

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Vectren)
Energy Delivery of Ohio, Inc. for Approval) Case No. 18-0049-GA-ALT
of an Alternative Rate Plan.)

In the Matter of the Application of Vectren)
Energy Delivery of Ohio, Inc. for Approval) Case No. 18-0298-GA-AIR
of an Increase in Gas Rate)

In the Matter of the Application of Vectren)
Energy Delivery Ohio, Inc. for Approval of) Case No. 18-0299-GA-ALT
an Alternative Rate Plan.)

**DIRECT TESTIMONY
OF
JAMES D. WILLIAMS**

On Behalf of
The Office of the Ohio Consumers' Counsel
65 East State Street, 7th Floor
Columbus, Ohio 43215-4213

November 7, 2018

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ATTACHMENTS

Attachment JDW-01 List of Previous Testimony Filed at the PUCO by James Williams

Attachment JDW-02 VEDO Response to Staff DR-28(2)

Attachment JDW-03 Staff Report Schedule WPC-3.17a

Attachment JDW-04 Staff Report Schedule WPC-3.17b

Attachment JDW-05 DARR Performance Measures

1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.***

4 ***A1.*** My name is James D. Williams. My business address is 65 East State Street, 7th
5 Floor, Columbus, Ohio 43215. I am employed by the Office of the Ohio
6 Consumers' Counsel ("OCC") as a Utility Consumer Policy Expert.

7

8 ***Q2. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATION AND***
9 ***PROFESSIONAL EXPERIENCE.***

10 ***A2.*** I am a 1994 graduate of Webster University, in St. Louis, Missouri, with a Master
11 of Business Administration, and a 1978 graduate of Franklin University, in
12 Columbus, Ohio, with a Bachelor of Science, Engineering Technology. My
13 professional experience includes a career in the United States Air Force and over
14 22 years of utility regulatory experience with the OCC.

15

16 Initially, I served as a Compliance Specialist with the OCC and my duties
17 included the development of compliance programs for electric, natural gas, and
18 water industries. Later, I was designated to manage the agency's specialists who
19 were developing compliance programs in each of the utility industries. My role
20 evolved into the management of OCC's consumer hotline, the direct service
21 provided to consumers to resolve complaints and inquiries that involved Ohio
22 utilities. Following a stint as a Consumer Protection Research Analyst, I was
23 promoted to a Senior Utility Consumer Policy Analyst and later a Utility

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1 Consumer Policy Analyst. In these roles, my responsibilities involve developing
2 and recommending policy positions on utility issues that affect residential
3 consumers.

4
5 I have been directly involved in the development of policy issues that impact
6 Ohio residential utility consumers involving natural gas, electric, water, and
7 telecommunications for many years. My responsibilities have included
8 participating in the evaluation of several Public Utilities Commission of Ohio
9 (“PUCO”) cases involving the establishment of minimum natural gas and electric
10 service standards.¹ My responsibilities have also extended to review of utility
11 specific cases involving electric and natural gas service quality and the
12 establishment of minimum performance standards.² Specific to this proceeding, I
13 was involved in the review and OCC comments when appropriate in the minimum
14 gas service and pipeline standards in Ohio Adm. Code 4901:1-13 and Ohio Adm.
15 Code 4901:1-16. I have also been involved in the review of cases involving
16 electric and gas infrastructure upgrades including cases involving gas mains and
17 service line replacements.

¹ Ohio Adm. Code 4901:1-10.

² Such as: *In the Matter of Duke Energy Ohio, Inc.’s Application for Approval of Proposed Reliability Standards*, Case 09-757-EL-ESS, Application (August 28, 2009), Case No. 13-1539-EL-ESS, Application (June 28, 2013), Case No. 16-1602-EL-ESS, Application (July 22, 2016).

1 ***Q3. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY OR TESTIFIED***
2 ***BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO?***

3 ***A3.*** Yes. The cases that I have submitted testimony and/or have testified before the
4 PUCO can be found in Attachment JDW-01.

5
6 **II. SUMMARY OF MY TESTIMONY**

7
8 ***Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS***
9 ***PROCEEDING?***

10 ***A4.*** The purpose of my testimony is to explain and support OCC's position protecting
11 residential customers as it relates to the Application of Vectren Energy Delivery
12 of Ohio, Inc. ("VEDO" or the "Utility") to increase base rates. Specifically, I will
13 explain and support OCC's Objection Nos. 4, 5, and 6 ³ to the Staff Report filed
14 in this proceeding.⁴ These recommendations pertain to the amount of money that
15 VEDO will be able to collect from customers related to the Distribution
16 Accelerated Risk Reduction ("DARR"), Transmission Integrity Management
17 Program ("TIMP") and Distribution Integrity Management Program ("DIMP").
18 OCC's recommendations reduce the level of deferred expenses related to the
19 DARR that VEDO would be authorized to collect from customers. In addition,
20 these recommendations will reduce costs charged to customers for future DARR
21 related activities.

³ Office of the Ohio Consumers' Counsel, Objections to the Staff Report in Case No. 18-0298-GA-AIR (October 31, 2018).

⁴ Case 18-298-GA-AIR, Staff Report, (October 3, 2018).

**III. DISTRIBUTION ACCELERATED RISK REDUCTION (“DARR”)/
DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP”)/
TRANSMISSION INTEGRITY MANAGEMENT PROGRAM (“TIMP”).**

**A. DISTRIBUTION ACCELERATED RISK REDUCTION
 (“DARR”) PROGRAM**

Q5. CAN YOU PROVIDE SOME BACKGROUND ON THE VEDO DARR?

A5. Yes. In Case 15-1741-GA-AAM, VEDO requested authority to establish a regulatory asset to defer for accounting and financial reporting purposes, and for later collection from customers, the expenses related to the DARR program.⁵ The DARR includes a number of initiatives that are intended to reduce gas pipeline risks and for continuing the provision of safe and reliable service to consumers. The major provisions of the DARR include:⁶

- Expanded Leak Management Program;
- Enhanced Damage Prevention Program;
- Public Awareness;
- Workforce Training and Qualification for new Requirements;
- Pipeline Safety Management System Implementation; and
- Enhanced Risk Modeling and Threat Analysis.

⁵ *In the Matter of the Application of Vectren Energy Delivery of Ohio for Approval to Change Accounting Methods*, Application (October 9, 2015).

⁶ Id. Attachment A.

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1 While VEDO requested authority to defer O&M costs up to a level of \$4,000,000
2 per year between 2016 and 2018 for later collection from customers, the proposed
3 cost estimates for the DARR were \$2,892,700 in 2016, \$2,948,689 in 2017, and
4 \$3,072,269 for 2018.⁷

5
6 ***Q6. HOW DID VEDO PROPOSE ADDRESSING THE COLLECTION OF THE***
7 ***DARR DEFERRAL IN THIS PROCEEDING?***

8 ***A6.*** VEDO claims that the actual DARR expenses for 2016 and 2017 were \$2,249,183
9 and \$3,942,635, respectively.⁸ Additionally, VEDO claims that it plans to spend
10 \$3,927,000 in 2018 for a total three-year cost of \$10,118,818.⁹ VEDO
11 recommended that the total deferral be amortized over three years and be
12 collected from customers later.¹⁰

13
14 ***Q7. HOW DID THE STAFF REPORT ADDRESS THE COLLECTION OF THE***
15 ***DARR DEFERRAL FROM CUSTOMERS?***

16 ***A7.*** Staff recommended approval of \$2,249,183 for 2016, \$3,954,164 for 2017, and
17 \$2,772,040 for 2018 for a total of \$8,975,387.¹¹ However, Staff adjusted the
18 proposed 2018 deferred expenses to the latest data provided by the Utility.¹² Staff
19 recommends that the PUCO direct VEDO to file a late-filed exhibit with the

⁷ Id.

⁸ Direct Testimony of J. Caz Swiz, WPC-3-17 (April 13, 2018).

⁹ Id.

¹⁰ Id. Direct Testimony at 16.

¹¹ Staff Report, Schedule C-17 (October 3, 2018).

¹² Id.

1 actual expenses for 2018 that are to be charged to customers, when they are
2 determined.¹³

3
4 ***Q8. CAN YOU DESCRIBE OCC'S OBJECTION 4 REGARDING THE AMOUNT***
5 ***OF THE DEFFERRAL TO BE ADDRESSED IN THIS PROCEEDING AND***
6 ***COLLECTED FROM CUSTOMERS IN THE FUTURE?***

7 ***A8.*** Yes. OCC objected that the Staff Report failed to investigate the reasonableness
8 of the VEDO spending between 2016 and 2018 to verify that the expenses VEDO
9 is now seeking to collect from customers were reasonably incurred. For 2017, the
10 level of DARR spending greatly exceeded the original cost estimate. However,
11 there is no indication in the Staff Report that this additional spending was
12 scrutinized to make sure that the costs were necessary to provide safe and reliable
13 service or were just and reasonable charges to pass along to customers.
14 Furthermore, in approving the DARR, the PUCO required VEDO to use best
15 efforts to identify and implement efficiencies and cost-savings measures to reduce
16 the level of deferrals that are collected from customers.¹⁴ The Staff Report did not
17 address any efficiencies that were reviewed or any cost-savings measures that
18 were evaluated to ensure that customers are being charged fairly for the DARR
19 expenses. Therefore, it appears as though VEDO exercised very little restraint in
20 spending.¹⁵

¹³ Staff Report, October 3, 2018 at 16)

¹⁴ Case 15-1741-GA-AAM, Opinion and Order (November 3, 2016 at 4).

¹⁵ Id. at 2.

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1 Regarding 2018 DARR costs, the Utility had already addressed the vast majority
2 of the backlog in grade 3 leak remediations that were the reason that customers
3 were charged for the DARR.¹⁶ VEDO is now seeking to remediate newly
4 discovered leaks as they occur. But the accelerated repair of these leaks goes well
5 beyond the minimum PUCO rules and standards and can be expensive to
6 implement.¹⁷ Grade-three classified leaks are an indication of leakage that is not
7 hazardous at the time of detection and that can reasonably be expected to remain
8 non-hazardous.¹⁸ These leaks must be reevaluated as part of normal inspections.¹⁹
9 Even grade-two leaks, which are classified non-hazardous at the time of
10 discovery, do not require repair at the time the leak is discovered.²⁰ Similar to
11 grade-two leaks, these repairs do not require immediate or expedited treatment
12 when, and if, repairs can be performed in a more cost-effective manner through
13 the normal scheduling and maintenance process. .

14
15 While DARR has provided VEDO with more than sufficient financial resources
16 to repair nonhazardous and other leaks on its system, the PUCO also required that
17 the repairs be performed in a cost-effective manner. ²¹ But there is no indication
18 in the Staff Report that the efficiencies and cost savings measures that the PUCO
19 required when it approved the program were actually implemented.

¹⁶ Direct Testimony of Sarah J. Vyvoda (April 13, 2018)

¹⁷ Ohio Adm. Code 4901:1-16-04.

¹⁸ Id.

¹⁹ Id.

²⁰ Id.

²¹ 15-1741-GA-AAM Opinion and Order.

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1 The original cost estimate for the DARR was \$8,913,658 over a three-year period
2 from 2016 through 2018. Table 1 provides a comparison of the spending on an
3 annual basis compared with the annual plan.
4

5 Table 1: Comparison DARR Spending to Planned Spending

| Year | Planned Spending | Actual Spending | Overage/ (Underage) |
|------|------------------|---------------------------|---------------------------|
| 2016 | \$2,892,700 | \$2,249,183 | (\$643,517) |
| 2017 | \$2,948,689 | \$3,942,635 | \$993,949 |
| 2018 | \$3,072,269 | \$2,772,040 ²² | (\$300,229) ²³ |

6
7 My recommendation is that the Commission limit the amount of the DARR
8 deferral to \$8,270,141. Given that the Staff Report failed to review if the
9 additional \$993,949 that VEDO spent in 2017 was prudent and the costs are just
10 and reasonable, my recommendation is that the deferred amount from 2017 that is
11 eligible to be collected from customers be limited to the original planned amount
12 of \$2,948,689. While the actual DARR spending level for 2018 is unknown, I am
13 not opposed to the Utility being able to collect from customers up to the full
14 amount of \$3,072,269 that was originally planned. The PUCO Staff did not
15 review the 2017 or 2018 DARR programs to verify that the efficiencies and cost

²² Staff Report WPC-3-17a (attached herein as JDW-3). Year-to-Date Spending through July 2018.

²³ Staff proposed VEDO Year-to-date. Staff recommended that the PUCO order VEDO to file a late-filed exhibit for 2018 DARR expenses. Estimates of the actual spending level for 2018 in the application were in excess of \$3.9 million.

1 savings measures that the PUCO required when it approved the DARR were
2 indeed implemented.

3
4 Concerning the Staff Report recommendation regarding the amortization period, I
5 agree with the Staff recommendation to amortize the DARR deferral over a five-
6 year period instead of three.

7
8 **B. ON-GOING DARR AND RELATED IMP EXPENSES**

9
10 ***Q9. HOW DID VEDO PROPOSE ADDRESSING FUTURE DARR RELATED***
11 ***EXPENSES?***

12 ***A9.*** VEDO proposed that a five-year average of projected future DARR related
13 expenses between 2018 and 2022 be used to establish an on-going level of
14 funding for DARR related activities.²⁴ The five-year average proposed by VEDO
15 would result in an annual increase in expenses that customers pay by \$3,550,626.
16 VEDO also projected future expenses related to the DIMP and TIMP based upon
17 a five-year average between 2018 and 2022.²⁵ Use of the five-year average
18 projected DIMP and TIMP expenses resulted in projected expenses of \$652,190
19 and \$4,586,826 respectively.²⁶

²⁴ VEDO response to Staff Data Request DR-28(2) (Attached herein as JDW-2)

²⁵ Swiz Direct Testimony, WPC 3.17

²⁶ Id.

**Q10. HOW DID THE STAFF REPORT ADDRESS THE COLLECTION OF
FUTURE DARR RELATED AND DIMP/TIMP EXPENSES FROM
CUSTOMERS IN BASE RATES?**

A10. Staff recommends that the PUCO terminate VEDO's authority to defer the expenses for the DARR contemporaneous with the dates rates are established in this case.²⁷ Staff used five-year average of actual DIMP and TIMP expenses between 2013 and 2017 to recommend DIMP and TIMP expenses to be included in base rates.²⁸ For DARR-related activities to be included in base rates, Staff recommended using the alleged 2017 DARR expenses at a level of \$3,954,164. Use of the five-year average between 2013 and 2017 resulted in Staff recommending that DIMP be established at a level of \$573,907 in base rates and that TIMP be established at a level of \$3,316,294.²⁹

**Q11. CAN YOU EXPLAIN OCC'S OBJECTION 5 REGARDING THE AMOUNT
OF THE DARR-RELATED ACTIVITY, DIMP AND TIMP EXPENSES THAT
SHOULD BE ALLOWABLE IN BASE RATES?**

A11. Yes. While I agree with the Staff Report that the DARR deferral needs to end with the conclusion of this rate case, I am concerned whether the rates are just and reasonable for consumers. OCC agrees with Staff that it is inappropriate to set rates based on projections of future unknown costs.³⁰ However, the use of a five

²⁷ Staff Report at page 16.

²⁸ Id

²⁹ Id.

³⁰ Staff Report at page 16.

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year average of past costs from 2013 through 2017 to project a future rates as proposed by Staff is also inappropriate because the requirements for the VEDO integrity management program changed in 2016 with the approval of the DARR. A more reasonable indicator of future expense is the application of actual 2017 DIMP and TIMP expense data. Table 2 provides a comparison of the methodologies proposed by VEDO, the PUCO Staff, and OCC.

Table 2: Comparison of Methodologies

| | VEDO | PUCO Staff | OCC |
|-------------|---|--|--|
| Methodology | Five-year Average Projected TIMP and DIMP Expenses 2018 – 2022. | Five-year average Past TIMP and DIMP Expenses 2013 – 2017. | Use of 2017 Actual TIMP and DIMP Expenses. |
| Result | \$5,239,016 | \$3,890,201 | \$2,986,188 ³¹ |

My recommendation is that the 2017 DIMP expenses of \$345,604 and TIMP expenses of \$2,640,584 for a combined \$2,986,188 be continued for purposes of calculating addition to base rates. For the establishment of expenses to be included in base rates for continuing DARR related activities, my recommendation is to use the three-year average of the original planned estimates for 2016 - 2018 of \$2,971,219. This level of expenses is reasonable to enable VEDO to meet its PUCO pipeline safety requirements while repairing non-hazardous leaks and other objectives of the DARR initiative in a cost-effective manner.

³¹ Staff Report, WPC-3.17b (attached herein as JDW-4)

C. PERFORMANCE MEASURES

***Q12. IN CONTINUING THE CUSTOMER FUNDING FOR DARR RELATED
ACTIVITIES IN BASE RATES, DID THE STAFF REPORT REQUIRE
VEDO TO CONTINUE MAINTAINING ANY SPECIFIC PERFORMANCE
MEASURES FOR EACH DARR PROGRAM INITIATIVE?***

A12. No

***Q13. CAN YOU EXPLAIN OCC'S OBJECTION 6 REGARDING THE STAFF
REPORT FAILURE TO REQUIRE VEDO TO MAINTAIN SPECIFIC
PERFORMANCE MEASURES?***

A13. Yes. In approving the DARR, the PUCO specifically required VEDO in consultation with Staff to develop specific performance measures for each DARR program initiative. These measures are reported annually as shown in the attached DARR Annual Report (attached herein as JDW-5). My recommendation is that given the Utility is continuing to receive funding for DARR activities in base rates, to protect customers VEDO should be required to adhere to specific performance measures. My recommendation is that the PUCO require VEDO to work with Staff and the parties to this case to establish the specific performance measures that will be in place until rates are established in the next distribution rate case.

1 **IV. CONCLUSIONS**

2

3 ***Q14. CAN YOU SUMMARIZE YOUR CONCLUSIONS?***

4 ***A14.*** Yes. This case will determine the amount of money that VEDO is authorized to
5 charge customers for expenses made between 2016 and 2018 related to the DARR
6 program. The PUCO specifically required VEDO to initiate efficiencies and cost-
7 savings measures as it implemented DARR to help avoid unnecessary or
8 duplicative costs. The PUCO should reduce the amount of money that customers
9 have to pay for the DARR from the \$10.1 million requested by VEDO to \$8.3
10 million for the reasons explained above.

11

12 The collection of past DARR expenses should be amortized over five-years to
13 reduce the impact on consumers. Future collection for DIMP and TIMP expenses
14 should be based on actual 2017 expenses rather than projecting future costs.
15 Finally, the PUCO should mandate that specific performance measures be in place
16 to ensure that the funding for DARR related activities are being used effectively
17 and for their intended purpose.

18

19 ***Q15. DOES THIS CONCLUDE YOUR TESTIMONY?***

20 ***A15.*** Yes. However, I reserve the right to incorporate new information that may
21 subsequently become available through outstanding discovery or otherwise.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing *Direct Testimony of James D. Williams on Behalf of the Office of the Ohio Consumers' Counsel* was served via electronic transmission to the persons listed below on this 7th day of November 2018.

/s/ William Michael
William Michael
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Testimony of James D. Williams
Filed at the Public Utilities Commission of Ohio

1. *In the Matter of the Application of the Cincinnati Gas and Electric Company for an Increase in Its Rates for Gas Service to All Jurisdictional Customers, Case No. 95-0656-GA-AIR (August 12, 1996).*
2. *In the Matter of the Application of the Cincinnati Gas and Electric Company for an Increase in Its Rates for Gas Service to All Jurisdictional Customers, Case No. 01-1228-GA-AIR (February 15, 2002).*
3. *In the Matter of the Commission's Investigation into the Policies and Procedures of Ohio Power Company, Columbus Southern Power Company, The Cleveland Electric Illuminating Company, Ohio Edison Company, The Toledo Edison Company and Monongahela Power Company regarding installation of new line extensions, Case No. 01-2708-EL-COI (May 30, 2002).*
4. *In the Matter of the Application of The East Ohio Gas Company d/b/a Dominion East Ohio for an Increase in Its Rates for Gas Service to All Jurisdictional Customers, Case No. 07-0829-GA-AIR (June 23, 2008).*
5. *In the Matter of the Application of the Columbia Gas of Ohio, Inc. for Authority to Amend Filed Tariffs to Increase the Rates and Charges for Gas Distribution, Case No. 08-072-GA-AIR (September 25, 2008).*
6. *In the Matter of a Settlement Agreement Between the Staff of the Public Utilities Commission of Ohio, The Office of the Consumers' Counsel and Aqua Ohio, Inc. Relating to Compliance with Customer Service Terms and Conditions Outlined in the Stipulation and Recommendation in Case No. 07-564-WW-AIR and the Standards for Waterworks Companies and Disposal System Companies, Case No. 08-1125-WW-UNC (February 17, 2009).*
7. *In the Matter of the Application of the Ohio American Water Company to Increase its Rates for water and Sewer Services Provided to its Entire Service Area, Case No. 09-391-WS-AIR (January 4, 2010).*
8. *In the Matter of the Application of Aqua Ohio, Inc. for Authority to Increase its Rates and Charges in its Masury Division, Case No. 09-560-WW-AIR (February 22, 2010).*
9. *In the Matter of the Application of Aqua Ohio, Inc. for Authority to Increase its Rates and Charges in Its Lake Erie Division, Case No. 09-1044-WW-AIR (June 21, 2010).*

10. *In the Matter of the Application of The Ohio American Water Company to Increase its Rates for Water Service and Sewer Service*, Case No. 11-4161-WS-AIR (March 1, 2012).
11. *In the Matter of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan*, Case No. 11-346-EL-SSO, et al (May 4, 2012).
12. *In the Matter of the Application of The Dayton Power and Light Company for Approval of its Market Rate Offer*, Case No. 12-426-EL-SSO (June 13, 2012).
13. *In the Matter of the Application of Ohio Power Company to Establish Initial Storm Damage Recovery Rider Rates*, Case No. 12-3255-EL-RDR (December 27, 2013).
14. *In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan*, Case No. 13-2385-EL-SSO (May 6, 2014).
15. *In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service*, Case 14-841-EL-SSO (May 29, 2014).
16. *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan*, Case No. 14-1297-EL-SSO (December 22, 2014).
17. *In the Matter of the Application of Duke Energy Ohio, Inc., to Adjust Rider DR-IM and Rider AU for 2013 Grid Modernization Costs*, Case No. 14-1051-EL-RDR (December 31, 2014) and (February 6, 2015).
18. *In the Matter of the Application Not for an Increase in Rates Pursuant to Section 4901:18, Revised Code, of Ohio Power Company to Establish Meter Opt Out Tariff*, Case No. 14-1158-EL-ATA (April 24, 2015).
19. *In the Matter of the Application of Duke Energy of Ohio, Inc., for Approval of a Grid Modernization Opt-out Tariff and for a Change in Accounting Procedures Including a Cost Recovery Mechanism.*, Case 14-1160-EL-UNC and 14-1161-EL-AAM (September 18, 2015).

20. *In the Matter of the Application of Duke Energy Ohio, Inc., for Approval of an Alternative Rate Plan Pursuant to Section 4929.05, Revised Code, for an Accelerated Service Line Replacement Programs*, Case No. 14-1622-GA-ALT (November 6, 2015).
21. *In the Matter of the Complaint of Jeffrey Pitzer, Complainant, v. Duke Energy Ohio, Inc. Respondent.*, Case No. 15-298-GE-CSS (December 30, 2015).
22. *In the Matter of the Application of Ohio Power Company to Initiate Phase 2 of Its gridSMART Project and to Establish the gridSMART Phase 2 Rider.*, Case No. 13-1939-EL-RDR (July 22, 2016).
23. *In the Matter of the Application of Columbia Gas of Ohio, Inc. for Approval of Demand Side Management Program for its Residential and Commercial Customers.*, Case No. 16-1309-GA-UNC (September 13, 2016).
24. *In the Matter of the Application of the Dayton Power and Light Company for Approval of Its Electric Security Plan*, Case No. 16-0395-EL-SSO (November 21, 2016). Supplemental Testimony, (March 29, 2017).
25. *In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates and Charges for Its Waterworks Service.*, Case No. 16-0907-WW-AIR (December 19, 2016).
26. *In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143, in the Form of an Electric Security Plan*, Case No. 16-1852-EL-SSO, (May 2, 2017).
27. *In the Matter of the Application of the Ohio Development Services Agency for an Order Approving Adjustments to the Universal Service Fund Riders of Jurisdictional Ohio Electric Distribution Utilities*, Case No. 17-1377-EL-USF, (August 11, 2017).
28. *In the Matter of the Application of Duke Energy Ohio, Inc. to Adjust Rider AU for 2016 Grid Modernization Costs*, Case No. 17-690-GA-RDR, (August 18, 2017).
29. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Adjustment to Rider AMRP Rates*, Case No. 17-2318-GA-RDR, (April 5, 2018).
30. *In the Matter of the Application of Dayton Power and Light Company for an Increase in Electric Distribution Rates*, Case No. 15-1830-EL-AIR, (April 11, 2018).
31. *In the Matter of the Application of Duke Energy Ohio, Inc. for an Increase in Electric Distribution Rates*, Case No. 17-032-EL-AIR, et al, (June 25, 2018).

32. *In the Matter of the Complaint of Citizens Against Clear Cutting, et al., Complainants, v. Duke Energy Ohio, Inc. Respondent*, Case No. 17-2344-EL-CSS (August 27, 2018).
33. *In the Matter of the Application of Vectren Energy Delivery of Ohio, Inc. for Approval of an Increase in Gas Rates*, Case No. 18-0298-GA-AIR (November 7, 2018).

Vectren Energy Delivery of Ohio, Inc.
Data Request 28, Q2 - DARR Forecast 2018-2022
May 7, 2018

| Category | 2018 | 2019 | 2020 | 2021 | 2022 | 5 Year Avg |
|--|------------------|------------------|------------------|------------------|------------------|------------------|
| Expanded Leak Management Program | 2,000,000 | 1,500,000 | 1,500,000 | 1,500,000 | 1,500,000 | 1,600,000 |
| Enhanced Damage Prevention Program | 625,000 | 625,000 | 625,550 | 626,477 | 625,475 | 625,500 |
| Public Awareness | 230,000 | 200,000 | 200,000 | 250,000 | 245,250 | 225,050 |
| Workforce Training and Qualification | 295,000 | 240,000 | 240,000 | 240,000 | 235,250 | 250,050 |
| Pipeline Safety Management System Implementation | 112,000 | 200,114 | 223,615 | 212,080 | 252,318 | 200,025 |
| Enhanced Risk Modeling and Threat Analysis | 665,000 | 640,000 | 650,000 | 645,000 | 650,000 | 650,000 |
| Total DARR | 3,927,000 | 3,405,114 | 3,439,165 | 3,473,557 | 3,508,293 | 3,550,626 |

VEDO continues to focus on distribution risk reduction through implementation of the programs identified in the Distribution Accelerated Risk Reduction (DARR) Program. Many of the DARR initiatives required a higher initial level of spend to design, develop and ramp-up programs. The required spend then becomes more level as the risk reduction efforts within those programs are maintained. VEDO tracks metrics and evaluates the effectiveness of each of these efforts on an annual basis and adjusts the program accordingly to achieve efficiencies and the greatest impact to risk.

Expanded Leak Management Program:

In the expanded leak management program, VEDO determined the volume of open grade 3 leaks within its system from its leak reports tracked through its asset management system and recorded a snapshot in January of 2016 of a backlog of leaks to remediate. Through its DIMP results and analysis, VEDO has noticed an increase in grade 3 leak discovery and anticipates this remediation cost to continue beyond 2018 and until those assets are retired and replaced. VEDO used its historical experience (5-years of history) in leak discovery to develop its estimated number of "new" grade 3 leaks discovered annually which became a basis for the projected costs of the program. The program cost estimate assumes that (1) VEDO has remediated the backlog of grade 3 leaks, identified as of January 2016, by the end of 2018, and (2) VEDO continues to remediate grade 3 leaks as they are discovered as defined by the DARR. The 4-year forecast of \$1.5 million beginning in 2019 is to address remediation of grade 3 leaks that had been discovered since the Expanded Leak Management Program began in 2016 but not remediated by the end of the test year, and grade 3 leaks newly discovered after the test year.

Enhanced Damage Prevention Program:

Damages to distribution facilities continue to be a leading threat to VEDO's distribution assets per its DIMP. VEDO has implemented ticket risk assessment (TRA) and has hired damage prevention specialists to address high risk excavation tickets and contractors. VEDO also continues to improve the accuracy of maps and records used for locating and has launched a pilot program to visually inspect its system using remote video equipment its system and identify stubbed-out services and pipelines that are not indicated in its mapping system and records, map service lines, install tracer-wire or marker balls on unlocatable pipeline, and improve on the system data and attribution that is maintained in its GIS, including mobile data access and locate marking. These DIMP damage prevention efforts are included in the program estimates and VEDO anticipates a constant level of spend to address distribution facility damages within the next five years. The costs are estimated based on costs of material, labor and contract labor on a project basis and to maintain the TRA and damage prevention specialist efforts based on their historical costs.

Public Awareness:

VEDO has determined that it is necessary to continue its public awareness campaigns. As VEDO continues to work in populated areas to replace high-risk assets, it is necessary to inform the public of these work zones and safe ways to navigate around the work sites. Additionally, as excavators and residents continue to damage assets, it is important to continue to educate on safe digging practices and the 811 "call before you dig" process for their safety. VEDO's cost estimates for media campaigns are based on the historical costs specific to each medium used to deliver the message.

Vectren Energy Delivery of Ohio, Inc.
Data Request 28, Q2 - DARR Forecast 2018-2022
May 7, 2018

Workforce Training and Qualification:

New regulatory requirements mandated that VEDO expand its workforce training and qualification program to develop additional training materials, hire and train staff to conduct the evaluations, and develop systems to monitor the completion of the additional training efforts. Costs expected during the forecast period include the continued development of training materials and the training of evaluators. VEDO has begun training its workforce to the new standard and developed a 3-year program to accomplish this. On-going requalification will be necessary every 3 years and VEDO has worked to levelize this on-going cost, including support staff, updating of training materials through the "check and adjust" process, and tracking requalifications. VEDO estimated the costs associated with the material development based on historical training and development costs and estimated the on-going staff cost based on the cost of current employees or contractors with similar job profiles and qualifications.

Pipeline Safety Management System:

VEDO's DIMP supports reducing distribution asset risk through implementation of a pipeline safety management system (SMS). The 3-year DARR program for SMS implementation was estimated based on costs to develop the processes and procedures and acquire the staff necessary to implement an SMS, as well as mapping the actions to mitigate the risks through bowtie analysis. VEDO will be near complete with the actions required to implement an SMS by the end of 2018. On-going costs, from 2019 going forward, are necessary to support the execution of risk reduction activities identified from the SMS risk register and root-cause investigation process. SMS staff will continue to manage the risk register, conduct bow-tie analyses, track SMS safety metrics, support SMS governance, facilitate management of change for pipeline safety, and conduct quality assurance and quality control audits of critical business safety processes. The majority of the on-going costs reflect the labor costs associated with the SMS staff employees; these costs are estimated based on historical costs for those roles, adjusting for inflationary factors. Non-labor costs included in the estimate reflect annual software maintenance costs for the SMS risk and mitigation action management software and contractor activities required to develop and conduct mitigation actions. Estimates of software maintenance costs are based on information provided by the software company; contractor costs are estimated based on the current rates for such work and the expected project hours for the support activities.

Enhanced Risk Modeling and Threat Analysis:

VEDO's Enhanced Risk Modeling and Threat Analysis program included the development of asset-based risk models to support practice identification of VEDO distribution asset risks and enable the determination of their prevalence within its system, appropriate corrective action, and prioritization of those actions. The initial 3-year program (2016-2018) also included a baseline data review for each distribution asset-based model type and data clean-up. The actual program costs from 2016 through 2017 reflect the asset-based risk model development and included man-hours necessary to develop and validate each model, additional tools and training required, and contract service provider time to assist with model development and data clean-up. VEDO will be nearly complete with publishing its asset-based risk models by the end of 2018, although VEDO expects to continue to improve and refine the models. This includes data improvements such as data mining distribution work orders to determine system clean-up, correcting mapping errors, improving the mapping system's ability to maintain information required to identify threats to the distribution system, and performing field data investigations through surveys and digs. Additionally, VEDO has determined it is necessary to construct complementary data validation models to run periodically to monitor the quality of data being entered into and maintained within its core asset management systems for the elements that are required for distribution risk determination. DIMP's risk assessment process is based on the continuous improvement "plan, do, check and adjust" process and will require on-going maintenance and enhancement as new data is discovered and risk remediation actions are completed. The on-going costs beginning in 2019 include estimates for this work based on the historic program actual costs to develop the risk models and perform data system enhancements and data clean-up. VEDO anticipates these costs to be consistent annually over the next five years, although VEDO has observed increased regulatory interest in this area and new regulations may impact these efforts.

VECTREN ENERGY DELIVERY OF OHIO, INC.
CASE NO. 18-0298-GA-AIR; CASE NO. 18-0299-GA-ALT
DARR AND IM PROGRAM EXPENSES
VECTREN ENERGY DELIVERY OF OHIO, INC.

WPC-3.17a
PAGE 1 OF 1
WITNESS RESPONSIBLE:
CROCKER

LINE
NO.

DARR Program Deferral

| | | 2016 Actual | 2017 Actual | 2018 Actual (a) | Total Deferral |
|---|---|--------------|--------------|-----------------|----------------|
| 1 | Expanded Leak Management Program | \$ 1,399,326 | \$ 2,132,866 | | |
| 2 | Enhanced Damage Prevention Program | \$ 274,412 | \$ 468,670 | | |
| 3 | Public Awareness | \$ 183,324 | \$ 280,285 | | |
| 4 | Workforce Training and Qualification for New Requirements | \$ 197,774 | \$ 208,886 | | |
| 5 | Pipeline Safety Management System Implementation | \$ 61,119 | \$ 230,347 | | |
| 6 | Enhanced Risk Modeling and Threat Analysis | \$ 133,228 | \$ 633,110 | | |
| 7 | Total | \$ 2,249,183 | \$ 3,954,164 | \$ 2,772,040 | \$ 8,975,387 |

(a) Derived from Case No. 15-1741-GA-AAM Annual Reports

VECTREN ENERGY DELIVERY OF OHIO, INC.
CASE NO. 18-0298-GA-AIR; CASE NO. 18-0299-GA-ALT
DARR AND IM PROGRAM EXPENSES
VECTREN ENERGY DELIVERY OF OHIO, INC.

WPC-3.17b
PAGE 1 OF 1
WITNESS RESPONSIBLE:
CROCKER

LINE
NO.

**Total Ongoing Annual Expenses
DARR, DIMP and TIMP**

| | | DARR Program Annual Deferrals - DIMP | DIMP Expense | TIMP Expense | Total Ongoing Annual Expenses |
|----------------------------|-----|---|---------------------|---------------------|--|
| 2013 | | \$ | 708,424 | \$ | 2,907,620 |
| 2014 | | \$ | 805,093 | \$ | 3,441,462 |
| 2015 | | \$ | 707,936 | \$ | 4,165,461 |
| 2016 | | \$ | 302,479 | \$ | 3,426,341 |
| 2017 | (a) | \$ 3,954,164 | \$ 345,604 | \$ | 2,640,584 |
| 5-year average (2013-2017) | | \$ 3,954,164 | \$ 573,907 | \$ | 3,316,294 |
| | | | | \$ | 7,844,365 |

(a) Derived from Case No. 15-1741-GA-AAM Annual Reports

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

| | | |
|---|---|-------------------------|
| In the Matter of the Application of Vectren |) | |
| Energy Delivery of Ohio for Approval to |) | Case No. 15-1741-GA-AAM |
| Change Accounting Methods |) | |

ANNUAL REPORT OF VECTREN ENERGY DELIVERY OF OHIO, INC.

Vectren Energy Delivery of Ohio, Inc. (VEDO or the Company), pursuant to the Commission's November 3, 2016 Opinion and Order adopting the Distribution Accelerated Risk Reduction (DARR) program, respectfully submits its annual report detailing VEDO's DARR-related and deferral eligible expenses incurred in calendar year 2017. In support of its annual report, VEDO states as follows:

1. VEDO is an Ohio corporation engaged in the business of providing natural gas service to customers in Ohio and, as such, is a "natural gas company" and "public utility" as defined by R.C. 4905.03(E) and 4905.02(A), respectively.

2. On November 3, 2016, in accordance with R.C. 4905.13, the Commission approved VEDO's application to establish a regulatory asset to defer up to \$4 million annually through the DARR to reduce key risks, continue to ensure the safe and reliable operation of its system, and ensure compliance with pipeline safety laws. The Commission required VEDO to file an annual report for its DARR by June 1 each year, beginning in 2017 for calendar year 2016 expenditures, detailing the deferred expenses, baseline performance levels for each safety initiative, safety performance improvements compared to the baselines, results of ongoing and future investigations, any mid-term adjustments, and efforts towards identifying efficiencies and implementing cost-savings measures. The Commission further required VEDO's annual report to include an audit report prepared by VEDO's external auditor summarizing its findings with respect to the accuracy of VEDO's accounting for DARR-related expenditures.

3. The Commission also established that, with the filing of the annual report, Staff should conduct an annual review of reported program expenditures and file a Staff Report no later than 90 days subsequent to the annual report. Once the Staff Report is filed, VEDO is granted 30 days to accept Staff's recommendations or to object thereto.

4. In support of this annual report, VEDO includes the following appendices:

- **Attachment A** – Audit Report prepared by VEDO's independent auditor, Deloitte & Touche, LLP
- **Attachment B** – DARR Summary of Deferred Expenses and Programmatic Review for the six initiatives supported by the DARR

5. The programmatic review contains various metrics, statistics, and other measures to assist in gauging and improving the effectiveness of these programs. (*See Application ¶ 8 (Oct. 9, 2015).*) In accordance with the stipulation and application, these measures are subject to change based on further internal review and discussions with Staff. As the Company gains additional experience implementing and analyzing the programs, including newly available data, it may be determined that new or refined metrics provide better measures of program effectiveness.

6. VEDO notes that Deloitte's Audit Report, included as Attachment A, found no issues. In accordance with Staff's August 30, 2017 recommendation, VEDO has worked with Deloitte to ensure the report contains detail substantially similar to the report produced by Columbia Gas of Ohio, Inc. VEDO would note that given some differences between its program and Columbia's, the reports are not identical. VEDO believes that Staff's recommendation has been satisfied, but VEDO is willing to work with Staff to ensure all appropriate information is reasonably presented.

7. In accordance with Staff's other recommendation provided on August 30, 2017,

VEDO is also providing a breakdown of DARR Program expenses both monthly and per year in future annual reports.

WHEREFORE, VEDO respectfully submits this annual report for Commission Staff's review, and requests a recommendation that all 2017 DARR-related expenses be deferred.

Dated: June 1, 2018

Respectfully submitted,

/s/ Andrew J. Campbell

Mark A. Whitt (Counsel of Record)

Andrew J. Campbell

Rebekah J. Glover

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(All counsel willing to accept service by email.)

ATTORNEYS FOR VECTREN ENERGY
DELIVERY OF OHIO, INC.

CERTIFICATE OF SERVICE

I hereby certify that a copy of this Annual Report was served by electronic mail this 1st day of June 2018 to the following:

Thomas Lindgren
Office of the Ohio Attorney General
Public Utilities Section
30 East Broad Street, 16th Floor
Columbus, OH 43215
thomas.lindgren@ohioattorneygeneral.gov

/s/ Andrew J. Campbell
One of the Attorneys for Vectren Energy
Delivery of Ohio, Inc.

Attachment A



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INDEPENDENT ACCOUNTANTS' REPORT ON APPLYING AGREED-UPON PROCEDURES

To the Board of Directors of
 Vectren Energy Delivery of Ohio:

We have performed the procedures enumerated below, which were agreed to by Vectren Energy Delivery of Ohio (the "Company") and provided to the Public Utilities Commission of Ohio (the "PUCO") (collectively, the "specified parties"), solely to assist the specified parties in the evaluation of the accuracy of the Company's accounting for cost deferrals associated with the Distribution Accelerated Risk Reduction ("DARR") Program for the period January 1, 2017 through December 31, 2017 (the "specified period"), in conjunction with the PUCO Entry regarding Case No. 15-1741-GA-AAM. Management is responsible for the accuracy of the Company's accounting for cost deferrals associated with the DARR Program. The sufficiency of these procedures is solely the responsibility of the specified parties. Consequently, we make no representation regarding the sufficiency of the procedures enumerated below either for the purpose for which this report has been requested or for any other purpose.

The procedures that we performed and our findings are as follows:

DARR Program

1. We obtained from Company management a schedule of the detail of DARR program cost deferrals for the period from January 1, 2017 to December 31, 2017 and agreed the sum of the cost deferrals to the annual report filed with the Public Utilities Commission of Ohio (PUCO) related to Case No. 15-1741-GA-AAM (the "Filing"). We did not identify a difference. We also performed the following procedures:
 - a. Agreed the sum of cost deferrals included in the schedule obtained in Step 1 above to the "2017 activity" column in a reconciliation of the balance in account 1908937 at December 31, 2017 provided by management, as reflected in the Company's general ledger.
 - b. Randomly selected 4 months included in the schedule obtained in Step 1 above. For each month selected, we randomly selected 12 individual cost deferrals from the schedule, for a total of 48 selections. We allocated the selections across the Company's six sub-programs within the DARR Program and agreed, reconciled, or recalculated each cost deferral selection to or based on the supporting documentation provided by management (e.g., invoices or payroll records).

- c. For each individual cost deferral amount selected in Step 1.b. above, we performed the following procedures:
 - i. We selected 14 labor charges and recalculated the amount using total hours charged by the employee to a time card multiplied by the employee labor rate. We agreed the total hours and the labor rate for each selection to a screenshot from Workforce and the Company's payroll records. We identified seven selections with a difference of less than \$1 due to rounding.
 - ii. We selected 13 vendor charges and agreed the selection to a vendor invoice and identified no differences.
 - iii. We selected 20 vendor charges for which the amount selected represented the allocation of a charge to VEDO. We agreed the selected charge (i.e., the amount allocated to VEDO) to the Company's supporting calculation. We then agreed the total charge (i.e., the pre-allocated amount) to the Company's supporting calculation and to a vendor invoice and identified no differences.
 - iv. We selected 1 employee expense charge and agreed the total cost to a US Bank Screenshot for the employee purchasing card charges and identified no difference.
- d. We obtained from management an analysis comparing the amount of cost deferrals included in the Filing related to the Leak Management Program and the baseline of \$1,918,234 established in the application for PUCO Case No. 15-1741-GA-AAM. Management's analysis indicated Leak Management Program costs exceeded the baseline by \$2,132,866. We recalculated the amount by which the Leak Management Program costs exceeded the baseline. We did not identify a difference in our recalculation.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination, the objective of which would be the expression of an opinion or conclusion, respectively, on the Company's compliance with the DARR Program in accordance with the PUCO letter regarding Case No. 15-1741-GA-AAM. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the specified parties listed above and is not intended to be, and should not be, used by anyone other than the specified parties.

Deloitte & Touche LLP

June 1, 2018

Attachment B



Distribution Accelerated Risk Reduction Program Management

Distribution Accelerated Risk Reduction 3-Year Plan Update

| Program Element | 2016 – Actuals | 2017 – Plan | 2017 – Actuals | 2018 – Plan |
|---|--------------------|--------------------|--------------------|--------------------|
| Expanded Leak Management Program | \$1,399,326 | \$1,500,000 | \$2,132,866 | \$2,000,000 |
| Enhanced Damage Prevention Program | \$274,412 | \$770,000 | \$468,670 | \$625,000 |
| Public Awareness | \$183,324 | \$200,000 | \$280,285 | \$230,000 |
| Workforce Training and Qualification for New Requirements | \$197,774 | \$255,840 | \$208,886 | \$295,000 |
| Pipeline Safety Management System Implementation | \$61,119 | \$110,441 | \$230,347 | \$112,000 |
| Enhanced Risk Modeling and Threat Analysis | \$133,228 | \$250,000 | \$633,110 | \$665,000 |
| Grand Total | \$2,249,183 | \$3,086,281 | \$3,954,164 | \$3,927,000 |

Plan Variance Commentary

- Vectren reduced the number of leaks left open in the system from 2016 and completed approximately 1,000 more in 2017. Resource availability and favorable weather allowed leak mitigation efforts to continue through fall and winter months, accounting for the variance of approximately \$630,000.
- Enhanced damage prevention efforts focused on mapping accuracy improvements, records availability, and data enhancements in systems used to support locating. Since this information is used for the asset-based risk modeling, these projects were executed by distribution integrity management data resources, and the actual spend is reflected in the Enhanced Risk Modeling and Threat Analysis program.
- Vectren conducted an increased number of partnered root-cause analysis exercises based on the threats identified by the risk register and current events throughout 2017 to determine root-cause and developed and implemented mitigation plans including process enhancements, additional training and qualifications, and data and system enhancements.
- Vectren adjusted the 2018 planned spend for the Expanded Leak Management to \$2.0M to continue to leverage the existing level of resources dedicated to eliminate the grade 3 leak backlog and the additional grade 3 leaks that have been discovered since January 2016 and ensure a backlog of leaks is not created.
- The average annual spend program-to-date is \$3.1M and is projected to increase to \$3.4M at the end of 2018.



Distribution Accelerated Risk Reduction 2017 Monthly Actual Spend

| Program Element | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | 2017 |
|---|-----------------|-----------------|-----------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|
| Expanded Leak Management Program | - | - | - | - | - | - | \$120,487 | \$394,473 | \$318,299 | \$368,002 | \$366,668 | \$564,956 | \$2,132,866 |
| Enhanced Damage Prevention Program | \$20,573 | \$46,406 | \$34,386 | \$41,450 | \$38,963 | \$50,515 | \$37,454 | \$42,877 | \$8,199 | \$60,953 | \$40,918 | \$45,975 | \$468,670 |
| Public Awareness | - | - | \$10,150 | \$58,650 | \$49,657 | \$(2,028) | - | - | \$64,008 | \$30,012 | \$77,504 | \$(7,668) | \$280,285 |
| Workforce Training and Qualification for New Requirements | \$14,017 | \$16,412 | \$16,987 | \$12,814 | \$16,773 | \$16,908 | \$14,953 | \$13,144 | \$18,562 | \$18,556 | \$13,549 | \$36,210 | \$208,886 |
| Pipeline Safety Management System Implementation | \$8,777 | \$9,410 | \$17,905 | \$12,125 | \$11,095 | \$20,099 | \$37,075 | \$52,021 | \$26,885 | \$11,024 | \$10,001 | \$13,949 | \$230,347 |
| Enhanced Risk Modeling and Threat Analysis | \$4,473 | \$3,233 | \$941 | \$450 | \$8,392 | \$9,647 | \$8,867 | \$30,016 | \$133,745 | \$176,885 | \$187,530 | \$68,929 | \$633,110 |
| Grand Total | \$47,841 | \$75,462 | \$80,369 | \$125,490 | \$124,880 | \$95,142 | \$218,817 | \$532,532 | \$569,678 | \$665,432 | \$696,171 | \$722,351 | \$3,954,164 |

- The Expanded Leak Management Program costs met the baseline of \$1,918,234 in July 2017. Costs incurred for leak repairs above the baseline from July through December are reflected in the actual costs of the Expanded Leak Management Program for grade 3 leak remediation.

Vectren Energy Delivery of Ohio | 2017 DARR Report



Expanded Leak Management Program

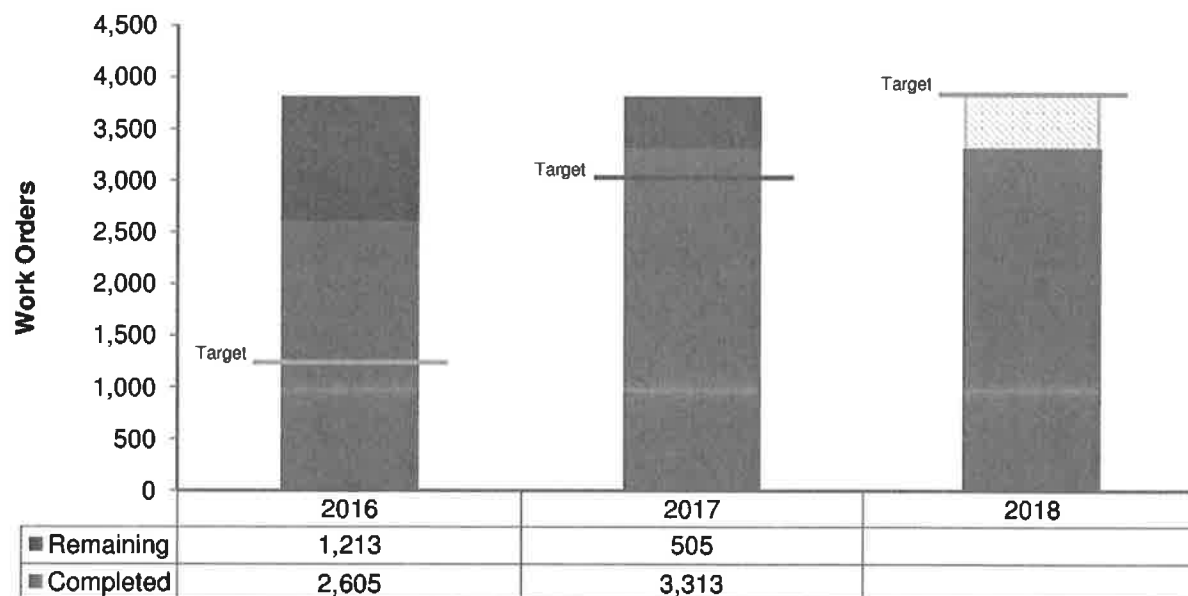
This section focuses on the performance of the grade 3 leak reduction program and demonstrates progress toward eliminating the grade 3 leak backlog and repairing grade 3 leaks as they occur in the system. The grade 3 leak backlog was assessed as of January 3, 2016, and identified 3,818 grade 3 leaks to be evaluated and resolved. The leaks were prioritized for evaluation using a base set of criteria including above ground or below ground, asset type, vintage, and historical remediation information.

| Expanded Leak Management Program Measure | Data |
|---|-------|
| Number of Grade 3 Backlog Leaks Resolved (12/31/2017) | 3,313 |
| Percent of Backlog Leaks Completed | 87% |

2017 Status

- In 2017, Vectren focused on remediating grade 3 leaks from the backlog as well as remediating newly discovered leaks to reduce the total amount of open leaks in the system.
- Additionally, 1,331 grade 1 and 1,216 grade 2 leaks have been remediated.
- Vectren completed approximately 1,000 more leaks in 2017 than in 2016 and almost doubled the number of above ground leaks completed.
- Vectren reduced the number of leaks left open in the system by almost 1,000 from 2016 to 2017.

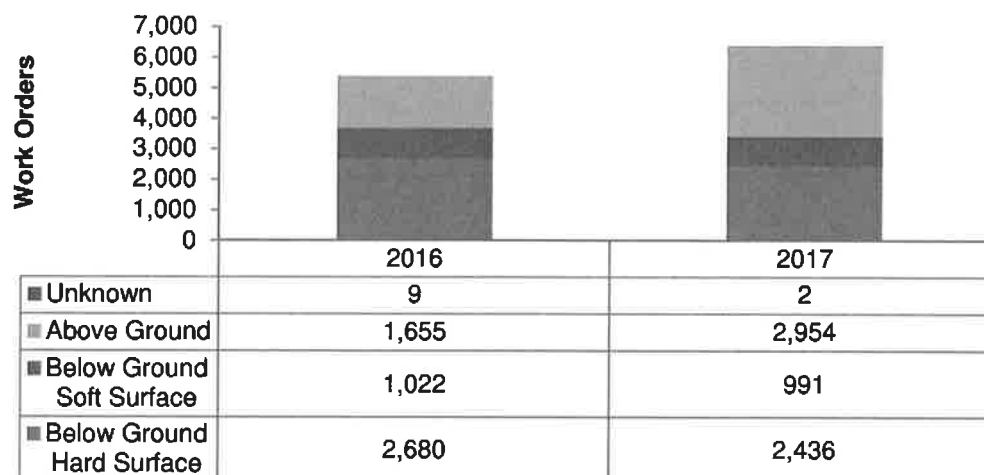
Ohio Leak Backlog Status



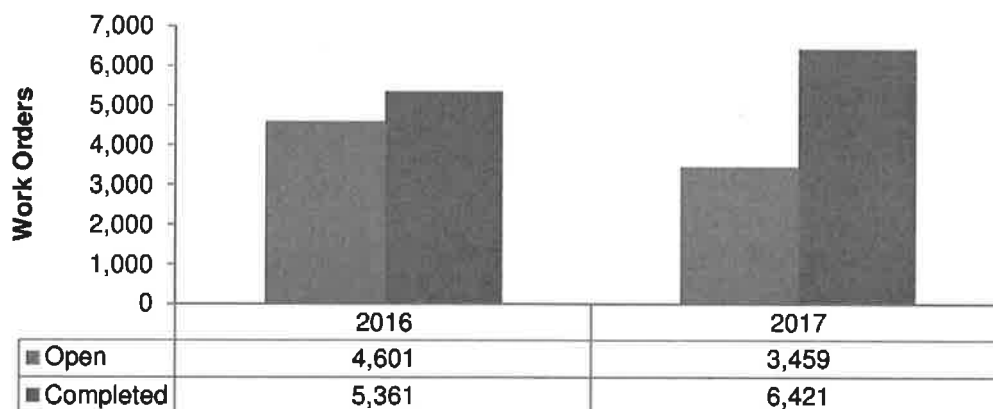


Expanded Leak Management Program

Total Completed Leaks



Leak Status at Year-end



2018 Focus

- In 2018, the focus of grade 3 leak repair will be to continue to remediate grade 3 leaks as they are discovered as well as work on the backlog, resulting in a lower percentage of the backlog being mitigated as compared to 2017, but still remaining on target to eliminate the original backlog (from January 1, 2016) by the end of 2018.
- In 2017, an additional 2,890 grade 3 leaks were discovered that are being addressed.
- Any new grade 3 leaks discovered during 2018 leak surveys will be remediated to avoid rebuilding a backlog of leaks for repair.
- Vectren has discovered that some leak reports are duplicates, as the leaks had been reported from a previous survey. We are working towards process enhancements to resolve duplicate reporting, which will remediate a number of grade 3 backlog leaks.



Enhanced Damage Prevention Program

This section focuses on the reduction of damages to distribution assets. The initiative includes:

- projects to improve the data and information used to locate distribution facilities;
- the addition of a damage prevention specialist to assist in targeted contractor relations and additional presence at projects with a higher potential to damage facilities;
- conduct quality audits and training with our contract locators; and
- the development and implementation of a ticket risk assessment model to predict one-call tickets with a high potential for damage to occur and assign mitigative actions to reduce the likelihood of a damage.

| Measures | 2016 Data | 2017 Data |
|--------------------------------|-----------|-----------|
| Number of Locate Tickets | 89,303 | 84,540 |
| Damage Rate (2017 Target 2.10) | 2.27 | 1.85 |

2017 Status

- The Ohio damage prevention specialist (DPS) engages with excavators both on job sites and in structured educational meetings held throughout the year. The DPS evaluates excavator damage history to work with both their field crews and leadership to create safe excavation practices around pipeline assets.
- Excavators were at-fault for 51% of all 2017 excavation damages. In 2017, there were 29 excavation damages due to the person excavating not using the 811 system and 37 excavations related to the failure to hand dig in the tolerance zone. We have enhanced our 811 awareness messaging to target specific industry groups. We have also increased education around hand tools usage.

| Enhanced Damage Prevention Program Measures | 2015 | 2016 | 2017 |
|---|------|------|------|
| Damage Rate | 2.53 | 2.27 | 1.85 |
| Target | N/A | 2.25 | 2.10 |

Ticket Risk Assessment

| Measure | 2016 Data | 2017 Data |
|---|-----------|-----------|
| Number of Ticket Risk Assessment (TRA) Tickets Worked | 5,350 | 7,716 |

2017 Status

- The TRA team consists of 4 highly trained and experienced contract locator technicians. This program was a key factor in exceeding the 2017 targets and getting Ohio below 2.0 damage rate for the first time.
- 2017 Percent of Total Damages due to Incorrect/Unavailable Records includes Stubs which are 80% of the total.

Damage Reduction Data Improvements

| Measure | 2016 Data | 2017 Data |
|---|-----------|-----------|
| Percent of Total Damages due to Incorrect/Unavailable Records | 7% | 16% |

2018 Focus

- In 2018, Vectren will continue to educate excavators on safe digging practices and using ticket risk assessment to provide more attention to locate tickets with a higher likelihood of damage.
- Vectren will conduct a pilot main cameraing program to locate and map stubbed off mains/services.
- An additional focus for 2018 is enhancing our public awareness messaging to target stakeholders that are less aware of the state laws and best practices around safe digging.
- The metrics will continue to be evaluated annually to determine program performance and identify enhancements.



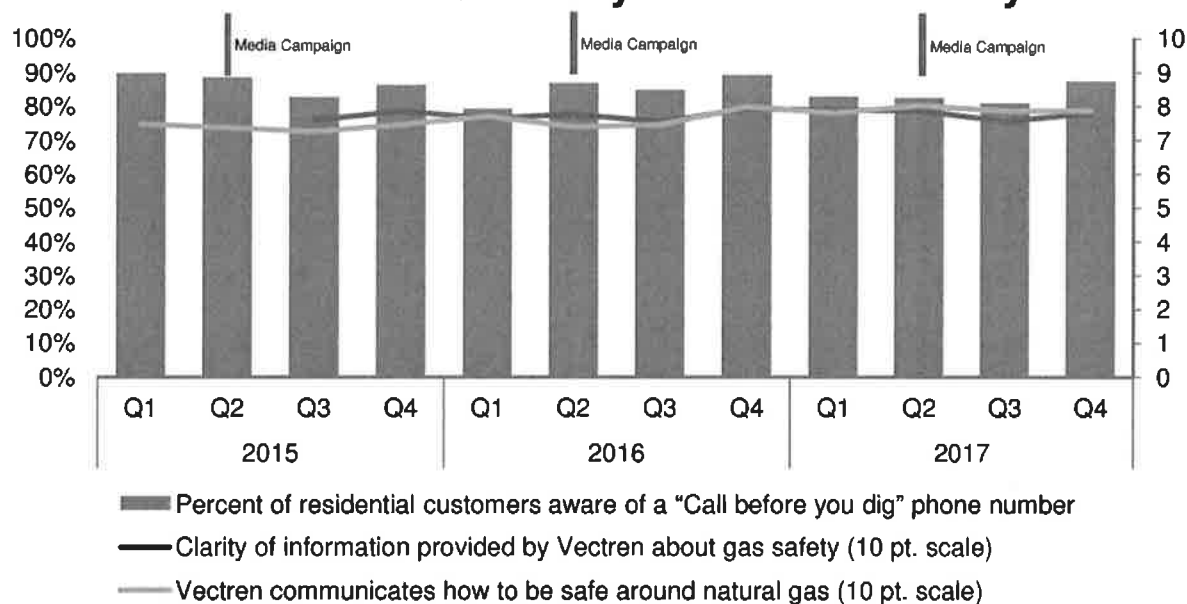
Public Awareness

The focus of this section is to describe the increased communications to support pipeline safety in regard to our increased work within pipeline right-of-way in communities. These communications efforts are directly connected to our pipeline modernization programs and also continue to sustain public awareness of the importance in calling 811 before digging to locate facilities and decrease the chance of a facility damage.

| Media | Total Impressions | Click-Throughs | # of Spots |
|---|-------------------|----------------|------------|
| Digital (YouTube, Facebook, Twitter, Pandora, Weather.com, Hulu, Display Ads) | 1,957,663 | 3,629 | N/A |
| Network & Cable TV | 2,720,009 | N/A | 569 |
| Radio | 957,000 | N/A | 186 |

Data included above is from April–June 2017.

Residential Quarterly Customer Survey



Source: Quarterly Online Customer Satisfaction Survey and Quarterly Online Customer Satisfaction Survey

2017 Status

Awareness campaigns have successfully maintained gas safety and "Call before you dig" phone number awareness within our gas service and pipeline safety working areas.

Awareness communications focused on public notification of pipeline modernization project work in their areas. Messaging was designed to alert customers of the increase in work crews in order to safely navigate around the work zones.

Messaging also reiterated that the pipeline replacement program is to maintain a reliable, safe gas delivery system. Continued messaging was used to communicate recognizing a gas leak and calling 811 before digging. Messaging media included network and cable television, radio, digital, social media, newspaper, and bill inserts/messaging.



Workforce Training & Qualifications Performance

This section focuses on the increased activities in workforce training and qualifications required by new and increasingly stringent regulations. Vectren evaluated the current operator qualification program, identified activities critical to maintaining and operating the pipeline system, and is increasing hands-on performance evaluation forms (PEFs) to ensure personnel have appropriate training and skills to perform those tasks to ensure pipeline safety, reduce risk, and meet increased regulatory requirements for operator qualification.

Vectren added internal resources dedicated to support the increased training and performance evaluations as well as tracking, reporting, and maintenance of the workforce training and qualification information systems. Vectren utilizes contract and internal resources to develop the content for the training materials, performance evaluations, and simulations.

Covered tasks increased from 48 to 153. Vectren continues to identify additional necessary covered tasks as a result of developing policies and procedures required by new pipeline safety regulations.

| Measure | 2016 Data | 2017 Data |
|---|-----------|-----------|
| Number of Evaluations Completed and Processed | 2,498 | 1,838 |
| Number of Employees Evaluated | 103 | 132 |

2017 Status

- Assigned and/or completed 923 new evaluations and other reoccurring tasks from first and second phase PEF deployments, continuing through 2018.
- Continued to review and complete evaluations from the 32 remaining covered tasks identified in the PEF project's third phase (target date of completion of third phase items is June 30, 2018).
- Maintained current qualifications by requalifying employees on items coming due through the end of 2017. In 2016, 97 employees had completed the new training standard and PEFs and in 2017, the number of personnel fully completing the additional PEFs rose to 121.
- Continued to monitor PEF completion rates and audit to ensure any deviation from evaluation protocols is investigated.
- Reviewed covered task list for additional evaluations that may need to be developed, consolidated, or removed based on Vectren's evolving operational requirements/procedures.

2018 Focus

Vectren will continue to develop content for additional tasks for our training programs and conduct performance evaluations to enhance the qualifications of staff for activities impacting gas assets with a target to train all staff performing the additional covered tasks. Vectren expects the number of required covered tasks to fluctuate as it implements new plans, policies, and procedures to comply with new pipeline safety regulations and as updates to Vectren's infrastructure continues.



Pipeline Safety Management System Implementation

This section focuses on the development and implementation of a pipeline safety management system (PSMS) supported by Pipeline Hazardous Materials and Safety Administration's (PHMSA's) "Guidance for Strengthening Pipeline Safety through Rigorous Program Evaluation and Meaningful Metrics" and the American Petroleum Institute (API) issued recommended practice 1173 "Pipeline Safety Management System Requirements." A PSMS is a comprehensive change management lifecycle framework, which drives a safety culture including pipeline safety, employee safety, and public safety.

The PSMS implementation plan includes:

- Organizational restructuring focused on safety
- Implementing a safety control framework
- Increased staff dedicated to managing, planning, developing, and implementing the safety management system including:
 - Documenting processes and developing control points
 - Enhancing the operator qualification plan, the compliance plan, change management process, and the integrity management risk models
 - Performing quality assurance of pipeline safety processes

| Measure | 2016 | 2017 | 2018 (Targets) |
|---|------|------|----------------|
| Percent Complete of Implementation Plan Milestones | 55% | 80% | N/A* |
| Percent Complete of Planned Mitigation Activities | 15% | 70% | 75% |
| Percent Complete of 2 Year Project Plan Milestones* | N/A | N/A | 50% |

2017 Status

- 80% of the milestones to develop and implement the foundational elements of the PSMS have been completed.
- Milestone achievements include the development and population of a risk register, evaluation and prioritization of register items to address, and the identification and assignment of mitigating actions.
- 45 risk register items were identified exceeding the initial threshold for evaluation. 70% of the mitigative actions developed to address those items are complete.
- 45 of the 45 risk register items above the threshold for evaluation have been addressed.
- Completed 87 PSMS risk mitigation activities aimed to reduce risk or strengthen controls to determine root cause, establish mitigation plans and process enhancements, and communicate lessons learned.
- Initiated 8 testing plans.
- Conducted a mock drill to test emergency response to a pipeline event detected through Gas Control.
- Vectren volunteered to complete PHMSA's inaugural review of PSMS.
- *Completed PricewaterhouseCoopers (PwC) reassessment and established new 2 year project plan.

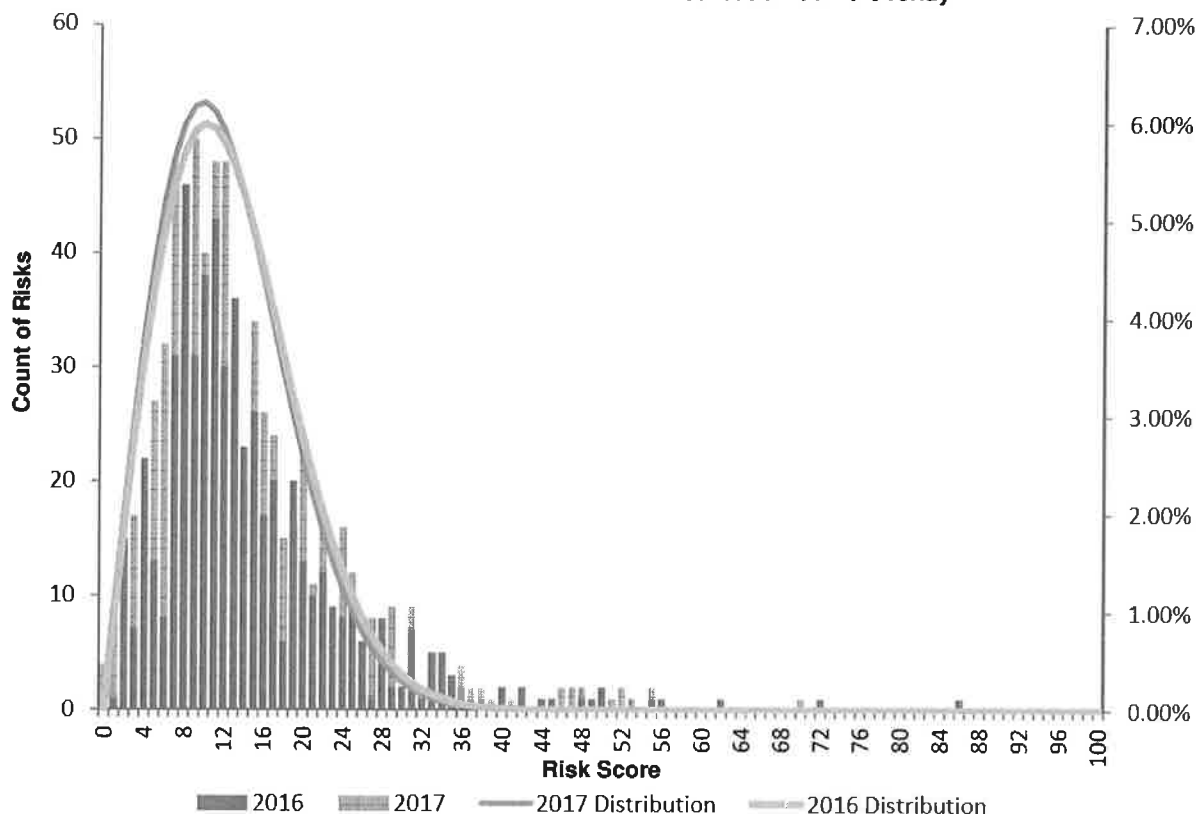
2018 Focus

- Vectren will continue to:
 - execute improvement opportunities for implementation of the PSMS;
 - implement operational control testing processes;
 - conduct activities to maintain the risk register, develop mitigating actions to reduce risk of the reported items, and measure the effectiveness of those activities; and
 - hold communication meetings to report progress on implementation of the PSMS and associated activities to reduce pipeline risk.



Pipeline Safety Management System Implementation

**PSMS Risk Score Frequency Distribution
with Median-Centered Normal Distribution Curve Overlay**



2017 Status

- The PSMS risk register profile shows that the items reported range in risk score from 0 to 87 with the majority falling within the 7–15 range. This initial population provided the baseline, established in 2016, of the PSMS risk register items to compare year-over-year.
- The risk score takes into account the likelihood of the event occurring and the consequence of the event.
- Register items may be added at any time. The entire register listing will be reviewed annually, and risk may be adjusted considering status of mitigative actions, industry events, operational activities, etc.
- Mitigative actions are focused around higher risk register items first.

2018 Focus

- The 2018 focus includes executing the mitigation plans and measuring their impact to the PSMS risk score. The target is an additional 3% reduction.



Enhanced Risk Modeling And Threat Analysis

This section focuses on the progress of developing asset-based risk models, improving the quality and completeness of data on distribution assets, and enhancements to the threat identification and analysis processes by developing additional or more robust reporting, data integration, data mapping, and data viewing tools. This initiative contains many specific projects to enhance the risk modeling and threat analysis processes.

| Measure | Year | Status |
|--|------|--------|
| Develop 2016 Targeted Distribution Risk Models | 2016 | 100% |
| Implement 2017 Targeted Distribution Risk Models | 2017 | 100% |

2017 Status

- In 2017, Vectren has focused on the development of three specific asset-based risk models for distribution assets.

Asset types were evaluated and prioritized for 2017 model building for completion of models covering the asset categories below:

- Pipeline
- Valves
- Regulator
- Accomplishments include:
 - Enhanced data extract, transfer, and load process
 - Validated Pipeline model with subject-matter experts (SMEs)
 - Tested outputs for all three models
 - Created maps for easy review for all models
 - Created procedure for running/update models
 - Identified and prioritized data quality enhancements related to risk
 - Dashboard developed for Pipeline
 - Completed Indirect Survey on high pressure distribution (HPD) line



- PSMS Risk Register
 - We have completed a total of 11 bowties in 2017.
 - There is a total of 15 bowties with completed mitigation plans.
 - There is a total of 138 action items assigned. 20 were assigned in 2017.
 - 80% of 2017 assigned action items are complete.



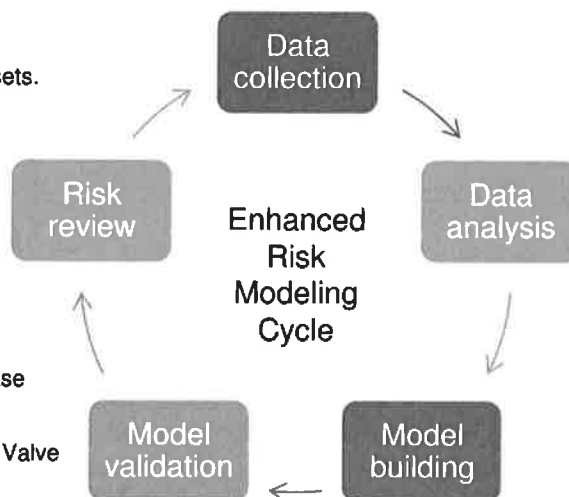
Enhanced Risk Modeling And Threat Analysis

2018 Focus

- In 2018, Vectren will focus on the development of three specific asset-based risk models for distribution assets.

Asset types were evaluated and prioritized for 2018 model building for completion of models covering the asset categories below:

- Service Line
- Meter Setting
- Fitting
- Other risk model initiatives will include:
 - Interface to the modernization project database
 - Cycle of check and adjust on the previously developed models—Pipeline, Regulator, and Valve
- In 2018, there will be a high focus on data to support risk modeling and identify threats. Initiatives include:
 - Develop a data health report for data being used in the distribution risk models
 - Create data governance to direct and approve data projects
 - Complete Indirect Survey for HPD lines
- PSMS Risk Register
 - Continue analyzing asset related risks and threats to develop bowtie analysis and mitigation plans for high risk items.



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Case No(s). 15-1741-GA-AAM

Summary: Text 2018 DARR Annual Report electronically filed by Ms. Rebekah J. Glover on behalf of Vectren Energy Delivery of Ohio, Inc.

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Case No(s). 18-0049-GA-ALT, 18-0298-GA-AIR, 18-0299-GA-ALT

Summary: Testimony Direct Testimony of James D. Williams on Behalf of The Office of The Ohio Consumers' Counsel electronically filed by Ms. Jamie Williams on behalf of Michael, William Mr.