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DEO EXHIBIT 4.0

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of The East)
Ohio Gas Company d/b/a Dominion East Ohio)
for Approval of Tariffs to Recover Certain) Case No. 08-169-GA-ALT
Costs Associated with a Pipeline Infrastructure)
Replacement Program Through an Automatic)
Adjustment Clause, And for Certain)
Accounting Treatment.)

**DIRECT TESTIMONY OF ERIC S. HALL ON BEHALF OF
THE EAST OHIO GAS COMPANY d/b/a DOMINION EAST OHIO
IN SUPPORT OF MOTION TO MODIFY ORDER
APPROVING ALTERNATIVE RATE PLAN**

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1 **I. INTRODUCTION**

2 **Q1. Please introduce yourself.**

3 A1. My name is Eric S. Hall. I am employed by The East Ohio Gas Company d/b/a Dominion
4 East Ohio ("DEO"), as its Director, Gas Operations. My business address is 1201 East 55th
5 Street, Cleveland, OH 44103.

6 **Q2. Please describe your educational background and work experience.**

7 A2. In 1982, I received a Bachelor of Science degree in mechanical engineering from Case
8 Western Reserve University. I received a Masters degree in Business Administration from Case
9 Western in 1988. For the past 28 years, I have worked for DEO or its predecessors. Since April
10 2006, I have served as Director, Gas Operations. Prior to this position, I served in a variety of
11 roles in distribution, transmission and storage operations, and marketing, including positions as
12 Director of Compliance and Director of Transmission Storage Operations.

13 **Q3. What are your current job responsibilities as Director, Gas Operations?**

14 A3. I am responsible for pipeline safety compliance, including distribution pipelines as well as
15 DEO's transmission pipeline integrity program. Other areas of operations responsibility include
16 underground facility damage prevention, and DEO's leak repair, leak surveillance, and corrosion
17 control programs.

18 **Q4. As part of your job responsibilities, do you monitor gas pipeline safety incidents that**
19 **occur in the United States?**

20 A4. Yes, I monitor publicly available information about gas pipeline safety issues that affect our
21 business. That information includes gas industry publications and electronic sources such as the
22 Internet. I also review information from local sources such as the Ohio Gas Association and the
23 Ohio Oil and Gas Association. I am a member of the American Gas Association's Operations

1 Managing Committee and review AGA communications to this group. Members of DEO's
2 Pipeline Safety team also monitor pipeline safety events and report this information to me.

3 **Q5. What is the purpose of your testimony?**

4 A5. My testimony discusses the potential consequences of incidents involving aging pipeline
5 infrastructure. In this regard, I discuss recent pipeline safety incidents that have occurred in
6 Ohio and elsewhere. These incidences explain why DEO must accelerate the replacement of
7 DEO's older high pressure infrastructure, which operates at 100 pounds per square inch or more.
8 DEO's remaining bare and ineffectively coated high pressure pipelines are less likely to leak
9 than DEO's bare and ineffectively coated pipelines that operate at lower pressures, but the high
10 pressure pipelines have a much higher consequence if a failure does occur. In the second PIR
11 recovery period, which ended before the recent pipeline incidents occurred, DEO focused more
12 on replacing lower pressure infrastructure, where greater O&M savings could be achieved.
13 Allowing DEO to approximately double its annual PIR expenditures will enable DEO to replace
14 its aging high pressure pipelines concurrently with the lower pressure pipelines, providing
15 simultaneous benefits in the areas of safety and cost savings.

16 **II. PIPELINE FAILURES**

17 **Q6. How prevalent are pipeline incidents in the United States?**

18 A6. As the nation's pipeline infrastructure ages, the likelihood of pipeline hazards increases.
19 According to the Pipeline and Hazardous Materials Safety Administration ("PHMSA"), there are
20 over 2 million miles of natural gas distribution pipeline in the United States. Since 1991, there
21 have been 1,596 significant incidents involving gas distribution pipelines, with 293 fatalities and
22 1,168 injuries. A "significant incident" is defined as an incident in which there is an
23 unintentional release of gas from a jurisdictional pipeline and one or more of the following

1 occur: a fatality or injury requiring in-patient hospitalization, \$50,000 or more in total damages,
2 or gas loss of three million cubic feet or more. Since 2001, Ohio has had 32 significant gas
3 distribution pipeline incidents, resulting in four fatalities and 16 injuries.

4 **Q7. Have any significant pipeline incidents occurred recently?**

5 A7. Unfortunately, yes. The most serious was the September 9, 2010 rupture of a high-
6 pressure transmission line in a residential neighborhood in San Bruno, California. Thirty-seven
7 homes were destroyed and eighteen damaged from the resulting explosion and fire. Eight people
8 were killed and around 50 injured. An ongoing investigation has revealed that the pipe that
9 ruptured was installed in 1956. Since the San Bruno incident, serious incidents have also
10 occurred in Michigan, Pennsylvania and Ohio.

11 **Q8. What happened in Michigan?**

12 A8. In the morning of December 29, 2010, Consumers Energy received two calls reporting
13 the smell of natural gas. As Consumers Energy employees were onsite investigating the odor
14 complaint, a furniture store two blocks away exploded, killing two people in the store and
15 critically injuring a third. Consumers Energy has confirmed that a leak was discovered on the
16 gas main adjacent to the site of the explosion. The pipeline involved was a steel distribution main
17 installed in 1940. The cause of the leak is still under investigation by the Michigan Public
18 Service Commission and PHMSA.

19 **Q9. What happened in Pennsylvania?**

20 A9. On January 18, 2011, employees of Philadelphia Gas Works were investigating a leak on
21 a cast-iron, 12-inch gas distribution main that had been in service since the 1940s. Thirty people
22 in the area were evacuated as utility employees tried to shut off gas to the main. Before the
23 utility was able to stop the flow of gas, an explosion occurred, killing a nineteen-year-old utility

1 worker and injuring six others. The Pennsylvania Public Utility Commission and PHMSA
2 continue to investigate this incident.

3 Another incident occurred a few weeks later in Allentown, Pennsylvania. A 12-inch cast-
4 iron distribution main that had been in service for 83 years and had no active leak history
5 ruptured. In the resulting explosion and fire, five people died, including a four-month old baby
6 and a couple in their 70s. In addition, 47 homes were damaged, eight of which were completely
7 destroyed. The Pennsylvania Public Utility Commission and UGI Utilities are currently
8 investigating the cause of the explosion.

9 **Q10. Have there been any recent events in Ohio?**

10 A10. Yes. In February 2011, a 36-inch Tennessee Gas Pipeline Company transmission line
11 running through a rural section of Columbiana County began to leak and caught fire, damaging
12 one home but fortunately not hurting anyone. Tennessee Gas is currently investigating the
13 incident with local authorities. In addition, in December 2009, DEO's 16-inch, high pressure
14 distribution main along Midlothian Road in Youngstown, Ohio ruptured. Installed in 1946, this
15 pipeline was subsequently determined to be ineffectively coated, but did not have an active
16 history of leak indications. DEO's independent consultants determined that a poorly bonded, low
17 frequency electric-resistance welded pipe seam, in conjunction with preferential corrosion of the
18 seam, caused the pipeline to rupture. Fortunately, this incident did not cause any personal injury,
19 or building or structural damage, and the gas released did not ignite.

20 **Q11. Does DEO have any bare steel or ineffectively coated high-pressure pipeline**
21 **remaining in its system?**

22 A11. Yes. Although all pipe operating at more than 1 psig that came from the same production
23 lot as the pipe that ruptured at Midlothian Road has been identified and removed, DEO still has

1 approximately 245 miles of bare steel or ineffectively coated high pressure distribution pipeline
2 in its system.

3 **Q12. Do the pipeline incidents you have described support the approach discussed by**
4 **Company Witness Timothy McNutt to refocus on the replacement of high pressure**
5 **distribution pipeline?**

6 A12. Yes. Mr. McNutt describes why there was a shift in emphasis from a risk-based
7 prioritization approach to an approach that attempted to identify pipeline replacements with a
8 potential to generate greater operating and maintenance ("O&M") cost savings. The desire to
9 achieve O&M cost savings should not overlook the fact that the PIR Program is first and
10 foremost a safety program. The incidents that I have discussed in my testimony will hopefully
11 impress upon the Commission that the potential consequences of failure of a high pressure
12 pipeline can be catastrophic. A pipeline rupture of a high pressure gas main can release a
13 tremendous amount of gas in a very short period of time. These events can occur quickly and
14 prior leak history is not always a good leading indicator of the potential for pipeline ruptures.
15 Leaks from lower pressure pipelines can also be serious, but the potential consequences are
16 generally less catastrophic. A leaking low pressure pipe will release less gas than a similar leak
17 on a high pressure line. In addition, many of the gas leaks detected on lower pressure pipelines
18 are non-hazardous, leaving more time to respond and repair the leak. In weighing the risks and
19 benefits associated with the replacement of high pressure and lower pressure pipelines, DEO
20 believes priorities need to be placed on both, with particular attention paid to DEO's remaining
21 larger diameter, bare and ineffectively coated high pressure distribution pipelines.

1 **Q13. What will happen if the Commission does not authorize DEO to further accelerate**
2 **the PIR Program?**

3 A13. DEO will continue to rank and prioritize PIR-related work in a manner that
4 balances public safety and O&M cost savings. However, as Mr. McNutt discusses, if DEO were
5 to focus only on the replacement of high pressure distribution pipelines it will not result in
6 significant O&M savings associated with leak repairs because these pipes typically have minimal
7 leak history or other leading indicators for replacement. If DEO, the Commission, OCC and
8 customers want to realize accelerated improvements in pipeline safety from the replacement of
9 the older high pressure distribution pipelines, and also increased O&M savings from reduced
10 pipeline leaks, DEO will need to ramp up spending, so it can focus more resources
11 simultaneously on both high pressure and lower pressure pipeline replacements. DEO will not
12 be able to do both within the current cost recovery and capital spending limitations.
13 Maintaining the status quo will mean the potential pipeline safety improvements and O&M
14 savings benefits will be delayed.

15 **Q14. Does this conclude your testimony?**

16 A14. Yes.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Direct Testimony of Eric S. Hall was served by U.S. Mail to the following on this 31st day of March, 2011:

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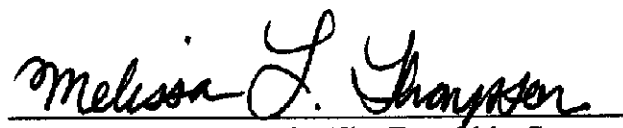
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A handwritten signature in black ink, reading "Melissa L. Thompson". The signature is written in a cursive style and is positioned above a horizontal line.

One of the Attorneys for The East Ohio Gas
Company d/b/a Dominion East Ohio

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