **Q. What is the minimum safe operating pressure on Suburban's system?**

2 **A.** It would depend on the location within the system. Given the extreme weather event in
3 February 2015, we were concerned with the farthest, southern point of the system, the
4 Lazelle Road point of delivery. Historically, UTI and Suburban have identified the Lazelle
5 Road point of delivery as one of several key points on Suburban's system at which pressure
6 needs to be monitored to assess the safe operation of the entire system. At this location in
7 the system, we determined that the pressure needs to be maintained above a minimum of
8 100 psig. In order to ensure safe and uninterrupted service to heat-sensitive customers,
9 UTI and Suburban installed a check valve to open when the pressure at the Lazelle Road
10 point of delivery falls to approximately 100 psig. This permits gas supply to enter the
11 system from Columbia Gas of Ohio's medium pressure system. This will have the effect
12 of increasing pressure at Lazelle Road.

13 **Q. Has an event ever occurred where pressure at the Lazelle Road point of delivery**
14 **dropped below 100 psig?**

15 **A.** Yes. In fact, our modeling began after Suburban observed that the pressure dropped below
16 100 psig at the Lazelle Road point of delivery in February 2015. At that point, Suburban
17 was concerned that the supplemental Lazelle Road point of delivery alone was insufficient
18 and that the system could be at risk for a failure, and that we needed to begin our modeling
19 to determine an appropriate solution.

20 **Q. How did you model the system for the three-year period?**

21 **A.** First, we realized that we needed to update our digital map of Suburban's southern system
22 to more accurately reflect the existing pipeline system and customer base and to conduct
23 our modeling. This would enable us to forecast pressures at specific points within the
24 system under various scenarios and system conditions. Once the model was built, we

1 investigated multiple scenarios over the next few years in order to determine the best
2 engineering solution to alleviate any system pressure deficiencies, which may result in a
3 system failure.

4 **Q. What was UTI's recommended engineering solution to alleviate system pressure**
5 **deficiencies?**

6 **A.** Reports reflecting our modeling are attached to my testimony as Attachment KDG-1.
7 Based on the modeling results and a variety of other factors, UTI recommended a 4.9-mile
8 extension of the 12-inch high pressurized DEL-MAR pipeline.

9 **Q What did you learn from the models?**

10 **A.** Our models conducted in December 2015 and February 2016 both showed that Suburban
11 could potentially have low pressure issues at the Lazelle Road point of delivery by the
12 winter of 2018-2019 if another extreme cold weather event occurred. If this came to
13 fruition, it would jeopardize the safety and reliability of Suburban's system in the near
14 future.

15 **Q. What were the assumptions that you included in the base model?**

16 **A.** For the base model, we assumed that all points of delivery were fully operational and were
17 all supplying adequate pressure. We also assumed that each individual customer in the
18 system model was utilizing the same amount of gas as was calculated during the February
19 2015 event.

20 **Q. How were you able to model future years?**

21 **A.** We started with the base model assumptions, and then incrementally added Suburban's
22 projected customer growth for each of the three subsequent years.

1 **Q. What alternatives to a 4.9-mile xtension of the existing 12-inch DEL-MAR pipeline**
2 **did you consider?**

3 A. We considered several different options. We looked at a potential new interconnection
4 with Columbia Gas of Ohio at the intersection of Orange Road and Old State Road, which
5 was found to be cost-prohibitive. We also looked at pipeline extensions of different lengths
6 and determined, in conjunction with Suburban, that the 4.9-mile extension would be the
7 best option given costs, regulatory approvals, timeline, and the benefit to customers.

8 **Q. How did you proceed at this point?**

9 A. We recognized that we needed to start the process of constructing an extension to the DEL-
10 MAR pipeline. UTI then obtained estimates for design, labor, materials, right-of way-
11 costs, environmental and utility permitting efforts, inspection work, and regulatory
12 approvals. From there, Suburban and UTI sought approval from the Ohio Power Siting
13 Board for the plans for the construction of the pipeline extension in Case No. 18-54-GA-
14 BLN. After the Ohio Power Siting Board approval was obtained in March 2018, Suburban
15 ordered materials and began the construction process, with an anticipated completion date
16 of December 2018.

17 **Q. Were there any delays in construction?**

18 A. Unfortunately, there were. The weather during the fall of 2018 made construction difficult,
19 thus slowing the process. Moreover, issues obtaining the necessary easements and permits
20 for construction to begin further delayed the start of construction.

21 **Q. Was construction of the DEL-MAR Extension completed prior to February 28, 2019?**

22 A. Yes.

1 **Q. Was the DEL-MAR Extension serving existing customers on February 28, 2019?**

2 **A.** Yes, the extension went into service on February 22, 2019 and began serving existing
3 customers at that time.

4 **Q. Do you believe that the DEL-MAR Extension benefits existing customers and serves**
5 **the public interest?**

6 **A.** Yes. Given that the modeling showed that in the winter heating season of 2018-2019 there
7 could potentially be low pressures on the southern system at the Lazelle Road point of
8 delivery, the extension alleviates the risk of a potential catastrophic system failure and
9 associated outages for existing customers. Allowing this risk to persist on Suburban's
10 system without taking action would harm existing customers and be contrary to the public
11 interest.

12 **Q. Is the DEL-MAR pipeline extension also expected to serve future customers who are**
13 **not yet on Suburban's system?**

14 **A.** Yes, of course. Delaware County, in which Suburban is located, has historically been one
15 of the fastest growing counties in Ohio and we absolutely had to consider that when we
16 considered the capacity that the pipeline would need to handle for future growth. We
17 determined, through our modeling, that Suburban could experience dangerously low
18 system pressure in the winter of 2018-2019. Beyond that time frame, we believed that the
19 DEL-MAR Extension would alleviate the potential for low pressures at the Lazelle point
20 of delivery for several more years and could sustain the addition of 4,000
21 customers. Meaning, Suburban would not experience any potential low pressure scenarios
22 until 4,000 additional customers were added to the system beyond the winter of 2018-
23 2019. Even if it were possible for us to design and construct a pipeline extension that
24 serves the precise number of existing customers as of the date of completing construction,
25 it would not be a logical, economical, or sensible way to build out and improve a gas

1 pipeline system. To do so would have meant UTI and Suburban would be back in the field
2 this year constructing another pipeline extension to serve customers added in 2019. This
3 piecemeal method of construction would have resulted in substantially greater costs to
4 Suburban and its customers as well as potentially endangering the system's safety and
5 reliability.

6 **Q. Does the phase-in for cost recovery of the DEL-MAR Extension included in the**
7 **Stipulation change your analysis?**

8 **A.** No, absolutely not. There was and is a need on the system to have adequate pressure to
9 serve existing customers. UTI's engineering analysis determined that a pipeline extension
10 was needed and necessary to maintain adequate pressure to serve Suburban's customers.
11 The DEL-MAR Extension has been placed in service to satisfy that need. The phase-in for
12 cost recovery of the DEL-MAR Extension does not change that need; it simply phases in
13 cost recovery.

14 **Q. Does this conclude your testimony?**

15 **A.** Yes

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and accurate copy of the foregoing was served on June 7, 2019, by electronic mail upon the persons listed below.

/s/ Brian W. Dressel

Brian W. Dressel

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Summary: Testimony Grupenhof Testimony in Support of Stipulation electronically filed by Mr. Brian W Dressel on behalf of Suburban Natural Gas Company